

MASTERCARD INC. (NYSE) - MA

Company Description:

MasterCard, Inc., is a global leader in electronic payments. It serves as a processor, franchisor, and advisor to about 25,000 financial institutions, in support of their credit, debit, and related payment programs. It licenses its card brands, including MasterCard, MasterCard Electronic, Maestro, and Cirrus, to clients worldwide. Revenue is derived from both transaction volume and dollar volume. Has about 11,300 employees. MasterCard Foundation owns 10.4%; (4/16 Proxy). Chairman: Richard Haythornthwaite. President and CEO: Ajaypal S. Banga. Purchase, New York www.mastercard.com

Basic Description:

MA's net profits have grown rapidly since its IPO in 2006, but are slowing. EPS has even grown more rapidly, driven by strong share repurchasing - especially recently which has limited value as P/Es have been high. Dividends have increased to the current 15% payout ratio. The strong buyback numbers and dividend payout has meant that, despite high ROEs, growth rates are much slowed. In addition, MA has a few charge-offs in its short history. Revenues have also grown rapidly, but appear to be slowing as size effect may be challenging. Demonstrating the operating leverage of the network, margins have consistently expanded as revenues have grown. Some competitive factors may be slowing this effect as rebates and incentives have become important to new business. Finally, the declining levels of depreciation rates confirm the low capital intensity which sets up extraordinary margins.

Profitability Description:

On a gross dollar volume of \$4.8 trillion, MA collects approximately 20 basis points as revenue - \$10 billion. MA has two focal points for growth: one is to focus on growth through the global conversion from cash to cards - eg. 50% in North America; 90% cash in ROW and two is to gain market share through differentiation and taking more of the value chain. These attempts involve some acquisitions as well as investment within natural areas of strength. The business model should, even with acquisitions and an expanded range of services, generate operating margins in excess of 50% with high excess profitability. The challenges to profitability are the limits to reinvest at its high rates of return as well the ineffectiveness of large share repurchases at high P/Es. It also appears that consumer credit growth is slowing due to competition, but prepaid is an area of growth for MA.

Core Advantage Description:

MA is one of four network processors (Visa, American Express and Discover) who function as a critical link in the chain between the purchaser's issuing card company (typically a bank and processor like TSYS) which receives an interchange fee (typically 1.6%) for providing the funds from a purchaser's credit/checking account and the seller's acquiring company (typically an acquirer like First Data) which receives a fee (typically .4%) for setting up the equipment and acting on behalf of the merchant. The network processor has an undisclosed fee. In the case of American Express and Discover, this network fee is built into the closed-loop total fee. However, MA and Visa charge a fee to both sides and are careful to not disclose it, probably for competitive reasons. I would estimate that this fee is 10% of each side (meaning 16 bps from issuer and 4 bps from acquirer). This global positioning which is embedded within so many banks and so many merchants creates a network which is difficult to scale up to as the pennies really add up with such scale. In addition, MA has positioning to understand the laws in each country, the buying patterns and the development of new technologies. The payments system is in disruption, but it is primarily on the merchants' side - due to their unhappiness with the general upward trend of interchange fees and their inability to control an increasingly important source of flows. The risks of technology disruption are significant, but not yet visible. National providers like China UnionPay and Japan's JGB have huge domestic advantages in their markets.

Investment Thesis:

MA has several sources of growth. The primary driver is the increasing use of credit as it replaces cash. In North America, the use of cash and checking is roughly 50%, while in the rest of the world it is 90%. MA is a global company and the primary growth is occurring outside of North America because within North America the "cash" users are largely non-banked. MA not only benefits from this large secular tailwind, but also benefits from the trend towards an increase in plastic money volume due to increased number of transactions and increased size of transactions. These rates are slower, but nevertheless, are aided by inflation and economic growth. Assuming that MA continues to maintain market share, we estimate that replacement of cash with credit (and debit) will generate 10% per year growth in revenues from "rest of world" with an additional 2% from economic growth (would be lower in lower income - largely not included), 2% in inflation and 1% per year in increased penetration in developed markets. We assume that no price war with Visa will occur, protecting margins with a terminal P/E of 20 due to high margins.

Purchase Description:

ACM considers MA a buy at 86 (20X 2017 earnings and ave of e.g and capl charge) and a sell at 164 (e.g., and ave of capl charge fair value and full value) as a Tier I "compounder" purchase.

