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Facebook, Inc. Class A (FB-US)

Internet Software & Services

- We reiterate our Strong Buy rating on FB. We believe significant upside still exists.
- Business Performance remains strong. FB recently reported very strong growth in revenue, cash flow, net operating profit and return on capital.
- Cautious guidance for 2017 will prove to be conservative.
- The monetization of mobile and video along with Instagram, Messenger, Whatsapp and Oculus are the future catalysts of growth.
- Artificial Intelligence (AI) and Virtual Reality (VR) will be the drivers of FB's future growth.
- In 2017, digital advertising is expected to exceed TV advertising spending.
- AI will enable FB to help advertisers better target customers.
- FB's massive user base and virtual ownership of the social media space along with its management's ability to innovate continues to be the core of its competitive advantage.
- FB continues to experience significant traction in online and mobile advertising spending.
- FB's focus on live video continues to be an additional catalyst.
- FB's over \$18 billion in operating cash flow and \$24 billion in excess cash will continue to enable it to invest in research and development and drive greater shareholder value creation.

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Company Note
Facebook, Inc. Class A (FB-US)
 Internet Software & Services

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Research Action:

Reiterate Rating

 Rating: **Strong Buy**

 Prior Rating: **Strong Buy**

 Price 01/20/2017: **\$127.04**

 52 Week High /
 Low: **\$133.50**
\$92.62
Key Data: (TTM as an of Sep-16)

 Excess Cash per Share: **\$18.38**

 Annual Dividend: **\$0.00**

 Dividend Yield: **0.00%**

 Ave. Volume (30 Day): **16.9M**

 Shares Outstanding: **2,869.0M**

 Float: **2,816.7M**

 Equity MV: **\$364,472.7M**

 Sales TTM: **\$24,670.0M**

 Beta: **1.13**

 EBITDAR: **\$41,645.8M**

 NOPAT: **\$18,237.4M**

 Total Invested Capital: **\$161,572.0M**

 Return on Capital: **15.76%**

 Cost of Capital: **6.72%**

 Economic Profit: **\$8,917.1M**

 Market Value Added: **\$411,104.4M**

 Current Operations Value: **\$271,403.1M**

 Future Growth Value: **\$301,273.4M**

- **We reiterate our Strong Buy rating on FB.** Ad revenue growth (even at a slower pace) in conjunction with, ongoing investment and development in key growth initiatives as well as in applications will continue to drive strong Business Performance, greater cash flow and increasing return on capital. FB's dominant position in social media, along with continual integration of video across their platform and applications, plus strong cash flow and balance sheet along with the recent \$6 billion share repurchase, keeps them well-positioned for significant outperformance and greater shareholder value creation.
- **Business Performance remains strong.** Y/Y for the quarter ending September 2016, revenue increased 55% from \$15.9 billion to \$24.7 billion. We see this increasing over 38% over the NTM to \$34.2 billion. Economic Operating cash flow increased 64% Y/Y from \$11.4 billion to \$18.7 billion. We estimate a 34% increase to 25.1 billion over the NTM. NOPAT increased 133% Y/Y from \$3.3 billion to \$7.6 billion. We expect further growth of greater than 20% to \$9.2 billion over the NTM. Return on capital increased over 50% Y/Y from 10.1% to 15.8%. We see another set significant increase to greater than 22% over the NTM as FB's CapX and strong growth continue to pay off.
- **Cautious guidance will prove to be conservative.** After reporting strong results, FB gave cautious guidance for 2017 on their Q3 conference call saying that Y/Y will start to slow. Ad load will no longer be a big contributor and ad revenue rates will "come down meaningfully". We have always expected this but still believe FB can maintain above average growth rates and margins as well as many growth catalysts and significant upside to the shares still exist.
- **Artificial Intelligence (AI) and Virtual Reality (VR) will be the drivers of FB's future growth.** FB continues to take a long-term view with its investments and acquisitions. In the past, the market was very critical of FB's investment in its mobile platform and acquisition of WhatsApp. Today we see how well those actions have paid off. Mark Zuckerberg has said; "Facebook has been built by a series of bold moves. FB's Moments app is using face recognition to share pictures. FB is using AI to show the most relevant content in news feeds, filter spam and messaging. FB will continue develop VR as a platform for users to share experiences.

