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Mastercard Incorporated Class A (MA-US)

IT Services Equipment

- We reiterate our Strong Buy rating on MA and believe significant upside to the shares still exists.
- An improving economy and MA's expanding global footprint will continue to drive revenue growth.
- MA's ongoing investments to improve the safety, security and efficiency of electronic payments continues to pay off in new customer wins.
- MA's digital payment platform MasterCard Send and Masterpass continue to add new partners.
- MA and PayPal Holdings extend their long-standing partnership positioning MasterCard as a "clear and equal" payment choice in its electronic wallet.
- MA continues to invest in the creation of innovative payment technology.
- MA continues to return cash to shareholders at an increasing rate.
- MA is on our Research Focus List and in our Focused Opportunity Portfolio.

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Company Update

Mastercard Incorporated Class A (MA-US)
IT Services Equipment

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Research Action:

Reiterate rating

Rating: Strong Buy
Prior Rating: Strong Buy
Price 02/17/2017: \$109.42
52 Week High / Low: \$111.07 / \$84.59
Key Data: (TTM as of Dec-16)
Excess Cash per Share: \$6.38
Annual Dividend: \$0.88
Dividend Yield: 0.80%
Ave. Volume (30 Day): 3.4M
Shares Outstanding: 1,081.0M
Float: 963.7M
Equity MV: \$118,283.0M
Sales TTM: \$10,776.0M
Beta: 0.86
EBITDAR: \$6,212.6M
NOPAT: \$4,322.9M
Total Invested Capital: \$9,484.5M
Return on Capital: 49.50%
Cost of Capital: 6.20%
Economic Profit: \$3,781.5M
Market Value Added: \$112,324.0M
Current Operations Value: \$70,474.8M
Future Growth Value: \$51,333.8M

- **We reiterate our Strong Buy rating on MA and believe significant upside to the shares still exists.** Increasing employment and improving consumer confidence will drive greater card and electronic based payment transactions. MA will continue to drive greater Business Performance through both organic growth from increasing card usage and larger transactions in combination with an ever expanding global footprint. MA's investment in innovative new payment technology and incorporate strategic acquisitions will further drive new customer wins. MA's growth and continue a pattern of returning significant cash will continue to drive greater shareholder value creation.
- **An improving economy and MA's expanding global footprint will continue to drive revenue growth.** Strong employment and increasing consumer confidence, both in the US and globally, is driving higher levels of consumer spending. MA will continue to benefit as consumers continue to migrate away from cash-based paper transactions to increasing use of card and electronic based payments that provide greater convenience, security and buyer protections. Furthermore, an increasing number of merchants are installing self-ordering kiosks and self-checkout systems that speed up service and increase efficiency using card based payments. MA continues to add new card and service issuers, both in the US and globally. We believe the Trump administration's focus on streamlining financial regulations will drive new customer wins at a faster and more efficient pace.
- **MA's ongoing investments to improve the safety, security and efficiency of electronic payments continues to pay off in new customer wins.** MA continues to renew existing customers including SunTrust's credit, debit and commercial business and First National Bank of Omaha's credit and commercial portfolios. MA renewed USAA for debit card processing services and Jack Henry & Associates to provide processing solutions for credit, debit and commercial services to their more than 10,000 clients. In Europe, MA signed Amazon for its credit card co-branded business in the UK. MA renewed its debit agreement with ABN AMRO. In Latin America, MA signed a new deal with Caixa in Brazil for credit, debit and Advisor services. Additionally, MA renewed agreements with Bancolombia for credit and debit with a focus on affluent customers, as well as with Santander in Mexico for credit, debit and commercial, and its commercial business in Brazil. MA also renewed its agreement with the Commonwealth Bank of Australia. MA is working with regulators to gain greater access in China and in Q4 2016 added the Bank of China.

