Global Market Analysis	4
New Product Introductions	5
Investment Thesis	6
Price Graph	6
Financial Data	7
Tigress Research Methodology Overview	9
Glossary of Key Terms and Measures	9
Contacts	10
Analyst Certification	10
Research Disclosures	10
Tigress Research Investment Rating Meanings and Distribution	10
Specific Disclosures for the companies that are the subject of this Report	11
Research Report Disclaimer	12
About Tigress Financial Partners LLC	12

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VeriFone Systems, Inc. (PAY-US)

IT Services

- **We are initiating research coverage on PAY with a Buy rating and believe significant upside in the shares exist.**
- **The opportunities for the future now outweigh PAY's challenges of the past.**
- **PAY is best positioned to benefit from the secular shift to greater use of electronic payments.**
- **PAY has undergone a deep and broad restructuring to better align its businesses with future opportunities.**
- **New product introductions will drive future growth and strength and PAY's leadership position.**
- **PAY has made several accretive acquisitions to expand its business and product offerings**

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VeriFone Systems, Inc. (PAY-US)

IT Services

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Research Action:

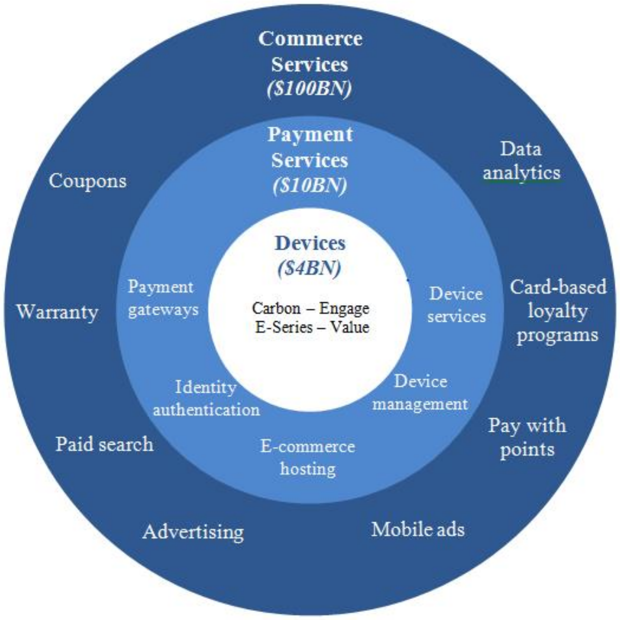
Initiation of Coverage	
Rating:	Buy
Prior Rating:	None
Price 03/24/2017:	$18.72
52 Week High / Low:	$29.73 $14.94
Key Data: (TTM as of Jan-17)	
Excess Cash per Share:	$0.55
Annual Dividend:	$0.00
Dividend Yield:	0.00%
Ave. Volume (30 Day):	2.1M
Shares Outstanding:	111.6M
Float:	110.9M
Equity MV:	$2,089.4M
Sales TTM:	$1,932.5M
Beta:	1.40
EBITDAR:	$504.9M
NOPAT:	$52.3M
Total Invested Capital:	$1,927.5M
Return on Capital:	2.67%
Cost of Capital:	7.28%
Economic Profit:	-$90.2M
Market Value Added:	$1,197.2M
Current Operations Value:	$688.3M
Future Growth Value:	$2,436.3M