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Nearly 1.8 billion people use Facebook every month. Nearly 1.2 billion people use it every day.

Instagram has more than 500 million monthly actives and more than 300 million daily active users and has over 500,000 advertisers.

In 2017, digital advertising is expected to exceed TV advertising spending.

AI will enable FB to help advertisers better target customers.

- **FB's massive user base and virtual ownership of the social media space, along with its management's ability to innovate continues to be the core of its competitive advantage.** FB's dominance continues to drive ad revenue as companies expand their social media based advertising initiatives especially as MAUs and DAUs continue to grow. FB continues to focus on creating greater user experiences and will lead to continual monetization of its user base and its application platform as video continues to be the key engine of growth. FB's massive reach and engagement continue to a network effect as it optimizes its ability to offer advertisers greater targeting ability.
- **FB continues to experience significant traction in online and mobile advertising spending.** In Q3 2016, ad revenues grew 59% Y/Y to \$6.8 billion and mobile ad revenues were up 70% to \$5.7 billion. More importantly, average price per ad increased 6% while the average price per ad decreased on other social media platforms during the same period. Further, total ad impressions grew 50%, due to increases in mobile impressions. The increase in mobile advertisement comes from the fact the mobile ads have far more ad recall value than other mediums. So as marketers move to mobile to target customers, FB is aggressively monetizing this shift. In 2017, digital advertising is expected to exceed TV advertising spending. AI will enable FB to help advertisers better target customers.
- **FB's focus on live video continues to be an additional catalyst.** Facebook Live, (FB's live video format) is now open to all users with several new features. This enables users to broadcast events to large groups while allowing the audience to respond in real time through Live reactions (same as in the news feed Reactions). FB also continues to sign content deals with media houses and Internet celebrities/influencers who contribute content for its live platform. Online video is becoming the most lucrative component of digital advertising. Video ads generate more revenues than photo and text ads. FB continues to incorporate more video oriented content to drive greater ad revenue.
- **FB's over \$18 billion in operating cash flow and \$24 billion in excess cash will continue to enable it to invest in research and development and drive greater shareholder value creation.** FB continues to invest in the development of its platform and products. We believe this is key in enabling FB to maintain its dominant position and competitive advantage.

