Memorandum

MasterCard
International

To
Internal Executive Committee

From
Robert W. Selander

Date
November 21, 1997

Subject
Future Returns in the U.S. Card Industry

Copies to
N. Hanft, R. Norton, M. Johnsson, P. Donat, C. Kaminski

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Distribution Restricted to MasterCard International Internal Executive Committee.

At my request, our Corporate Planning department, specifically Peter Donat and Chris Kaminski, has prepared a very interesting analysis of future prospects for profitability in the U.S. card industry.

The attached document analyzes current industry profitability, the key drivers of member competitive advantage, the future prospects for industry profitability, key capability requirements for future issuer success, and how MasterCard can help its members meet emerging challenges. The work is based on a very thorough review of security analyst opinions, documented industry data, analysis of our internal reports and pushing the envelope on our current thinking.

I would like to discuss the subject matter and to review our next steps at an upcoming IEC meeting. In the interim, if you have any questions about the work, please direct them to Peter Donat (x55603).

Because of the highly sensitive nature of the attached document, please do not share it with any member of your staff or with any external parties.

P-0434

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Future Returns in the U.S. Card Industry

A MasterCard Corporate Planning Perspective

Executive Summary

1. Current U.S. Card Industry Profitability
2. Drivers of Competitive Advantage
3. The Future Profitability of the U.S. Card Industry
4. Future Competitive Capability Requirements
5. Implications for MasterCard

November 1997

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Executive Summary

The U.S. card industry has been a profitable industry, with 1996 returns on equity above the cost of capital. Although the industry as a whole is profitable, there are significant profitability differences among industry service providers. Issuers are likely to be more profitable if they have:

- Skills in profitable account acquisition
- Low cost operating and processing structure
- Sophisticated information technology
- Advanced capabilities in risk management, account pricing and profitable retention.

It is also clear that there are significant differences in cardholder segment profitability with the profitability of "revolvers" substantially higher than "transactors". Preliminary analysis also indicates that the merchant acquiring and card processing businesses have above average profitability profiles. While the profitability of the overall industry is currently robust, returns have actually been declining for the past decade. The key question is whether this profitability decline will continue, stabilize or reverse itself in the future.

We expect the U.S. card industry to remain profitable going forward. There will be winners and losers, but winners are likely to be highly profitable. Although there are significant risks to this favorable forecast, we believe that the bankcard industry as a whole can sustain ROEs in the low to mid 20's going forward. We base our conclusion on several analyses - which are detailed in the remainder of this paper:

A. Trend analysis indicates that card profitability is stabilizing - implying that ROEs of approximately 20 - 25% are sustainable for the foreseeable future.
B. Segment analysis indicates that the profitable revolver segment is likely to retain its share of the active cardholder base.
C. A qualitative assessment of the key profit drivers suggests that issuers will reduce operating costs and increase fees to offset declining interest margins and increasing acquisition marketing costs to leave profitability near current levels.
D. Available analyst reports forecast continued levels of 20-30% returns on equity for the monolines and the industry through the year 2000.
E. Current valuations of monoline card stocks imply that the industry can sustain ROEs of 20-30%.

While we believe the industry will be profitable in the future, the extent of that profitability may be impacted by the following:

- Intra industry competition further intensifies, significantly lowering interest margins as issuers seek to maintain their historic growth rates.
- Technological changes make the current card platform obsolete.
- An unforeseen recession causes cardholders to default on high balances across multiple cards.
- New well-capitalized competitors, such as insurance companies, enter the industry.
- Competition from new or established methods of payment intensifies.

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- Industry alliances, joint-ventures and mergers fundamentally re-configure the industry. These new relationships have unforeseen consequences and may tilt the balance of power away from some current competitors.
- Changes in securitization rules constrain growth or significantly increase the cost of funds.

The winning competitors of the next decade will have a combination of skill and scale. To *survive*, they will need the skills of today's more profitable issuers. To *succeed* they will need:

- The ability to manage the burden of transactors
- Capabilities to develop a comprehensive customer view
- Responsive product development skills
- Organizational nimbleness to effectively manage their scale, but react to marketplace changes
- International savvy to profitably expand into other countries.

In the future, MasterCard will face challenges responding to these developments and opportunities to help the membership succeed. MasterCard must continue to develop internal capabilities that help our membership address the key issues confronting their business and continue to demonstrate value and growth in its franchise services.