- **We are initiating research coverage on PAY with a Buy rating.** We believe PAY's leadership position in the electronic payments evolution together with new product introductions will drive greater market share penetration which will drive improving Business Performance and greater shareholder value creation. We believe PAY's strong brand equity and experienced leadership will continue to drive new customer wins. We believe PAY is one of the best ways to play the growth in electronic based payment transactions and believe significant upside in the shares exist.
- **The opportunities for the future now outweigh PAY's challenges of the past.** The past few years have been full of setbacks including regulatory delays, currency fluctuations, legislative changes, a slower than expected adoption cycle and the ramp up of investment in new products. This has caused the share price to decline from a high of $39 in 2015 to a low of $15 in October of last year. We believe a transition is underway and positive momentum is starting to build. We believe PAY's leadership position in in the global evolution to electronic payments offers investors the best way to play this trend.
- **PAY is best positioned to benefit from the secular shift to greater use of electronic payments.** PAY is the market leading provider of electronic payment systems and services. PAY currently has over 30 million terminals deployed globally and provides more than 50% of the world's EMV card terminals. EMV (Europay, Mastercard and Visa) is the global standard for the embedded chip enabling the technology used to authenticate electronic transactions. PAY is the leader in the over 150 countries in which they operate. PAY processes over 7 billion transactions a year. PAY will benefit significantly from the ongoing shift away from cash-based transactions to electronic forms of payment, as well as the global adoption of EMV security terminals. PAY not only benefits from the sale of terminals but from the fees it collects for facilitating payments and connectivity for merchants to financial institutions as it adds other higher value point-of-sale (POS) services.
- **PAY has undergone a deep and broad restructuring to better align its businesses with future opportunities.** Over the past year, PAY has gone through a review of underperforming businesses and cost-cutting measures to increase efficiency. This will better enable them to scale up production for the deployment of new product introductions as it transitions existing clients from its legacy platforms. PAY expects to see these actions drive significant cost savings in 2017 and beyond. PAY is also expanding its distribution channels across emerging markets and into more verticals which should be a driver of future growth.

- **New product introductions will drive future growth and strength and PAY's leadership position.** PAY will introduce more new products in 2017 than they have done in the entire history of the company. PAY has launched four new product categories consisting of fixed terminal and mobile product offerings designed to facilitate electronic payment adoption especially in emerging markets and among SMB customers. The new product lines include Carbon (iPOS), the Engage Series, E-Series (mPOS) and the Value Series. These new products provide greater security and convenience to address the need of omni-channel market opportunities and introduce leading products for mobile handheld use. PAY is expanding its higher-end e355 mPOS to more markets and launched a value priced mPOS device for emerging markets. PAY plans to launch Engage in over 20 countries this year. PAY launched its VeriFone commerce platform designed to allow developers, acquirers and merchants to scale applications faster and more efficiently. PAY continues to work with banks and card issuers to create seamless applications to better address omni-channel commerce opportunities which will drive increasing revenue and greater profitability.
- **PAY has made several accretive acquisitions to expand its business and product offerings.** In 2015, PAY acquired the taxi app Curb which allows you to call for taxicabs with an app that has Uber like functionality. Curb will further strengthen PAY's position as the POS of choice for taxicabs. PAY also provides several advertising opportunities including taxi rooftop and in cab ads as well as pay at the pump advertising. PAY also acquired platform as a service (PaaS) provider InterCard AG. This will help PAY expand service offerings to retail clients in Europe. In 2016, PAY acquired Canadian payment gateway AJB Software Design, a provider of payment gateway and switching solutions for large merchants in the US and Canada. AJB will extend Verifone's services to include solutions certified by major Canadian banks and processors for EMV acceptance. Other acquisitions include GoPago, a cloud-based mobile payment platform with an integrated point-of-sale system. As well as Point, a multichannel payment platform offering subscription-based services that can be customized to meet any businesses unique needs for payment processing and payment terminal maker Hypercom.

Global Market Analysis

Currently the Total Addressable Market (TAM) for commercial services including point-of-sale (POS) advertising, transaction facilitation and terminal sales is approximately $100 billion per year and is estimated to grow in the mid-single digits through 2020, based on low single-digit growth in mature and developed markets and high single digit growth in emerging markets. PAY participates in all levels of payment processing and linking the pay or to the financial institution including providing advertising on POS terminals, transaction services and payment hardware and software. Payment services is estimated to be $10 billion a year, which includes all levels of payment and collection transaction fees. The device market for payment terminals and software is estimated to be $4 billion. We believe PAY's market share penetration should increase over time based on their leadership position together with its strong brand equity and new product introductions. We further believe that the growth in transaction services in emerging markets should accelerate at a faster rate.



Source: Company information

New Product Introductions

PAY will launch more new products in 2017 than it has in the past 20 years. This includes new mobile and fixed POS terminals and service platforms designed to meet the evolving needs of omni-channel commerce and electronic transactions, e-wallet's and the use of reward points. These new product lines will drive increasing revenue through device support services payment services and other commerce services and Omni channel platforms.

Carbon - Verifone's integrated iPOS payment platform, which primarily targets SMBs and will be distributed through bank and acquirer clients, like the recently announced agreement with Vantiv (VNTV-US, Non-rated). Carbon is built primarily for developed markets, but will be sold emerging markets as well. Carbon enables recurring revenue stream for acquirer clients (PAY will take a 30% rev share) by integrating PAY's app marketplace, allowing merchants to imbed commerce service offerings.