Company Report – Research Update

Financial Data

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	09/30/2011	09/30/2012	09/30/2013	09/30/2014	09/30/2015	09/30/2016	09/30/2017	Average	Average	Trend
Net Sales Revenue	\$3,311.0	\$4,635.0	\$6,872.0	\$11,200.0	\$15,937.0	\$24,670.0	\$34,173.9	\$12,662.8	\$17,269.0	\$29,421.9
Sales Growth	0.00%	39.99%	48.26%	62.98%	42.29%	54.80%	38.52%	49.66%	53.36%	46.66%
Sales Growth Trend	0.00%	23.99%	44.95%	57.09%	50.57%	49.80%	45.03%	45.28%	52.49%	47.41%
Operating Cash Flow (EBITDAR)	\$2,144.0	\$2,569.2	\$4,805.5	\$8,168.8	\$11,410.0	\$18,730.6	\$25,112.6	\$9,136.8	\$12,769.8	\$21,921.6
EBITDAR Margin	64.75%	55.43%	69.93%	72.94%	71.59%	75.92%	73.48%	69.16%	73.48%	74.70%
EBITDAR Growth	3007.25%	19.83%	87.04%	69.99%	39.68%	64.16%	34.07%	56.14%	57.94%	49.12%
Net Operating Profit Before Tax (NOPBT)	\$1,657.0	\$596.2	\$2,345.5	\$5,014.8	\$4,881.0	\$10,715.6	\$13,537.1	\$4,710.6	\$6,870.5	\$12,126.4
NOPBT Margin	50.05%	12.86%	34.13%	44.77%	30.63%	43.44%	39.61%	33.17%	39.61%	41.52%
NOPBT Growth	0.00%	-64.02%	293.38%	113.80%	-2.67%	119.54%	26.33%	92.01%	76.89%	72.93%
Cash Operating Income Tax	\$0.0	\$196.8	\$774.0	\$1,654.9	\$1,610.7	\$3,096.8	\$4,282.3	\$1,466.6	\$2,120.8	\$3,689.5
Economic Tax Effective Rate	0.00%	33.00%	33.00%	33.00%	33.00%	28.90%	31.63%	32.18%	31.63%	30.27%
Net Operating Profit After Tax (NOPAT)	\$1,657.0	\$399.5	\$1,571.5	\$3,359.9	\$3,270.3	\$7,618.8	\$9,254.9	\$3,244.0	\$4,749.6	\$8,436.8
NOPAT Margin	50.05%	8.62%	22.87%	30.00%	20.52%	30.88%	27.08%	22.58%	27.13%	28.98%
NOPAT Growth	0.00%	-75.89%	293.38%	113.80%	-2.67%	132.97%	21.47%	92.32%	81.37%	77.22%
Cash & Equivalents	\$0.0	\$10,452.0	\$9,328.0	\$14,250.0	\$15,834.0	\$26,140.0	\$37,911.7	\$15,200.8	\$18,741.3	\$32,025.8
Total Assets	\$0.0	\$16,038.0	\$14,933.0	\$24,188.0	\$46,469.0	\$59,674.0	\$86,547.1	\$32,260.4	\$43,443.7	\$73,110.6
Non - Interest Bearing Liabilities (NIBLs)	\$0.0	\$962.0	\$1,310.0	\$2,672.0	\$4,725.0	\$5,559.0	\$8,062.4	\$3,045.6	\$4,318.7	\$6,810.7