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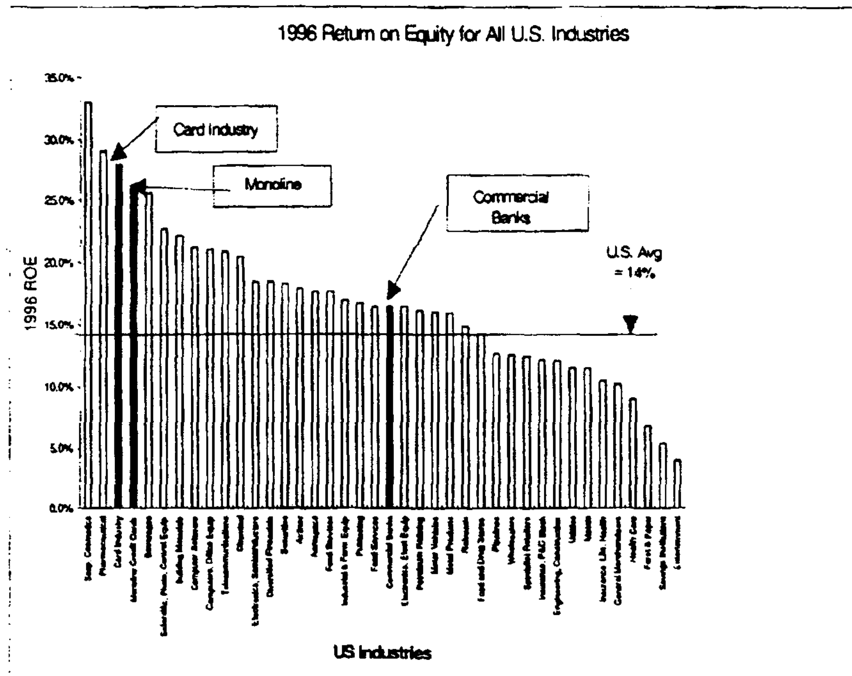
Section 1. Current U.S. Card Industry Profitability

The U.S. card industry is a profitable industry, with 1996 returns on equity that would place it in the top decile of industries. In 1996, ROEs for the Fortune 500 averaged 14.1% and 16.5% for large commercial banks, while the card industry experienced ROEs of 25-28%. Overall, cards ranked 3rd out of 38 industries in terms of their overall level of profitability.

Exhibit 1



Source: 1996 Fortune 500

We have compiled available information on card portfolios in Exhibit 2 and estimated that the average issuer return on equity was 26% in 1996 - a figure in line with most other analyst estimates.

Exhibit 2

Selected Issuers	1996 ROE	Analyst Assessment of Industry	1996 ROE
Advanta	25%	Bernstein ("The Future of the Credit Card Industry", Jan. 96)	27%
American Express (TRS)	26%	Bernstein ("Identifying Winning Strategies", June 97)	25% - 50%
Capital One	23%	DLJ	21%
Chase (cards only)	21%	R.K. Hammer	27%
Citibank (cards only)	32%	[illegible]	[illegible]
Discover	18%		
First Union (cards only)	19%		
First USA	29%		
Household	19%		
MBNA	34%		
Metris	16%		

Source: Annual Reports, Analyst Research

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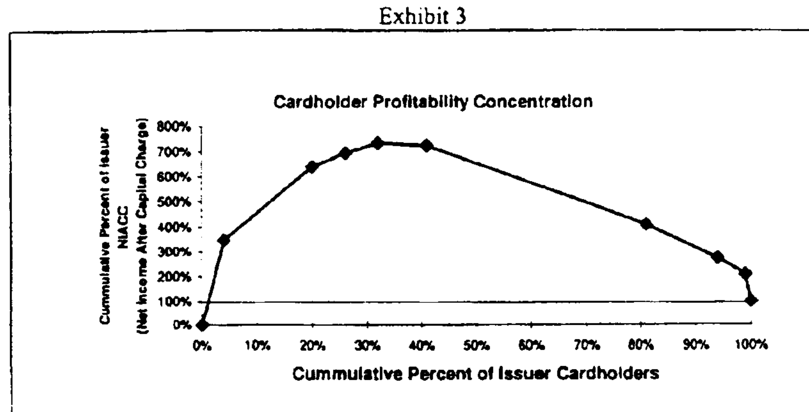
While the industry is quite profitable, there are substantial differences in segment profitability. As displayed in Exhibit 3, it is likely that only 30% of any portfolio's customers are profitable on a net income after a capital charge (NIACC) basis, while the remaining 70% are hindering profitability.

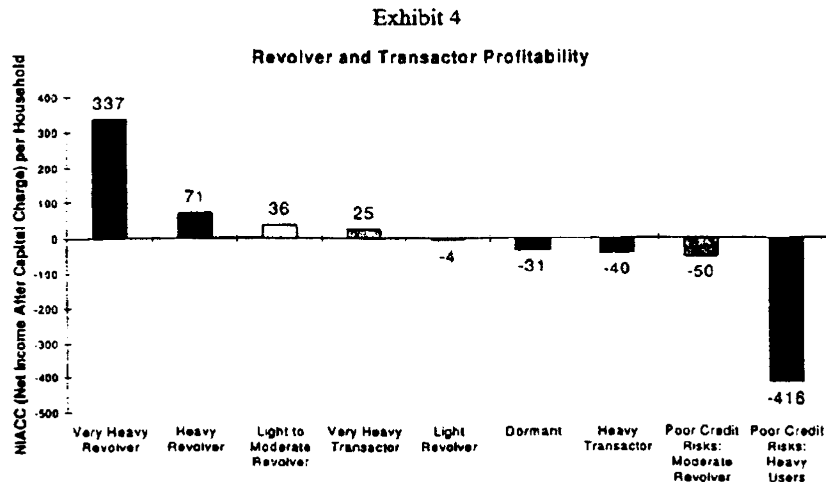
Exhibit 3



Source: Argus (a consulting firm specializing in analyzing cardholder profitability); Corporate Planning analysis. Argus data from 11 issuer benchmarking study.