Engage Series - PAY's newest line of multilane, countertop and portable POS devices. Features include larger screens and sleeker design. Engage devices are built for all market segments and target both mature and emerging markets a single operating system platform. The Engage Series supports PAY's app marketplace enabling additional service revenue opportunities to e-commerce and cloud integration.

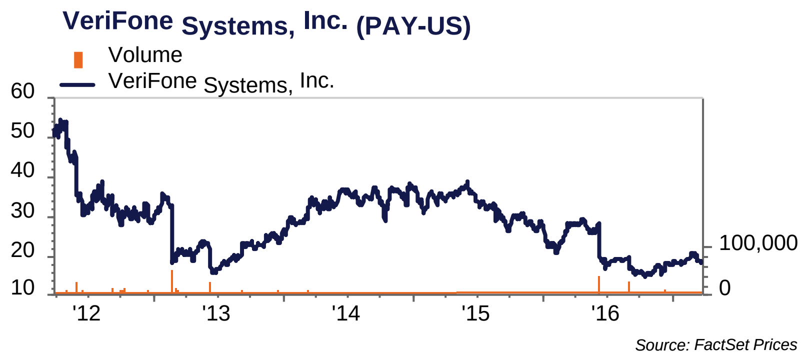
E-Series - Modularly built, mobile POS (mPOS) devices for both large merchants and SMBs. Intended uses for the E-Series are for specialty retail, hospitality, and higher-touch customer interactions. PAY sizes the SMB mobile payment device TAM at $350M+.

Value Series - Entry-level devices priced devices for the price sensitive emerging markets, including China, LATAM, and parts of Asia and EMEA. PAY hopes to drive greater market penetration then in the past with the deployment of these value devices. Value offerings are for bank and acquirer distribution, and include portable as well as countertop offerings.

Investment Thesis

PAY is the dominant provider of the most technologically advanced electronic point-of-sale (POS) terminals and service platforms. Demand for more technologically advanced POS terminals is being driven by the secular shift to electronic payments, which offer customers greater convenience, security, purchase protections and reward programs as well as offering merchants increased purchasing and customer intelligence at the point-of-sale. New payment solutions address omni-channel, as well as the ability to use mobile devices with near field communication (NFC) capabilities and use multiple payment forms including e-wallets and pay with points. PAY's competitive advantage is its strong brand equity and ubiquitous presence processes over 40% of all electronic transactions globally which will continue to drive increasing market share and revenue growth through the sale of additional value-added services. We believe PAY is one of the key stocks to own in our electronic payments investment theme.