Net Assets	\$0.0	\$15,076.0	\$13,623.0	\$21,516.0	\$41,744.0	\$54,115.0	\$78,484.7	\$29,214.8	\$39,125.0	\$66,299.9
Economic Asset Adjustments	\$17.0	\$227.0	\$518.8	\$329.3	\$943.5	(\$92.6)	(\$134.3)	\$385.2	\$393.4	(\$113.5)
Net Operating Assets	\$17.0	\$15,303.0	\$14,141.8	\$21,845.3	\$42,687.5	\$54,022.4	\$78,350.4	\$29,600.0	\$39,518.4	\$66,186.4
Debt & Debt Equivalents	\$0.0	\$1,760.0	\$1,330.8	\$1,165.3	\$1,369.5	\$1,292.4	\$1,874.4	\$1,383.6	\$1,275.7	\$1,583.4
Equity & Equivalents	\$0.0	\$14,174.0	\$13,048.0	\$21,238.0	\$41,420.0	\$54,115.0	\$78,484.7	\$28,799.0	\$38,924.3	\$66,299.9
Total Capital - Financing Sources	\$0.0	\$15,934.0	\$14,378.8	\$22,403.3	\$42,789.5	\$55,407.4	\$80,359.1	\$30,182.6	\$40,200.1	\$67,883.3
Capital Adjustments	\$17.0	(\$631.0)	(\$237.0)	(\$558.0)	(\$102.0)	(\$1,385.0)	(\$2,008.7)	(\$582.6)	(\$681.7)	(\$1,696.9)
Net Capital Financing Sources	\$17.0	\$15,303.0	\$14,141.8	\$21,845.3	\$42,687.5	\$54,022.4	\$78,350.4	\$29,600.0	\$39,518.4	\$66,186.4
Net Working Capital	\$176.6	\$1,374.8	\$899.6	\$1,375.0	\$2,579.9	\$2,909.5	\$4,219.7	\$1,827.7	\$2,288.1	\$3,564.6
Cost of Net Working Capital	\$0.0	\$47.3	\$84.6	\$73.8	\$96.2	\$198.6	\$288.1	\$100.1	\$122.9	\$243.4
% of Revenue	0.00%	1.02%	1.23%	0.66%	0.60%	0.81%	0.84%	0.86%	0.69%	0.82%
Operational Capital	\$176.6	\$3,866.7	\$4,085.4	\$5,263.3	\$8,423.4	\$10,260.9	\$14,881.7	\$6,379.9	\$7,982.5	\$12,571.3
Cost of Operational Capital	\$0.0	\$123.2	\$295.7	\$303.5	\$332.9	\$676.1	\$980.6	\$346.3	\$437.5	\$828.4
% of Revenue	0.00%	2.66%	4.30%	2.71%	2.09%	2.74%	2.87%	2.90%	2.51%	2.81%
Productive Capital	\$176.6	\$5,289.7	\$5,694.4	\$9,192.3	\$29,884.4	\$31,047.9	\$45,029.8	\$16,221.7	\$23,374.9	\$38,038.8
Cost of Productive Capital	\$0.0	\$166.6	\$408.4	\$483.2	\$950.4	\$2,205.0	\$3,197.9	\$842.7	\$1,212.9	\$2,701.4
% of Revenue	0.00%	3.59%	5.94%	4.31%	5.96%	8.94%	9.36%	5.75%	6.41%	9.15%
Total Operating Capital	\$182.6	\$5,082.7	\$5,157.4	\$8,155.3	\$27,650.4	\$29,115.9	\$42,227.7	\$15,032.3	\$21,640.5	\$35,671.8
Cost of Total Operating Capital	\$0.0	\$160.5	\$380.7	\$432.1	\$870.9	\$2,054.2	\$2,979.3	\$779.7	\$1,119.1	\$2,516.7