Investment Characteristics

Earnings Analysis:

Use Of Earnings Analysis:

Growth Rate %: 30.70%

Avg Div Payout Ratio 14.53%

Quality %: 87.84%

Avg Stk Buyback Ratio 63.58%

	1995	1996	1997	1998	1999	2000	2001	2002	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenues										2,938	3,326	4,068	4,992	5,099	5,539	6,714	7,391	8,346	9,473	9,667	10,776	11,750
RPS										\$2.18	\$2.46	\$3.10	\$3.86	\$3.93	\$4.23	\$5.25	\$5.91	\$6.96	\$8.22	\$8.66	\$9.97	\$11.19

Rev. Analysis:

Rev Analysis (last 5 yrs.):

Growth Rate %: 12.54%

Growth Rate %: 9.92%

Growth % PS: 14.84%

Growth % PS: 13.70%

	1995	1996	1997	1998	1999	2000	2001	2002	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Oper. Margin										19.70%	23.10%	30.20%	38.40%	47.10%	52.40%	54.80%	56.40%	57.00%	57.30%	59.50%	58.20%	59.10%
Tax Rate										38.50%	34.80%	35.00%	40.10%	34.10%	33.00%	31.80%	29.90%	30.80%	28.80%	23.20%	30.00%	30.00%
Depreciation										110	100	98	112	141	148	194	230	258	321	366	373	400
Dep. Rate										41.21%	21.83%	8.99%	9.55%	9.67%	8.01%	8.09%	8.34%	8.28%	8.87%	9.61%	9.19%	8.88%

Description:

Instructions:

Analysis:

Observations:

Description & Analysis of Profitability (in mlns):

			2012			2013			2014			2015			2016		
Gross Revenues:			9.9%	7,391		8,346		9,473		9,667		10,776					
7%	Domestic assessments		3,387	45.8%	3,688	44.2%	3,967	41.9%	4,086	42.3%	4,411	40.9%					
12%	Cross-border volume fees		2,268	30.7%	2,715	32.5%	3,054	32.2%	3,225	33.4%	3,568	33.1%					
13%	Transaction processing fees		3,199	43.3%	3,554	42.6%	4,035	42.6%	4,345	44.9%	5,143	47.7%					
20%	Other revenues		1,154	15.6%	1,331	15.9%	1,688	17.8%	1,991	20.6%	2,431	22.6%					
16%	Rebates and incentives		-2,617		-2,942		-3,271		-3,980		-4,777						
Internal Costs:			9.0%	3,204		3,490		4,046		4,083		4,525					
11%	General, administrative and othe		2,429	32.9%	2,649	31.7%	3,184	33.6%	3,262	33.7%	3,714	34.5%					
1%	Advertising and marketing		775	10.5%	841	10.1%	862	9.1%	821	8.5%	811	7.5%					
EBITDA:				4,187		4,856		5,427		5,584		6,251	58.0%				
13%	Depreciation and other amortizat		230		258		321		366		373						
"Free" Cash Flow				3,969		4,557		5,093		5,242		5,869					
15%	Capital Expenditures		218		299		334		342		382						
Operating Margin:			10.4%	3,957	53.5%	4,598	55.1%	5,106	53.9%	5,218	54.0%	5,878	54.5%				
External Costs:			10.0%	1,198		1,482		1,489		1,442		1,756					
	Taxes:		1,174		1,384		1,462		1,406		1,587						
	Interest income		-37		-38		-28		-25		-43						
	Interest expense		41		41		55		61		95						
	Provision for litigation settlement		20		95		0		0		117						
Earnings:			10.6%	2,759		3,116		3,617		3,776		4,122					
Dividend Paid/% of FCF:				150	3.8%	348	7.6%	507	10.0%	714	13.6%	822	14.0%				
Common Stock/% of FCF:				1,253	31.6%	3,417	75.0%	3,727	73.2%	3,172	60.5%	3,271	55.7%				
							3,304		3,449		3,426						
Businesse Bought/Sold				70		0		525		584		584					

Balance Sheet (in mlns):