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- **MA's digital payment platform MasterCard Send and Masterpass continue to add new partners.** In 2016, Mastercard Send has added new partners including Allstate, Green Dot, Lyft, Uber and Stripe that now use this platform for making secure payments to drivers, delivery people, and claimants, among others. In Q4, MA added Wells Fargo Bank which will use Mastercard Send for its treasury and merchant services customers. MA's Masterpass has helped Apple Pay, Android Pay, Samsung Pay and Microsoft Wallet to expand to several new countries including Spain, Ireland, Poland, Russia, and Hong Kong, bringing the total to 17 markets globally. Masterpass enables their customers to shop online, in apps, and check out using MDES tokenized login credentials at hundreds of thousands of merchants around the world where Masterpass is accepted.
- **MA and PayPal Holdings extend their long-standing partnership positioning MasterCard as a "clear and equal" payment choice in its electronic wallet.** MasterCard will show as the as a default payment choice, making it identifiable to customers for use. PayPal will add Masterpass a payment option for Braintree (a PayPal subsidiary) merchants. The partnership will give MA greater visibility for use in online transactions, boosting its use significantly. Additionally, MA and PayPal have agreed to a multi-year extension of the PayPal Business Debit Mastercard program in the U.S. and to a multi-year extension of the PayPal Extras Mastercard co-branded consumer credit card program.
- **MA continues to invest in the creation of innovative payment technology.** MA is focusing on ways to incorporate artificial intelligence (AI) to improve security, customer experiences and payment transactions. MA created an AI bot platform enabling consumers to make purchases via messaging platforms like Facebook Messenger and check out using Masterpass. MA launched Decision Intelligence a comprehensive decision and fraud detection service that uses machine learning to score transactions based on an individualized risk profile to reduce false declines and potential fraud. AI will improve the consumer experience while preventing banks and retailers from losing sales and being charged back for fraudulent transactions. MA has filed four Blockchain Patents and just announced two experimental Blockchain APIs. Blockchain or "digital ledger" has the potential to revamp the extensive and complex network of bank payments and financial settlements. Blockchain is a type of distributed ledger that maintains digitally recorded data in a decentralized network. While Bitcoin was one of the first cryptographic currencies that drew attention in 2009, several other cryptographic currencies have now emerged. Crypto currency technologies can provide consumers and merchants the security of account information and defense against fraud and theft.

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- **MA continues to return cash to shareholders at an increasing rate.** MA has consistently increased its dividend every year since going public in 2006. MA just announced in December 2016 a new \$4 billion stock buyback. MA has repurchased over \$18 billion worth of its shares so far since 2010.
- **MA is on our Research Focus List and in our Focused Opportunity Portfolio.** We believe MA's leading position and expanding growth opportunities make it one of the key stocks to own in our electronic payments investment theme.

Investment Thesis

MA is the number two global card network and continues to benefit from the ongoing transition to card based and electronic payments driven by safety, convenience, loyalty programs and purchase protections that card based payments offers. MA's significant brand equity and innovative ability continues to create opportunity to gain greater market share in the global electronic payment business. MA's strong cash flow will continue to drive its history of returning significant cash to shareholders. MA is one of the key stocks to own in our electronic payments investment theme..

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Company Report – Research Update