% of Revenue	0.00%	3.46%	5.54%	3.86%	5.46%	8.33%	8.72%	5.33%	5.88%	8.52%
Non - Operating Capital	(\$165.6)	\$10,220.3	\$8,984.4	\$13,690.0	\$15,037.2	\$24,906.5	\$36,122.7	\$14,567.7	\$17,877.9	\$30,514.6
Cost of Non - Operating Capital	\$0.0	\$306.4	\$714.0	\$736.0	\$698.7	\$1,445.4	\$2,096.4	\$780.1	\$960.0	\$1,770.9
% of Revenue	0.00%	6.61%	10.39%	6.57%	4.38%	5.86%	6.13%	6.76%	5.60%	6.00%
Total Capital	\$17.0	\$15,303.0	\$14,141.8	\$21,845.3	\$42,687.5	\$54,022.4	\$78,350.4	\$29,600.0	\$39,518.4	\$66,186.4
Cost of Total Capital	\$0.0	\$466.9	\$1,094.7	\$1,168.1	\$1,569.5	\$3,499.6	\$5,075.6	\$1,559.8	\$2,079.1	\$4,287.6
% of Revenue	0.00%	10.07%	15.93%	10.43%	9.85%	14.19%	14.85%	12.09%	11.49%	14.52%
Cost of Capital (WACC)	0.00%	6.09%	7.44%	6.49%	4.86%	7.24%	7.24%	6.42%	6.20%	7.24%
Capital Structure										
Debt & Debt Equivalents	\$0.0	\$1,760.0	\$1,330.8	\$1,165.3	\$1,369.5	\$1,292.4	\$1,874.4	\$1,383.6	\$1,275.7	\$1,583.4
Debt & Debt Equivalents % of Market Value	0.00%	10.75%	1.44%	0.72%	0.67%	0.43%	0.43%	0.89%	0.57%	0.43%
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	\$0.0	\$14,611.9	\$91,293.8	\$161,557.8	\$203,150.4	\$297,966.0	\$432,149.7	\$153,716.0	\$220,891.4	\$365,057.8
Common Equity % of Market Value	0.00%	89.25%	98.56%	99.28%	99.33%	99.57%	99.57%	99.11%	99.43%	99.57%
Total Economic Market Value (MV)	\$0.0	\$16,371.9	\$92,624.6	\$162,723.1	\$204,519.9	\$299,258.4	\$434,024.1	\$155,099.6	\$222,167.1	\$366,641.2
Total %	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Excess Cash	(\$165.6)	\$10,220.3	\$8,984.4	\$13,690.0	\$15,037.2	\$24,906.5	\$36,122.7	\$14,567.7	\$17,877.9	\$30,514.6
Economic Enterprise Value	\$165.6	\$6,151.7	\$83,640.2	\$149,033.1	\$189,482.7	\$274,351.9	\$397,901.4	\$140,531.9	\$204,289.2	\$336,126.6
Average Capital	\$0.0	\$7,660.0	\$14,722.4	\$17,993.6	\$32,266.4	\$48,355.0	\$66,186.4	\$24,199.5	\$32,871.6	\$57,270.7
Capital Δ	\$17.0	\$15,286.0	(\$1,161.2)	\$7,703.5	\$20,842.2	\$11,334.9	\$24,328.0	\$10,801.1	\$13,293.5	\$17,831.5

