Recommendation	BUY
Target (today's value)	**$93.00**
Current Price	$77.72
52 week range	$60.00 - $81.73

Data Processing & Outsourced Services

Visa, Inc.

Share Data	
Ticker:	V
Market Cap. (Billion):	$185.3
Inside Ownership	0.1%
Inst. Ownership	76.8%
Beta	1.03
Dividend Yield	0.72%
Payout Ratio	18.4%
Cons. Long-Term Growth Rate	16.7%

	'13	'14	'15	'16E	'17F
Sales (billions)					
Year	$11.8	$12.7	$13.9	$14.8	$18.0
Gr %	13.0%	7.8%	9.3%	6.4%	21.9%
Cons	-	-	-	$14.6	$16.2
EPS					
Year	$1.90	$2.16	$2.58	$2.93	$3.30
Gr %	140.5%	13.5%	19.4%	13.6%	12.4%
Cons	-	-	-	$2.84	$3.26

Ratio	'13	'14	'15	'16E	'17F
ROE (%)	18.3%	20.0%	22.1%	23.2%	26.8%
Rel Industry	0.65	0.66	0.70	0.70	0.80
NPM (%)	42.3%	42.7%	45.5%	45.3%	42.3%
Rel Industry	1.00	1.41	1.49	1.46	1.35
A. T/O	0.31	0.34	0.35	0.32	0.31
ROA (%)	13.1%	14.5%	16.0%	14.3%	13.1%
Rel Industry	1.23	1.28	1.40	1.40	1.23
A/E	1.39	1.37	1.38	1.62	2.04

Valuation	'14	'15	'16E	'17F
P/E	30.3	30.1	28.0	24.0
Industry	22.4	20.9	19.2	17.0
P/S	15.7	16.5	12.7	11.5
P/B	5.9	6.3	6.8	5.8
P/CF	27.2	34.4	25.7	20.8
EV/EBITDA	19.1	21.7	18.7	16.7

Performance	Stock	Industry
1 Month	-0.6%	4.3%
3 Month	8.6%	16.2%
YTD	0.2%	-0.8%
52-week	18.3%	0.6%
3-year	73.8%	38.5%

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Source: FactSet Prices

Summary: I recommend a "Buy" rating with a target price of $93.00. Significant growth opportunities exist with the number of devices connected online expected to increase over four-fold by 2020 and in international markets; particularly in China and Europe. The stock is undervalued based on a three-stage DCF model and fairly valued based on a relative valuation approach.

Key drivers:

- International expansion: 47% of V's revenues come from international sources, and I expect for it to grow. The acquisition of Visa Europe and the opening of the market in China for V to compete provide significant growth opportunities ahead for the company.

- Credit, debit, and prepaid solutions: The number and volume of transactions processed with cards have been growing, and the trend is expected to continue.

- M-commerce, e-commerce, and digital platforms: The growth of digital platforms, m-commerce, and e-commerce have helped drive consumers to spend more online; V has benefited from the growth.

- Macroeconomic trends: V is affected by changes in the macroeconomic environment, including: gas prices, new home sales, currency fluctuations, consumer confidence, and world GDP.

Valuation: Under a relative valuation approach, V's common stock appears fairly valued. I found that significant growth opportunities in V's future were better captured through a DCF approach. Using a combination of both approaches and placing a higher weight on the three-stage DCF model approach, I believe the stock is undervalued with a target price of $93.00. The stock currently trades for $77.72.

Risks: An increase in regulation of the payment processing industry, new entrants gaining the ability to compete with V, continuation of an unfavorable macroeconomic environment, having an inability to compete effectively in China, the company's business model becoming obsolete, and failure to receive regulatory approval to close the Visa Europe acquisition are all risks that could adversely impact my target price.

Company Overview

Visa, Inc. is a global payments technology company that connects consumers, businesses, banks, and governments in over 200 countries and territories to fast, secure, and reliable electronic payments. It operates a processing network, VisaNet, to authorize, clear, and settle payment transactions, offers fraud protection for consumers, and assured payment for merchants. The company offers a wide range of payment platforms which financial institutions use to develop and offer credit, debit, prepaid, and cash access programs, as well as digital commerce platforms for its customers. These platforms include Visa Checkout, which allows consumers to pay for goods online on any device, Visa payWave, which allows consumers to pay for products and services via smartphone and by using contactless cards at physical retailers, and Visa Direct, which allows people to send and receive money domestically and internationally. Visa was founded in 1970 and is headquartered in San Francisco, California. Visa generates 100% of its revenue from payment processing services consisting of the following:

- Service revenues: These are revenues earned through providing support services for the delivery of Visa payment products to financial institution clients. Payment volume on Visa-branded products primarily drives these revenues.
- Data processing revenues: Consist of revenues earned from the use of VisaNet for the authorization, network access, clearing, and settlement of transactions. These revenues are primarily driven by the number of transactions processed.
- International revenues: These are earned for cross-border transaction processing; they arise through transaction processing and currency conversion activities in which the merchant is located in a country that is different from that of the issuer. These revenues are driven by cross-border payments and cash volume.
- Other revenues: These revenues consist mostly of license fees for use of the Visa brand, revenues earned from Visa Europe, fees from account holder services, certification and licensing, and other activities related to V's acquired entities.

Notice in figure 2 that the different components of V's revenues are growing at almost the same rate. That's because all of company's revenues are driven by its payment processing services. In the past, Visa experienced high growth rates that have decelerated in recent years. Notice in figure 2 that the three-year CAGR began to decline in 2012. Before fiscal year 2013, V experienced net revenue growth in the mid-to-low teen levels.

Figures 1 and 2: Revenue sources for V in 2015 (left) and USD revenue history in millions since 2011 with the three-year CAGR (right)
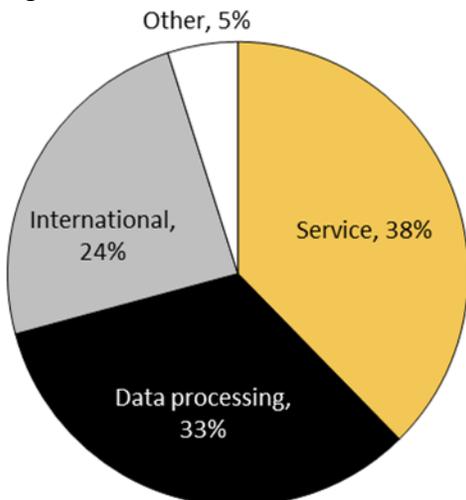
Source: Annual Report
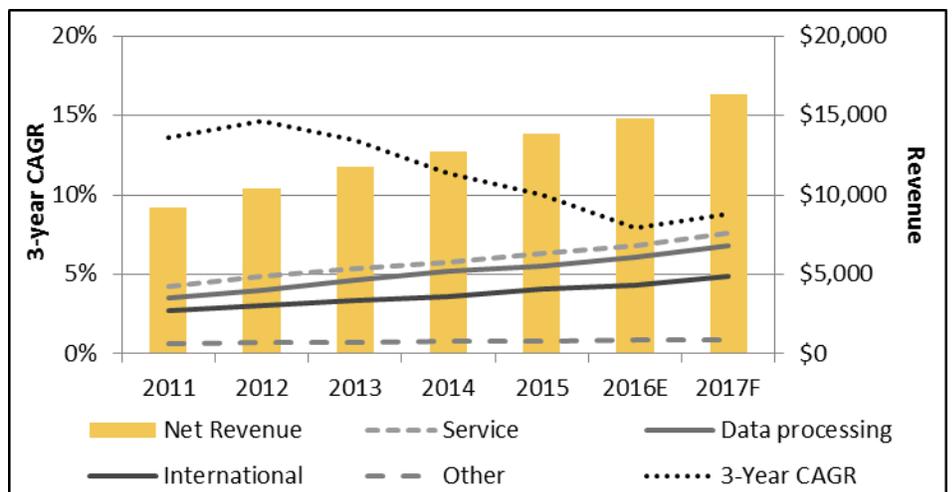
Source: FactSet

Beginning in fiscal year 2014, revenue growth slowed to mid-to-high single-digit levels. This is partly due to the strengthening of the USD from 2011 to the present, leading to decrease in nominal revenue because of the foreign currency translation impact from its subsidiaries (see figure 17). I expect the USD to weaken as I don't expect the Federal Reserve to increase rates during 2016. This should help net nominal revenue growth to rise to low to mid-teen levels.

Business/Industry Drivers

Though several factors may contribute to Visa's future success, the following are the most important business drivers:

1) International expansion
2) Credit, debit, and prepaid solutions
3) M-commerce, e-commerce, and digital platforms
4) Macroeconomic trends

International Expansion

China

Beginning June 1, 2016, foreign competitors can formally apply to process payments in the Chinese market, according to the Chinese State Council. The news is favorable to V as China Union Pay (CUP) currently holds a monopoly on electronic payments in China. The company has been making preparations to make an application and compete in the domestic market in China for several months. Card spending in the Chinese domestic market totaled 42.38 trillion yuan ($6.84 trillion USD) in 2015, showing significant growth opportunities for Visa (V), MasterCard (MA), and American Express (AXP).

Visa Europe

On November 2, 2015, V announced its acquisition of Visa Europe for a total consideration of €18.4 billion euros consisting of €12.3 billion in up front cash consideration, €5.0 billion in convertible preferred stock, and €1.0 billion as cash consideration due three years after the close of the transaction, with 4% interest payable. The company has obtained two of three regulatory approvals needed to proceed with the acquisition and is in the process of obtaining the third approval from the European Commission. V expects the transaction to close in the fourth quarter of fiscal year 2016, after being delayed from the third quarter of 2016 initially expected by the company.

Figure 3: Percentage of revenue from Visa Europe, international markets, and the domestic market
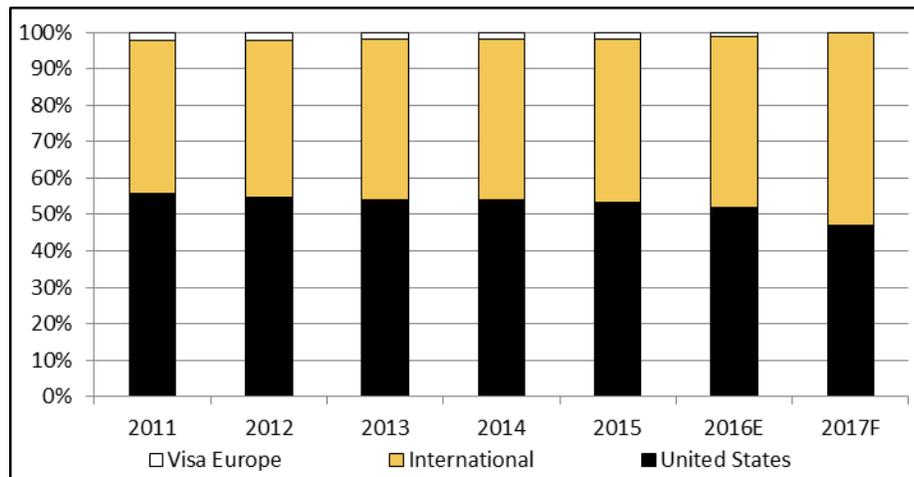
Source: Annual Report, IMCP Valuation Model

Based on a purchase price of €18,400 million and sales for VE of €1,571 million in fiscal year 2015, the implied P/S for VE is 11.7. Notice that the implied P/S of VE is greater than the LTM P/S of V of 8.4. The transaction will benefit V due to its degree of operating leverage (see figure 20), economies of scale, and synergies that will be created post acquisition. I expect little to no synergies to exist in the first year, gradually rising over the next several years.

As the USD strengthened (see figure 17) in recent years, travel and tourism into Europe accelerated while it has decelerated in the US since 2015. Had V acquired VE sooner, the company would have benefited from the inbound commerce into Europe. Going forward, the addition of Visa Europe will benefit the company, its international transaction revenues in particular, as the company will benefit from inbound tourism into Europe. The company's total revenues would become more dependent on the strength of the USD as the currency translation impact would increase due to the rise in international revenues as a percentage of total revenues.