The highly profitable customers that drive this profit concentration are those that consistently revolve balances but fail to charge-off. The light revolvers, heavy transactors and dormant accounts are moderately unprofitable and comprise 62% of the average portfolio.

Exhibit 4



Source: Argus data from 11 issuer benchmarking study

While issuers in the credit card industry have experienced consistently solid returns, the profitability of the rest of the payments industry has been mixed. Generally speaking, issuers of payment products are only likely to generate exceptional returns when they couple payment and

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lending activities. Bernstein estimates that the lending function is 14 times more profitable for an issuer than the payments function - a belief substantiated by the differences in segment profitability.

While the focus of this paper is on issuers, we believe that the merchant acquiring and cardholder processing industries have above-average profitability. According to Corporate Planning analysis, the average processor/acquirer had an ROE of 16.3% in 1996, which is 2.2 percentage points above the Fortune 500 average and approximately 6 percentage points above their cost of equity.

Exhibit 5

Processor	% of Business from Card Processing	ROE (4 Qs 96-97)
First Data Corporation	40%	18%
National Data Corporation	47%	13%
First USA Paymentech	98%	10%
BA Merchant Services	100%	12%
National Processing, Inc	28%	12%
NOVA Corporation	100%	13%
PMT Services, Inc.	90%	8%
Concord EFS, Inc.	61%	20%
Weighted Average ROE		16%

Source: Salomon Brothers 7/97 Equity Research

In summary, while there are significant differences in competitor and segment profitability, the overall card payment business is currently a very profitable industry. The key question remains: can the U.S. card industry remain profitable into the 21st century?

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Section 2. Drivers of Competitive Advantage

In addition to the wide divergence in the profitability of various segments, there is a wide range of profitability amongst the card issuers - driven by each issuer's competitive position. The drivers of an issuer's competitive position are its comparative yield and relative cost position.

To analyze yields, we have used a measure termed "lagged net credit yield," which approximates reward vs. underwriting risk. We have used publicly available master trust data from issuer securitizations (which has some limitations) to indicate an issuer's portfolio performance.

Exhibit 6

	1997 YTD			
Issuer	**Gross Yield**	**Net Chargeoffs**	**Lagged Chargeoffs**	**Lagged Net Credit Yield**
Capital One	20.0%	7.0%	8.3%	**5.6%**
MBNA	17.2%	3.9%	5.5%	**5.6%**
AT&T Universal	16.7%	5.3%	5.1%	**5.5%**
First Chicago	21.2%	9.2%	9.7%	**5.4%**
Citicorp	18.1%	6.3%	6.6%	**5.4%**
Banc One	19.8%	8.0%	8.3%	**5.4%**
Chase	17.9%	6.9%	7.4%	**4.4%**
Nationsbank	19.3%	7.5%	9.0%	**4.2%**
Discover	19.6%	7.5%	9.4%	**4.1%**
First USA	17.4%	6.0%	7.6%	**3.7%**
Providian	21.0%	8.2%	11.3%	**3.6%**
Household	18.5%	6.7%	9.3%	**3.0%**
Advanta	18.3%	7.3%	9.3%	**2.9%**
Weighted Average	18.3%	6.4%	7.5%	**4.7%**

Source: DLJ

To calculate "lagged net credit yield," we have taken the most recent net credit yield (revenue minus an average cost of funds) and subtracted net charge-offs at a 12 month lagged rate. We feel that lagging credit losses provides a more accurate picture of a competitor's true loss rate because some of the high growth companies have numerous new accounts which have yet to "season."

The significant variances in net credit yield are evidence of key competitive differences. In general, the companies with credit yield advantages are characterized by the following characteristics:

- Dynamic portfolio management skills that reflect account level risk with appropriate pricing.
- Capabilities to retain and stimulate profitable customers, coupled with skills and willingness to re-price or prune unprofitable accounts.
- Profitable account acquisition skills.
- Sophisticated information management and database mining capabilities.

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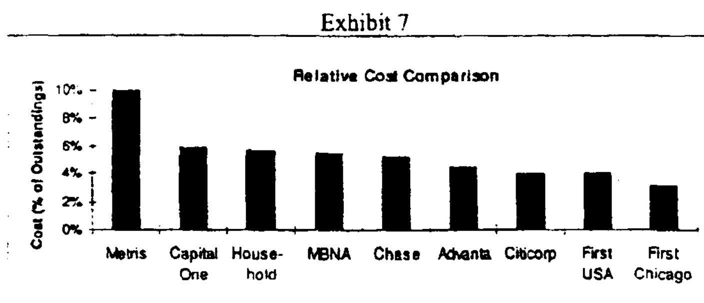
Capital One, who tops our net credit yield list, won the Gartner Group's "Excellence in Technology Award" and is generally recognized as a leader in the above-mentioned skills. Conversely, Advanta appears to have lacked many of the skills and generated one of the industry's poorest net yields. The sub-par performance and deficient capabilities allowed Fleet to purchase them for a 4% premium on outstandings - which is below the 14-18% average of most portfolio sales in recent years. The inability to acquire and stimulate profitable accounts is also noticeable in the AT&T portfolio - which has a gross yield 1.7 percentage points below the industry average. While AT&T's yield is sufficient to cover the below average losses, its low activation, usage and revolving characteristics are one reason the portfolio is currently for sale.