Source: Company Data, Financial statements and Tigress Research

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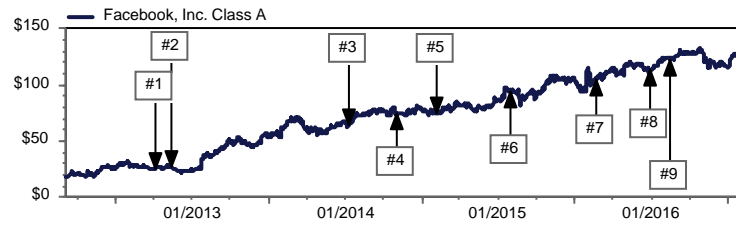
Company Report – Research Update

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	09/30/2011	09/30/2012	09/30/2013	09/30/2014	09/30/2015	09/30/2016	09/30/2017	Average	Average	Average	Trend
Return on Market Value (NOPAT / MV)	0.00%	2.44%	1.70%	2.06%	1.60%	2.55%	3.69%	2.07%	2.07%	3.12%	
Return on Enterprise Value (NOPAT / EV)	1000.91%	6.49%	1.88%	2.25%	1.73%	2.78%	4.03%	3.03%	2.25%	3.40%	
Return on Capital (NOPAT / Average Capital)	0.00%	5.22%	10.67%	18.67%	10.14%	15.76%	22.85%	12.09%	14.85%	19.30%	
Cost of Capital (WACC)	0.00%	6.09%	7.44%	6.49%	4.86%	7.24%	7.24%	6.42%	6.20%	7.24%	
Economic Return Spread	0.00%	-0.88%	3.24%	12.18%	5.27%	8.52%	12.35%	5.67%	8.66%	10.44%	
Capital Charge	\$0.0	\$466.9	\$1,094.7	\$1,168.1	\$1,569.5	\$3,499.6	\$5,075.6	\$1,559.8	\$2,079.1	\$4,287.6	
Economic Profit (EP)	\$1,657.0	(\$67.4)	\$476.8	\$2,191.8	\$1,700.7	\$4,119.1	\$5,974.1	\$1,684.2	\$2,670.5	\$5,046.6	
Economic Profit Improvement (EPI)	\$1,657.0	(\$1,724.4)	\$544.2	\$1,715.0	(\$491.0)	\$2,418.4	\$1,855.0	\$492.4	\$1,214.1	\$2,136.7	
EP Growth	0.00%	-104.07%	807.53%	359.71%	-22.40%	142.20%	45.03%	236.59%	159.83%	93.62%	
Economic Profit Margin on Sales	50.05%	-1.45%	6.94%	19.57%	10.67%	16.70%	17.48%	10.48%	15.65%	17.09%	
Economic Profit Per Share	\$2.38	(\$0.05)	\$0.24	\$0.91	\$0.65	\$1.47	\$2.13	\$0.64	\$1.01	\$1.80	
GAAP Earnings Per Share	\$0.46	\$0.15	\$0.43	\$1.08	\$1.01	\$2.63	\$4.93	\$1.06	\$1.57	\$3.78	
Excess Cash Per Share	(\$0.08)	\$4.22	\$3.70	\$5.29	\$5.36	\$8.68	\$12.58	\$5.45	\$6.44	\$10.63	
Performance Drivers											
Sales Growth	0.00%	39.99%	48.26%	62.98%	42.29%	54.80%	38.52%	49.66%	53.36%	46.66%	
Sales Growth Trend (ROC Sales Growth)	0.00%	23.99%	44.95%	57.09%	50.57%	49.80%	45.03%	45.28%	52.49%	47.41%	
EBITDAR Margin	64.75%	55.43%	69.93%	72.94%	71.59%	75.92%	69.16%	69.16%	73.48%	74.70%	
EBITDAR Growth	3007.25%	19.83%	87.04%	69.99%	39.68%	64.16%	34.07%	56.14%	57.94%	49.12%	
NOPBT Margin	50.05%	12.86%	34.13%	44.77%	30.63%	43.44%	39.61%	33.17%	39.61%	41.52%	
NOPBT Growth	0.00%	-64.02%	293.38%	113.80%	-2.67%	119.54%	26.33%	92.01%	76.89%	72.93%	
NOPAT Margin	50.05%	8.62%	22.87%	30.00%	20.52%	30.88%	27.08%	22.58%	27.13%	28.98%	
NOPAT Growth	0.00%	-75.89%	293.38%	113.80%	-2.67%	132.97%	21.47%	92.32%	81.37%	77.22%	
Economic Profit Margin on Sales (EP / Sales)	50.05%	-1.45%	6.94%	19.57%	10.67%	16.70%	17.48%	10.48%	15.65%	17.09%	
Economic Profit Growth	0.00%	-104.07%	807.53%	359.71%	-22.40%	142.20%	45.03%	236.59%	159.83%	93.62%	
Economic Return Spread (ROC-WACC)	0.00%	-0.88%	3.24%	12.18%	5.27%	8.52%	15.61%	5.67%	8.66%	12.07%	
Economic Return Ratio (ROC / WACC)	0.00%	85.57%	143.55%	287.63%	208.36%	217.70%	315.74%	188.56%	237.90%	266.72%	