Notice in figure 3 that international revenue sources have been slowly growing as a percentage of total revenue, while domestic revenue sources have been slowly declining as a percentage of total revenue. The expected change in the percentage of international revenue to total revenue in 2017 is largely because of the company's acquisition of Visa Europe. International revenues will grow quickly as V begins to compete in China's domestic market, as macroeconomic conditions improve, and once the acquisition of VE is complete.

Credit, Debit, and Prepaid Solutions

The growth in the payment volume of debit, credit, and prepaid cards are drivers supporting V's long-term growth. V has the leading market share in the industry (see figure 13) and benefits from growth in both volume and number of transactions of these payment products.

> There is room for the industry to grow as only 42% of transactions are processed by credit and debit.

Figures 4 and 5: Percentage of number of transactions per month (left) and percentage of payment volume of transactions per month (right)
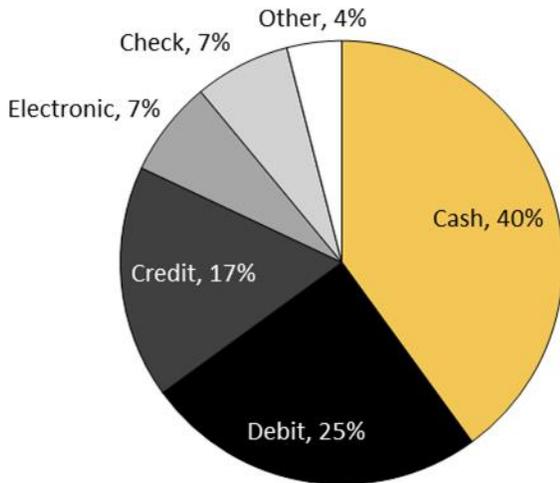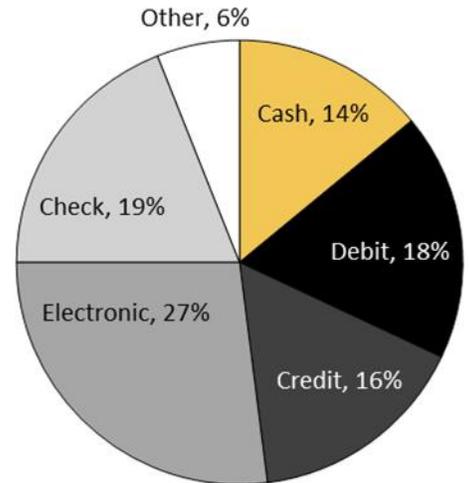
Source: www.thefinancialbrand.com (2014)   *Source: www.thefinancialbrand.com (2014)*

Figures 4 and 5 show that there is still room for the payment processing industry to grow as credit and debit account for only 42% of the number of transactions and 34% of the volume of transactions processed per month. Notice that although cash accounts for only 14% of the volume of transactions per month, it's used in 40% of purchases as consumers pay with cash often when purchasing items of smaller value. In addition to competing with other firms such as MasterCard, V competes with cash, check, electronic, and ACH.

Figures 6 and 7: Number of transactions processed in billions (left) and USD volume of transactions processed in trillions (right)
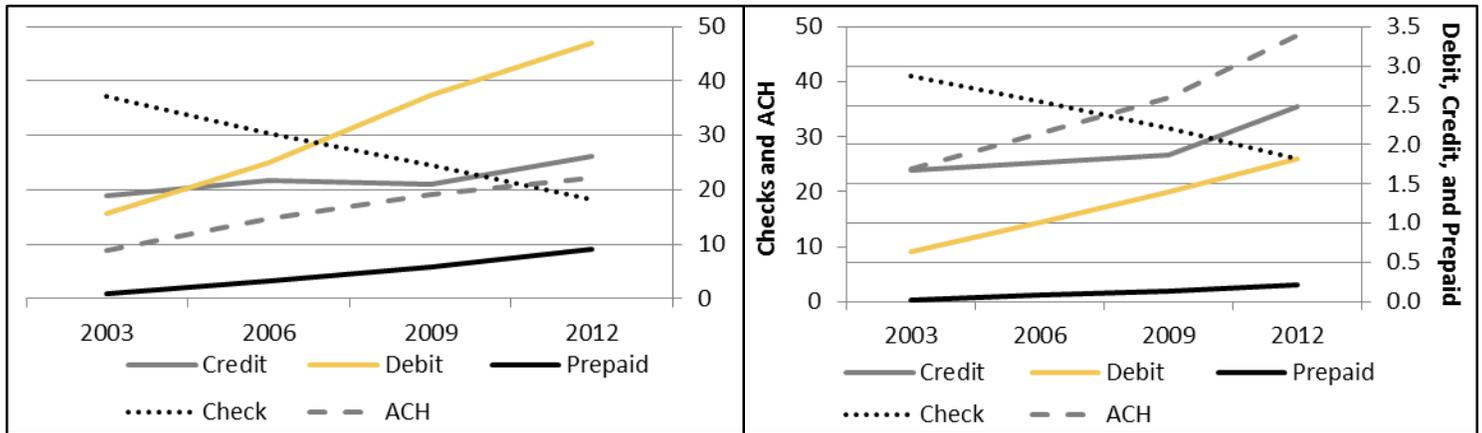
Source: Federal Reserve Study, 2013

Figures 6 and 7 show that the usage of checks is declining while the usage of debit, credit, and prepaid cards has been rising. Notice in figure 7 that the volume of checks written declined by over $15.12 trillion from 2003 to 2012 while the volume of payment by credit, debit, and prepaid cards increased only $2.19 trillion over that same period. As payment volume through the usage of checks declined, ACH payment volume rose over the same period, as shown in figure 7.

M-commerce, E-commerce, and Digital Platforms

Consumers are using mobile devices more every day to purchase goods online, helping to drive credit and debit sales growth as consumers often use these methods of payment when paying with mobile devices. Figure 9 shows a strong correlation of 0.708 between the growth V's stock price relative to the S&P 500 index with the growth of mobile commerce sales.

Figures 8 and 9: US mobile e-commerce sales compared to Visa on a YoY% change (left) and US mobile e-commerce sales compared to Visa relative to the S&P 500 index on a YoY% change (right)
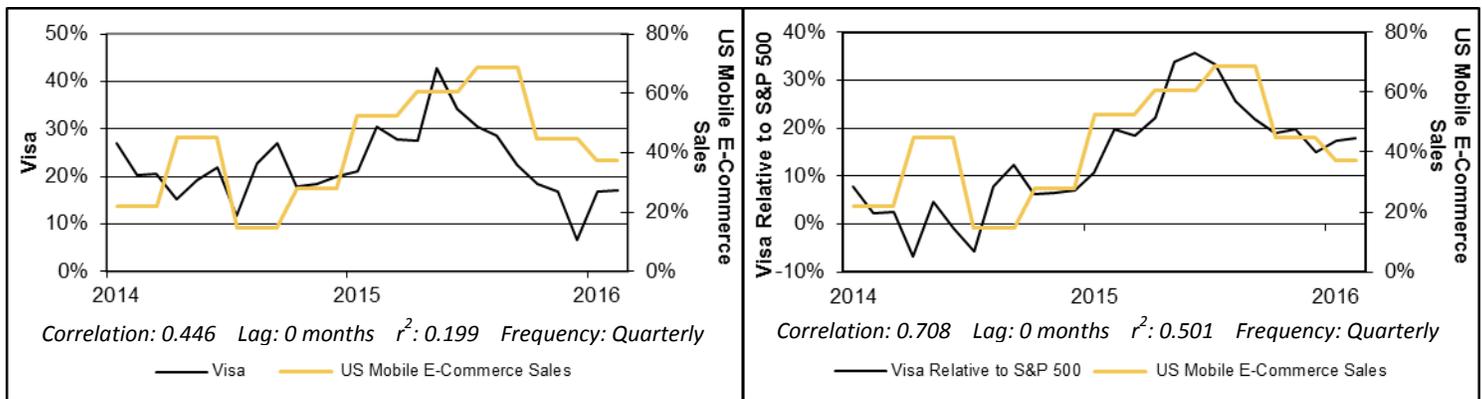
Source: Bloomberg, IMCP

Figure 10 shows the revenue of mobile e-commerce retail sales in the United States in 2014 and 2015 and the expected revenue from 2016 to 2019 on the right scale. Also, the CAGR is shown on the left scale. The outlook for mobile commerce and e-commerce is positive, which, in my view, will continue to drive V's revenues and performance growth going forward.

Digital Programs

Through tokenization and EMV chip payment technology, V is enhancing security on its products. Tokenization enhances security by replacing sensitive account information with digital tokens when

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making purchases online and through mobile devices. The company is working with partners, including Apple, Samsung, and Google, who use tokenization in offering mobile payment solutions. V recently launched Quick Chip for EMV aimed at reducing the time for which consumers must insert their card when making purchases using EMV chip payment technology.

Visa pays Apple 0.15% of every purchase made through ApplePay while continuing to profit from the transaction. As the company continues to improve security on its products and as adoption rates for contactless payment solutions continue to rise, consumers will feel safer making purchases through credit and debit, further driving the growth in the use of these payment solutions. Though it costs V 0.15% for every transaction involving the use of ApplePay, the company will benefit as consumers will pay using contactless payment solutions instead of cash for items of smaller value.

Figure 10: USD US mobile retail commerce sales in billions and the two-year CAGR

| Positive outlook for V's future growth as m-commerce is helping to drive growth in debit, credit, and prepaid payments. |
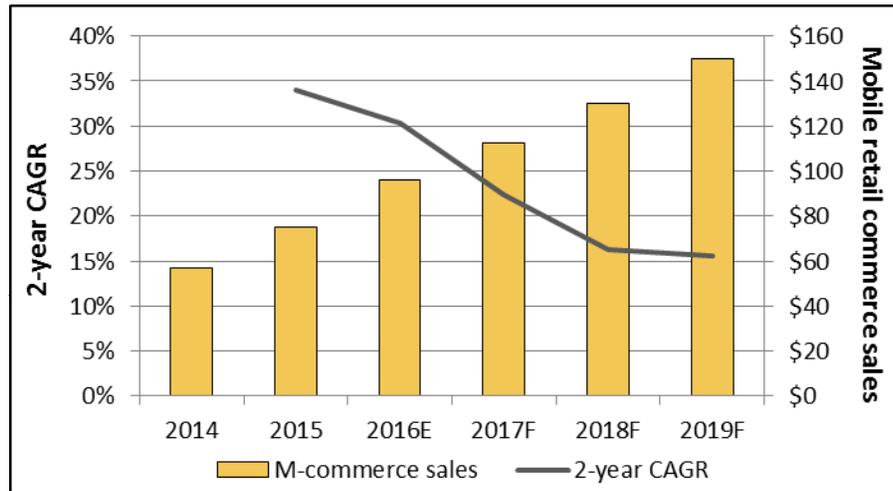
Source: www.statista.com

Digital Platforms

Estimates of devices expected to be connected to the internet in 2020 range from 26 billion to 75 billion. With there being over six billion devices connected to the internet in 2016, even a low estimate of 26 billion shows that connected devices online are expected to increase significantly in the coming years. V has a presence and will benefit from the increase in connected devices online.The company has launched and is continuing to invest in digital platforms such as Visa Checkout, Visa payWave, Visa Direct, and mVisa. However, the company has made it clear that it does not intend to profit from the online platforms and programs it's investing in. The company doesn't have a preference of payments being made through mobile commerce or e-commerce, or one towards the usage of cards at physical stores. The goal of the company is to make payments using Visa cards as safe, quick, and reliable as possible under any medium of payment.

Macroeconomic Trends

Gas Prices

| Declining gas prices have been a headwind for V. |

Visa earns revenue from both the number of transactions processed by consumers and the volume of each transaction. However, the decline in gasoline prices since mid-2014 has been a headwind for Visa due to the decline in the volume of purchases.