While *net credit yields are the critical driver of profitability*, a competitor's cost position is also important. The two key components of cost structure are marketing and operating costs. Based on our understanding of select issuer profitability, we have developed the following cost comparisons.

Exhibit 7



Sources: Company Reports, DLJ

It is important to distinguish between these two major cost components:

- **Marketing costs** are essentially a choice about investing in the future of the business. Those costs may be high or low depending on the marketing program's effectiveness, but the overall expense is driven more by the prospective view that a company should invest in growth.
- **Operational costs** reflect processing, customer service and overhead expenses. The key drivers are the issuer's investment in automation and the overall scale. First USA's cost structure has fallen 40% as its outstandings portfolio has grown from $2 to $20 billion. Available evidence suggests that small issuers who lack the size to realize the economies of scale in processing or marketing are likely to have higher unit cost structures than larger issuers.

The overall differences in yield and cost positions give rise to varying levels of profitability. In R.K. Hammer's survey of issuers, he found 1996 returns on equity ranging from 10 - 43%. The key message is that an "underperformer" in the card business is capable of making marginal profits. Several of the bank card issuers who grew rapidly in the early 1990's did so without the skills and capabilities necessary to manage their acquired portfolios. These shortcomings have led to higher loss rates, lower yields and sub-par profitability. The recent decisions of Advanta, AT&T and Bank of New York to exit the card business is evidence that robust competitive capabilities will be required to sustain profitability in an increasingly competitive industry.

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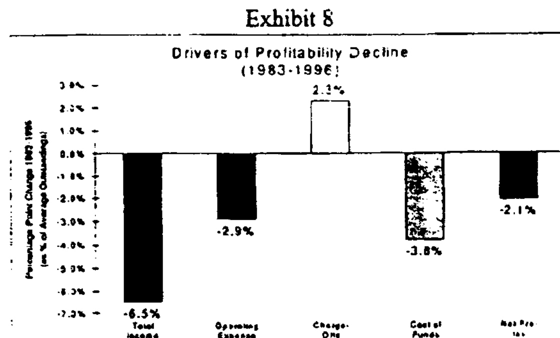
Section 3. The Future Profitability of the U.S. Card Industry

The U.S. card industry is likely to continue changing going forward. To assess how the future profitability of the U.S. card industry will change, we have used five different analyses.

A. Profitability Trend Analysis

While still a profitable enterprise, issuer returns have declined in recent years. According to R.K. Hammer, the return on average outstandings in the U.S. card industry has fallen from 3.2% in 1983 to 2.0% in 1996, implying an ROE decline from approximately 43% to 27%. This 40% drop in profitability since 1983 can be traced to a reduction in revenues and an increase in charge-offs. The decline in revenues has resulted from increased competitiveness in the marketplace - including a number of issuers dropping annual fees and reducing nominal cardholder interest rates. Issuers have been able to offset these revenue losses with operating efficiencies and a lower cost of funds.

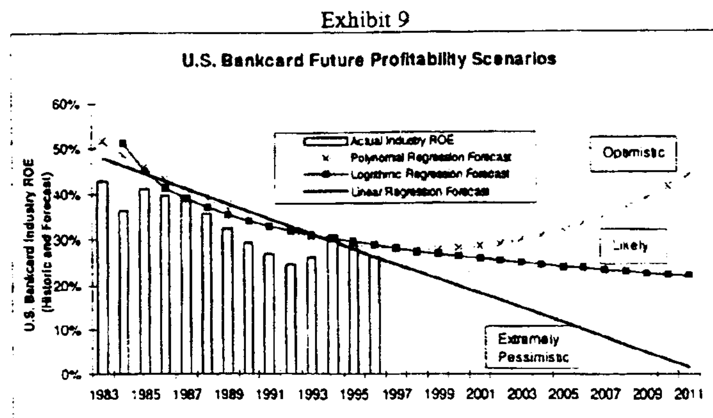
Exhibit 8



Source: RK Hammer

If the linear trendline in Hammer's data were to continue, the industry's ROE would decline to the 14% cost of equity by 2005. However, polynomial and logarithmic regression on the same data indicates that the decline in profitability is stabilizing - indicating that some further erosion is probable, but that ROEs in the low to mid-20's are possible for issuers who compete effectively.

Exhibit 9



Source: RK Hammer, Corporate Planning analysis.