	2013		2014		2015		2016
Assets:	14,242		15,329		16,269		18,675
Cash and Cash Equivalents	3,599	25.3%	5,137	33.5%	5,747		6,721
Restricted cash for litigation sett	723	5.1%	540	3.5%	541		543
Investments	2,696		1,168		991		1,614
Accounts receivable	966		1,109		1,079		1,416
Settlement due from customers	1,351		1,052		1,068		1,093
Restricted security deposits	911		950		895		991
Prepaid expenses	471		741		664		850
Deferred income taxes	303		396		317		307
Property, plant and equipment, i	526		615		675		733
Goodwill and other intangible	1,794	12.6%	2,236	14.6%	2,694		2,478
Other	902	6.3%	1,385	9.0%	1,598		1,929
Liabilities:	6,747		8,505		10,207		12,991
Accounts Payable	338		419		472		609
Settlement due to customers	1,433		1,142		866		946
Restricted security deposits	911		950		895		991
Accrued litigation	886		771		709		722
Accrued expenses	2,101		2,439		2,763		3,318
Other current liabilities	363		501		564		620
Long-term Debt	0	0.0%	1,494	17.6%	3,287		5,180
Deferred income taxes	117		115		79		81
Other Liabilities	598		674		572		524
Shareholder's Equity:	7,484		6,790		6,028		5,656
Common Stock	0	0.0%	0	0.0%	0		0
Capital Surplus	3,762	50.3%	3,876	57.1%	4,004		4,183
Treasury Stock	-6577	-87.9%	-9995	-147.2%	-13522		-17021
Retained Earnings	10,121	135.2%	13,169	193.9%	16,222		19,418
Comprehensive Income	178		-260		-676		-924

Description:

Instructions/Questions:

Analysis:

Observations: The decline in short term debt and increase in long term lending seems to adhere to Buffett's motto: "neither a short term borrower nor a long term lender be."

Description & Analysis of Debt Levels (in mlns):

Summary:	Debt is a four-letter word. Debt causes the years of repayment of capital to equity shareholders to stretch out into the more distant future. Even worse, debt can cause the best business model to become the property of bondholders in a rough economic environment.
----------	---

Total Debt-Capital:	The measure of total debt to total capital is useful when book value is a good measure of a firm's worth. This is particularly true of traditional businesses where property, plant and equipment are important. Further, it helps to have this ratio in capital intensive businesses with cyclical earnings.
---------------------	---

Total Debt:	5,785	Here, deferred income taxes have been excluded.
Total Capital:	11,813	Here, deferred income taxes have been excluded.
Ratio:	48.97%	

Long Term Debt-Cap.:	The measure of long term debt to total capital is useful when total debt is distorted by the high presence of current assets being financed by current liabilities. Again, the measure works best within a traditional industry setting. The ratio helps position the equity shareholders.
----------------------	--

L. T. Debt:	5,180	Here, the current liabilities have been excluded.
L. T. Capital:	10,836	Here, the current liabilities have been excluded.
Ratio:	47.80%	

Net Income Payback:	The measure of how quickly total debt is repaid by net income is a conservative measure, as it includes debt such as current liabilities, that are financed by current assets and excludes some sources of cash, such as noncash amortization numbers.
---------------------	--

Total Debt:	5,785
Net Income:	4,122
Years Payback:	1.4

L.T. Debt:	5,180
Net Income:	4,122
Years Payback:	1.3

Addback Net Inc. Payback:	The measure of how quickly debt is repaid by addback net income is a good measure, as it starts with GAAP net income and adds back expenses on an after-tax basis that are clearly discretionary, such as business acquisitions to better analyze the strength of the repayment stream.
---------------------------	---

L.T. Debt:	-1,541	adds back cash
Net Income:	4,122	
Addback:	0	Merger charges, writedowns above the line, dep. Amort below the line less capex
Years Payback:	-0.4	

Interpretations:	
------------------	--

Description & Analysis of Pension Issues(in mlns):

Summary:	Corporate defined benefit or "pension" plans are a major obligation of companies. Because of the actuarial changes involved, obligations can move significantly. As a result, corporations have steadily moved toward defined contribution plans as they froze or terminated pension plans. These obligations are measured in two ways: accumulated and projected. As the name implies, projected is what is likely and a greater number than accumulated. This obligation is typical in three categories: US, non-US and post-retirement. There are assets which are set up to fund these plans. The difference is the funded status. This number provides an indication of the additional potential obligation of the company and is included in the balance sheet - typical in "other assets" and "other liabilities." That may not be the accurate value of the obligation in the event that assumptions are unreasonable. Because pensions are funded over time, it is less likely to have an immediate funding need that cripples the company or its earnings. Rather than focus on these assumptions, we estimate the size of plan's underfunding relative to the market value of the company. The greatest financial risk involves companies which are small relative to these funding requirements. For our purposes, we set this limit at 25% for the total underfunded as a percentage of market capitalization.
----------	---