Figures 11 and 12: Growth in gas prices compared to Visa on a YoY% change (left) and growth in gas prices compared to Visa relative to the S&P 500 index on a YoY% change (right)

Correlation: -0.311   Lag: -7 months   r²: 0.097   Frequency: Monthly   *Correlation: -0.319   Lag: -7 months   r²: 0.102   Frequency: Monthly*
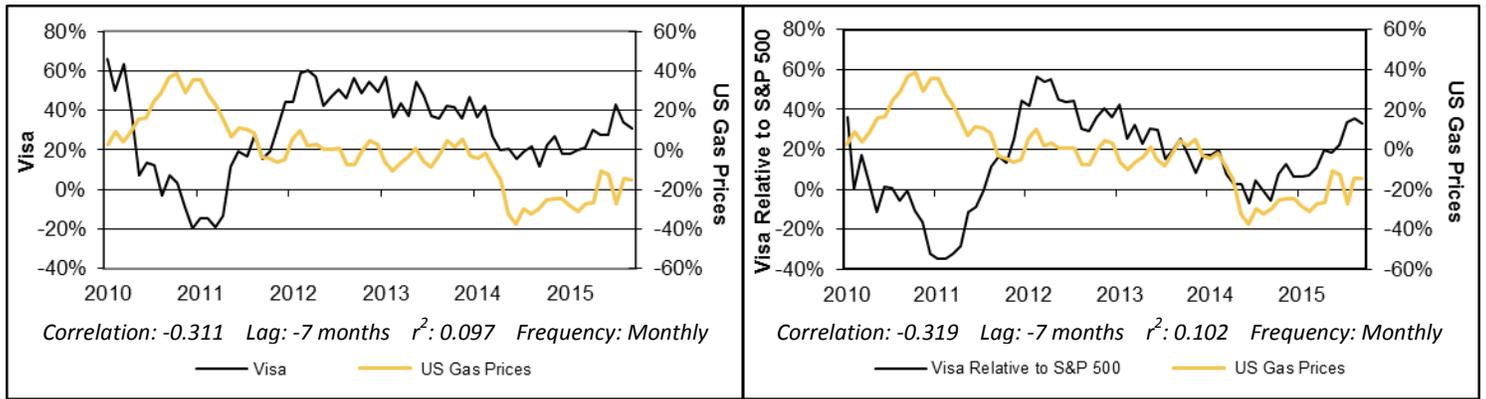
Source: Bloomberg, IMCP

Figure 13: Market share by payment volume in 2014
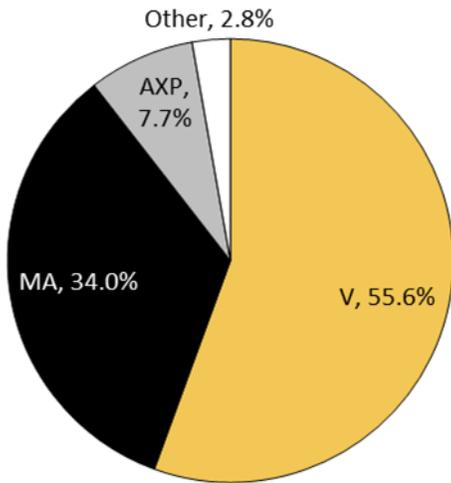

Source: Annual Report

I estimate that gas purchases represent 6.33% of payment volume processed by V in 2015 in the US. The following information pertains to the US for the year 2015:

• 140,430 million (gallons of gas expenditures) * $2.64 (average price per gallon of gas) = *$370,735 million (total gas expenditures)*
• $370,735 million (total gas expenditures) * 78% (percentage of gas expenditures via credit and debit) = *$289,173 million (gas expenditures via credit and debit)*
• $289,173 million (gas expenditures via credit and debit) * 55.6% (V's market share) = *$160,780 million (gas expenditures processed by V)*
• 4,761,000 million (total payment volume processed by V in 2015 (including international payment volume)) * 53.4% (V's domestic revenue as a percentage of total revenue) = *$2,540,343 million (V's domestic payment volume)*
• $160,780 million (gas expenditures processed by V) / $2,540,343 million (V's domestic payment volume) = *6.33% (gas expenditures as a percentage of V's total revenue)*

Had gas prices averaged $1.86 instead of $2.64, similar to the first quarter of 2016, gas purchases would have represented 4.46%, on an annualized basis, of payment volume processed by V in 2015 in the US. From 2012 through 2015, in figure 12, there is a strong positive correlation 0.724 between the growth in the price of gasoline and the growth in the price of V relative to the S&P 500 index. However, a negative correlation exists between V and the price of gasoline from 2010 to 2012, with the correlation in figure 12 being -0.319. Explanations for the negative correlation existing from 2010 to 2012 include weakening consumer confidence, new home sales, and the US dollar, as well as the enactment of the Dodd-Frank Act in October of 2011, which adversely affected the company. I expect the price of gasoline to rise over the year, which will lead to an increase in revenues for V.

Figures 14 and 15: New home sales compared to Visa on a YoY% change (left) and new home sales compared to Visa relative to the S&P 500 index on a YoY% change (right)

Correlation: 0.674   Lag: 0 months   r²: 0.454   Frequency: Monthly   *Correlation: 0.665   Lag: 0 months   r²: 0.442   Frequency: Monthly*
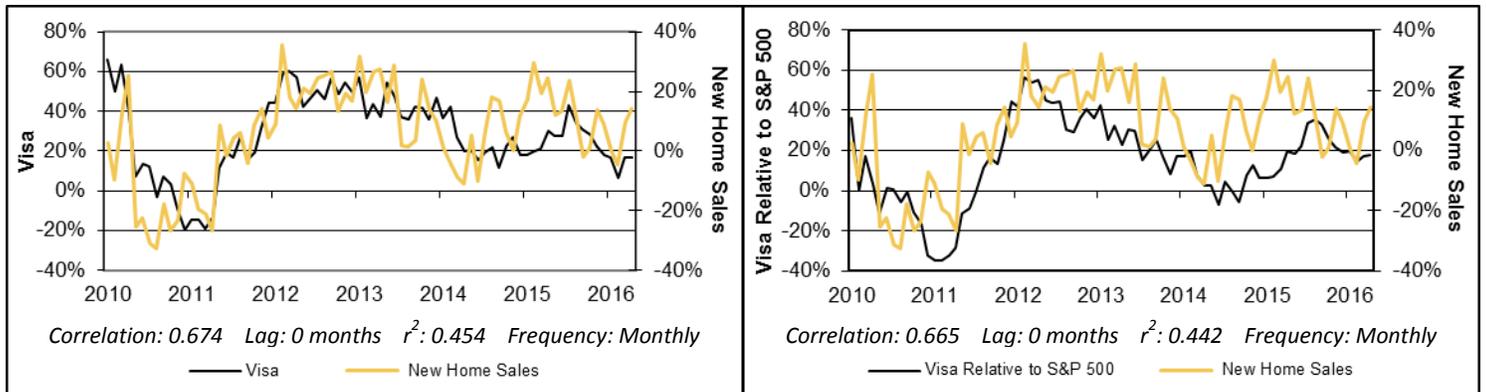
Source: Bloomberg, IMCP

New Home Sales

As new home sales rise, so do sales of larger value items such as furniture, benefiting V as consumers may purchase these larger value items on credit or debit. Notice in figure 15 that V tends to underperform the S&P 500 when new home sales growth is negative, as shown in 2011 and 2014, and tends to outperform as new home sales growth rises. Existing home sales have been growing at a healthy pace early this year, while new home sales have been growing at a slower rate. I expect existing home sales to continue growing at a healthy pace in 2016 and for new home sales growth to rise.

Dollar Spot Index

Figure 17 shows a strong correlation of 0.769 from 2010 to 2014 between the growth in the price of V relative to the S&P 500 and the change in the US dollar. However, the correlation weakened from 2014 through 2015. The weakening correlation is partly explained through the change in the USD. It strengthened significantly from late 2011 through 2015 and V's net nominal revenues were negatively impacted by the translation of local currencies to the USD. The weak correlation is also partly explained by the decline in gas prices beginning in 2014 (see figure 12) and weakening consumer confidence (see figure 19).

Figures 16 and 17: Dollar spot index compared to Visa on a YoY% change (left) and dollar spot index compared to Visa relative to the S&P 500 index on a YoY% change (right)

Correlation: 0.313   Lag: -4 months   r²: 0.098   Frequency: Monthly

Correlation: 0.363   Lag: -4 months   r²: 0.131   Frequency: Monthly
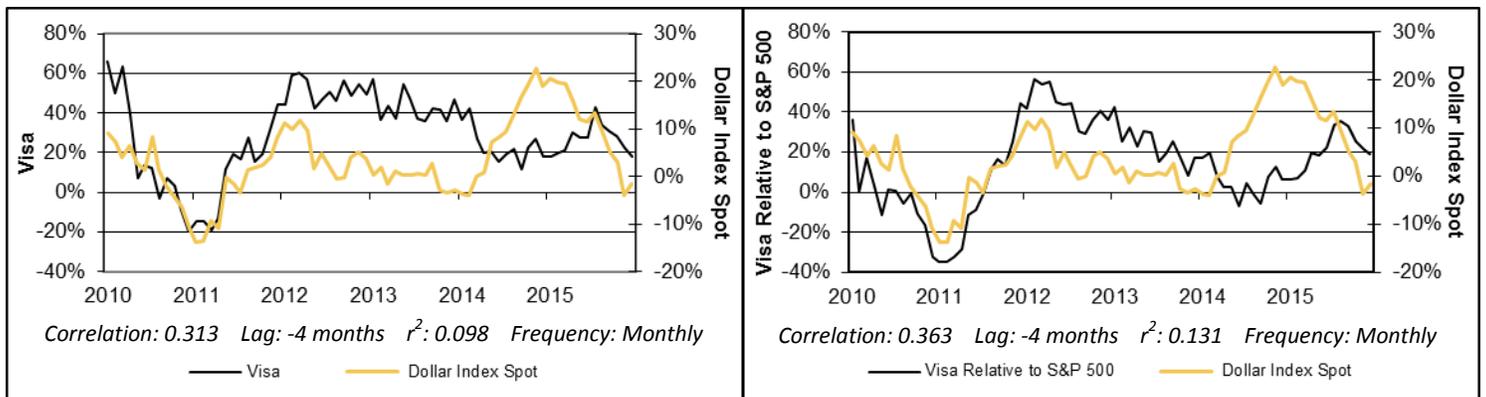
Source: Bloomberg, IMCP

Consumer Confidence

Figure 19 shows that there is a correlation of 0.305 between the growth in the price of V and the growth in consumer confidence. Notice that V underperformed the market from mid-2010 to mid-2011 as growth in consumer confidence declined to negative and outperformed the market subsequently as consumer confidence growth rose.

Figures 18 and 19: Consumer confidence compared to Visa on a YoY% change (left) and the dollar spot index compared to Visa relative to the S&P 500 index on a YoY% change (right)


Correlation: 0.253   Lag: -7 months   r²: 0.064   Frequency: Monthly

Correlation: 0.305   Lag: -7 months   r²: 0.093   Frequency: Monthly

Source: Bloomberg, IMCP

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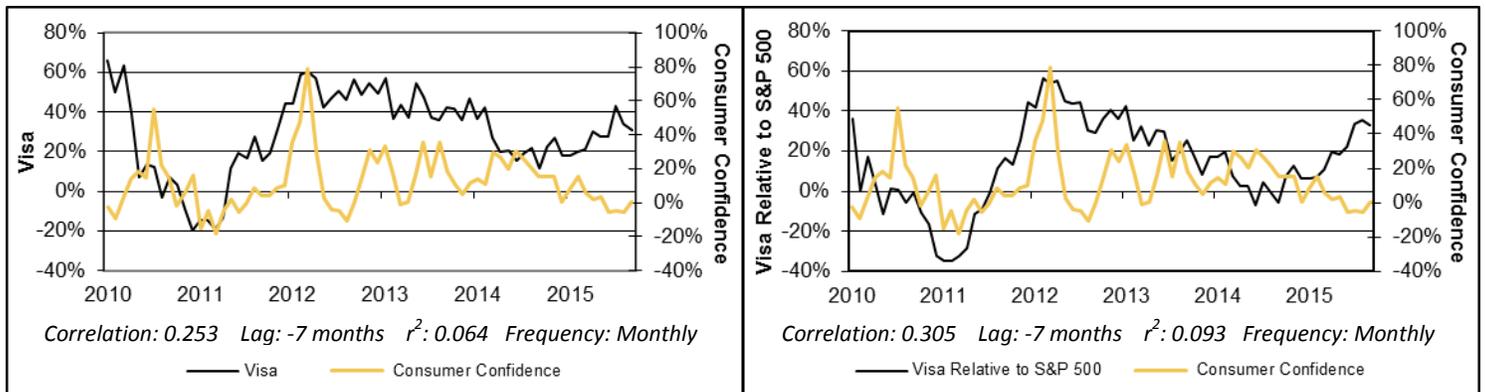
V's operating leverage helps explain the under and outperformance of the company relative to the market as levels in consumer confidence change. Because the company has high fixed costs and little variable costs; an increase in consumer confidence leads to an increase in consumer spending, leading to an increase in sales for V that translates almost directly into operating income for the company. Vice versa, a decrease in consumer confidence leads to a decrease in consumer spending, leading to a decrease in sales for V that translates almost directly into a decrease in operating income for V. Figure 20 highlights the company's degree of operating, financial, and total leverage since 2011. Notice that operating and total leverage are equal from 2011 through 2015 due to financial leverage being equal to one because of the absence of interest expense. In 2016 and 2017, financial leverage is expected to be slightly greater than one, causing total leverage to be slightly higher than operating leverage. Operating and total leverage are significantly higher in 2012 than in other years due to high litigation costs during the year that led to a decline in operating income. Operating and total leverage are expected to equal 1.44 and 1.50, respectively, in 2016, meaning that an additional 1.00% increase in sales would lead to a 1.44% and 1.50% increase in operating income and EPS for the year, respectively.