Economic Profit Momentum (ΔEP/Capital)	9747.06%	-11.27%	3.85%	7.85%	-1.15%	4.48%	2.37%	0.75%	3.73%	3.42%	
Economic Profit Momentum Margin (ΔEP/Sales)	50.05%	-37.20%	7.92%	15.31%	-3.08%	9.80%	5.43%	-1.45%	7.34%	7.62%	
Capital Growth	0.00%	0.00%	-7.59%	54.47%	95.41%	26.55%	45.03%	33.77%	58.81%	35.79%	
Capital Turns	194.76X	0.30X	0.49X	0.51X	0.37X	0.46X	0.44X	0.43X	0.45X	0.45X	
EVC Acceleration Margin	0.00%	-52.08%	11.74%	24.96%	-4.38%	15.17%	7.52%	1.44%	9.59%	12.37%	
EVC Acceleration Spread	0.00%	0.00%	7.10%	11.65%	-2.73%	7.50%	3.84%	0.74%	5.02%	6.50%	
Risk Factors											
Free Cash Flow (NOPAT - Δ Capital)	\$1,640.0	(\$14,886.5)	\$2,732.7	(\$4,343.6)	(\$17,571.9)	(\$3,716.1)	(\$15,073.2)	(\$7,557.1)	(\$8,543.9)	(\$9,394.6)	
Free Cash Flow Rate (FCF / Capital)	9647.06%	-97.28%	19.32%	-19.88%	-41.16%	-6.88%	-19.24%	-29.18%	-22.64%	-13.06%	
Free Cash Flow Yield (FCF / MV)	0.00%	-90.93%	2.95%	-2.67%	-8.59%	-1.24%	-3.47%	-20.10%	-4.17%	-2.36%	
Total Debt / Total Capital	0.00%	11.50%	9.41%	5.33%	3.21%	2.39%	2.39%	6.37%	3.64%	2.39%	
Total Debt / EBITDAR	0.00%	68.50%	27.69%	14.27%	12.00%	6.90%	7.46%	25.87%	11.06%	7.18%	
Excess Cash	(\$165.6)	\$10,220.3	\$8,984.4	\$13,690.0	\$15,037.2	\$24,906.5	\$0.0	\$14,567.7	\$17,877.9	\$12,453.3	
Financial Leverage ((Total Debt - Excess Cash) / Pension Leverage (Net Pension Liability / MV))	0.00%	-51.68%	-8.26%	-7.70%	-6.68%	-7.89%	0.43%	-16.44%	-7.42%	-3.73%	
Equity Risk Index (S&P 500 = 1.00)	1.03	1.03	1.03	1.04	1.09	1.07	1.07	1.05	1.07	1.07	
Stock Price Volatility	0.00	9.72	7.94	5.48	3.80	3.42	3.42	6.07	4.23	3.42	
Sales Index (NL Sales)	8.11	8.44	8.84	9.32	9.68	10.11	10.44	9.28	9.70	10.28	
Market Value Index (NL Market Value)	0.00	9.70	11.44	12.00	12.23	12.61	12.98	11.60	12.28	12.79	
Size Index (NL Sales: MV)	4.05	9.07	10.14	10.66	10.95	11.36	11.71	10.44	10.99	11.54	
Beta	1.05	1.05	1.05	1.06	1.13	1.11	1.11	1.08	1.10	1.11	
TFP Adjusted Beta	1.03	1.03	1.03	1.04	1.09	1.07	1.07	1.05	1.07	1.07	
Stock Price Volatility	0.00	9.72	7.94	5.48	3.80	3.42	3.42	6.07	4.23	3.42	
Valuation Measures											
Total Economic Market Value (MV)	\$0.0	\$16,371.9	\$92,624.6	\$162,723.1	\$204,519.9	\$299,258.4	\$434,024.1	\$155,099.6	\$222,167.1	\$366,641.2	
Economic Enterprise Value	\$165.6	\$6,151.7	\$83,640.2	\$149,033.1	\$189,482.7	\$274,351.9	\$397,901.4	\$140,531.9	\$204,289.2	\$336,126.6	
Equity Market Value	\$0.0	\$14,611.9	\$91,293.8	\$161,557.8	\$203,150.4	\$297,966.0	\$432,149.7	\$153,716.0	\$220,891.4	\$365,057.8	
Total Capital	\$17.0	\$15,303.0	\$14,141.8	\$21,845.3	\$42,687.5	\$54,022.4	\$78,350.4	\$29,600.0	\$39,518.4	\$66,186.4	
Market Value Created MVC (MV - Capital)	(\$17.0)	\$1,068.9	\$78,482.8	\$140,877.8	\$161,832.4	\$245,236.0	\$355,673.7	\$125,499.6	\$182,648.7	\$300,454.8	
MVC Margin (MVC / Sales)	-0.51%	23.06%	1142.07%	1257.84%	1015.45%	994.07%	1040.78%	991.09%	1057.67%	1021.19%	