Financial Data

Report Basis Reported Period Ending	LTM 12/31/2011	LTM 12/31/2012	LTM 12/31/2013	LTM 12/31/2014	LTM 12/31/2015	LTM 12/31/2016	LTM 12/31/2017	NTM 12/31/2017	5 Yr Average	3 Yr Average	Current Trend
Net Sales Revenue	\$6,717.0	\$7,397.0	\$8,342.0	\$9,473.0	\$9,667.0	\$10,776.0	\$11,790.2	\$9,131.0	\$9,972.0	\$11,283.1	
Sales Growth	21.20%	10.12%	12.78%	13.56%	2.05%	11.47%	9.41%	10.00%	9.03%	10.44%	
Sales Growth Trend	16.15%	14.55%	11.71%	13.24%	6.65%	7.70%	10.24%	10.77%	9.20%	8.97%	
Cash Operating Expenses	\$2,763.8	\$2,922.4	\$3,207.3	\$3,464.5	\$3,823.2	\$3,995.0	\$4,448.6	\$3,482.5	\$3,760.9	\$4,221.8	
% of Sales	41.15%	39.51%	38.45%	36.57%	39.55%	37.07%	37.73%	38.23%	37.73%	37.40%	
Operating Cash Flow (EBITDAR)	\$3,953.2	\$4,474.6	\$5,134.7	\$6,008.5	\$5,843.8	\$6,781.0	\$7,341.6	\$5,648.5	\$6,211.1	\$7,061.3	
EBITDAR Margin	58.85%	60.49%	61.55%	63.43%	60.45%	62.93%	62.27%	61.77%	62.27%	62.60%	
EBITDAR Growth	24.29%	13.19%	14.75%	17.02%	-2.74%	16.04%	8.27%	11.65%	10.10%	12.15%	
Economic Operating Expenses	\$224.0	\$266.0	\$296.0	\$386.0	\$435.0	\$373.0	\$473.0	\$351.2	\$398.0	\$423.0	
% of Sales	3.33%	3.60%	3.55%	4.07%	4.50%	3.46%	4.01%	3.84%	4.01%	3.74%	
Net Operating Profit Before Tax (NOPBT)	\$3,729.2	\$4,208.6	\$4,838.7	\$5,622.5	\$5,408.8	\$6,408.0	\$6,868.6	\$5,297.3	\$5,813.1	\$6,638.3	
NOPBT Margin	55.52%	56.90%	58.00%	59.35%	55.95%	59.47%	58.26%	57.93%	58.26%	58.86%	
NOPBT Growth	24.08%	12.86%	14.97%	16.20%	-3.80%	18.47%	7.19%	11.74%	10.29%	12.83%	
Cash Operating Income Tax	\$1,143.5	\$1,256.6	\$1,487.2	\$1,618.5	\$1,254.6	\$1,801.2	\$1,833.6	\$1,483.6	\$1,558.1	\$1,817.4	
Economic Tax Effective Rate	30.66%	29.86%	30.74%	28.79%	23.19%	28.11%	26.70%	28.14%	26.70%	27.40%	
Net Operating Profit After Tax (NOPAT)	\$2,585.8	\$2,952.0	\$3,351.5	\$4,004.1	\$4,154.3	\$4,606.8	\$5,034.9	\$3,813.7	\$4,255.1	\$4,820.9	
NOPAT Margin	38.50%	39.91%	40.18%	42.27%	42.97%	42.75%	42.70%	41.62%	42.66%	42.73%	
NOPAT Growth	28.41%	14.17%	13.53%	19.47%	3.75%	10.89%	9.29%	12.36%	11.37%	10.09%	
Cash & Equivalents	\$5,055.0	\$5,797.0	\$7,029.0	\$6,845.0	\$7,279.0	\$8,878.0	\$9,786.7	\$7,165.6	\$7,667.3	\$9,332.4	
Total Assets	\$10,693.0	\$12,462.0	\$14,242.0	\$15,329.0	\$16,269.0	\$18,675.0	\$20,586.5	\$15,395.4	\$16,757.7	\$19,630.7	
Non - Interest Bearing Liabilities (NIBLs)	\$4,471.0	\$5,179.0	\$6,299.0	\$6,439.0	\$6,437.0	\$7,811.0	\$8,610.5	\$6,433.0	\$6,895.7	\$8,210.8	
