

March 31, 2018

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Return on Investment (All values are in USD)

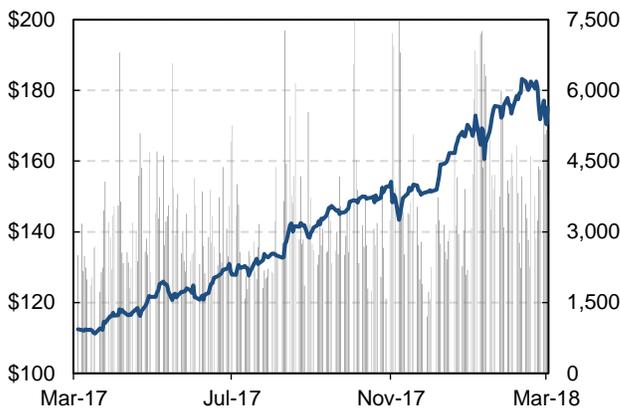
Current Share Price	\$175.16
Target Price	\$235.00
Dividend Yield	0.50%
Holding Period Return	35%
Conviction Rating	3

Market Profile

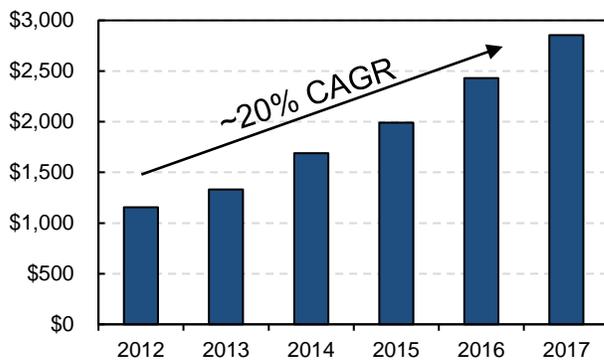
52-Week Range	\$111.01 - \$183.73
Shares Outstanding (mm)	1,037
Average 30-Day Vol (000s)	3,995
Market Capitalization (mm)	\$181,684
Net Debt (mm)	(\$2,904)
Enterprise Value (mm)	\$178,780
Beta (5-Year Monthly)	1.18

Metrics	2018E	2019E	2020E
Revenue (mm)	\$14,817	\$16,520	\$20,220
EBITDA (mm)	\$8,353	\$9,245	\$11,233
EBITDA Margin	56.4%	56.0%	55.6%
EV/EBITDA	21.4x	19.3x	15.9x

Historical Trading Performance



Other Revenue Growth



Business Description and Business Model

MasterCard Inc (NYSE: MA) provides financial transaction processing services for consumers, financial institutions, merchants, and governments worldwide. MA allows users to make electronic payments through a range of payment solutions and services using its brands, which include MasterCard, Maestro, and Cirrus. MA currently operates the fastest global payments network, authorizing, clearing and settling transactions in more than 150 currencies and more than 210 countries/territories. When using the network, the funds and payment information travel from the bank to the merchant on its network, with MasterCard receiving small fees based on both the number of transactions and the dollar amount of each transaction, known as Gross Dollar Volume (GDV).

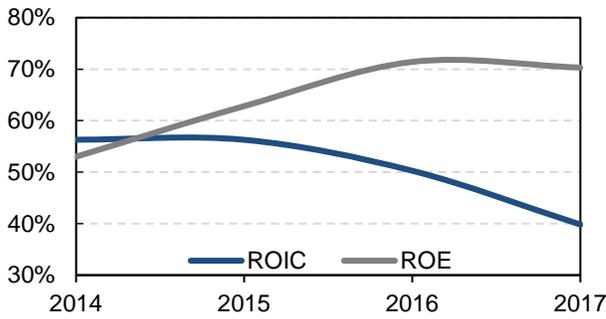
Competitive Advantage

MasterCard's "Other Revenue" segment includes consulting, fraud protection, research, loyalty and reward program management, and data analytics, all of which are a source of its competitive advantage. This segment has been growing at ~20% CAGR since 2012, compared to VISA (NYSE: V) at ~6%. Barriers to entry in this space are high as a result of concerns pertaining to security, infrastructure, and speed. Services in the "Other Revenue" segment require constant investment in technology and innovation, which is very expensive for card issuers like smaller credit unions and local banks. The services also tend to create a "sticky relationship" which increases switching costs for customers and helps MA retain its customer base. If this revenue category continues to grow by double-digit percentages YoY, it will soon become a significant driver of revenue for MA. As this revenue stream grows, it may hedge against potential downside in an economic recession given its more predictable and less volatile revenue stream; it already represents ~15% of MA's gross revenue (revenue before subtracting out rebates and incentives).