Price Graph



Financial Data

Report Basis Reported Period Ending	LTM 01/31/2012	LTM 01/31/2013	LTM 01/31/2014	LTM 01/31/2015	LTM 01/31/2016	LTM 01/31/2017	NTM 01/31/2018	5 Yr Average	3 Yr Average	Current Trend
Net Sales Revenue	$1,439.6	$1,875.2	$1,709.5	$1,919.0	$2,027.7	$1,932.5	$1,931.2	$1,892.8	$1,959.7	$1,931.8
Sales Growth	35.57%	30.26%	-8.83%	12.25%	5.66%	-4.70%	-0.07%	6.93%	4.41%	-2.38%
Sales Growth Trend	31.07%	32.38%	6.80%	3.82%	8.30%	-0.55%	-1.92%	10.15%	3.86%	-1.24%
Operating Cash Flow (EBITDAR)	$335.4	$603.3	$431.9	$525.0	$560.5	$504.9	$522.2	$525.1	$530.1	$513.6
EBITDAR Margin	23.30%	32.17%	25.26%	27.36%	27.64%	26.13%	27.04%	27.71%	27.04%	26.58%
EBITDAR Growth	23.03%	79.88%	-28.41%	21.55%	6.76%	-9.92%	3.43%	13.97%	6.13%	-3.24%
Net Operating Profit Before Tax (NOPBT)	$106.3	$197.6	($22.5)	$53.4	$131.8	$52.3	$77.2	$82.5	$79.1	$64.7
NOPBT Margin	7.38%	10.54%	-1.31%	2.78%	6.50%	2.70%	4.00%	4.24%	4.00%	3.35%
NOPBT Growth	-15.23%	86.01%	-111.37%	337.55%	146.78%	-60.34%	47.62%	79.73%	141.33%	-6.36%
Cash Operating Income Tax	$0.0	$29.7	$0.0	$0.0	$0.0	$0.0	$0.0	$5.9	$0.0	$0.0
Economic Tax Effective Rate	0.00%	15.04%	0.00%	0.00%	0.00%	0.00%	0.00%	3.01%	0.00%	0.00%
Net Operating Profit After Tax (NOPAT)	$305.0	$167.9	($22.5)	$53.4	$138.6	$52.3	$77.2	$77.9	$81.4	$64.7
NOPAT Margin	21.19%	8.96%	-1.31%	2.78%	6.83%	2.70%	4.00%	3.99%	4.11%	3.35%
NOPAT Growth	105.51%	-44.94%	-113.39%	337.55%	159.51%	-62.28%	47.62%	55.29%	144.93%	-7.33%
Cash & Equivalents	$673.5	$498.5	$249.3	$247.7	$195.7	$158.1	$155.0	$269.9	$200.5	$156.5
Total Assets	$3,748.2	$3,534.1	$2,864.7	$2,504.1	$2,541.2	$2,443.3	$2,396.4	$2,777.5	$2,496.2	$2,419.8
Non - Interest Bearing Liabilities (NIBLs)	$806.7	$777.0	$674.3	$632.1	$699.7	$641.6	$629.3	$684.9	$657.8	$635.5
Net Assets	$2,902.8	$2,719.6	$2,153.4	$1,834.9	$1,806.5	$1,763.5	$1,729.6	$2,055.6	$1,801.6	$1,746.6
Economic Asset Adjustments	$48.7	$128.4	$259.8	$254.4	$234.0	$216.5	$212.4	$218.6	$235.0	$214.4
Net Operating Assets	$2,951.6	$2,848.0	$2,413.1	$2,089.4	$2,040.5	$1,980.0	$1,942.0	$2,274.2	$2,036.6	$1,961.0
Debt & Debt Equivalents	$1,699.1	$1,454.9	$1,143.8	$991.0	$1,077.1	$1,035.2	$1,015.3	$1,140.4	$1,034.4	$1,025.3
Equity & Equivalents	$1,215.7	$1,383.7	$1,099.6	$924.8	$821.7	$807.2	$791.7	$1,007.4	$851.2	$799.5
Total Capital - Financing Sources	$2,914.8	$2,838.5	$2,243.5	$1,915.8	$1,898.7	$1,842.4	$1,807.1	$2,147.8	$1,885.7	$1,824.8
Capital Adjustments	($12.9)	($34.9)	$116.9	$126.7	$89.5	$85.0	$83.4	$76.6	$100.4	$84.2
Net Capital Financing Sources	$2,901.9	$2,803.6	$2,360.4	$2,042.5	$1,988.2	$1,927.5	$1,890.5	$2,224.4	$1,986.1	$1,909.0
Net Working Capital	$238.4	$326.6	$221.3	$246.6	$267.5	$290.9	$285.3	$270.6	$268.3	$288.1