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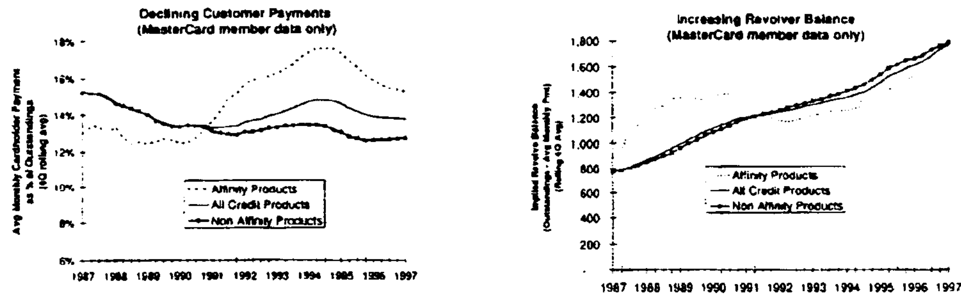
B. Segment Trend Analysis

Another means of projecting future profitability is to estimate the future growth and returns of key segments - revolvers and transactors. We estimate that each segment's relative mix will remain constant, but that revolver profitability will deteriorate and transactor profitability improve.

Historically, revolving behavior has remained remarkably constant. Since 1984, the percent of active cardholders who have incurred a finance charge in the last quarter has consistently hovered in a range between 70% and 75%. These findings are also reinforced by a Federal Reserve Board study and PSI market research which reveal convenience use to have remained constant since 1993. Additionally, MasterCard member data indicates that the consumers are paying off a smaller percent of their balances than they did in the 1980's. Between 1984 and 1997 the average payment (as a percent of outstandings) has declined from 17.5% to 13.8% while the average balance revolved has steadily increased. One concern that arises from this data is the difference between affinity and standard products. Affinity cardholders are more likely to pay off their balances than non-affinity cardholders - implying a lower level of interest income.

Exhibit 10



Source: MasterCard QMR

Looking forward, we expect cards to continue gaining share of payments, which will allow it to increase its share of consumer indebtedness and grow receivables at approximately 11-14% per year. This growth should allow revolvers to retain their share of the industry's segment mix. However, revolver profitability is likely to decline as issuers compete to steal them from one-another with lower rates.

The higher costs of transactors has given rise to two trends: a movement towards increased fees and the decline of rewards programs. GE's decision in September 1996 to assess an annual fee on cardholders who don't revolve was probably the first (and most public) move towards reducing the burden of transactors. Because issuers better understand the economics of their individual customers, we expect to see them increase the use of annual and nuisance fees to offset the costs and risks of transactors and inactive accounts. In addition to fees, many issuers have eliminated or altered rewards programs - largely because the rewards encouraged transacting behavior on a product where the reward's cost was higher than the revenues generated.

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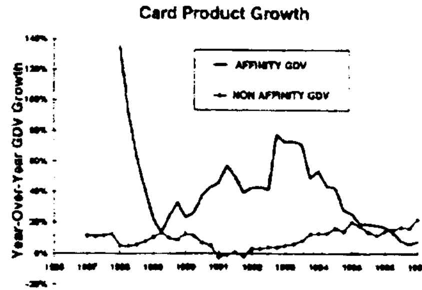
Exhibit 11

Issuer	Reward Program	Recent Action
GE Capital	GE Rewards	Transactor fee
Household	GM	Reduced rebate
Citibank	Ford, Apple	Canceled
BankOne	Travel Plus, BP	Reduced rebate
NationsBank	Blockbuster	Canceled
M&T	Giant, Super G	Canceled
Old Kent Fin.	Card Miles	Canceled
Mercantile Banc.	SWest. Bell	Canceled
Beneficial	BJ's Wholesale	Transacting accts. canceled
AT&T	Universal	Revised rebate

Source: American Banker, DLJ, News Articles

Exhibit 12

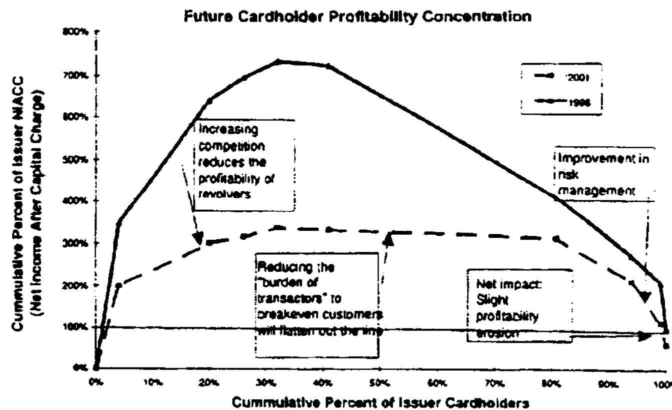


Source: MasterCard QMR

Evidence of these trends is the slowing growth of MasterCard affinity/co-branded GDV, whose growth rate was surpassed by non-affinity cards in 1996.