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Pension Plan	Yes	Yes	No							
Frozen:	No	Yes	Yes							
Taft-Hartley	No	No	No							
Underfunded	Yes	Yes	Yes							
Amount:	102	59	0							
Market Cap:	121,072	121,072	121,072							
Ratio:	0.08%	0.05%	0.00%							

Description & Analysis of Stock Options (in mlns):

Summary:	Stock options are a difficult form of compensation to assess. Heavy use of stock options creates stock issuance and a demand for stock repurchasing in some industries. This can be dilutive to shareholders if no repurchasing occurs or can absorb cash flows in the event that repurchasing occurs to offset issuance. Uses "share-based incentive" language
----------	---

FASB ASC 718	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
After tax Exp	-15.00	22.00	50.00							
Net profits:	3,617.00	3,808.00	4,059.00							
%	-0.41%	0.58%	1.23%							
Cash net of tax	3,304.00	3,449.00	3,426.00							
Net share rep	3,727.10	3,171.60	3,270.75							
Difference	-423.10	277.40	155.25							
% of Net profits	-11.70%	7.28%	3.82%							

Industry Overview

The credit card industry has enjoyed a powerful secular transition from cash and checks to "plastic." Increasingly, payment systems will be mobile and digital. Concerns continue to grow around issues of fraud and safety. At the same time, merchants are pushing back on their costs to offer these payment systems with margins narrowing due to debit cards as well as co-branded cards. The result should be a continued rapid growth but a decline in margins.

Industry Comparisons

Operating Statistics:

Company	Yrs.Pybk.	Sales	ROE	Oper.Margin
MA	-0.4	10,776	71.76%	58.20%
V	1.2	15,000	22.50%	65.00%
PYPL	-3.2	9,250	9.00%	23.00%
FLT	4.7	1,725	16.50%	57.00%
VNTV	25.6	2,577	13.90%	31.00%

Market Statistics:

Company	P/B	P/E	Div. Yld.	EV/Sales
MA	21.41	29.8	0.81%	11.24
V	5.92	25.7	0.70%	12.73
PYPL	3.27	36.2	0.00%	5.03
FLT	4.55	22.56	0.00%	9.12
VNTV	9.74	57.3	0.00%	3.48

Investment Opinion

Positives:

Negatives:

Product/Service:

Pricing Power:

Steady with oligopoly

Durability:

Cards are needed continuously.

Brand Appeal:

Mastercard is recognized globally

Unique Importance:

Mastercard and Visa are the backbone of network switching

Role Of Media:

Toll Bridge:

The are limited entrants to this business.
The barriers to entry are high.

Global Opportunity

The rate of global growth exceeds domestic and represents the major opportunity.

Competition

Limited

Economic Risk:

Government Role

Role Of Technology:

Supply/Demand:

Cards are the future as cash is less utilized.

Financial:

Business Model:

Narrowly focused.

High Capital Reinv.:

Generates high free cash flow and repurchases stock with it.

Effective As Public:

Yes

Ownership:

Growth:

Concentration:

Global

Management:

Characteristics:

Highly experienced.

Proxy Information:

Advertising is important but not a driver

Global is 2 bln cards and 25 mln businesses

Technology changes could develop new ones

Recessions decrease spending

Governments could drive some "anti-monopoly" issues

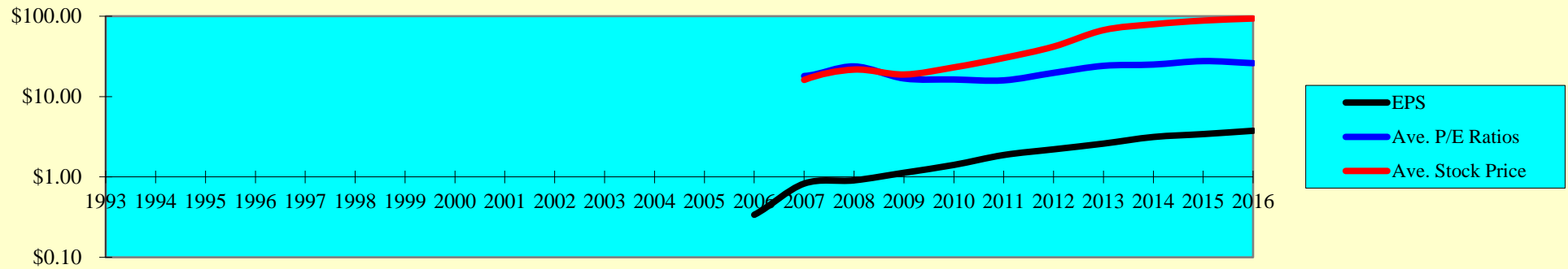
Likely to be lurking somewhere

Stock price still high for favorable repurchase impact.