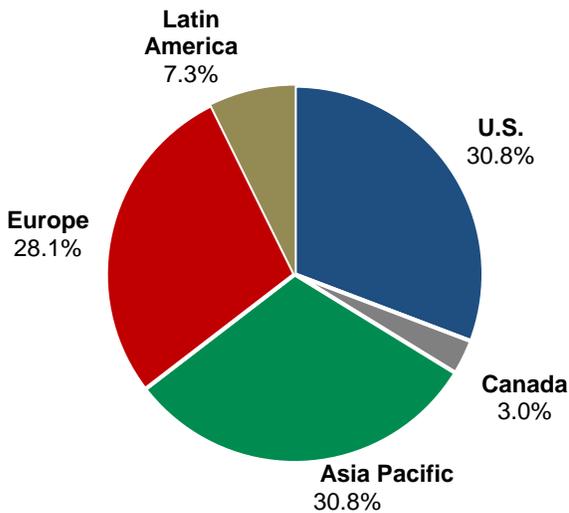
Investment Thesis and Growth Opportunities

MA has many attractive qualities including a strong balance sheet, strong track record of returning capital to shareholders, growing FCF, and quality management. MA has a highly defensible business model, with recurring revenues, high margins, low capital expenditures, and high FCF. MA has had very good growth and profitability, which may suggest further resilience in global spending. The CPMT believes that MA will continue to have strong growth, supported by continued secular growth trends away from cash, the rise of online shopping and continued increase of the middle class in emerging markets, which could be aided by increased adoption of smartphones. MA has been working on providing a full suite of services, which has helped the Company win big deals over the last two years with companies such as Costco (NASDAQ: COST) Canada, Kroger (NYSE: KR), Bank of America (NYSE: BAC), and Cabela's. Apart from its payment-related services and full suite offerings, MA has also been working on a contactless, transit-enabled debit cards for more rural countries that depend heavily on transit, such as Mexico City and Bogotá. MA has a healthy ~58% 2017 EBITDA margin, 40% ROIC, and three consecutive years of ~70% ROE without leveraging up the balance sheet. This can be attributed to higher net income margins. The CPMT will monitor EBIT margins expansion over time as it is still 1,000 bps under VISA's due to costs associated with recent acquisitions. The CPMT recommends a buy and will continue to monitor the name should we be able to invest in U.S. equities moving forward. Risks to the investment would be a prolonged global recession, in-house account transfers, cryptocurrencies, and market share traction from competitors.

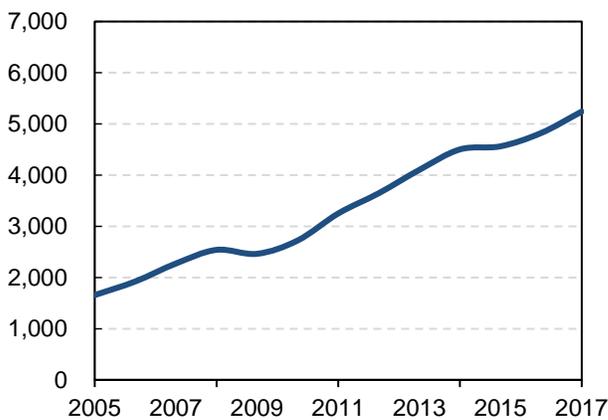
Return Metrics



Geographic Segmentation



MasterCard GDV (USD Bn)



Brands and Services

MasterCard has a vast array of brands and services, this includes:

- MasterCard – Credit & Charge Cards
- Maestro – Debit & Prepaid (Gifts and Social Services) Cards, currently the only pin based solution that operates globally
- Social Security Payments/Employee Benefits/Health Savings
- Cirrus – Global ATM Network
- SmartData – Reporting and Expense Management
- Digital Solutions
- MasterCard Digital Enablement Services, MasterPass/MasterCard Send
- MasterCard Advisors

Revenue Breakdown

MasterCard has five categories: “Domestic assessments” which are charged to issuers and acquires based on the dollar volume of activity on cards and devices that carry their brand, and where the merchant country and issuer country are the same. “Cross-border volume fees” are fees that are charged on a dollar volume basis, much like domestic assessments, however, the merchant country and the issuer country are different. This revenue stream tends to be more cyclical as it driven by consumers traveling. Cross-border volume fees also generate higher revenues. “Transaction processing” revenue is earned on both domestic and cross-border transactions, however it is based on the number of transactions, so in essence it’s a fixed fee based on the card grade (Ex. World Elite vs Student Card). This umbrella of fee generation covers "switched transactions," which encompass:

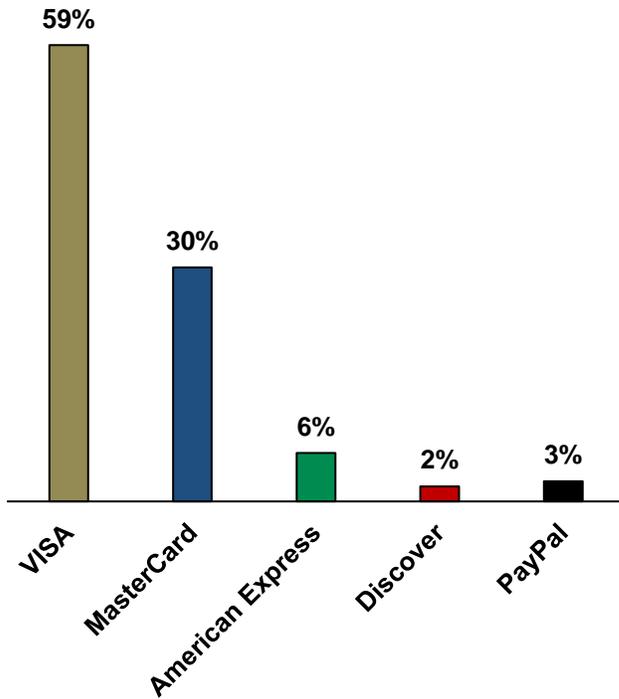
- *Authorization:* the process by which a transaction is routed to the issuer for approval
- *Clearing:* the determination and exchange of financial transaction information between issuers and acquirers. Ex. Does the individual have enough funds in the account, and is this the legitimate cardholder
- *Settlement:* the actual facilitation and exchange of funds between the parties

The fourth category is “other revenues.” This where the CPMT believes MasterCard has a competitive advantage. MasterCard has invested heavily to win issuers through AI, biometrics, consulting and data analytics, loyalty and reward management, and Automatic Clearing House (ACH) payments. Fees here also include safety and security and program fees. These services give MA the ability to provide full-suite offerings to its customers. Lastly, is “Rebates and incentives,” which is a contra-revenue account.

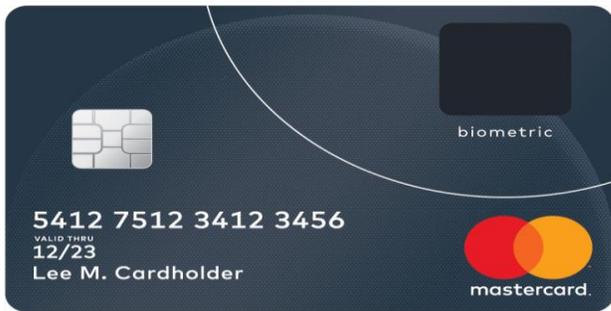
Macroeconomic Growth Prospects

Globally there has been a strong secular shift from cash and checks to electronic form of payments. Management estimates that the addressable payment flows globally is ~USD \$225 trillion. Out of the USD \$225 trillion, 90% is cash, check or legacy (slow ACH payments). The commercial B2B addressable market for payment flows is estimated at USD \$100 trillion. The CPMT believes that MA will be well positioned to compete in both segments, especially following the acquisition of VocaLink. MA is also aiming on growing and gaining market share in emerging markets where electronic payments is nearly nonexistent, which can enable them to have a first mover advantage. Growth here could be aided by increased adoption of smartphones. MA’s management heaps experience in emerging markets, especially around India. Regulatory risk in China is to the upside post recent that the domestic payments market will be open for new competition to enter. Interchange fee caps in Europe can also be a catalyst for merchants to accept and push for electronic payments as they would be assured that the fees they are paying do not increase. Note that MasterCard does **not** collect any revenue on interchange fees and thus would not be negatively impacted.

Market Share Excluding China and Japan



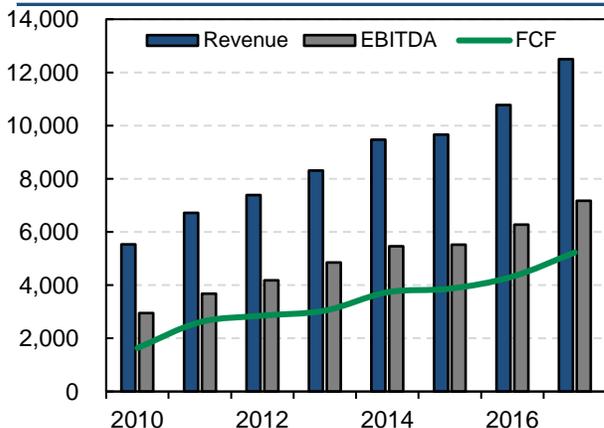
New Biometric MasterCard



Automatic Clearing House (ACH)