Based on our segment analysis, we anticipate that the profitability concentration "bubble" will flatten out. The mix of the various segments will remain constant, but the per account profitability of each will change. Issuers will find means of enhancing transactor profitability and competition will probably reduce revolver returns. Additionally, risk scoring is likely to improve and reduce the magnitude of each cardholder's losses. Overall, these segment trends indicate that issuers who effectively compete can achieve profitability at or near current levels for the next few years.

Exhibit 13



Source: Argus and Corporate Planning Analysis

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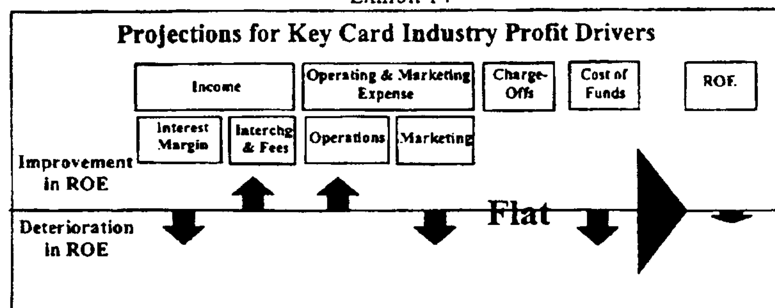
C. Driver Analysis

We have reviewed the key drivers of card profitability and developed the following projections:

- Income: Changes in card issuer operating income will be driven by two competing trends, an increase in fee revenue offset by declines in issuer net interest margins. According to Moody's, "nuisance fees" now represent 18.7% of card balances, compared with 17.9% a year ago. Increased competition has reduced interest margins for the past decade. We expect both of these trends to continue, with the overall impact being a slight decrease in revenue yields.
- Operating Expense: We expect operating expenses to continue declining for both in-house and out-sourced processing. Continued processing efficiencies and economies of scale will reduce the unit costs of in-house processors, while outsourcing issuers receive more favorable pricing from the mega-processors due to volume discounts. As the mega-processors continue growing, they are likely to reap additional cost efficiencies which are likely to be passed on to small and large issuers. However, the overall room for operating efficiency improvement is minimal.
- Marketing Expense: According to Booz Allen & Hamilton, marketing costs per billed account have risen 13% per year since 1992 as response rates from direct mail solicitations have declined. We expect response rates to continue declining and the cost of acquiring new customers to continue rising. However, the sophisticated issuers understand trends and will only pursue new customers if they can add value to their portfolio.
- Charge-Offs: Overall, we expect charge-offs to stabilize at their current rates. The extension of credit to less credit-worthy cardholders in the past decade has led to a systematic increase in the "business-as-usual" loss rate that issuers should expect. Recent data also suggests that delinquencies are stabilizing - indicating that losses should be leveling-off in the next 6 months. Because charge-offs in the past two years scared them, issuers will continue to get smarter about managing credit lines and build increasingly sophisticated risk scoring models.
- Cost of Funds: Overall, we expect to see a slight increase in the effective cost of funds. Most issuers have insulated themselves against shifts in the cost of funding by pegging their interest rates to some index (Libor, prime). Interest rates are also near historic lows - making rate increases the more likely scenarios. Banks, who had a partial advantage in their use of lower cost deposits for funding, are likely to continue losing share to the monolines and raise the industry's overall average cost of funding.

The net result of this assessment is that we expect card industry ROEs to remain at or near current levels.

Exhibit 14



Source: MasterCard Corporate Planning

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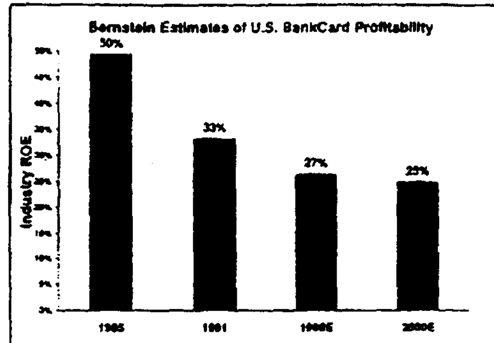
D. What the Analysts Think

We reviewed a number of recent analyst reports and found very few who look past 4Q 1997.

Exhibit 15



Source: Bernstein Research 1996 Future of the Credit Card Industry

Bernstein Research projects overall bankcard industry returns to decline slightly between 1996 and 2000, but monoline ROEs to improve to 31% (+4.5 percent) by 2000. Donaldson, Lufkin & Jenrette expects the card industry's profitability to erode slightly - but "ultimately stabilize at above-average levels" with industry ROEs in the low 20s through 1998. Value Line's projections for the monolines are more recent and imply an average ROE projection of 21% through 2002 - 10 percentage points below Bernstein's projection.

Exhibit 16

ValueLine ROE Estimates	1997	1998	2000-2002
MBNA	30.0%	30.5%	25.5%
First USA	23.5%	24.0%	22.5%
Capital One	19.5%	20.5%	21.0%
Advanta	7.5%	14.5%	14.0%
Average (unweighted)	20.1%	22.4%	20.8%

Source: Value Line, 6/97 (Note: ROE projections assume equity/ loans percent remains at 1996 levels)

Overall, while the estimates from Bernstein, DLJ and Value Line diverge somewhat, all project the industry to maintain above-average profitability. There will clearly be winners and losers, but the overall implication is that cards are likely to remain a profitable industry.