Cost of Net Working Capital	$15.0	$19.2	$21.7	$17.0	$18.2	$20.5	$20.1	$19.3	$18.5	$20.3
% of Revenue	1.04%	1.02%	1.27%	0.89%	0.90%	1.06%	1.04%	1.03%	0.95%	1.05%
Operational Capital	$378.0	$633.8	$528.8	$542.9	$615.3	$625.0	$613.0	$589.2	$594.4	$619.0
Cost of Operational Capital	$24.2	$34.3	$46.0	$38.9	$41.0	$45.4	$44.6	$41.1	$41.8	$45.0
% of Revenue	1.68%	1.83%	2.69%	2.03%	2.02%	2.35%	2.31%	2.18%	2.13%	2.33%
Productive Capital	$2,410.2	$2,573.3	$2,374.0	$2,031.5	$2,050.5	$2,019.7	$1,981.0	$2,209.8	$2,033.9	$2,000.3
Cost of Productive Capital	$106.9	$169.0	$195.6	$160.1	$144.4	$149.1	$146.2	$163.6	$151.2	$147.7
% of Revenue	7.42%	9.01%	11.44%	8.34%	7.12%	7.72%	7.57%	8.73%	7.73%	7.64%
Total Operating Capital	$2,350.0	$2,443.3	$2,249.3	$1,937.6	$1,946.2	$1,918.6	$1,881.8	$2,099.0	$1,934.1	$1,900.2
Cost of Total Operating Capital	$103.1	$162.5	$185.5	$152.1	$137.4	$141.6	$138.9	$155.8	$143.7	$140.2
% of Revenue	7.16%	8.67%	10.85%	7.93%	6.77%	7.33%	7.19%	8.31%	7.34%	7.26%
Non - Operating Capital	$601.6	$404.7	$163.8	$151.8	$94.3	$61.4	$60.2	$175.2	$102.5	$60.8
Cost of Non - Operating Capital	$37.9	$34.1	$22.5	$11.5	$8.7	$5.7	$5.6	$16.5	$8.6	$5.7
% of Revenue	2.63%	1.82%	1.31%	0.60%	0.43%	0.30%	0.29%	0.89%	0.44%	0.29%
Total Capital	$2,951.6	$2,848.0	$2,413.1	$2,089.4	$2,040.5	$1,980.0	$1,942.0	$2,274.2	$2,036.6	$1,961.0
Cost of Total Capital	$141.0	$196.7	$208.0	$163.6	$146.1	$147.3	$144.5	$172.3	$152.3	$145.9
% of Revenue	9.79%	10.49%	12.17%	8.53%	7.20%	7.62%	7.48%	9.20%	7.78%	7.55%
Cost of Capital (WACC)	7.36%	6.78%	7.91%	7.27%	7.07%	7.33%	7.33%	7.27%	7.22%	7.33%
Capital Structure										
Debt & Debt Equivalents	$1,699.1	$1,454.9	$1,143.8	$991.0	$1,077.1	$1,035.2	$1,015.3	$1,140.4	$1,034.4	$1,025.3
Debt & Debt Equivalents % of Market Value	27.30%	27.96%	26.31%	21.79%	29.19%	33.86%	33.86%	27.35%	27.47%	33.86%
Preferred Equity	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Preferred Equity % of Market Value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Market Value of Common Equity	$4,524.5	$3,748.6	$3,203.3	$3,557.9	$2,612.8	$2,022.5	$1,983.7	$3,029.0	$2,731.1	$2,003.1
Common Equity % of Market Value	72.70%	72.04%	73.69%	78.21%	70.81%	66.14%	66.14%	72.65%	72.53%	66.14%
Total Economic Market Value (MV)	$6,223.6	$5,203.5	$4,347.1	$4,548.9	$3,689.9	$3,057.7	$2,999.0	$4,169.4	$3,765.5	$3,028.4
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Excess Cash	$601.6	$404.7	$163.8	$151.8	$94.3	$61.4	$60.2	$175.2	$102.5	$60.8
Economic Enterprise Value	$5,622.1	$4,798.8	$4,183.3	$4,397.1	$3,595.5	$2,996.3	$2,938.8	$3,994.2	$3,663.0	$2,967.5
Average Capital	$1,877.2	$2,852.8	$2,582.0	$2,201.4	$2,015.4	$1,957.9	$1,909.0	$2,321.9	$2,058.2	$1,933.4
Capital Δ	$2,049.3	($98.2)	($443.3)	($317.9)	($54.3)	($60.7)	($37.0)	($194.9)	($144.3)	($48.9)