Net Assets	\$6,213.0	\$7,271.0	\$7,932.0	\$8,856.0	\$9,798.0	\$10,836.0	\$11,945.1	\$8,938.6	\$9,830.0	\$11,390.6	
Economic Asset Adjustments	(\$196.1)	\$46.7	(\$44.6)	(\$101.2)	(\$48.6)	\$698.0	\$769.4	\$110.1	\$182.7	\$733.7	
Net Operating Assets	\$6,016.9	\$7,317.7	\$7,887.4	\$8,754.8	\$9,749.4	\$11,534.0	\$12,714.6	\$9,048.7	\$10,012.7	\$12,124.3	
Debt & Debt Equivalents	\$89.9	\$93.7	\$147.4	\$1,688.8	\$3,499.4	\$5,180.0	\$5,710.2	\$2,121.9	\$3,456.1	\$5,445.1	
Equity & Equivalents	\$5,868.0	\$6,917.0	\$7,484.0	\$6,790.0	\$6,028.0	\$5,656.0	\$6,234.9	\$6,575.0	\$6,158.0	\$5,945.5	
Total Capital - Financing Sources	\$5,957.9	\$7,010.7	\$7,631.4	\$8,478.8	\$9,527.4	\$10,836.0	\$11,945.1	\$8,696.9	\$9,614.1	\$11,390.6	
Capital Adjustments	(\$286.0)	(\$47.0)	(\$157.0)	(\$255.0)	(\$251.0)	\$698.0	\$769.4	(\$2.4)	\$64.0	\$733.7	
Net Capital Financing Sources	\$5,671.9	\$6,963.7	\$7,474.4	\$8,223.8	\$9,276.4	\$11,534.0	\$12,714.6	\$8,694.5	\$9,678.1	\$12,124.3	
Net Working Capital	(\$744.2)	(\$590.2)	(\$1,234.9)	(\$1,042.4)	(\$1,611.7)	(\$2,317.2)	(\$2,554.4)	(\$1,359.3)	(\$1,657.1)	(\$2,435.8)	
Cost of Net Working Capital	(\$25.6)	(\$38.9)	(\$59.8)	(\$67.3)	(\$73.1)	(\$73.6)	(\$81.1)	(\$62.5)	(\$71.3)	(\$77.3)	
% of Revenue	-0.38%	-0.53%	-0.72%	-0.71%	-0.76%	-0.68%	-0.68%	-0.68%	-0.72%	-0.69%	
Operational Capital	(\$205.3)	(\$24.4)	(\$596.5)	(\$273.5)	(\$734.3)	(\$1,584.2)	(\$1,746.4)	(\$642.6)	(\$864.0)	(\$1,665.3)	
Cost of Operational Capital	(\$5.2)	(\$6.7)	(\$20.4)	(\$25.7)	(\$27.7)	(\$43.4)	(\$47.9)	(\$24.8)	(\$32.3)	(\$45.6)	
% of Revenue	-0.08%	-0.09%	-0.24%	-0.27%	-0.29%	-0.40%	-0.41%	-0.26%	-0.32%	-0.40%	
Productive Capital	\$1,473.7	\$1,739.6	\$1,197.5	\$1,962.5	\$1,959.7	\$893.8	\$985.3	\$1,550.6	\$1,605.3	\$939.5	
Cost of Productive Capital	\$50.2	\$93.8	\$96.3	\$93.4	\$108.0	\$53.4	\$58.9	\$89.0	\$84.9	\$56.2	
% of Revenue	0.75%	1.27%	1.15%	0.99%	1.12%	0.50%	0.50%	1.00%	0.87%	0.50%	
Total Operating Capital	\$1,297.7	\$1,890.6	\$1,275.5	\$2,383.5	\$2,953.7	\$3,194.8	\$3,521.8	\$2,339.6	\$2,844.0	\$3,358.3	
Cost of Total Operating Capital	\$46.3	\$93.1	\$103.8	\$108.1	\$146.9	\$115.2	\$126.9	\$113.4	\$123.4	\$121.0	
% of Revenue	0.69%	1.26%	1.24%	1.14%	1.52%	1.07%	1.08%	1.25%	1.24%	1.07%	
Non - Operating Capital	\$4,719.2	\$5,427.2	\$6,611.9	\$6,371.4	\$6,795.7	\$8,339.2	\$9,192.8	\$6,709.1	\$7,168.7	\$8,766.0	