E. What Wall Street Implies

The stock market has determined a "value" for several of the major monoline issuers. By using the following financial equations and assuming that the markets are "efficient," we can infer what the market anticipates for sustainable returns and growth:

ROE = ((V/B)*(COE - G)) - G			*[also see Attachment A]*
where:			
V	= current stock value	B	= book equity
COE	= cost of equity	G	= growth rate

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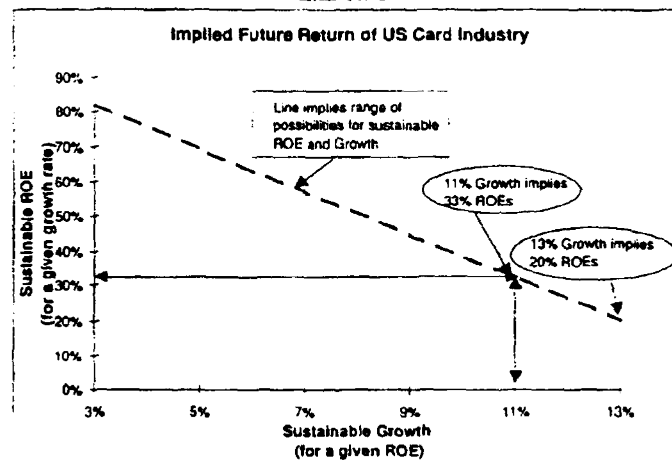
Since we know the current market value (V), cost of equity (COE) and book equity value (B) for the monolines, we can to solve for a range of future returns (ROE) and growth rates (G).

For example, if we inserted information about Capital One into the equation:

V	= $2,271 million (as of 6/97)	COE	= 14% (from Value Line)
B	= $ 676 million (year end 1996)	G	= 11% (based on '80-96 U.S. growth)
ROE	= 21%		

If we change the growth assumption to 5%, the implied ROE increases to 35%. We have used these equations and the current market capitalization to develop a reasonable range of forecasts about sustainable return and growth combinations for the monoline issuers.

Exhibit 17



Sources: Annual Reports, Value Line, Corporate Planning Analysis

Our assessment is that outstandings growth is likely continue at 11-14% for the foreseeable future as cards continue taking share from cash and check. A growth rate of 11% implies a future monoline ROE of 33%, while a growth rate of 13% implies a 20% ROE.

Forecast Summary:

Using several different approaches, we have come to the conclusion that the card industry is likely to experience ROEs of 20-25%. Profitability will vary considerably by issuer, dependent on their ability to develop the capabilities discussed in the next section.

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Section 4. Future Competitive Capability Requirements

As card issuers move into the 21st century, the skill requirements for success will continue to expand. The remaining participants are likely to have the skills and capabilities that characterize today's successful participants:

- Operating scale
- Sophisticated information management capabilities
- The ability to acquire and retain profitable accounts
- The skill to effectively manage and price risk at an individual customer level.

But the card game is likely to change as well. Looking forward, we see several additional skills that will distinguish the successful participants from the industry averages:

Transactor management: The successful competitors in the future will find ways for transactors to represent profitable accounts.

Comprehensive customer view: Successful participants will comprehensively understand both their customers' financial needs and their overall customer profitability. A bank's willingness to absorb an unprofitable card customer will only be tolerated if the comprehensive relationship is likely to be profitable over an account's lifetime. This skill will require improved IT capabilities, better customer information and enhanced ability to cross-sell appropriate products.

New product development: The lifecycle of most consumer products is limited - and cards are no exception. The successful competitors in the 21st century will consistently test and develop new products and services that expand upon their current skills, leverage their existing customer base, and better meet individual consumer needs. The leaders are likely to have the capability to effectively target their products to both narrow segments and the mass market.

International sophistication: Geographic markets outside the U.S. still represent enormous opportunity. Economies are often growing faster, card penetration is usually lower, traditional competition is less intense and prices (interest and fees) are above U.S. levels. However, credit and consumer data is less available, direct mail solicitations are infrequent, habits are less credit oriented and market entry is often difficult. The skilled competitors of the future will find unique ways of penetrating attractive countries, shifting consumer behavior, leveraging their skill, further exploiting cross-border economies of scale, and developing new IT sources and models that create additional consumer information or address its current scarcity.

Organizational nimbleness: While we have developed projections about the industry's future, we can be certain the card game will change. Successful competitors will be those who effectively manage their scale, but responsively react to marketplace shifts or proactively lead the change.

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Section 5. Implications for MasterCard

In the future, MasterCard must develop internal capabilities that address key issues facing our membership and continue to demonstrate increasing quality and competitive differentiation versus Visa in the products and services it provides. The following table represents a limited overview of how our offering matches the key issuer capability requirements and the challenges we face to better meet their needs to be effective competitors.