Source: Company Data, Financial statements and Tigress Research

Report Basis Reported Period Ending	LTM 01/31/2012	LTM 01/31/2013	LTM 01/31/2014	LTM 01/31/2015	LTM 01/31/2016	LTM 01/31/2017	NTM 01/31/2018	5 Yr Average	3 Yr Average	Current Trend
Return on Market Value (NOPAT / MV)	**4.90%**	**3.23%**	**-0.52%**	**1.17%**	**3.76%**	**1.71%**	**1.68%**	**1.87%**	**2.21%**	**1.69%**
Return on Enterprise Value (NOPAT / EV)	**5.43%**	**3.50%**	**-0.54%**	**1.21%**	**3.85%**	**1.74%**	**1.71%**	**1.96%**	**2.27%**	**1.73%**
Return on Capital (NOPAT / Average Capital)	**16.25%**	**5.89%**	**-0.87%**	**2.43%**	**6.88%**	**2.67%**	**2.62%**	**3.40%**	**3.99%**	**2.64%**
Cost of Capital (WACC)	**7.36%**	**6.78%**	**7.91%**	**7.27%**	**7.07%**	**7.33%**	**7.33%**	**7.27%**	**7.22%**	**7.33%**
Economic Return Spread	**8.89%**	**-0.90%**	**-8.78%**	**-4.84%**	**-0.20%**	**-4.66%**	**-4.57%**	**-3.87%**	**-3.23%**	**-4.61%**
Capital Charge	**$138.2**	**$193.5**	**$204.1**	**$160.0**	**$142.5**	**$143.4**	**$140.7**	**$168.7**	**$148.7**	**$142.1**
Economic Profit (EP)	**$166.8**	**($25.5)**	**($226.6)**	**($106.6)**	**($4.0)**	**($91.2)**	**($89.4)**	**($90.8)**	**($67.2)**	**($90.3)**
Economic Profit Improvment (EPI)	**$85.4**	**($192.4)**	**($201.1)**	**$120.0**	**$102.6**	**($87.2)**	**$1.7**	**($51.6)**	**$45.2**	**($42.7)**
EP Growth	*104.88%*	*-115.31%*	*-787.34%*	*52.97%*	*96.27%*	*-2194.35%*	*1.92%*	*-589.55%*	*-681.70%*	*-1096.21%*
Economic Profit Margin on Sales	*11.59%*	*-1.36%*	*-13.26%*	*-5.55%*	*-0.20%*	*-4.72%*	*-4.63%*	*-5.02%*	*-3.49%*	*-4.67%*
Economic Profit Per Share	**$1.81**	**($0.24)**	**($2.09)**	**($0.96)**	**($0.03)**	**($0.82)**	**($0.81)**	**($0.83)**	**($0.60)**	**($0.81)**
GAAP Earnings Per Share	**$2.45**	**$0.74**	**($2.97)**	**($0.09)**	**$0.77**	**($0.44)**	**$1.50**	**($0.40)**	**$0.08**	**$0.53**
Excess Cash Per Share	**$5.68**	**$3.75**	**$1.48**	**$1.34**	**$0.85**	**$0.55**	**$0.54**	**$1.59**	**$0.91**	**$0.55**
Performance Drivers										
Sales Growth	35.57%	30.26%	-8.83%	12.25%	5.66%	-4.70%	-0.07%	6.93%	4.41%	-2.38%
Sales Growth Trend (ROC Sales Growth)	31.07%	32.38%	6.80%	3.82%	8.30%	-0.55%	-1.92%	10.15%	3.86%	-1.24%
EBITDAR Margin	23.30%	32.17%	25.26%	27.36%	27.64%	26.13%	27.04%	27.71%	27.04%	26.58%
EBITDAR Growth	23.03%	79.88%	-28.41%	21.55%	6.76%	-9.92%	3.43%	13.97%	6.13%	-3.24%
NOPBT Margin	7.38%	10.54%	-1.31%	2.78%	6.50%	2.70%	4.00%	4.24%	4.00%	3.35%
NOPBT Growth	-15.23%	86.01%	-111.37%	337.55%	146.78%	-60.34%	47.62%	79.73%	141.33%	-6.36%
NOPAT Margin	21.19%	8.96%	-1.31%	2.78%	6.83%	2.70%	4.00%	3.99%	4.11%	3.35%
NOPAT Growth	105.51%	-44.94%	-113.39%	337.55%	159.51%	-62.28%	47.62%	55.29%	144.93%	-7.33%
Economic Profit Margin on Sales (EP / Sales)	11.59%	-1.36%	-13.26%	-5.55%	-0.20%	-4.72%	-4.63%	-5.02%	-3.49%	-4.67%
Economic Profit Growth	104.88%	-115.31%	-787.34%	52.97%	96.27%	-2194.35%	1.92%	-589.55%	-681.70%	-1096.21%
Economic Return Spread (ROC-WACC)	8.89%	-0.90%	-8.78%	-4.84%	-0.20%	-4.66%	-4.71%	-3.87%	-3.23%	-4.68%
Economic Return Ratio (ROC / WACC)	220.73%	86.80%	-11.01%	33.38%	97.21%	36.44%	35.74%	48.56%	55.68%	36.09%
Economic Profit Momentum (ΔEP/Capital)	2.94%	-6.86%	-8.52%	5.88%	5.16%	-4.52%	0.09%	-1.77%	2.17%	-2.22%