Cost of Non - Operating Capital	\$168.5	\$296.2	\$394.6	\$383.6	\$362.4	\$283.5	\$312.5	\$344.1	\$343.2	\$298.0	
% of Revenue	2.51%	4.00%	4.73%	4.05%	3.75%	2.63%	2.65%	3.83%	3.48%	2.64%	
Total Capital	\$6,016.9	\$7,317.7	\$7,887.4	\$8,754.8	\$9,749.4	\$11,534.0	\$12,714.6	\$9,048.7	\$10,012.7	\$12,124.3	
Cost of Total Capital	\$214.8	\$389.2	\$498.4	\$491.8	\$509.3	\$398.6	\$439.4	\$457.5	\$466.6	\$419.0	
% of Revenue	3.20%	5.26%	5.97%	5.19%	5.27%	3.70%	3.73%	5.08%	4.72%	3.71%	
Cost of Capital (WACC)	3.84%	5.84%	6.56%	5.91%	5.51%	3.75%	3.75%	5.51%	5.05%	3.75%	
Weighted After Tax Debt Cost of Capital	0.00%	0.00%	0.01%	0.05%	0.09%	0.06%	0.06%	0.04%	0.07%	0.06%	
Weighted Preferred Equity Cost of Capital	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Weighted Equity Cost of Capital	3.83%	5.83%	6.55%	5.86%	5.41%	3.68%	3.68%	5.47%	4.98%	3.68%	
Capital Structure											
Debt & Debt Equivalents	\$89.9	\$93.7	\$147.4	\$1,688.8	\$3,499.4	\$5,180.0	\$5,710.2	\$2,121.9	\$3,456.1	\$5,445.1	
Debt & Debt Equivalents % of Market Value	0.20%	0.16%	0.15%	1.73%	3.16%	4.48%	4.48%	2.21%	3.20%	4.48%	
Preferred Equity	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Preferred Equity % of Market Value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Market Value of Common Equity	\$45,246.2	\$58,597.9	\$96,747.1	\$95,889.2	\$107,118.8	\$110,425.4	\$121,728.0	\$93,755.7	\$104,477.8	\$116,076.7	
Common Equity % of Market Value	99.80%	99.84%	99.85%	98.27%	96.84%	95.52%	95.52%	97.79%	96.80%	95.52%	
Total Economic Market Value (MV)	\$45,336.0	\$58,691.6	\$96,894.6	\$97,578.0	\$110,618.2	\$115,605.4	\$127,438.2	\$95,877.5	\$107,933.8	\$121,521.8	
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Excess Cash	\$4,719.2	\$5,427.2	\$6,611.9	\$6,371.4	\$6,795.7	\$8,339.2	\$9,192.8	\$6,709.1	\$7,168.7	\$8,766.0	
Economic Enterprise Value	\$40,616.9	\$53,264.5	\$90,282.7	\$91,206.7	\$103,822.5	\$107,266.2	\$118,245.5	\$89,168.5	\$100,765.1	\$112,755.8	
Ending Capital	\$5,671.9	\$6,963.7	\$7,474.4	\$8,223.8	\$9,276.4	\$11,534.0	\$12,714.6	\$8,694.5	\$9,678.1	\$12,124.3	
- Beginning Capital	\$5,177.0	\$5,671.9	\$6,963.7	\$7,474.4	\$8,223.8	\$9,276.4	\$11,534.0	\$7,522.0	\$8,324.9	\$10,405.2	
Average Capital	\$5,424.4	\$6,317.8	\$7,219.1	\$7,849.1	\$8,750.1	\$10,405.2	\$12,124.3	\$8,108.3	\$9,001.5	\$11,264.7	
Capital Δ	\$494.8	\$1,291.9	\$510.7	\$749.4	\$1,052.6	\$2,257.6	\$1,180.6	\$1,172.4	\$1,353.2	\$1,719.1	