Exhibit 18

Key Issuer Capability Requirements	What MasterCard Offers	Potential Challenges & Opportunities
Profitable account acquisition	- Mail consulting	- Activation and usage advisory services
Low cost operating and processing structure	- Association costs that are ~2% of an issuer's cost structure	- MC higher priced v. Visa - Member benchmarking services
Information technology sophistication	- MOL suite of products (Portfolio & Market Advisor, MasterTagger) w/ transaction level detail by acct.	- Future MOL and data warehouse product development for issuer portfolios
Risk management, pricing and retention capabilities	- Fraud modeling - Bankruptcy lobbying - MOL MATCH - Argus relationship *[note: no opportunity for pricing]*	- MULTOS may enhance retention by providing multiple customer services on same card - Research on customer behavior - Additional opportunities to build consulting capabilities
Future Issuer Capability Requirements	**What MasterCard Offers**	**Potential Challenges & Opportunities**
Transactor management	- On- and off-line debit products - MOL Market Advisor to identify behaviors of A/CB cardholders	- New products that incent profitable behavior - Creating profitable partnerships for all parties in future A/CB deals - Better information about customer activities
Comprehensive customer view	- Argus relationship	- MULTOS may provide linkage across debit, credit and other bank products - Working across multiple areas of a bank
Product development skills	- Willingness to work w/ members - Recent launch of Premium, Corporate and Chip products	- Leverage MULTOS to offer broader range of products & services - More targeted products that address needs of smaller segments
Organizational nimbleness		- Providing information on trends and industry changes to help issuers adapt more quickly
International sophistication	- Ad-hoc support for issuer requests	- Develop processes and provide support as part of future SLA's - Assess trends in global payment industry and educate members

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In addition to this preliminary list, there are other issues raised by the foregoing analysis that require management attention:

- The card industry is a profitable industry that is likely to continue above-average returns, depending upon the potential scenarios discussed in this paper. MasterCard should reinforce internally and to our members that their investment in the brand has paid significant dividends and that MasterCard's pricing to members will continue to reflect the brand's value - to the extent competitive pressures allow. Future profitability will require a robust MasterCard that can respond to opportunities, keep our network efficient and our brand vibrant.
- Re-imposition of annual fees may be good for the issuers, but it may be bad for the health of MasterCard. MasterCard makes its money on transactions, regardless of whether the cardholder revolves. If the issuers discourage transacting behavior by imposing annual fees or canceling cards, MasterCard would see less volume and potentially less revenue. Bank issuers may become more aggressive in their desires to move credit card transactors to on-line debit products, which under current pricing scenarios, are significantly less profitable for us.
- MasterCard's profitability is not always well aligned with issuer profitability. We make money on volume while issuers make money on revolved balances. Can we better align our revenue streams (and expenses) so that both parties have similar incentives? An outstandings-based assessment (in exchange for a decreased volume assessment) is one potential option.
- The "burden of transactors" is forcing many issuers to re-evaluate their rewards programs. Because MasterCard has claimed a leadership position with these programs, their reduction or elimination could have adverse effects on our installed base of cardholders and the amount they charge - as well as limiting our future growth in this area.
- We need to more systematically monitor trends affecting our membership so that we can add value to their operations. By better tracking leading indicators and key value drivers, such as delinquencies, merchant trends, product/service growth rates and customer behavior, we are likely to be able to provide additional insight, tailor the findings in a more customized way and enhance the profitability of our members.

In summary, cards are a profitable industry in the United States and are likely to remain profitable going forward. There are significant differences in competitor profitability which are driven by differences in their current skills and capabilities. The wining issuers of the future will need to build on their current capabilities and adapt to the changing competitive landscape - both in the U.S. and abroad. MasterCard has a number of available (and occasionally under-exploited) skills and capabilities that help meet member needs, but it will need to build and expand on these skills if it wants to address the challenges our members will face in the future.

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Attachment A: Sustainable Return Equation

Recalling basic finance, the value of a growing perpetuity can be determined with the equation

$$V = \frac{CF}{(COE - G)}$$

where: V = value of the enterprise
CF = cash flow generated by the business
COE = cost of equity (rate used to discount cash flows)
G = growth rate

If we assume that the stock market is efficient and has valued companies based on their future cash flows, we can assume that the market value (V) of a publicly traded company could be determined from this simple equation.

In each year the cash flow created can be estimated with the equation

$$CF = B*(ROE - G)$$

where:
B = book equity
ROE = return on equity
G = growth rate

Essentially, this equation implies that cash flows equal the earnings that are not plowed back into the business to grow the equity base.

Substituting the two equations, we solve for the market value with:

$$V = B * \frac{(ROE - G)}{(COE - G)}$$

Solving for ROE, we find:

$$ROE = ((V/B)*(COE - G)) - G$$

For example, if we inserted Capital One into the equation

V	= \$2,271 million (as of 6/97)
B	= \$ 676 million (year end 1996)
COE	= 14% (conservative estimate from Value Line)
G	= 11% (assumption based on '80-96 U.S. growth rates)
ROE	= 21%

If we change the growth assumption to 5%, the ROE implied by the current stock market value would increase to 35%

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