Figure 20: Operating, financial, and total leverage of V
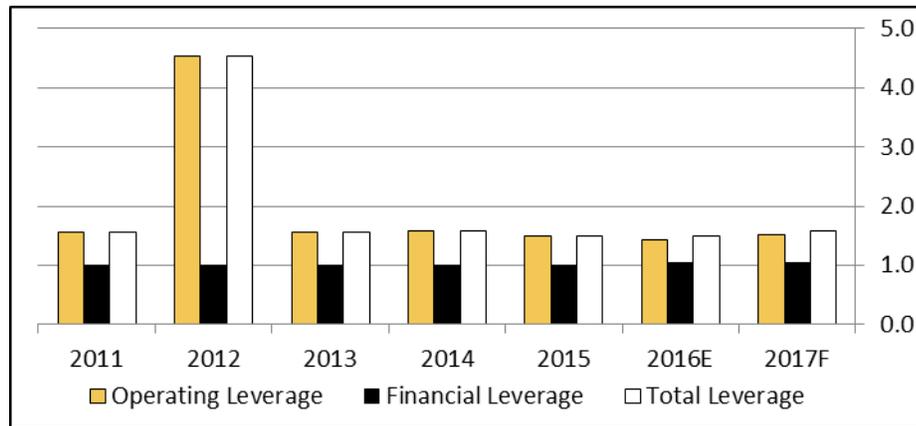
Source: Annual Report, IMCP Valuation Model

World GDP

Figures 21 and 22 exhibit a strong positive correlation between the growth in world GDP and the growth in the price of V. Figure 22 shows a correlation of 0.808. Notice that V outperformed the S&P 500 index as the growth in world GDP rose and underperformed as world GDP growth fell. 53.4% of total revenue is earned domestically with the remainder earned internationally. Because of its international exposure, V is more positively correlated with world GDP than with GDP in the US. The positive correlation between the growth in nominal domestic GDP and the growth in the price of V relative to the S&P 500 is 0.572, which is less than the correlation of 0.808 shown in figure 22.

Figures 21 and 22: World GDP compared to Visa on a YoY% change (left) and world GDP compared to Visa relative to the S&P 500 index on a YoY% change (right)

Correlation: 0.801 Lag: 8 months r^2: 0.641 Frequency: Semi-annually

Correlation: 0.808 Lag: 8 months r^2: 0.653 Frequency: Semi-annually
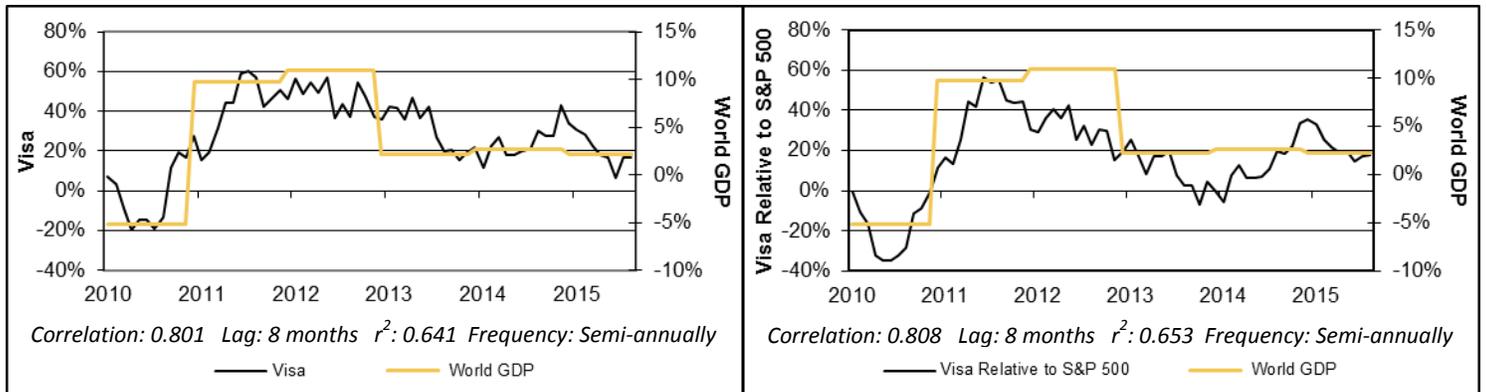
Source: Bloomberg, IMCP

Financial Analysis

Quantification of Drivers

I anticipate GAAP EPS to grow to $2.93 per share in 2016. The expected growth in EPS shown in figure 23 excludes the acquisition of VE by V. The company intended to close the transaction in the third quarter of 2016; however, since the European Commission hasn't approved the transaction yet, it has been delayed. I expect the transaction to close near fiscal year end and have excluded the acquisition when modeling V's EPS for 2016. Anticipated revenue growth of 6.4% should drive EPS by $0.21. Notice in figure 23 that gross margin does not contribute to 2016 expected EPS of $2.93. That is because I expect gross margin to remain unchanged relative to 2015. EBIT margin in 2016 is expected to grow to 67.2% in 2016; up from 64.8% in 2015. V's reported earnings for the first half of 2016 showed improvement in its EBIT margin to be 67.2%. The improvement in the margin is a result of management holding expenses due to cyclical headwinds that currently face the company. The EBIT margin improved to 67.2% for the first half of 2016 and it will stay there throughout 2016 because management will continue to hold expenses. The improvement in EBIT margin is expected to contribute $0.12 to EPS in 2016. Other important factors that will impact EPS in 2016 are interest expense, share buybacks/issuance, and other non-operating income/loss items.

Figure 23: Quantification of 2016 EPS drivers
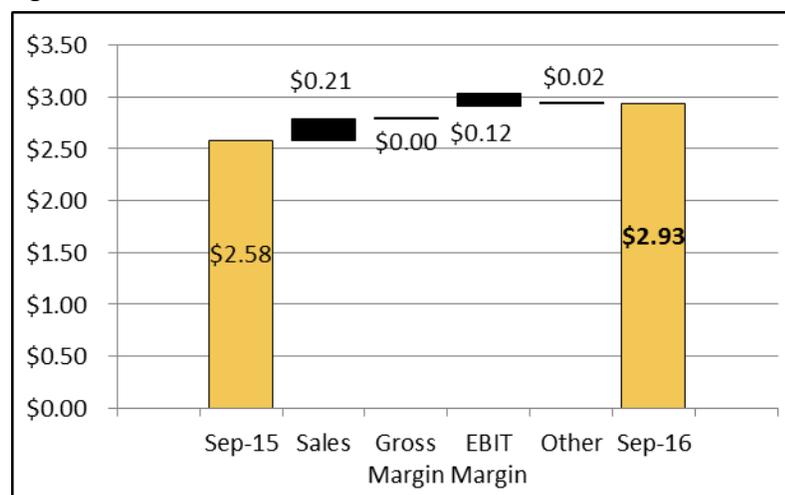
Source: Annual Report, IMCP Valuation Model

Sales growth and EBIT margin expansion through controlling costs are the main drivers of EPS in 2016.

Changes in interest expense, the number of shares outstanding, and net non-operating expenses contribute $0.02 to EPS as shown in figure 23 (differences exist due to rounding). Expected interest expense of $406 million will drag EPS by -$0.15 because the company hasn't incurred interest expense in the past. An expected increase in V's tax rate in 2016 by 0.1% will have little to no effect on EPS. The company has been buying back shares over the last few years and has continued to so over the first half of 2016. Management indicated that after the first half of fiscal year 2016, V had remaining authorization to buyback $4.0 billion of stock. With the share buybacks that the company has made in the first half of 2016, and share buybacks I expect V to make over the second half of 2016, buybacks should contribute $0.07 to EPS. I expect net non-operating expenses to decline to $1.1 billion in 2016 from $1.3 billion reported in 2015. This is largely because of a currency hedge gain recorded by V in the first half of 2016 that offset non-operating expenses. The decrease in net non-operating expenses should increase EPS by $0.09.

I expect EPS to grow in 2017 to $3.30 per share. My expectation for EPS in 2017 assumes that the acquisition of VE will close on October 1, 2016, which is the first day of fiscal year 2017 for V. Notice that sales growth is expected to contribute $0.80 to EPS, which is significantly more than it added in

2016. $0.36 of the $0.80 is due to a higher anticipated growth rate in 2017 relative to V's growth rate in 2016. The remaining $0.44 is due to the additional income from VE.

Figure 24: Quantification of 2017 EPS drivers assuming the VE acquisition closes at the beginning of FY 2017
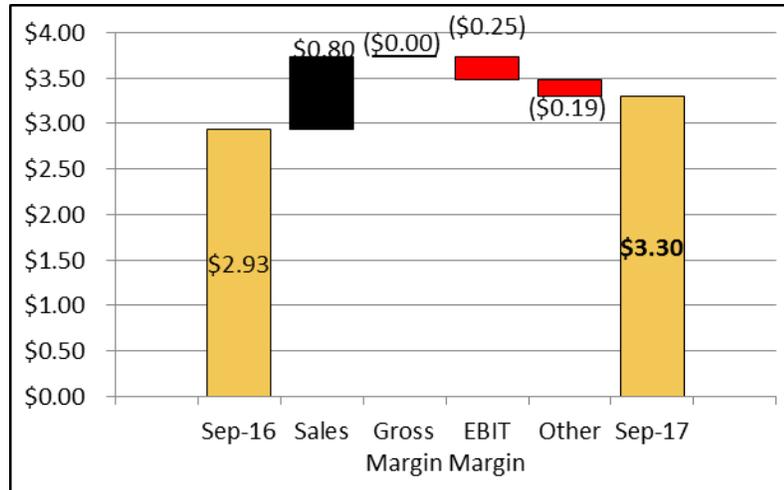
Source: Annual Report, IMCP Valuation Model

As the direct costs of Visa Europe consist of depreciation and amortization and both companies have similar gross margins, I do not expect synergies to improve the gross margin of the combined entity. Notice in figure 24 that the EBIT margin is causing a decrease in 2017 EPS by -$0.25. This is mostly due to the lower EBIT margin of VE. I expect in subsequent years for the EBIT margin to improve due to synergies created once V acquires VE. I anticipate a -$0.19 drag on EPS due to expected growth of other non-operating expenses in 2017. The drag is largely resulting from the absence of a currency hedge gain included as a reduction to other non-operating expenses in 2016. Because it was a one-time gain reported in the second quarter of 2016, I expect other non-operating expenses to grow in 2017 relative to 2016.

Figure 25 shows anticipated EPS of $3.20 for 2017 assuming that the VE acquisition does not close. Notice that the acquisition of VE will add a total of $0.10 to EPS ($3.30 - $3.20). Sales, excluding the acquisition, are expected to add only $0.36 to EPS in 2017, which is significantly less than the $0.80 that would be added if the transaction were to close. I don't expect an improvement or deterioration in the gross margin in 2017, leaving EPS unaffected by it. I don't expect improvement or deterioration in the EBIT margin in 2017 because management will continue holding expenses.