Source: Company Data, Financial statements and Tigress Research

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Company Report – Research Update

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	Average	Average	Trend
Return on Market Value (NOPAT / MV)	5.70%	5.03%	3.46%	4.10%	3.76%	3.98%	4.39%	4.07%	3.95%	4.19%
Return on Enterprise Value (NOPAT / EV)	6.37%	5.54%	3.71%	4.39%	4.00%	4.29%	4.73%	4.39%	4.23%	4.51%
Return on Capital (NOPAT / Average Capital)	47.67%	46.73%	46.43%	51.01%	47.48%	44.27%	48.81%	47.18%	47.59%	46.54%
Cost of Capital (WACC)	3.84%	5.84%	6.56%	5.91%	5.51%	3.75%	3.75%	5.51%	5.05%	3.75%
Economic Return Spread	43.83%	40.89%	39.87%	45.10%	41.97%	40.53%	44.68%	41.67%	42.53%	42.60%
Capital Charge	\$208.1	\$368.8	\$473.2	\$463.9	\$481.7	\$389.7	\$429.6	\$435.5	\$445.1	\$409.7
Economic Profit (EP)	\$2,377.6	\$2,583.2	\$2,878.3	\$3,540.2	\$3,672.6	\$4,217.1	\$4,648.7	\$3,378.3	\$3,809.9	\$4,432.9
Economic Profit Improvement (EPI)	\$675.2	\$205.6	\$295.1	\$661.9	\$132.4	\$544.5	\$431.6	\$367.9	\$446.3	\$488.1
EP Growth	39.66%	8.65%	11.42%	23.00%	3.74%	14.83%	10.24%	12.33%	13.85%	12.53%
Economic Profit Margin on Sales	35.40%	34.92%	34.50%	37.37%	37.99%	39.13%	39.43%	36.78%	38.17%	39.28%
Economic Profit Per Share	\$1.86	\$2.07	\$2.38	\$3.04	\$3.24	\$3.84	\$4.23	\$2.91	\$3.37	\$4.04
GAAP Earnings Per Share	\$1.49	\$2.20	\$2.57	\$3.11	\$3.35	\$3.70	\$4.26	\$2.99	\$3.39	\$3.98
Excess Cash Per Share	\$3.72	\$4.38	\$5.51	\$5.53	\$6.06	\$7.67	\$8.46	\$5.83	\$6.42	\$8.06
Performance Drivers										
Sales Growth	21.20%	10.12%	12.78%	13.56%	2.05%	11.47%	9.41%	10.00%	9.03%	10.44%
Sales Growth Trend (ROC Sales Growth)	16.15%	14.55%	11.71%	13.24%	6.65%	7.70%	10.24%	10.77%	9.20%	8.97%
EBITDAR Margin	58.85%	60.49%	61.55%	63.43%	60.45%	62.93%	62.27%	61.77%	62.27%	62.60%
EBITDAR Growth	24.29%	13.19%	14.75%	17.02%	-2.74%	16.04%	8.27%	11.65%	10.10%	12.15%
NOPBT Margin	55.52%	56.90%	58.00%	59.35%	55.95%	59.47%	58.26%	57.93%	58.26%	58.86%
NOPBT Growth	24.08%	12.86%	14.97%	16.20%	-3.80%	18.47%	7.19%	11.74%	10.29%	12.83%
NOPAT Margin	38.50%	39.91%	40.18%	42.27%	42.97%	42.75%	42.70%	41.62%	42.66%	42.73%
NOPAT Growth	28.41%	14.17%	13.53%	19.47%	3.75%	10.89%	9.29%	12.36%	11.37%	10.09%
Economic Profit Margin on Sales (EP / Sales)	35.40%	34.92%	34.50%	37.37%	37.99%	39.13%	39.43%	36.78%	38.17%	39.28%
Economic Profit Growth	39.66%	8.65%	11.42%	23.00%	3.74%	14.83%	10.24%	12.33%	13.85%	12.53%
Economic Return Spread (ROC-WACC)	43.83%	40.89%	39.87%	45.10%	41.97%	40.53%	45.06%	41.67%	42.53%	42.79%
Economic Return Ratio (ROC / WACC)	1242.29%	800.41%	708.22%	863.19%	862.43%	1182.00%	1302.99%	883.25%	969.21%	1242.49%
Economic Profit Momentum (ΔEP/Capital)	11.90%	2.95%	3.95%	8.05%	1.43%	4.72%	3.39%	4.22%	4.73%	4.06%
Economic Profit Momentum Margin (ΔEP/Sales)	10.05%	2.78%	3.54%	6.99%	1.37%	5.05%	3.66%	3.95%	4.47%	4.36%
Capital Growth	9.56%	22.78%	7.33%	10.03%	12.80%	24.34%	10.24%	15.45%	15.72%	17.29%
Capital Turns	1.18X	1.06X	1.12X	1.15X	1.04X	0.93X	0.93X	1.06X	1.04X	0.93X
EVC Acceleration Margin	12.18%	3.06%	3.99%	7.93%	1.40%	5.63%	4.01%	3.12%	4.89%	4.89%
EVC Acceleration Spread	16.12%	3.79%	4.67%	9.17%	1.69%	6.22%	4.15%	3.03%	5.50%	5.42%
Risk Factors										
Free Cash Flow (NOPAT - Δ Capital)	\$2,090.9	\$1,660.2	\$2,840.8	\$3,254.7	\$3,101.7	\$2,349.2	\$3,854.4	\$2,641.3	\$2,901.9	\$3,101.8
Free Cash Flow Rate (FCF / Capital)	36.86%	23.84%	38.01%	39.58%	33.44%	20.37%	30.31%	31.05%	31.13%	25.34%
Free Cash Flow Yield (FCF / MV)	4.61%	2.83%	2.93%	3.34%	2.80%	2.03%	3.02%	2.79%	2.72%	2.53%
Total Debt / Total Capital	1.58%	1.35%	1.97%	20.54%	37.72%	44.91%	44.91%	21.30%	34.39%	44.91%
Total Debt / EBITDAR	2.27%	2.09%	2.87%	28.11%	59.88%	76.39%	77.78%	33.87%	54.79%	77.08%