MVC Spread (MVC / Capital)	-100.00%	6.99%	554.97%	644.89%	379.11%	453.95%	453.95%	423.98%	462.19%	453.95%	
Current EVC Value (EP / WACC)	\$0.0	(\$1,105.6)	\$6,411.9	\$33,761.0	\$34,963.3	\$56,914.7	\$82,545.2	\$26,213.8	\$43,087.8	\$69,730.0	
Current Operations Value COV	\$0.0	\$6,554.4	\$21,134.3	\$51,754.5	\$67,229.7	\$105,269.6	\$148,731.6	\$50,413.2	\$75,959.5	\$127,000.6	
Current Operations Value Per Share	\$0.00	\$5.07	\$10.54	\$21.39	\$25.72	\$37.56	\$66.77	\$22.63	\$29.08	\$50.49	
Future Growth Value (MVC - EVA Value)	\$0.0	\$9,817.5	\$71,490.3	\$110,968.5	\$137,290.2	\$193,988.7	\$285,292.4	\$104,686.3	\$146,207.6	\$239,640.6	
Future Growth Value Reliance (FGV / MV)	0.00%	59.97%	77.18%	68.19%	67.13%	64.82%	65.73%	67.50%	65.81%	65.36%	
Share Price	\$0.00	\$21.66	\$50.23	\$79.04	\$89.90	\$128.27	\$128.27	\$73.82	\$99.07	\$128.27	
Dividend Yield	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Total Shareholder Return (TTM)	0.00%	0.00%	131.90%	57.36%	13.74%	42.68%	0.00%	-42.45%	34.20%	29.47%	
MV to IC Ratio	0.00X	1.07X	6.55X	7.45X	4.79X	5.54X	5.54X	5.24X	5.62X	5.54X	
EV / EBITDAR Multiple	0.08X	2.39X	17.41X	18.24X	16.61X	14.65X	15.84X	15.38X	16.00X	15.33X	
EV / NOPBIT Multiple	0.10X	10.32X	35.66X	29.72X	38.82X	25.60X	29.39X	29.83X	29.73X	27.72X	
EV / NOPAT Multiple	0.10X	15.40X	53.22X	44.36X	57.94X	36.01X	42.99X	43.32X	43.01X	39.84X	
EV / EP Multiple	0.10X	91.29X	175.43X	68.00X	111.41X	66.60X	66.60X	83.44X	76.50X	66.60X	
Future Growth Value (% of MV)	0.00%	59.97%	77.18%	68.19%	67.13%	64.82%	65.73%	67.50%	65.81%	65.36%	
Current Operations Value (% of MV)	0.00%	40.03%	22.82%	31.81%	32.87%	35.18%	34.27%	32.50%	34.19%	34.64%	
Market Value (COV + FGV %)	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Basic Shares Outstanding	696.7	1,294.0	2,006.0	2,420.0	2,614.0	2,803.0	2,227.4	2,227.4	2,612.3	2,515.2	

Source: Company Data, Financial statements and Tigress Research

Ratings History

Facebook, Inc. Class A (FB-US)				
Item #	Date	Research Action	Rating	Price
#9	08/16/2016	Reiterate Rating	Strong Buy	\$123.30
#8	06/30/2016	Rating Upgrade	Strong Buy	\$114.28
#7	02/19/2016	Reiterate Rating	Buy	\$104.57
#6	08/03/2015	Reiterate Rating	Buy	\$94.14
#5	02/04/2015	Reiterate Rating	Buy	\$75.63
#4	10/31/2014	Rating Upgrade	Buy	\$74.99
#3	07/09/2014	Rating Downgrade	Neutral	\$64.97
#2	05/14/2013	Reiterate Rating	Buy	\$27.07
#1	04/03/2013	Initiation of Coverage	Buy	\$26.25



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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		Companies Under Coverage		Relationship Companies Under Coverage*		
		#	%	#	%	
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	46%	4	80%	
Neutral:	Expect little or no outperformance opportunity over the next 12 months.	37	44%	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%	
		Total	109	100%	5	100%

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