Figure 25: Quantification of 2017 EPS drivers assuming the VE acquisition does not close
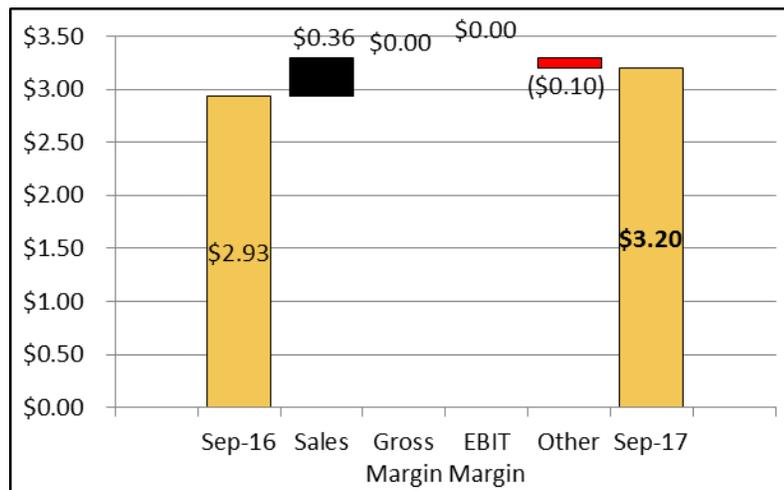
Assuming V closes the acquisition of VE in October of 2017, sales growth will contribute $0.36 to EPS in 2017 while other factors will drag EPS by $0.10.

Source: Annual Report, IMCP Valuation Model

Notice that other factors including changes in interest expense, the tax rate, share buybacks, and other non-operating items cause a -$0.10 drag on EPS in figure 25, but a -$0.19 drag on EPS in figure 24. The difference is largely attributed to interest expense. If the acquisition of VE does not close, V will be required to repurchase about $11 billion of the $16 billion of debt the company issued for the purchase of VE at 101% of face value. The repurchase of debt would decrease interest expense and increase EPS.

Revenues

Prior to fiscal year 2014, V experienced low to mid double-digit growth in revenue. Since 2014, growth in nominal revenue has decelerated to mid to high single-digit levels. A large reason for the deceleration of growth was due to the strengthening of the USD, which adversely impacted the translation of international revenues into USD. Also, as the USD strengthened, inbound cross-border commerce into the United States slowed, negatively impacting international transaction revenues.

I anticipate revenue for 2016 to grow at the slowest pace that V has experienced in the last decade. Reasons for low growth include the change in the USD, the collapse of China, low-to-no growth in commodity based economies, and expected increase in client incentives in 2016. Cross-border commerce outbound from China was growing at rates above 40% a year ago; growth has slowed to single-digit levels. Weakening cross-border commerce adversely impacted international transaction revenues. Outbound commerce out of commodity based economies including Latin America, the Middle East, and Africa have also slowed significantly.

> Outbound commerce from China has slowed significantly, hurting V's international transaction revenues.

Management estimates that client incentives, which reduce operating revenues, are expected to grow to 18.0% - 18.5% of gross revenue in 2016; up from 17.1% in 2015. Client incentives consist of long-term contracts V makes or renews with financial institution clients and other business partners. These are designed to enhance payments volume, Visa cards, and to win merchant routing transactions over Visa's network. Client incentives are expected to increase in the second half of 2016, according to management, largely because of conversion and renewal contracts, particularly with USAA and U.S. Costco. Though client incentives are expected to increase, which will decrease current year revenue, V will benefit from the contracts through an increase in revenue in subsequent years.

Figure 26: V's revenue sources as a percentage of gross revenue
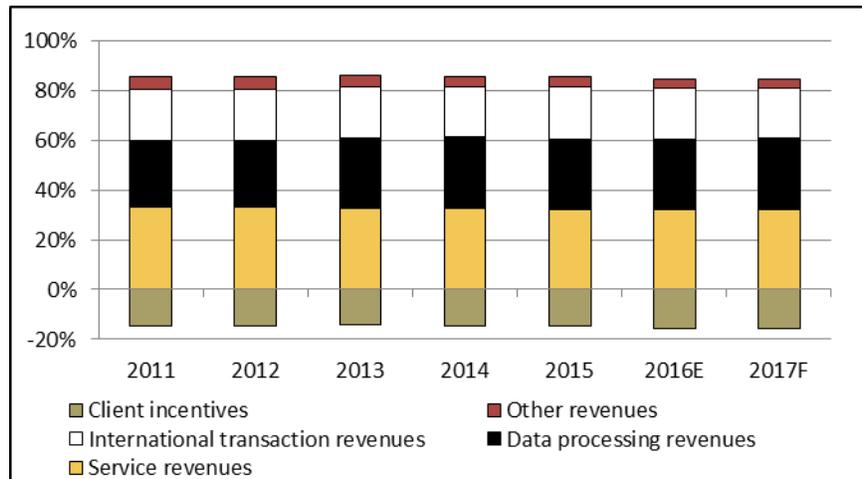
Source: Annual Report, IMCP Valuation Model

The headwinds faced by V are cyclical and won't persist. I expect growth rates to rise going forward past 2016. In 2017, I expect growth to be about 9.9%. Past 2017, I anticipate revenue growth to accelerate to low to mid double-digits levels.

The Chinese government indicated earlier this year that, beginning on June 1, 2016, it will allow foreign payment processors such as V, MA, and AXP to compete within China's domestic market. The news provides huge opportunities for payment processors as card spending in the country totaled $6.84 trillion USD in credit and debit card transactions in 2014, according to Bloomberg.

Looking forward, the tens of billions of devices expected to be online by 2020 and international expansion opportunities with Visa Europe and with China leave V with significant growth opportunities ahead.

Revenue and EPS Estimates

I am a little more optimistic on revenue and EPS estimates for FY 2016 relative to consensus. For FY 2017, excluding the impact of the VE acquisition, my estimate for revenue is a little more optimistic than consensus, but a little less on EPS. The difference is attributed to changes in other factors including non-operating items, the effective tax rate, share buybacks, and non-operating items, as shown in figure 25.

Figure 27: Revenue and EPS estimates

		Including VE Acquisition	Excluding VE Acquisition
	2016E	2017F	2017F
Revenue Estimate	14,770	18,003	16,230
YoY Growth		21.9%	9.9%
Revenue Consensus	14,632	16,181	16,181
YoY Growth		10.6%	10.6%
EPS GAAP Estimate	$2.93	$3.30	$3.20
YoY Growth	13.6%	12.4%	9.0%
EPS GAAP Consensus	$2.84	$3.25	$3.25
YoY Growth		14.4%	14.4%

Source: FactSet, IMCP Valuation Model

Revenue estimates are a little bullish relative to consensus while anticipated EPS in 2017 is a little bearish (excluding the VE

DuPont Analysis

The EBIT margin, as seen in figure 28, has been improving since 2014. I expect it to improve in 2016 because of management holding expenses. In 2017, once the acquisition of VE closes, I expect the EBIT margin to fall due to the lower EBIT margin of VE. Asset turnover has been improving since 2012; it is expected to fall in 2016. This is due to the increase in cash and marketable securities, which would only increase if the acquisition of VE did not close by fiscal year-end. For modeling purposes, I assume that the transaction doesn't close prior to fiscal year-end 2016. Cash and marketable securities are expected to increase because V issued $16.0 billion in debt to finance the up-front cash consideration for the VE acquisition.

Figure 28: Five-stage DuPont analysis

Five-Stage DuPont						
	2012	2013	2014	2015	2016E	2017F
EBIT / sales	21.18%	61.61%	60.81%	64.81%	67.17%	63.41%
Sales / avg assets	0.28	0.31	0.34	0.35	0.32	0.31
EBT / EBIT	1.00	1.00	1.00	1.00	0.96	0.96
Net income / EBT	97.05%	68.62%	70.40%	70.35%	70.31%	69.62%
ROA	5.73%	13.11%	14.59%	16.06%	14.32%	13.12%
Avg assets / avg equity	1.38	1.39	1.37	1.38	1.62	2.04
ROE	7.92%	18.28%	20.04%	22.10%	23.18%	26.78%

Source: Annual Report, IMCP Valuation Model

ROA is expected to decline while ROE is expected to increase due to increasing leverage in 2016 and 2017

If the transaction closes prior to year-end, then V will pay the up-front cash consideration of the purchase, which would reduce the cash balance. However, the closing of the transaction prior to year-end would increase total assets; goodwill in particular. An increase in goodwill will negatively impact total asset turnover as assets would be higher in 2016. There would be little income from VE contributing to earnings because of the acquisition closing so close to year-end.

The interest burden will decline in 2016 and 2017 by a small amount. Prior to 2016, V didn't have interest bearing debt outstanding, and therefore had no interest. The result was an interest burden of 1.00 prior to 2016. Exclusive of 2012, the tax burden has been relatively stable at about 70%. Notice that the equity multiplier increases in 2016 and 2017 significantly. The increase is due to the $16.0 billion of debt that V issued to finance the VE acquisition. Figure 29 highlights the changes in V's capital structure.

Figure 29: V's capital structure

V's capital structure changes significantly in 2016 as the company issued debt to finance the acquisition of Visa Europe.
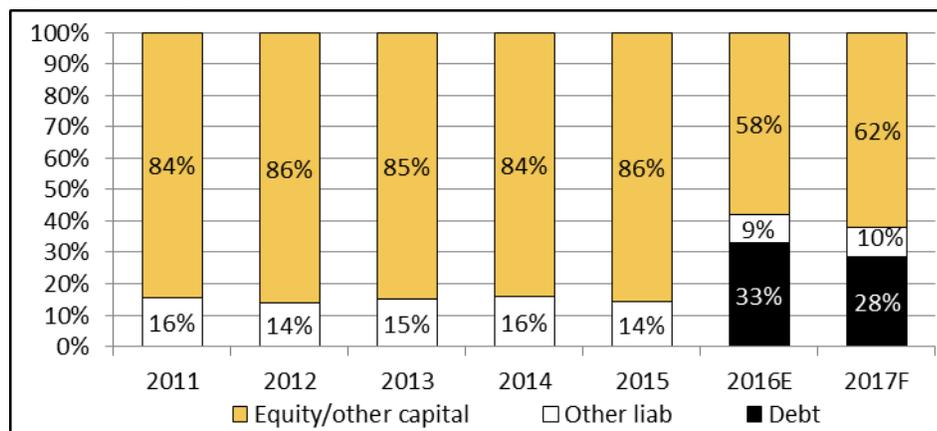
Source: Annual Report, IMCP Valuation Model

ROA has been increasing since 2012 and is expected to decline in 2016 and 2017. The increase in assets because of the debt issuance will lead to a decline in ROA for 2016. Once the acquisition closes, ROA will decline further due to an increase in goodwill as V will pay a premium over book value for the acquisition. Even though ROA declines in 2016 and 2017, ROE will increase. The increase in ROE is due to the increase in the equity multiplier because of the debt issuance necessary to finance the VE acquisition.

Free Cash Flow Analysis

Prior to 2016, FCFE and FCFF were equal due to the absence of interest bearing debt. FCFF has been growing at a steady pace and is expected to continue until 2016. The expected negative FCFF in 2016 is due to the significant increase in cash due to the company's debt issuance. Looking forward past 2017, I expect FCFF to return to levels a little higher than those prior to 2016. The difference between FCFF and FCFE in 2016 is the debt issuance of $16.0 billion and after-tax interest expense.

Part of the consideration to be paid for the acquisition is about $5.65 billion in convertible preferred stock. Hence, notice that the difference between FCFF and FCFE in 2017 is attributable to the issuance of preferred stock and after-tax interest expense. FCF going forward will be impacted by the maturing of the $16.0 billion in debt.

The debt will be retired as follows: 11% in December 2017, 19% in December 2020, 14% in December 2022, 25% in December 2025, 9% in December 2035, and 22% in December 2045. Though the entire debt issuance includes a call provision giving V the right to retire its debt early, it wouldn't be beneficial for the company to do so due to the make-whole call provision associated with it.