ACH, is an electronic payments network that works great for things like payroll, insurance payments, and electronic bill payments. It's also free but has traditionally been extremely slow, which is why you might still see money in your bank account for a few days after you pay a bill

Metrics (USD mm)



Source: Bloomberg, Company Filings, CPMT Estimates

Stability and Diversification

MasterCard does not issue/extended credit to cardholders nor does it issue any cards and thus, MasterCard is **not** at risk of default on credit card payments which is something very attractive in a rising rate environment. The U.S. generates ~35% of revenue, however, no other country generates more than 10% of revenue - which shows the impact and level of diversification within MasterCard's business operations, as it operates in over 250 countries and switches over 150 currencies. One thing to note as well is that the firm does not have any seasonality, with no individual quarter from 2010-2017, accounting for more than 30% of revenue.

Risks and Competitors

Overall, MasterCard's biggest threat would be a decrease in consumer sentiment and GDP slowdown that may cause reduced consumer spending, particularly cross-border volume. Due to the diverse stream of revenue and other services, a prolonged global recession would have the most material impact. However, as MasterCard is somewhat a play on global spending and a global economy, this is relatively riskless. As well, even in an economic downturn, MasterCard may still be positioned for strength by capturing market share.

Competitors:

- Cash and checks
- VISA, American Express (NYSE: AXP), Discover Financial (NYSE: DFS), First Data Corporation (NYSE: FDC) and Total System Services (NYSE: TSS)
- Cryptocurrencies
- In-house account transfers such as PayPal (NASDAQ: PYPL), Paytm

Global Brand With Strong Services

MasterCard is a globally recognized brand with a worldwide acceptance network built over 50 years. This fuels network effects as more and more customers pick MasterCard, more and more merchants will accept. MA also offers global fund transfers through MasterPass, which is a global digital payments ecosystem. The industry has high barriers to entry concerning safety, security and establishing payment networks that everyone can trust. MasterCard is also focusing on "on-soil" presence in individual markets, with heightened focus on working with governments to offer country-specific programs. MasterCard has also benefited with adoption of innovative products and digital solutions to add value services.

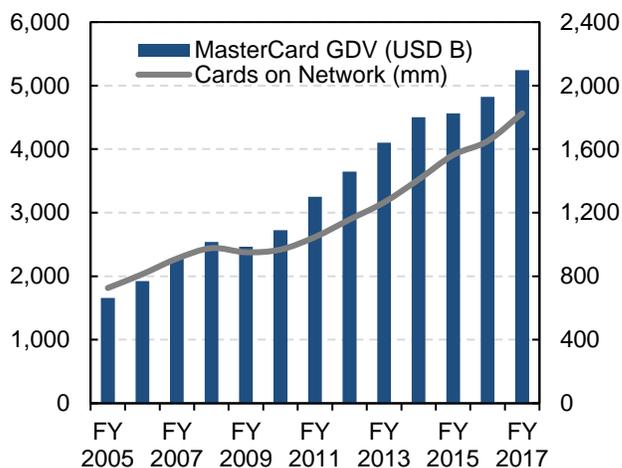
Recent Acquisitions That Help MasterCard

VocaLink: Acquired in 2017 for GBP £719mm. VocaLink is working to make ACH (Automatic Clearing House) payments happen in real time. In the U.K., for instance, VocaLink is rolling out a pay-by-bank app, which uses debit but no card, to make payments from customers to merchants. VocaLink provides the backbone for **non-card transactions** such as employer payroll deposits and consumer bill payments.

NuData Security: Creates digital identities for consumers to prevent fraud. Uses passive biometrics, so it authenticates users before an online or mobile transaction. Passive biometrics uses things such as how individual's type on a keyboard and how they interact with their smartphones touchscreen. It understands how end-users interact with devices by assessing metrics such as how fast a password is typed or the way a user holds their smartphone.

Applied Predictive Technologies (APT): Cloud-based analytics provider that helps companies optimize marketing and merchandising. Allows merchants to make much faster decisions. An example would be if a retail location is thinking about changing a products price or even shelf placement, it can use APT's platform to get an idea how that would play out in real life. ~50% of domestic merchants have some analytical platforms like APT from MasterCard.