Excess Cash	\$4,719.2	\$5,427.2	\$6,611.9	\$6,371.4	\$6,795.7	\$8,339.2	\$0.0	\$6,709.1	\$7,168.7	\$4,169.6
Financial Leverage ((Total Debt - Excess Cash) / NOPAT)	-10.21%	-9.09%	-6.67%	-4.80%	-2.98%	-2.73%	4.48%	-2.55%	-3.50%	0.87%
Pension Leverage (Net Pension Liability / MV)	-0.07%	-0.06%	-0.03%	-0.03%	0.01%	0.00%	0.00%	-0.02%	0.00%	0.00%
Equity Risk Index (S&P 500 = 1.00)	0.85	0.85	0.84	0.85	0.85	0.86	0.86	0.85	0.85	0.86
Stock Price Volatility	4.59	3.85	2.70	2.92	2.99	2.40	2.40	2.97	2.77	2.40
Sales Index (NL Sales)	8.81	8.91	9.03	9.16	9.18	9.29	9.38	9.11	9.21	9.33
Market Value Index (NL Market Value)	10.72	10.98	11.48	11.49	11.61	11.66	11.76	11.44	11.59	11.71
Size Index (NL Sales: MV)	9.77	9.94	10.26	10.32	10.40	10.47	10.57	10.28	10.40	10.52
Beta	0.78	0.78	0.77	0.78	0.78	0.79	0.79	0.78	0.78	0.79
TFP Adjusted Beta	0.85	0.85	0.84	0.85	0.85	0.86	0.86	0.85	0.85	0.86
Stock Price Volatility	4.59	3.85	2.70	2.92	2.99	2.40	2.40	2.97	2.77	2.40
Valuation Measures										
Total Economic Market Value (MV)	\$45,336.0	\$58,691.6	\$96,894.6	\$97,578.0	\$110,618.2	\$115,605.4	\$127,438.2	\$95,877.5	\$107,933.8	\$121,521.8
Economic Enterprise Value	\$40,616.9	\$53,264.5	\$90,282.7	\$91,206.7	\$103,822.5	\$107,266.2	\$118,245.5	\$89,168.5	\$100,765.1	\$112,755.8
Equity Market Value	\$45,246.2	\$58,597.9	\$96,747.1	\$95,889.2	\$107,118.8	\$110,425.4	\$121,728.0	\$93,755.7	\$104,477.8	\$116,076.7
Total Capital	\$6,016.9	\$7,317.7	\$7,887.4	\$8,754.8	\$9,749.4	\$11,534.0	\$12,714.6	\$9,048.7	\$10,012.7	\$12,124.3
Market Value Created MVC (MV - Capital)	\$39,319.2	\$51,373.9	\$89,007.1	\$88,823.2	\$100,868.8	\$104,071.4	\$114,723.7	\$86,828.9	\$97,921.1	\$109,397.5
MVC Margin (MVC / Sales)	585.37%	694.52%	1066.98%	937.65%	1043.43%	965.77%	973.05%	950.92%	981.96%	969.57%
MVC Spread (MVC / Capital)	653.48%	702.05%	1128.47%	1014.56%	1034.62%	902.30%	902.30%	959.58%	977.97%	902.30%
Current EVC Value (EP / WACC)	\$61,962.6	\$44,250.4	\$43,908.0	\$59,903.6	\$66,713.3	\$112,584.3	\$124,108.0	\$61,303.7	\$75,392.1	\$118,346.2
Current Operations Value COV	\$67,387.1	\$50,568.2	\$51,127.1	\$67,752.7	\$75,463.4	\$122,989.5	\$136,232.3	\$69,412.0	\$84,393.6	\$129,610.9
Current Operations Value Per Share	\$52.65	\$40.45	\$42.22	\$58.16	\$66.55	\$112.01	\$116.28	\$59.25	\$74.53	\$114.21
Future Growth Value (MVC - EVA Value)	(\$22,051.0)	\$8,123.4	\$45,767.4	\$29,825.3	\$35,154.7	(\$7,384.2)	(\$8,794.1)	\$26,465.5	\$23,540.3	(\$8,089.1)
Future Growth Value Reliance (FGV / MV)	-48.64%	13.84%	47.23%	30.57%	31.78%	-6.39%	-6.90%	27.60%	21.81%	-6.66%
Share Price	\$37.28	\$49.13	\$83.55	\$86.16	\$97.36	\$103.25	\$103.25	\$83.89	\$95.59	\$103.25
Dividend Yield	0.16%	0.24%	0.35%	0.57%	0.69%	0.77%	0.00%	-18.75%	13.95%	8.01%
Total Shareholder Return (TTM)	66.52%	32.02%	70.40%	3.70%	13.69%	6.81%	0.00%	-18.75%	13.95%	8.01%
MV to IC Ratio	7.53X	8.02X	12.28X	11.15X	11.35X	10.02X	10.02X	10.60X	10.78X	10.02X
EV / EBITDAR Multiple	10.27X	11.90X	17.58X	15.18X	17.77X	15.82X	16.11X	15.79X	16.22X	15.97X
EV / NOPBIT Multiple	10.89X	12.66X	18.66X	16.22X	19.19X	16.74X	17.22X	16.83X	17.33X	16.99X
EV / NOPAT Multiple	15.71X	18.04X	26.94X	22.78X	24.99X	23.28X	23.49X	23.38X	23.68X	23.39X
EV / EP Multiple	17.08X	20.62X	31.37X	25.76X	28.27X	25.44X	25.44X	26.39X	26.45X	25.44X
Future Growth Value (% of MV)	-48.64%	13.84%	47.23%	30.57%	31.78%	-6.39%	-6.90%	27.60%	21.81%	-6.66%
Current Operations Value (% of MV)	148.64%	86.16%	52.77%	69.43%	68.22%	106.39%	106.90%	72.40%	78.19%	106.66%
Market Value (COV + FGV %)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Basic Shares Outstanding	1,280.0	1,250.0	1,211.0	1,165.0	1,134.0	1,098.0	1,171.6	1,171.6	1,132.3	1,134.8