Economic Profit Momentum Margin (ΔEP/Sales)	5.93%	-10.26%	-11.76%	6.25%	5.06%	-4.51%	0.09%	-3.04%	2.27%	-2.21%
Capital Growth	240.38%	-3.39%	-15.81%	-13.47%	-2.66%	-3.06%	-1.92%	-7.68%	-6.39%	-2.49%
Capital Turns	0.50X	0.67X	0.72X	0.94X	1.02X	1.00X	1.02X	0.87X	0.99X	1.01X
EVC Acceleration Margin	*8.04%*	*-13.36%*	*-10.72%*	*7.02%*	*5.35%*	*-4.30%*	*0.09%*	*-2.67%*	*2.39%*	*-2.18%*
EVC Acceleration Spread	*11.37%*	*-10.25%*	*-7.05%*	*4.65%*	*4.66%*	*-4.33%*	*0.09%*	*-2.70%*	*1.94%*	*-2.08%*
Risk Factors										
Free Cash Flow (NOPAT - Δ Capital)	($1,744.3)	$266.2	$420.8	$371.3	$192.9	$113.0	$114.1	$272.8	$225.7	$113.6
Free Cash Flow Rate (FCF / Capital)	-60.11%	9.49%	17.83%	18.18%	9.70%	5.86%	6.04%	12.21%	11.25%	5.95%
Free Cash Flow Yield (FCF / MV)	-28.03%	5.12%	9.68%	8.16%	5.23%	3.70%	3.81%	6.38%	5.69%	3.75%
Total Debt / Total Capital	58.55%	51.89%	48.46%	48.52%	54.17%	53.71%	53.71%	51.35%	52.13%	53.71%
Total Debt / EBITDAR	506.62%	241.16%	264.84%	188.77%	192.17%	205.04%	194.43%	218.39%	195.32%	199.73%
Excess Cash	$601.6	$404.7	$163.8	$151.8	$94.3	$61.4	$0.0	$175.2	$102.5	$30.7
Financial Leverage ((Total Debt - Excess Cash) /	17.64%	20.18%	22.54%	18.45%	26.63%	31.85%	33.86%	23.93%	25.64%	32.85%
Pension Leverage (Net Pension Liability / MV)	-0.02%	-0.03%	-0.03%	-0.03%	0.00%	0.00%	0.00%	-0.02%	-0.01%	0.00%
Equity Risk Index (S&P 500 = 1.00)	1.38	1.38	1.40	1.39	1.43	1.43	1.43	1.40	1.42	1.43
Stock Price Volatility	6.19	7.42	7.36	5.46	4.83	5.31	5.31	6.08	5.20	5.31
Sales Index (NL Sales)	7.27	7.54	7.44	7.56	7.61	7.57	7.57	7.54	7.58	7.57
Market Value Index (NL Market Value)	8.74	8.56	8.38	8.42	8.21	8.03	8.01	8.32	8.22	8.02
Size Index (NL Sales: MV)	8.00	8.05	7.91	7.99	7.91	7.80	7.79	7.93	7.90	7.79
Beta	1.57	1.56	1.59	1.59	1.64	1.64	1.64	1.60	1.62	1.64
TFP Adjusted Beta	1.38	1.38	1.40	1.39	1.43	1.43	1.43	1.40	1.42	1.43
Stock Price Volatility	6.19	7.42	7.36	5.46	4.83	5.31	5.31	6.08	5.20	5.31
Valuation Measures										
Total Economic Market Value (MV)	$6,223.6	$5,203.5	$4,347.1	$4,548.9	$3,689.9	$3,057.7	$2,999.0	$4,169.4	$3,765.5	$3,028.4
Economic Enterprise Value	$5,622.1	$4,798.8	$4,183.3	$4,397.1	$3,595.5	$2,996.3	$2,938.8	$3,994.2	$3,663.0	$2,967.5
Equity Market Value	$4,524.5	$3,748.6	$3,203.3	$3,557.9	$2,612.8	$2,022.5	$1,983.7	$3,029.0	$2,731.1	$2,003.1
Total Capital	$2,951.6	$2,848.0	$2,413.1	$2,089.4	$2,040.5	$1,980.0	$1,942.0	$2,274.2	$2,036.6	$1,961.0
Market Value Created MVC (MV - Capital)	$3,272.0	$2,355.4	$1,934.0	$2,459.5	$1,649.4	$1,077.7	$1,057.0	$1,895.2	$1,728.9	$1,067.4
MVC Margin (MVC / Sales)	227.28%	125.61%	113.13%	128.17%	81.34%	55.77%	54.73%	100.13%	88.22%	55.25%
MVC Spread (MVC / Capital)	110.86%	82.70%	80.14%	117.72%	80.83%	54.43%	54.43%	83.33%	84.89%	54.43%
Current EVC Value (EP / WACC)	$2,266.3	($376.6)	($2,866.3)	($1,466.7)	($56.2)	($1,244.4)	($1,220.6)	($1,248.5)	($931.1)	($1,232.5)
Current Operations Value COV	$4,143.5	$2,476.2	($284.3)	$734.8	$1,959.2	$713.4	$688.4	$1,073.4	$1,127.1	$700.9
Current Operations Value Per Share	$44.84	$23.14	($2.62)	$6.58	$17.18	$6.44	$6.23	$9.72	$10.05	$6.34
Future Growth Value (MVC - EVA Value)	$2,080.1	$2,727.3	$4,631.4	$3,814.1	$1,730.7	$2,344.3	$2,310.6	$3,096.0	$2,638.4	$2,327.5
Future Growth Value Reliance (FGV / MV)	33.42%	52.41%	106.54%	83.85%	46.90%	76.67%	77.04%	74.26%	70.07%	76.85%