Network and Card Growth



CEO Ajay Banga and CFO Martina Hund-Mejean



Management

Ajay Banga (CEO): MasterCard is led by Ajay Banga, who has been with the company since 2009. Mr. Banga became CEO in 2010. Prior to joining MA, he was the CEO of Citigroup Asia Pacific, responsible for all business in the region. When he initially joined Citibank, he had senior management roles in the U.K., Asia Pacific, Europe, Middle East and Africa. He has also worked at Nestle and PepsiCo. He is on the Board of Overseers of the Weill Cornell Medical College, chairman of the U.S-India Business Council, and a Member of the executive committee of the Business Roundtable and chairs its Information and Technology Initiative.

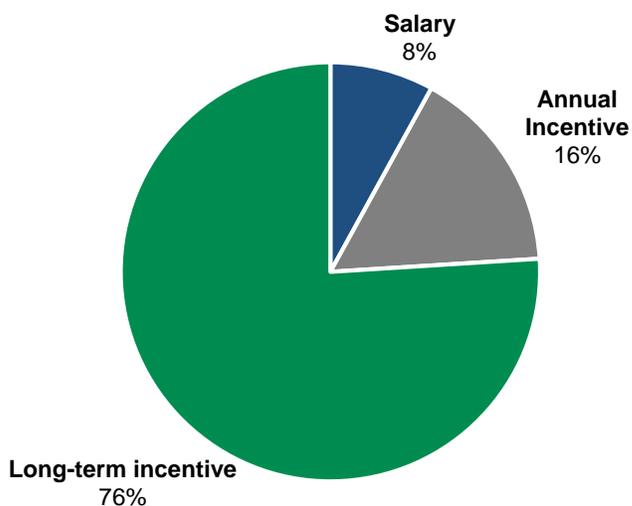
Raja Rajamannar (CMO & CCO): Mr. Rajamannar joined MA in 2013. Before joining MasterCard, Mr. Rajamannar served as Chief Transformation Officer of the health insurance firm Anthem. He had also served as Chief Executive, international and Chief Innovation & Marketing Officer at Humana. Mr. Rajamannar held a number of leadership roles during 15 years with Citigroup including Global Chief Marketing Officer, Cards and Payments and Chairman and CEO, Diners Club North America.

Martina Hund-Mejean (CFO): Martina Hund-Mejean became CFO in 2007. In 2002 she joined TYCO and Became Senior VP, treasurer, and head of M&A, where she executed \$6B in financing to address TYCO's 2002/2003 liquidity crisis, revamped company's capital structure through debt reduction and introduced a new banking portfolio.

Ajay Bhalla (CESSO): Mr. Bhalla has been with MasterCard since 1997. Prior to this role, Mr. Bhalla was the president of the Digital Payment Services business for MasterCard. Previously, Mr. Bhalla was president of MasterCard for South Asia and Southeast Asia, where he led the business in 18 markets. Before joining MasterCard, Mr. Bhalla held key leadership positions at HSBC and Xerox.

Michael Miebach (CPO): Mr. Miebach has been with MasterCard since 2010. He previously headed MasterCard operations across the Middle East and Africa and had held senior roles at both Barclays Bank and Citibank across Europe, Africa and the Middle East. His roles at Citibank included VP of Strategic Business Projects EMEA, head of Operations in the Global Consumer Group, and Relationship manager for Citi's Corporate and Investment Banking Divisions in Germany. His roles with Barclays Bank included MD of Sub-Saharan Africa, and the Middle East and North Africa.

MA Executive Team Pay Breakdown



Governance and Compensation

MA executives are evaluated on a three-year performance period related to Performance Stock Unit (PSU). The performance measures include:

- A three-year average return on equity (ROE)
- Three-year EPS
- Three-year relative total shareholder return (TSR)