Source: Company Data, Financial statements and Tigress Research

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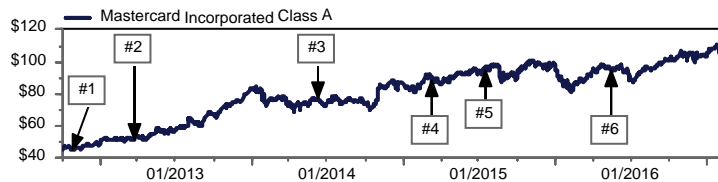
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Ratings History

Mastercard Incorporated Class A (MA-US)				
Item #	Date	Research Action	Rating	Price
#6	05/13/2016	Reiterate Rating	Strong Buy	\$95.36
#5	07/15/2015	Reiterate Rating	Strong Buy	\$98.41
#4	03/10/2015	Reiterate Rating	Strong Buy	\$88.84
#3	06/10/2014	Reiterate Rating	Strong Buy	\$77.36
#2	03/25/2013	Reiterate Rating	Strong Buy	\$52.00
#1	10/25/2012	Initiation of Coverage	Strong Buy	\$44.94


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We employ proprietary quantitative valuation models combined with dynamic fundamental analysis based on the principles of Economic Profit to formulate timely and insightful investment ratings, analysis, strategies and recommendations.

We make key adjustments to reported financial data eliminating GAAP-based accounting distortions and measuring all companies on a cash operating basis.

Our proprietary research framework is a multi-factor model that scores and ranks companies based on their risk-adjusted ability to create Economic Profit relative to their current market value focusing on three key components:

Business Performance: Measuring economic profitability, growth and operating efficiency.

Risk: Measuring business sustainability, volatility, strength and consistency.

Valuation: Linking business performance to market value. Measuring value created relative to capital employed and enterprise multiples of economic profit and cash flow.

We score and rank 24 key measurements of performance, risk and value into relative market and industry investment recommendations.

For more information on our research methodology, please review the *Tigress Investment Research Guide to Company Valuation and Analysis*.

Glossary of Key Terms and Measures

Excess Cash per Share: Excess Cash per Share is the amount of excess cash divided by basic shares outstanding. Excess Cash consists of all cash and short-term securities less operating cash needed to run the business. Operating Cash is 5% of TTM net sales revenue.

EBITDAR: Earnings Before Interest, Taxes, Depreciation, Amortization, and Restructuring and Rent Costs. This is especially important when comparing companies that use a significant amount of leased assets like restaurants and retailers.

NOPAT: Net Operating Profit after Tax. Represents a company's after-tax cash operating profit excluding financing costs.

Total Invested Capital: Total Invested Capital the total cash investment that shareholders and debt holders have made during the life of company.

Return on Capital: Return on Capital equals NOPAT divided by Total Invested Capital. It is a key measure of operating efficiency. ROC quantifies how well a company generates cash flow relative to the capital invested in its business.

Cost of Capital: Is the proportionately weighted cost of each category of capital – common equity, preferred equity and debt.

Economic Profit: Economic Profit is the net operating income after tax less the opportunity cost of the total capital invested. It is the most important driver of shareholder value.

Current Operations Value: Current Operations Value is the portion of market value based on the discounted present value of the current earnings stream assuming it remains constant forever.

Future Growth Value: Future Growth Value is the portion of market value based on un-earned Economic Profit

For more information on the key terms and measures, please review the *Tigress Investment Research Guide to Company Valuation and Analysis*.

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Rating:	Meaning:
Strong Buy:	Expect significant price gains in the price of the stock relative to its industry peer group and general market over the next 12 months.
Buy:	Expect out-performance for the price of the stock relative to its industry peer group and general market over the next 12 months.
Neutral:	Expect little or no outperformance opportunity over the next 12 months.
Underperform:	Expect underperformance for the price of the stock relative to its industry peer group and general market over the next 12 months.
Sell:	Expect price decline or significant relative market and industry underperformance over the next 12 months.

Rating Distribution (02/17/2017)

Companies Under Coverage		Relationship Companies Under Coverage*	
#	%	#	%
16	15%	0	0%
49	44%	4	80%
38	36%	1	20%
6	5%	0	0%
0	0%	0	0%
Total	109	4	100%

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