Slowing

Highly compensated and stacked for mgmt.

Average Stock Price vs. Average P/E vs. EPS



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
EPS	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.20	\$0.34	\$0.83	\$0.91	\$1.13	\$1.41	\$1.87	\$2.21	\$2.60	\$3.14	\$3.41	\$3.75
Ave. P/E Ratios	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	20.10	18.00	23.70	16.80	16.30	15.90	19.70	24.10	25.00	27.60	26.00
Ave. Stock Price	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	7.45	16.10	21.65	18.80	23.05	30.20	41.75	67.00	79.30	88.10	93.45

Price/Earnings Ratio: used - \$3.75
 eleven year average low 15.5
 eleven year average high 27.3

If we set the purchase at the ave. eleven year low P/S,
 the price implied is: \$58.16
 If we set the sell at the ave. eleven year high P/S,
 the price implied is: #####

Price/Sales Ratio: used - \$9.97
 eleven year average low 5.18
 eleven year average high 8.58

If we set the purchase at the ave. eleven year low P/S,
 the price implied is: \$51.61
 If we set the sell at the ave. eleven year high P/S,
 the price implied is: \$85.57

Price/Book Ratio: used \$5.23
 eleven year average low 7.5
 eleven year average high 12.7

If we set the purchase at the ave. eleven year low P/CF,
 the price implied is: \$39.18
 If we set the sell at the ave. eleven year high P/CF,
 the price implied is: \$66.42

Price/Cash Flow Ratio: used n/m
 eleven year average low n/m
 eleven year average high n/m

If we set the purchase at the ave. eleven year low P/CF,
 the price implied is: n/m
 If we set the sell at the ave. eleven year high P/CF,
 the price implied is: n/m

Initial Rate of Investment		
	Current Price	\$112.00
	Current EPS	\$4.29
	Initial ROI	3.83%

Valuation as an Equity Bond:		
	Current BV	\$3.94
	Current ROE	108.95%
	Retained %	16.89%
	Net BV Growth	18.40%
	BV in Year 10	\$21.32
	EPS in Year 10	\$23.23
	Valueat20.P/E	\$464.66
	Total Dividends	\$28.23
	Total F.Value	\$492.88
	Purchaseat14%	\$132.95

Relative Value to Investment In T-Bonds		
	Current EPS	\$4.29
	T-Bond Rate	4.00%
	Relative Value	\$107.26

Valuation on Earnings Growth:		
	Current EPS	\$4.29
	EPS in Year 10	\$13.33
	Ave. P/E Ratio	21.20
	Valueat20.P/E	\$294.74
	Price Return	9.06%
	Dividend Return	0.80%
	Total Return	9.86%
	Purchaseat14%	\$79.50
	Sellat6%	\$164.58

Capital "charge" approach		
6,251	ebitda	
0.12	required return	
0.09	growth rate (not on EPS basis)	
0.9	% not required	
0.039	denominator	
160,282	ev	
-1,541	debt	
161,823	equity value	
1081	shares	
149.70	share value	
89.82	buy at 60%	
179.64	sell at 120%	

History of Buys/Sells

by	MA	6/24/2015	6/29/2015	183.00	17,536.70	\$	95.83	2
by	MA	8/24/2015	8/27/2015	101.00	8,884.24	\$	87.96	3

Discussion of Buys/Sells

What: The return of the first purchase of MA (bought 6/25/2015 to present) was 1% and SP -3% for an outperformance of 4% (nearly 6 months).
The return of the second purchase of MA (bought 8/24/2015 to present) was 7% and SP 2% for an outperformance of 5% (nearly 4 months).

So what: We have paid an extremely high P/E due to the "compounder" and Tier I combination

Now what: If our assumptions are correct, MA should be a primary investment and remain so for a long time.

Takeaway: We need to focus on finding "compounders", but most won't be Tier I. This is rare.

[illegible]