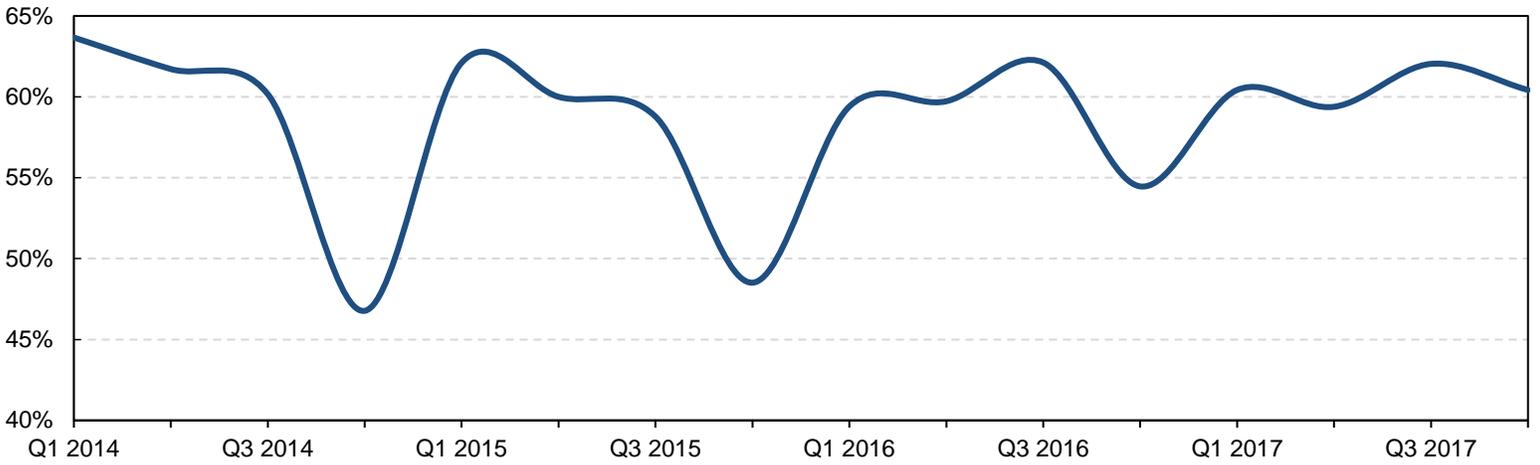
Each with a threshold, target, and maximum performance goal.

In December of each year, the CEO meets with the board to review MasterCard's performance for the past year and focuses on financial results, and qualitative and quantitative aspects. Then the HRCC leads a board session with non-employee directors to evaluate results. Then, using this input, external and internal information and also MasterCard's relative performance against its competitors, the committee establishes the corporate score that is used to pay annual incentives

Conclusion

MasterCard's effort to expand globally and offer merchants full-suite services has given it an edge over VISA, evidenced by recent partnerships. The CPMT likes MA's defensible business model, comprising of recurring revenues, high margins, low capital expenditures and high free cash flow. The company is poised for market share growth with new partners, macroeconomic growth with secular trends away from cash, growing emerging markets, growth of online shopping and continued increase of the middle class internationally.

Appendix I. EBITDA Margin Over Time



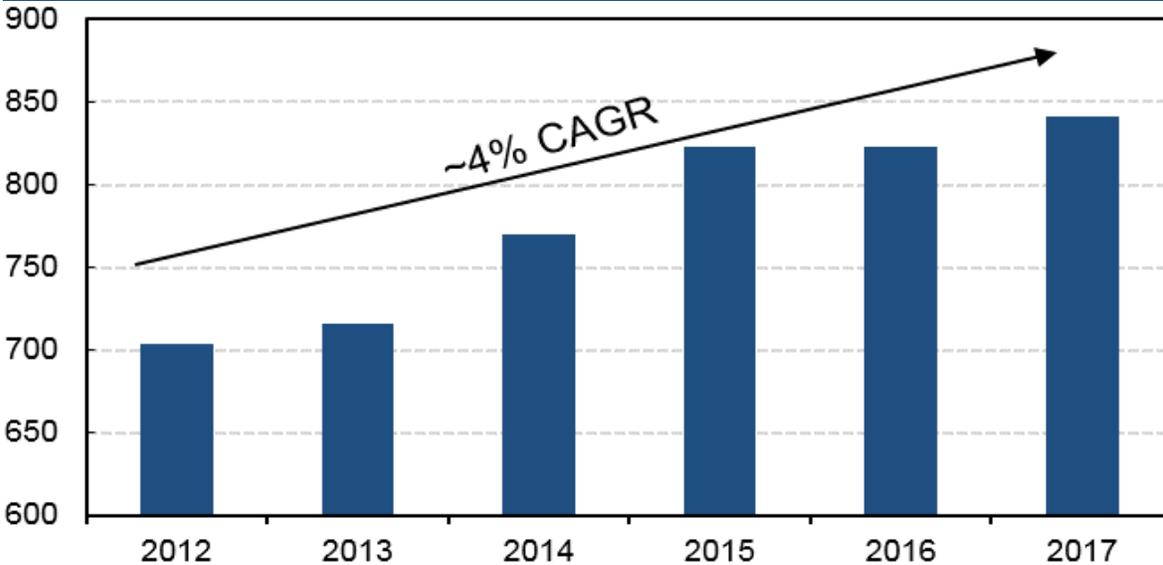
Less cyclical over time can be attributed to higher percentage of revenues from the "Other Revenues" segment