Share Price	$42.70	$34.72	$29.01	$31.39	$23.39	$18.17	$18.17	$27.34	$24.32	$18.17
Dividend Yield	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
Total Shareholder Return (TTM)	6.91%	-18.69%	-16.45%	8.20%	-25.49%	-22.32%	0.00%	50.45%	-11.05%	-25.28%
MV to IC Ratio	2.11X	1.83X	1.80X	2.18X	1.81X	1.54X	1.54X	1.83X	1.85X	1.54X
EV / EBITDAR Multiple	16.76X	7.95X	9.69X	8.38X	6.42X	5.93X	5.63X	7.61X	6.91X	5.78X
EV / NOPBIT Multiple	52.91X	24.28X	-186.10X	82.35X	27.29X	57.33X	38.09X	48.40X	46.28X	45.86X
EV / NOPAT Multiple	18.43X	28.58X	-186.10X	82.35X	25.95X	57.33X	38.09X	51.25X	44.99X	45.86X
EV / EP Multiple	33.70X	-187.89X	-18.46X	-41.25X	-904.81X	-32.86X	-32.86X	-44.00X	-54.47X	-32.86X
Future Growth Value (% of MV)	33.42%	52.41%	106.54%	83.85%	46.90%	76.67%	77.04%	74.26%	70.07%	76.85%
Current Operations Value (% of MV)	66.58%	47.59%	-6.54%	16.15%	53.10%	23.33%	22.96%	25.74%	29.93%	23.15%
Market Value (COV + FGV %)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Basic Shares Outstanding	92.4	107.0	108.6	111.6	114.0	110.8	110.4	110.4	112.2	110.6

Source: Company Data, Financial statements and Tigress Research

Tigress Research Methodology Overview

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

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

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

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

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

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

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

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

Glossary of Key Terms and Measures

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

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

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

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

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

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

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

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

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

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

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Rating Distribution (3/21/2017)

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Rating:	**Meaning:**	**#**	**%**	**#**	**%**
Strong Buy:	Expect significant price gains in the price of the stock relative to its industry peer group and general market over the next 12 months.	16	15%	0	0
Buy:	Expect out-performance for the price of the stock relative to its industry peer group and general market over the next 12 months.	50	44%	4	80%
Neutral:	Expect little or no outperformance opportunity over the next 12 months.	40	36%	1	20%
Underperform:	Expect underperformance for the price of the stock relative to its industry peer group and general market over the next 12 months.	6	5%	0	0
Sell:	Expect price decline or significant relative market and industry underperformance over the next 12 months.	0	0%	0	0%
Not Rated	No Current Research Rating	NA	NA	62	NA
	Total	112	100%	67	100%

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