Figure 30: V's FCF analysis

Free Cash Flow							
	2011	2012	2013	2014	2015	2016E	2017F
With cash and debt							
NOPAT	3,646	2,142	4,980	5,438	6,328	6,975	7,948
Growth		-41.3%	132.5%	9.2%	16.4%	10.2%	13.9%
NOWC	4,468	3,089	1,418	1,577	3,021	13,853	943
Net fixed assets	25,570	28,227	28,134	29,007	29,344	30,142	50,896
Total net operating capital	30,038	31,316	29,552	30,584	32,365	43,995	51,838
Growth		4.25%	-5.63%	3.49%	5.82%	35.94%	17.83%
- Change in NOWC		(1,379)	(1,671)	159	1,444	10,832	(12,911)
- Change in NFA		2,657	(93)	873	337	798	20,753
FCFF		864	6,744	4,406	4,547	(4,655)	105
Growth			6.81	(0.35)	0.03	(2.02)	(1.02)
- After-tax interest expense						285	341
+ Net new short-term and long-term debt						15,877	5,652
FCFE		864	6,744	4,406	4,547	10,937	5,417
Growth			6.81	(0.35)	0.03	1.41	(0.50)
Sources of cash (FCFE)		864	6,744	4,406	4,547	10,937	5,417
FCFF per share		0.41	3.24	2.21	2.33	-2.50	0.06
Growth			686.6%	-31.8%	5.3%	-207.6%	-102.3%
FCFE per share		0.41	3.24	2.21	2.33	5.88	3.01
Growth			686.6%	-31.8%	5.3%	152.8%	-48.8%

Source: Annual Report, IMCP Valuation Model

Valuation

> V appears undervalued under a DCF model and fairly valued under a relative valuation approach.

V was valued using a discounted cash flow model and a relative valuation approach. Based on the current P/E and anticipated EPS of $2.93, the stock is slightly undervalued with a price target of $79.69. A regression using P/S and NPM shows that V fairly valued with a target price of $77.55. Based on a composite ranking shown in figures 34 and 35, V is slightly undervalued based on its fundamentals to it's peers in the payment processing industry. I placed more weight on a three-stage discounted cash flow model approach as it better captures growth opportunities that lie ahead of V.

Trading History

Figure 31: V's LTM P/E relative to the S&P 500 index
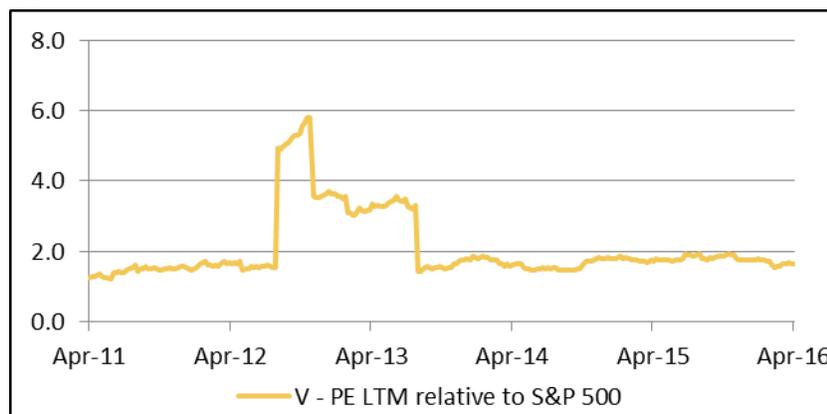
Source: FactSet

For the past five years, V has been trading at an LTM P/E above that of the S&P 500 index. The average LTM P/E since April of 2011 of V is 2.07 times the P/E of the S&P 500 index. Excluding the period from September 2012 to September 2013, the average LTM P/E is 1.63. Earnings were depressed in fiscal year 2013 due to high litigation provision costs, leading to a higher LTM P/E. V currently trades at 1.64 times the LTM P/E of the S&P 500 as shown in figure 31.

The absolute LTM P/E is currently 28.4. Assuming the company's stock trades at a P/E of 28.4 at year end, the stock will be worth $83.31 based on my 2016 EPS estimate of $2.93.

- P/E of 28.4 * 2016 expected EPS of $2.93 = $83.25; the expected price at year-end.

Discounting the expected price of $83.25 back to today at the firms' cost of equity would result in a value of $79.69; the stock currently trades at $77.72. Had I multiplied the P/E of 28.4 by 2016 consensus EPS, the stock would be worth $77.15 today.

Relative Valuation

Notice in figure 32 that MA has the highest NTM P/E even though V has the highest long-term growth rate and NTM earnings growth. This is likely due to high expected earnings growth in 2017 for MA, which comes after low expected earnings growth in 2016. MA also has the highest P/B and ROE, due to having a higher asset turnover and equity multiplier. However, V has the highest P/S and P/CF due to having a stronger net profit margin.

Figure 32: V Comparable Companies

Ticker	Name	Current Price	Market Value	Price Change						Earnings Growth							LT Debt/ Equity	S&P Rating	LTM Dividend	
				1 day	1 Mo	3 Mo	6 Mo	52 Wk	YTD	LTG	NTM	2014	2015	2016E	2017F	Pst 5yr	Beta			Yield	Payout
V	VISA INC	$77.19	$184,069	(1.6)	(0.5)	3.8	(0.9)	17.4	(0.5)	16.7	4.9%	13.5%	19.4%	13.6%	12.4%	21.0%	1.02	54.5%		0.67%	18.4%
MA	MASTERCARD INC	$96.45	$105,933	(1.4)	0.6	11.5	(3.7)	5.7	(0.9)	16.0	10.3%	18.8%	10.6%	3.2%	16.9%	19.0%	1.34	60.8%	B+	0.72%	21.1%
AXP	AMERICAN EXPRESS CO	$64.85	$61,674	(1.3)	6.1	19.8	(12.4)	(16.5)	(6.8)	8.4	7.9%	13.2%	-3.2%	3.2%	1.1%	8.5%	1.17	228.3%	B+	1.77%	23.1%
DFS	DISCOVER FINANCIAL SVCS INC	$55.55	$22,998	(1.5)	8.1	22.4	(1.4)	(6.3)	3.6	6.5	11.6%	-1.2%	4.7%	9.9%	7.4%	33.3%	1.41	210.1%	A-	1.99%	21.5%
Average			$93,669	(1.4)	3.6	14.4	(4.6)	0.1	(1.1)	11.9	8.7%	11.1%	7.9%	7.5%	9.5%	20.4%	1.23	138.4%		1.29%	21.0%
Median			$83,804	(1.4)	3.4	15.7	(2.5)	(0.3)	(0.7)	12.2	9.1%	13.4%	7.7%	6.6%	9.9%	20.0%	1.26	135.5%		1.25%	21.3%
SPX	S&P 500 INDEX	$2,063		(0.9)	(0.5)	7.9	(2.2)	(2.1)	1.0		7.7%	1.0%	0.9%	13.6%							

Ticker	Website	2015 ROE	P/B	P/E							2015 NPM	2015 P/S	OM	ROIC	EV/ EBIT	P/CF Current	P/CF 5-yr	Sales Growth			Book Equity
				2013	2014	2015	TTM	NTM	2016	2017E								NTM	STM	Pst 5yr	
V	http://usa.visa.com	21.1%	6.32	40.6	35.7	29.9	27.3	26.0	26.3	23.4	44.3%	13.26	65.7%	22.1%	21.7			7.5%	15.1%	11.5%	$12.22
MA	http://www.mastercard.com	69.0%	19.40	37.0	31.1	28.1	29.1	26.3	27.2	23.3	39.0%	10.96	52.4%	43.3%	21.1			8.7%	11.5%	11.8%	$4.97
AXP	http://www.americanexpress.com	24.7%	2.98	13.2	11.7	12.1	12.9	12.0	11.7	11.6	15.6%	1.88	23.7%	8.0%		7.3	9.3	-9.0%	-0.4%	2.6%	$21.79
DFS	http://www.discoverfinancial.com	19.8%	2.14	11.2	11.3	10.8	10.7	9.6	9.8	9.2	24.3%	2.63	37.5%	7.2%		6.3	6.4	-10.3%	3.4%	3.8%	$25.97
Average		33.6%	7.71	25.5	22.5	20.2	20.0	18.5	18.8	16.9	30.8%	7.18	44.8%	20.1%	21.4	6.8	7.9	-0.7%	7.4%	7.4%	
Median		22.9%	4.65	25.1	21.4	20.1	20.1	19.0	19.0	17.4	31.6%	6.79	45.0%	15.0%	21.4	6.8	7.9	-0.7%	7.4%	7.6%	
SPX	S&P 500 INDEX			19.0	17.7	17.5			17.3	15.3											

Source: FactSet, IMCP Valuation Model

Figure 33 analyzes the relationship between P/S and NPM. The calculated R^2 of 0.9526 of the regression means that a change in P/S is 95.26% explained by a change in NPM.

- Estimated P/S = Estimated 2016 NPM (37.87%) x 42.652x − 5.9556 = 10.20
- Estimated stock price = Estimated P/S x expected sales per share = 10.20 x 7.95 = $81.02

Figure 33 shows that based on NPM and P/S, V appears fairly valued. The estimated price at the end of 2016 is $81.02. Discounting the anticipated price at the end of 2016 back to today results in a price of $77.55 per share. The stock currently trades for $77.72. It's important to note that the anticipated profit margin of 37.87% excludes income attributable to Class B and Class C common stock as I am valuing V's Class A common stock. The anticipated profit margin of V in 2016 will be 45.3%, which is greater than the 37.9% shown above.

Figure 33: Industry P/S compared to NPM
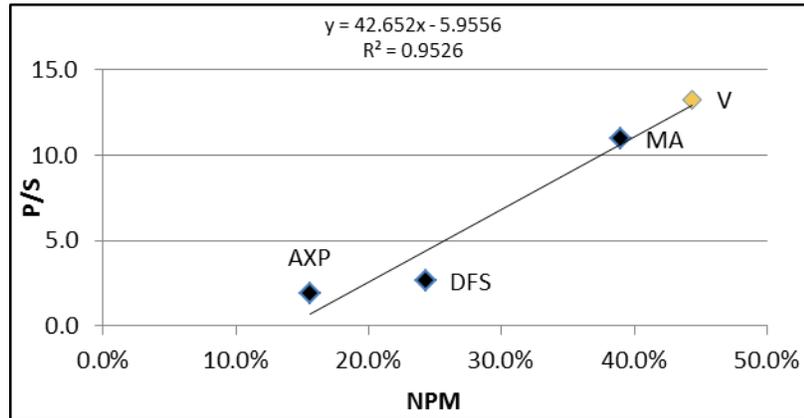
Source: FactSet, IMCP Valuation Model

I created a composite ranking based on two valuation and seven fundamental metrics. Since each metric has a different scale, all factors were converted to a percentage of the maximum value. Figure 34 shows each metric used and its weight in the composite. P/B and P/S, the valuation metrics, are equal weighted while the fundamental metrics including expected EPS growth in 2017, 1/Beta, 1/(LTD/Equity), 1/payout, 2015 ROE, 2015 NPM, and NTM sales growth are not equally weighted. Figure 35 is a regression based on the weighted fundamentals and valuation metrics. Based on the regression of the line in figure 35, V appears undervalued based on its fundamentals.

Figure 34: Composite valuation, percentage of the maximum

		Fundamentals							Valuation	
		10.0%	10.0%	10.0%	10.0%	20.0%	20.0%	20.0%	50.0%	50.0%
		EPS G	1/	1/(LTD/	1/	2015	2015	Sales G		
Ticker	Name	2017F	Beta	Equity)	Payout	ROE	NPM	NTM	P/B	P/S
V	VISA INC	73%	100%	100%	100%	31%	100%	86%	33%	100%
MA	MASTERCARD INC	100%	76%	90%	87%	100%	88%	100%	100%	83%
AXP	AMERICAN EXPRESS CO	6%	87%	24%	80%	36%	35%	-103%	15%	14%
DFS	DISCOVER FINANCIAL SVCS INC	44%	72%	26%	85%	29%	55%	-117%	11%	20%

Source: FactSet, IMCP Valuation Model

Figure 35: Composite relative valuation
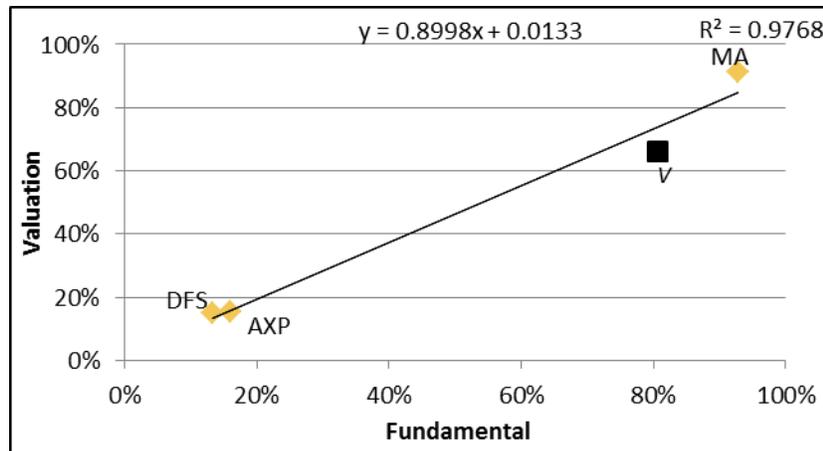
Source: FactSet, IMCP Valuation Model

Discounted Cash Flow Analysis

Based on a three-stage discounted cash flow model, I estimate the company's stock to be worth $101.19.