Appendix II. Operating Margin



The operating margin is very similar to the EBITDA Margin. The margin compression in the latter half of 2017 can be attributed to higher amortization from the VocaLink acquisition, however, as shown in Appendix I, when adding the amortization back, the EBITDA margin does not decline as sharply

Appendix III. VISA Other Revenue (mm)



Source: Bloomberg, Company Filings, CPMT Estimates

Appendix IV. Revenue Segments

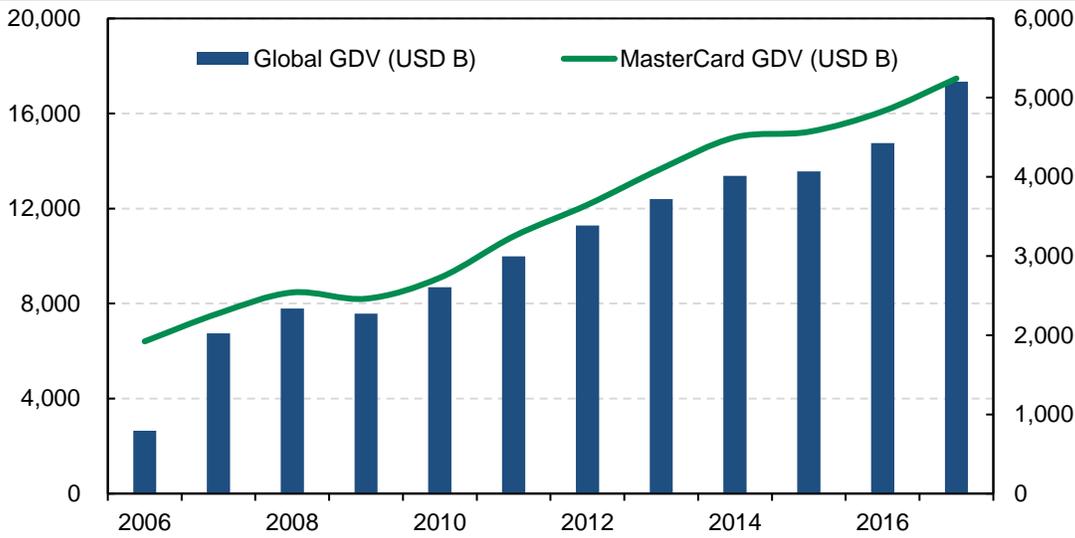
- Domestic assessments
 - Charged to issuers and acquirers based on dollar volume of activity and devices
- Cross-border volume fees
 - Based on the dollar volume of activity where the merchant country and issuer country are different
- Transaction Processing
 - Based primarily on number of transactions (“Switched transactions”)
 - Authorization → routed to the issuer for approval
 - Clearing → exchange of financial information
 - Settlement: facilitating the exchange of funds
- Other revenues
 - Consulting, data analytic and research fees
 - Safety and security service fees
 - Program management → ATM withdrawal fees etc
 - Real-time account based payment services relating to ACH
 - Co-brand and loyalty cards etc
 - Loyalty and reward solution fees are charged to issuers such as access to global airline lounge network, global and local concierge service, individual insurance coverages ,card replacements, cash advance services and a 24-hour cardholder service center
- Rebates and incentives (contra-revenue)

Appendix V. Returning Capital to Shareholders

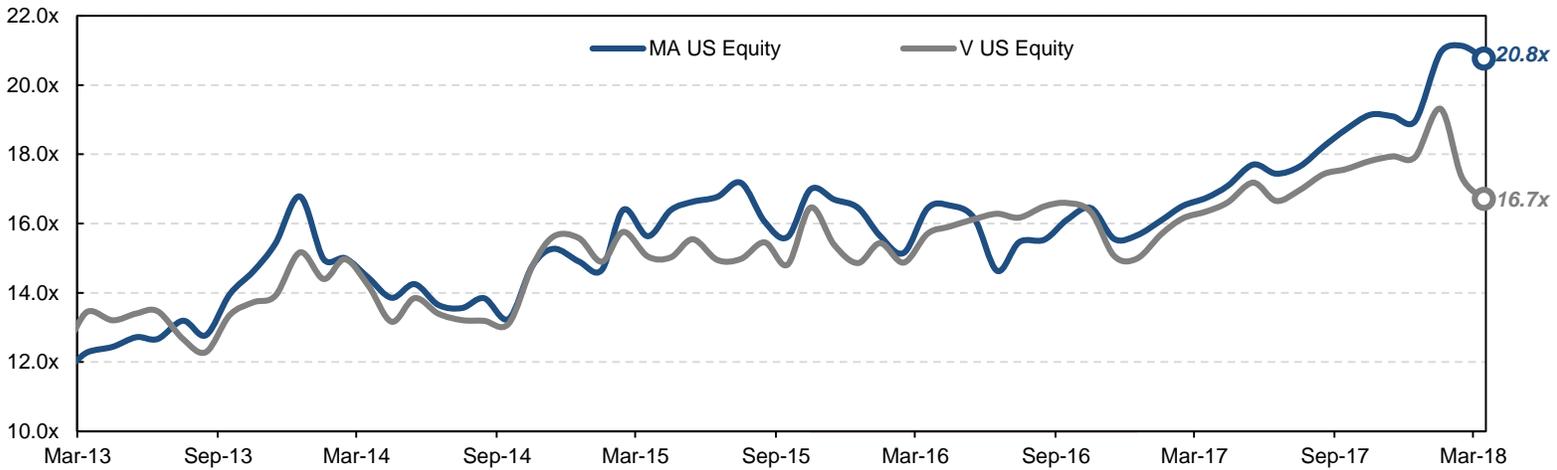
- FY 2017 share repurchases: ~30mm shares at USD \$3.8B, and USD \$942mm in dividends
 - 4th quarter – 6.9mm shares repurchase at USD \$1B, \$233mm in dividends
- YTD as of Jan 30th, repurchased 1.8mm shares at USD \$287mm, leaving USD \$5B remaining under current repurchase program authorizations
- Board of Directors approved new share repurchase program, authorizing the company to repurchase up to USD \$4B. This will become effective at the completion of the company’s previously announced USD \$4B share repurchase program, which has ~ USD \$1.5mm left

	Dec-17	Dec-16	Dec-15	Total
Board Authorization	\$ 4,000	\$ 4,000	\$ 4,000	\$ 12,000
Remaining authorization at Dec. 31, 2016	\$ -	\$ 4,000	\$ 996	\$ 4,996
Dollar-value of Shares repurchased in 2017	\$ -	\$ 2,766	\$ 996	\$ 3,762
Remaining authorization at Dec. 31, 2017	\$ 4,000	\$ 1,234	\$ -	\$ 5,234
Shares repurchased in 2017	\$ -	\$ 21	\$ 9	\$ 30

Appendix VI. GDV Growth on the Network



Appendix VII. Forward Looking (Next Twelve Months) EV/EBITDA Over Time



Appendix VIII. Competitor Data

 <ul style="list-style-type: none"> ➤ ~160 Currencies ➤ ~200 Countries 	 <ul style="list-style-type: none"> ➤ ~80 Currencies ➤ 110 Countries
 <ul style="list-style-type: none"> ➤ 190 Countries ➤ Acts like a bank, offers personal and student loans ➤ Holds deposits 	 <ul style="list-style-type: none"> ➤ e-commerce payments processor ➤ Partnered With MasterCard to create their co-branded credit card

Appendix IX. Comparable Company Analysis

	Last Twelve Months (LTM)						Year 1 Forecast - Calendar Year			
	EV / Revenues	EV / EBITDA	EV / EBIT	P/E	EBITDA Margin	EBIT Margin	EV / Revenues	EV / EBITDA	EBITDA Margin	P/E
VISA	13.6x	20.0x	20.6x	32.8x	68%	66%	12.6x	17.7x	71%	27.1x
American Express	3.2x	12.0x	14.1x	15.5x	27%	23%	2.9x	11.3x	26%	13.1x
Discover Financial	3.9x	9.9x	11.0x	12.3x	40%	36%	3.6x	10.0x	37%	9.3x
PayPal	6.6x	27.9x	37.7x	44.1x	24%	17%	5.7x	21.5x	26%	33.3x
Capital One Financial	3.6x	12.1x	17.4x	12.7x	30%	21%	3.4x	11.4x	30%	9.8x
MasterCard	14.6x	23.7x	26.7x	38.2x	61%	54%	12.3x	21.8x	56%	29.9x
High	13.6x	27.9x	37.7x	44.1x	68%	66%	12.6x	21.5x	71%	33.3x
Low	3.2x	9.9x	11.0x	12.3x	24%	17%	2.9x	10.0x	26%	9.3x
Mean	6.2x	16.4x	20.1x	23.5x	37%	33%	5.6x	14.4x	38%	18.5x
Median	3.9x	12.1x	17.4x	15.5x	30%	23%	3.6x	11.4x	30%	13.1x
MasterCard	14.6x	23.7x	26.7x	38.2x	61%	54%	12.3x	21.8x	56%	29.9x

Appendix X. Discounted Cash Flow Analysis