The cost of equity was calculated using the CAPM with the following assumptions:

- Risk-free rate of 1.83%. This is currently the 10-year government bond yield.
- Return on the market of 10%. Historically, this has been about the average return on the market.
- A beta of 1.18. This beta is the average beta between MA and V, with MA having the higher beta. As V's capital structure has significantly changed in fiscal year 2016 (see figure 29), taking the average beta between MA and V is appropriate.
- Cost of equity = 1.83% + 1.18 x (10.0% - 1.83%) = 11.5%

Figure 36: Anticipated FCFE from 2016-2022

Anticipated Free Cash Flow to Equity							
(with cash and debt)	2016E	2017F	2018F	2019F	2020F	2021F	2022F
FCFE	$5.88	$3.01	($0.82)	$3.42	$4.56	$4.93	$7.97
Discounted FCFE	$5.63	$2.58	($0.63)	$2.36	$2.83	$2.74	$3.97

Source: IMCP Valuation Model

Under a DCF model approach, the target price of V is $101.19.

Stage one – The first stage of the model discounts the FCFE/share for 2016 and 2017 back to today at the firms' estimated cost of equity. Due to debt issued by V in December of 2015 to finance the VE acquisition, the FCFE/share is expected to be high in 2016. FCFE/share is also expected to be high in 2017 as the company will issue convertible preferred stock at the closing of the acquisition of VE. The model assumes the deal will close in V's fiscal year 2017, not in fiscal year 2016. In 2017, sales will grow at 21.9% year on year. The high growth is attributed to the increase in revenue from VE.

Discounting the FCFE/share of the first stage comes to $8.22.

Stage two - Subsequent to 2017, I expect revenue growth of 10.5%, which is significantly higher than the growth experienced in recent years. Anticipated sales growth in 2016 of 6.4% is low due to an unfavorable macroeconomic environment. Going forward, the headwinds facing the company won't persist. Subsequent to 2018, I expect revenue growth to gradually rise to the mid-teen level. The expected high growth in revenue is attributed to growth internationally, especially China. The second stage of the discounted cash flow model also estimates significant increases in net fixed assets. The growth is attributed to the expected capital investment that will be required to compete in China. The model also assumes that the debt V issued to finance the VE acquisition will be paid at maturity. Therefore, I expect a part of it to be retired in V's fiscal years 2018 and 2021, which will adversely impact FCFE in those years.

Discounting the FCFE/share of the second stage comes to $11.27.

Stage three – Notice in figure 37 that I anticipate EPS to grow significantly at a pace of about 14% per year. The high growth is largely due to my expectation of strong growth in China and in both payment volume and number of transactions of credit, debit, and prepaid solutions.

Figure 37 Anticipated GAAP EPS from 2016-2022

Anticipated GAAP EPS							
	2016E	2017F	2018F	2019F	2020F	2021F	2022F
EPS	$2.93	$3.30	$3.80	$4.32	$4.97	$5.78	$6.69

Source: IMCP Valuation Model

The terminal value in the third stage of the discounted cash flow model is calculated by multiplying the expected EPS in 2022 by the expected P/E of 24.5 in 2022. The estimated P/E in 2022 is a little less than the LTM P/E today of 28.4. I belive that the industry has significant room for growth. As the industry moves toward maturity, the P/E should gradually decline towards that of the market.

- Estimated terminal stock price = Expected terminal value EPS x Expected terminal P/E
- $163.86 = $6.69 x 24.5

Discounting the estimated terminal value of the stock price back to today at the cost of equity comes to $81.70.

Based on a discounted cash flow model and an estimated terminal P/E of 24.5, the value of V's class A common stock is worth $101.19 today.

Scenario Analysis

Figure 38 highlights how changes in the terminal P/E and cost of equity affect the DCF model price of $101.19, assuming an estimated cost of equity of 11.5% and terminal P/E value of 24.5.

Figure 38: DCF target price scenario analysis

	Bear	Estimated P/E in 2022										Bull
$101.19	16.5	17.5	18.5	19.5	20.5	21.5	22.5	23.5	24.5	25.5	26.5	27.5
10.0%	$ 80.34	$ 83.97	$ 87.60	$ 91.24	$ 94.87	$ 98.50	$ 102.14	$ 105.77	$ 109.40	$ 113.03	$ 116.67	$ 120.30
10.5%	$ 78.31	$ 81.84	$ 85.37	$ 88.90	$ 92.43	$ 95.95	$ 99.48	$ 103.01	$ 106.54	$ 110.07	$ 113.60	$ 117.13
11.0%	$ 76.35	$ 79.77	$ 83.20	$ 86.63	$ 90.06	$ 93.49	$ 96.92	$ 100.35	$ 103.77	$ 107.20	$ 110.63	$ 114.06
11.5%	$ 74.52	$ 77.85	$ 81.19	$ 84.52	$ 87.86	$ 91.19	$ 94.53	$ 97.86	$ 101.19	$ 104.53	$ 107.86	$ 111.20
12.0%	$ 72.61	$ 75.84	$ 79.08	$ 82.32	$ 85.55	$ 88.79	$ 92.03	$ 95.27	$ 98.50	$ 101.74	$ 104.98	$ 108.21
12.5%	$ 70.82	$ 73.97	$ 77.12	$ 80.26	$ 83.41	$ 86.55	$ 89.70	$ 92.85	$ 95.99	$ 99.14	$ 102.28	$ 105.43
13.0%	$ 69.10	$ 72.16	$ 75.21	$ 78.27	$ 81.33	$ 84.39	$ 87.45	$ 90.50	$ 93.56	$ 96.62	$ 99.68	$ 102.74
13.5%	$ 67.42	$ 70.40	$ 73.37	$ 76.34	$ 79.32	$ 82.29	$ 85.26	$ 88.24	$ 91.21	$ 94.18	$ 97.15	$ 100.13
14.0%	$ 65.80	$ 68.70	$ 71.59	$ 74.48	$ 77.37	$ 80.26	$ 83.15	$ 86.04	$ 88.93	$ 91.82	$ 94.71	$ 97.60

(Left axis label: Cost of equity)

Source: IMCP Valuation Model

Business Risks

Although I have an optimistic view on the future of the company, the following are potential risks that could have a substantial impact on my target price for V's class A common stock:

Currency fluctuations:

The strengthening of the USD has had an adverse impact on V through lower inbound commerce into the US and lower nominal reported revenue due to the translation impact from international subsidiaries. My view is that the dollar will not continue to strengthen as it has in recent years. If the USD further strengthens, this will adversely impact V's future revenues.

Threat of new entrants:

As technology continues to improve, it's possible that new companies may be able to compete with V in the future.

Continuation of an unfavorable macroeconomic environment:

V has been facing headwinds in an unfavorable macroeconomic environment. I believe that the headwinds are cyclical and will improve gradually in the next few years. If the headwinds persist, V's future revenue growth may be less than my expectation. This could have a significant impact on my target price.

<u>Inability to compete in China:</u>

V has stated its intention to compete in China's domestic market. Subsequent to its second quarter earnings call, the Chinese State Counsel announced that foreign payment processing companies could begin competing in China, making a formal application beginning June 1, 2016. Future growth estimates incorporate revenue growth from competing in China. If V cannot compete effectively in China, this will likely adversely impact my target price.

<u>Failure to close the Visa Europe acquisition:</u>

V announced its acquisition of Visa Europe on November 2, 2015. The company has received two of the three necessary regulatory approvals to proceed with the transaction. The final approval needed is from the European Commission. After receiving feedback from the European Commission, the company had to amend its original proposed offer of the acquisition, eliminating an earnout. It's possible that the company may not receive the approval necessary to close the transaction; this may have an adverse impact on my target price.

<u>Obsolete business model:</u>

The Merchant Customer Exchange (MCX), a mobile payment system owned and controlled by large companies including Target, Wal-Mart, ExxonMobil, and BestBuy, was created with the intention of processing payments cheaper than companies like Visa and MasterCard. The idea of MCX originated in 2012, before mobile-payment wallets including ApplePay and Google Wallet entered the market. Members were required, as a part of the agreement, not to accept competing mobile-payment wallets under an exclusivity agreement that was signed because they were viewed as a threat; the agreement expired in 2015.

It has been in V's best interest that mobile-payment wallets succeed and for MCX owned companies to adopt them to help reduce the threat of the MCX technology. The success of the MCX technology would pose a threat that V's business model could become obsolete. Due to high adoption rates of merchants and consumers of mobile-payment wallets, the MCX technology has not performed well and many companies in the MCX agreement have adopted ApplePay, benefiting payment processing companies including V. Though the threat has been mitigated, one exists that V's business model could become obsolete.

<u>Increased regulations:</u>

The Dodd-Frank Act adversely impacted V's competitive position by setting a cap on interchange reimbursement rates. Looking forward, increased regulation in the industry could further negatively impact the company's ability to compete, which would adversely affect my target price.

Appendix 1: Sales forecasts (in millions)

Sales Forecasts	2011	2012	2013	2014	2015	2016E	2017F
Net Revenue	9,188	10,421	11,778	12,702	13,880	14,770	16,230
Growth	*0.0%*	*13.4%*	*13.0%*	*7.8%*	*9.3%*	*6.4%*	*9.9%*
Service revenues	4,261	4,872	5,352	5,797	6,302	6,828	7,535
Growth	*0.0%*	*14.3%*	*9.9%*	*8.3%*	*8.7%*	*8.4%*	*10.4%*
% of gross revenue	*38.5%*	*38.7%*	*38.0%*	*37.9%*	*37.6%*	*37.7%*	*37.9%*
Data processing revenues	3,478	3,975	4,642	5,167	5,552	6,074	6,768
Growth	*0.0%*	*14.3%*	*16.8%*	*11.3%*	*7.5%*	*9.4%*	*11.4%*
% of gross revenue	*31.4%*	*31.6%*	*32.9%*	*33.8%*	*33.2%*	*33.6%*	*34.0%*
International transaction revenues	2,674	3,025	3,389	3,560	4,064	4,383	4,770
Growth	*0.0%*	*13.1%*	*12.0%*	*5.0%*	*14.2%*	*7.8%*	*8.8%*
% of sales	*24.2%*	*24.1%*	*24.0%*	*23.3%*	*24.3%*	*24.2%*	*24.0%*
Other revenues	655	704	716	770	823	803	807
Growth	*0.0%*	*7.5%*	*1.7%*	*7.5%*	*6.9%*	*-2.4%*	*0.6%*
% of gross revenue	*5.9%*	*5.6%*	*5.1%*	*5.0%*	*4.9%*	*4.4%*	*4.1%*
Client incentives	-1,880	-2,155	-2,321	-2,592	-2,861	-3,319	-3,651
Growth	*0.0%*	*14.6%*	*7.7%*	*11.7%*	*10.4%*	*16.0%*	*10.0%*
% of gross revenue	*17.0%*	*17.1%*	*16.5%*	*16.9%*	*17.1%*	*18.3%*	*18.4%*
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
United States	5,135	5,720	6,379	6,847	7,406	7,680	7,644
Growth	*0.0%*	*11.4%*	*11.5%*	*7.3%*	*8.2%*	*3.7%*	*-0.5%*
% of sales	*55.9%*	*54.9%*	*54.2%*	*53.9%*	*53.4%*	*52.0%*	*47.1%*
International	3,846	4,478	5,177	5,629	6,219	6,942	8,585
Growth	*0.0%*	*16.4%*	*15.6%*	*8.7%*	*10.5%*	*11.6%*	*23.7%*
% of sales	*41.9%*	*43.0%*	*44.0%*	*44.3%*	*44.8%*	*47.0%*	*52.9%*
Visa Europe	207	223	222	226	255	148	0
Growth	*0.0%*	*7.7%*	*-0.4%*	*1.8%*	*12.8%*	*-42.1%*	*-100.0%*
% of sales	*2.3%*	*2.1%*	*1.9%*	*1.8%*	*1.8%*	*1.0%*	*0.0%*

Appendix 2: Income statements (in millions)

Income Statements							
	2011	**2012**	**2013**	**2014**	**2015**	**2016E**	**2017F**
Sales	$9,188	$10,421	$11,778	$12,702	$13,880	$14,770	$18,003
Direct costs	645	747	865	942	968	1,017	1,249
Gross Margin	8,543	9,674	10,913	11,760	12,912	13,753	16,754
SG&A, R&D, and other	2,887	7,467	3,656	4,036	3,917	3,833	5,338
EBIT	5,656	2,207	7,257	7,724	8,995	9,920	11,415
Interest	-	-	-	-	-	406	489
EBT	5,656	2,207	7,257	7,724	8,995	9,515	10,926
Taxes	2,010	65	2,277	2,286	2,667	2,825	3,319
Net Income - V	3,646	2,142	4,980	5,438	6,328	6,690	7,607
Other	1,008	478	1,021	1,131	1,284	1,097	1,576
Net income - V (Class A)	2,638	1,664	3,959	4,307	5,044	5,593	6,031
Basic Shares (Class A)	2,036	2,096	2,080	1,993	1,954	1,859	1,800
EPS (Class A)	$1.30	$0.79	$1.90	$2.16	$2.58	$2.93	$3.30
DPS	$0.15	$0.22	$0.33	$0.40	$0.48	$0.73	$0.86

Appendix 3: Balance sheets (in millions)

Balance Sheets							
	2011	**2012**	**2013**	**2014**	**2015**	**2016E**	**2017F**
Cash	4,984	6,506	2,235	3,469	4,590	15,404	2,697
Operating assets ex cash	2,935	4,537	3,518	4,114	3,805	3,692	5,251
Operating assets	7,919	11,043	5,753	7,583	8,395	19,097	7,947
Operating liabilities	3,451	7,954	4,335	6,006	5,374	5,243	7,005
NOWC	4,468	3,089	1,418	1,577	3,021	13,853	943
NOWC ex cash (NWC)	-516	-3,417	-817	-1,892	-1,569	-1,551	-1,754
NFA	25,570	28,227	28,134	29,007	29,344	30,142	50,896
Invested capital	30,038	31,316	29,552	30,584	32,365	43,995	51,838
Marketable securities	1,271	743	2,069	1,979	2,497	3,954	3,954
Total assets	34,760	40,013	35,956	38,569	40,236	53,193	62,797
Short-term and long-term debt	0	0	0	0	0	15,877	15,879
Other liabilities	4,872	4,429	4,751	5,150	5,020	4,194	5,334
Debt/equity-like securities	0	0	0	0	0	0	5,650
Equity	26,437	27,630	26,870	27,413	29,842	27,878	28,929
Total supplied capital	31,309	32,059	31,621	32,563	34,862	47,949	55,792
Total liabilities and equity	34,760	40,013	35,956	38,569	40,236	53,193	62,797

Appendix 4: Ratios

Ratios	2011	2012	2013	2014	2015	2016E	2017F
Profitability							
Gross margin	92.98%	92.83%	92.66%	92.58%	93.03%	93.12%	93.06%
Operating (EBIT) margin	61.56%	21.18%	61.61%	60.81%	64.81%	67.17%	63.41%
Net profit margin	28.71%	15.97%	33.61%	33.91%	36.34%	37.87%	33.50%
Activity							
NFA (gross) turnover		0.39	0.42	0.44	0.48	0.50	0.44
Total asset turnover		0.28	0.31	0.34	0.35	0.32	0.31
Liquidity							
Op asset / op liab	2.29	1.39	1.33	1.26	1.56	3.64	1.13
NOWC Percent of sales		36.26%	19.13%	11.79%	16.56%	57.13%	41.09%
Solvency							
Debt to assets	0.00%	0.00%	0.00%	0.00%	0.00%	29.85%	25.29%
Debt to equity	0.00%	0.00%	0.00%	0.00%	0.00%	56.95%	54.89%
Other liab to assets	14.02%	11.07%	13.21%	13.35%	12.48%	7.88%	8.49%
Total debt to assets	14.02%	11.07%	13.21%	13.35%	12.48%	37.73%	33.78%
Total liabilities to assets	23.94%	30.95%	25.27%	28.92%	25.83%	47.59%	44.93%
Debt to EBIT	0.00	0.00	0.00	0.00	0.00	1.60	1.39
EBIT/interest						24.46	23.34
Debt to total net op capital	0.00%	0.00%	0.00%	0.00%	0.00%	36.09%	30.63%
ROIC							
NOPAT to sales		20.55%	42.28%	42.81%	45.59%	47.23%	44.15%
Sales to IC		33.97%	38.70%	42.24%	44.10%	38.68%	37.57%
Total		6.98%	16.36%	18.09%	20.11%	18.27%	16.59%
Total using EOY IC	12.14%	6.84%	16.85%	17.78%	19.55%	15.85%	15.33%
ROE							
Five-stage							
EBIT / sales		21.18%	61.61%	60.81%	64.81%	67.17%	63.41%
Sales / avg assets		27.87%	31.01%	34.09%	35.23%	31.62%	31.04%
EBT / EBIT		100.00%	100.00%	100.00%	100.00%	95.91%	95.72%
Net income /EBT		97.05%	68.62%	70.40%	70.35%	70.31%	69.62%
ROA		5.73%	13.11%	14.59%	16.06%	14.32%	13.12%
Avg assets / avg equity		1.38	1.39	1.37	1.38	1.62	2.04
ROE		7.92%	18.28%	20.04%	22.10%	23.18%	26.78%
Three-stage							
Net income / sales		20.55%	42.28%	42.81%	45.59%	45.30%	42.26%
Sales / avg assets		0.28	0.31	0.34	0.35	0.32	0.31
ROA		5.73%	13.11%	14.59%	16.06%	14.32%	13.12%
Avg assets / avg equity		1.38	1.39	1.37	1.38	1.62	2.04
ROE		7.92%	18.28%	20.04%	22.10%	23.18%	26.78%
Payout Ratio		35.76%	21.82%	23.36%	23.33%	24.20%	25.81%
Retention Ratio		64.24%	78.18%	76.64%	76.67%	75.80%	74.19%
Sustainable Growth Rate		5.09%	14.29%	15.36%	16.95%	17.57%	19.87%

Appendix 5: Three-stage DCF model

Three-Stage DCF Model

		Year					
	2016E	**2017F**	**2018F**	**2019F**	**2020F**	**2021F**	**2022F**
First Stage				**Second Stage**			
Sales	$14,770	$18,003	$19,893	$22,280	$25,177	$28,702	$32,720
NOPAT	$6,975	$7,948	$8,896	$10,090	$11,546	$13,326	$15,378
Growth		*13.9%*	*11.9%*	*13.4%*	*14.4%*	*15.4%*	*15.4%*
- Change in NWC or NOWC	10,832	(12,911)	2,373	249	308	379	422
NWC or NOWC EOY	*13,853*	*943*	*3,316*	*3,565*	*3,873*	*4,252*	*4,674*
Growth NWC or NOWC		*-93.2%*	*251.8%*	*7.5%*	*8.7%*	*9.8%*	*9.9%*
- Chg NFA	798	20,753	5,942	3,380	2,725	839	375
NFA EOY	*30,142*	*50,896*	*56,838*	*60,217*	*62,942*	*63,781*	*64,157*
Growth NFA		*68.9%*	*11.7%*	*5.9%*	*4.5%*	*1.3%*	*0.6%*
Total inv in op cap	11,630	7,843	8,315	3,629	3,033	1,218	797
Total net op cap	43,995	51,838	60,153	63,782	66,816	68,034	68,831
FCFF	($4,655)	$105	$580	$6,462	$8,512	$12,108	$14,581
% of sales	*-31.5%*	*0.6%*	*2.9%*	*29.0%*	*33.8%*	*42.2%*	*44.6%*
Growth		*-102.3%*	*452.3%*	*1013.2%*	*31.7%*	*42.2%*	*20.4%*
- Interest (1-tax rate)	285	341	303	303	303	239	239
Growth		*19.4%*	*-11.0%*	*0.0%*	*0.0%*	*-21.2%*	*0.0%*
+ Net new debt	15,877	5,652	(1,750)	-	-	(3,000)	-
Debt	15,877	15,879	14,129	14,129	14,129	11,129	11,129
Debt / tot net op capital	*36.1%*	*30.6%*	*23.5%*	*22.2%*	*21.1%*	*16.4%*	*16.2%*
FCFE w or w/o debt	$10,937	$5,417	($1,473)	$6,159	$8,209	$8,869	$14,342
% of sales	*74.0%*	*30.1%*	*-7.4%*	*27.6%*	*32.6%*	*30.9%*	*43.8%*
Growth		*-50.5%*	*-127.2%*	*-518.2%*	*33.3%*	*8.0%*	*61.7%*
/ No Shares	1858.9	1,800	1,800	1,800	1,800	1,800	1,800
FCFE	$5.88	$3.01	($0.82)	$3.42	$4.56	$4.93	$7.97
Growth		*-48.8%*	*-127.2%*	*-518.2%*	*33.3%*	*8.0%*	*61.7%*
* Discount factor	0.96	0.86	0.77	0.69	0.62	0.56	0.50
Discounted FCFE	$5.63	$2.58	($0.63)	$2.36	$2.83	$2.74	$3.97
Third Stage							
Terminal value P/E							
Net income	$5,593	$6,031	$6,831	$7,781	$8,938	$10,404	$12,036
% of sales	*37.9%*	*33.5%*	*34.3%*	*34.9%*	*35.5%*	*36.3%*	*36.8%*
EPS	$2.93	$3.30	$3.80	$4.32	$4.97	$5.78	$6.69
Growth		*12.4%*	*15.1%*	*13.9%*	*14.9%*	*16.4%*	*15.7%*
Terminal P/E							24.50
* Terminal EPS							$6.69
Terminal value							$163.86
* Discount factor							0.50
Discounted terminal value							$81.70
Summary							
First stage	$8.22	Present value of first 2 year cash flow					
Second stage	$11.27	Present value of year 3-7 cash flow					
Third stage	$81.70	Present value of terminal value P/E					
Value (P/E)	**$101.19**	= Value on May 6, 2016					

Figure 6: Porter's five

Threat of New Entrants – Moderate

The payment processing industry is fixed capital intensive, which reduces the threat of new entrants coming to compete with V. However, as technology continues improving at an accelerating rate, it may become easier for startups to enter the market and compete with V.

Threat of Substitutes – High

With there being three other major payment processing companies in the US, and with the company also competing with other mediums of payment, consumer usage of cards as payment methods could be substituted for other medium of payments.

Supplier Power – Low

As the industry is fixed capital intensive and doesn't rely on raw material inputs, the power of suppliers is low.

Buyer Power – Moderate

With there being only four major participants in the industry in the US and competition being fierce, financial institutional clients have flexibility to switch to a competitor. However, switching costs exist as clients would have to wait until their current contract expires before signing a new one with a competitor.

Intensity of Competition – High

Due to increased regulation in the payment processing industry, the company has had to increase client incentives, which reduce gross revenue, in order to remain competitive. The company competes with all forms of payment including cash, checks, cards, mobile wallests and mobile payments, ACH, wire transfers, and more.

Appendix 7: SWAT Analysis

Strengths	Weaknesses
Earnings Growth	Currency Fluctuations
High Net Profit Margin	Increasing Client Incentives
World's Largest Payment Processor	Dependent on Consumer Spending
Opportunities	**Threats**
International Expansion	Increased Regulation
Increase in Card Payments	Obsolete Business Model
Increase in Connected Devices	Inability to Compete in China