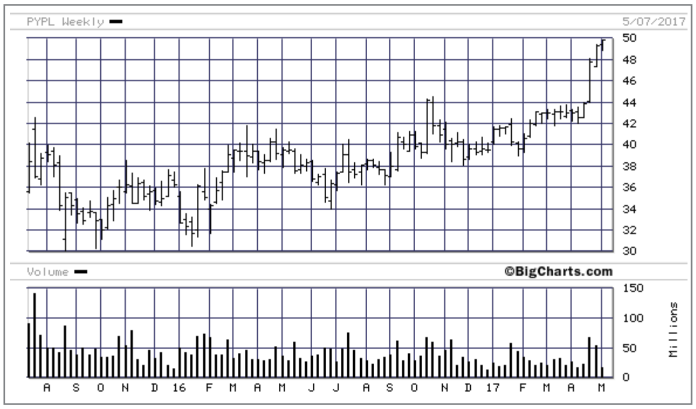
Dow Jones Indus:	20,913.46
S&P 500:	2,388.33
Russell 2000:	1,407.36
Index Component:	S&P 500

PayPal Holdings, Inc.

NASDAQ: PYPL



AAF History

Report Type	Update
Initially Probed	October 30, 2015
Last probed	December 14, 2016
Trigger	Receivables Sales, Capital Deployment
Situation	Business Value

Selected Financial Summary ($MM)

	2014	2015	2016	TTM
Revenues:	$8,025	$9,248	$10,842	$11,273
Operating Income	$1,268	$1,461	$1,586	$1,610
Margin (%)	*15.8%*	*15.8%*	*14.6%*	*14.3%*
EBITDA	$1,784	$2,117	$2,310	$2,382
Margin (%)	*22.2%*	*22.9%*	*21.3%*	*21.1%*
Capex	$492	$722	$669	$684
Capex (% of Revenues)	*6.1%*	*7.8%*	*6.2%*	*6.1%*
Free Cash Flow	$1,728	$1,824	$2,489	$2,487
FCF Yield (%)	*3.0%*	*3.2%*	*4.3%*	*4.3%*
Net Cash/EBITDA	1.3x	2.7x	2.5x	2.3x
Share Repurchases (MM)	$0	$0	$995	$916
EPS	$0.34	$1.00	$1.15	$1.18

Fiscal Year End: December 31

Capitalization and Trading Multiples ($MM)

			2015	2016	TTM
Share Price	$47.54				
Diluted Shares (MM)	1,216	EV/EBITDA	24.7x	22.6x	21.9x
Market Cap	$57,809	P/E	47.5x	41.3x	40.3x
Debt	$800	P/FCF	28.6x	21.0x	21.0x
Cash	($6,380)	EV/Sales	5.6x	4.8x	4.6x
Enterprise Value	$52,229	Price/Book	3.8x	3.6x	3.6x

Trading Statistics

Dividend Rate	NA	Avg. Daily Volume (3mo) (MM)	6.6
Dividend Yield	NA	Short % of Float	2.6%
Payout Ratio	NA		

	High	Low
52-Week	$47.72	$34.20
All-time	$47.72	$30.63

Valuation

Intrinsic Value	$ 65.96	Time Horizon	2019
Implied Upside	39%	IRR	13.1%
Hidden Assets	No		

Description *PayPal is a leading end-to-end digital payments company*

Share Ownership

	Economic
Officers & Directors	5.9%
Major Shareholders (12/31/16)	
T-Rowe	6.7%
Vanguard	6.1%
Icahn Associates	2.8%

Clients of Boyar Asset Management, Inc. own 5,780 shares of PayPal Holdings, Inc. common stock at a cost of $34.16 per share.

Analysts employed by Boyar's Intrinsic Value Research LLC own shares of PayPal Holdings, Inc. common stock.

Introduction

PayPal (PYPL or the "Company") is a leading digital payments platform, having processed $354 billion in total payment volume (TPV) in 2016. Asset Analysis Focus initially profiled PayPal's former parent, eBay, in June 2014 (at $50.06 per share versus 1960.23 for the S&P 500), at which time the shares were languishing due to a confluence of negative headlines, including a recently slashed 2014-2015 outlook, a security breach at eBay.com, a notable disruption to search traffic following Google algorithm changes, and a (seemingly failed) campaign to split up the company by activist investor Carl Icahn. We highlighted the disconnect between eBay's valuation (10x forward EV/EBITDA or <17x 2014E adjusted EPS) and the value of the faster-growing PayPal payments business, which had produced a 25% 10-year revenue CAGR but which was being obscured by a sharp slowdown in eBay marketplace sales. We advocated that eBay reconsider a spin-off of PayPal, which—aside from enabling a re-rating of the business on Wall Street—would eliminate any appearance of conflict of interest with other merchants and allow PayPal to more aggressively pursue an independent growth strategy. The eBay board reversed course much faster than anticipated, announcing plans to spin off eBay on September 30, 2014. The separation was completed on July 17, 2015.

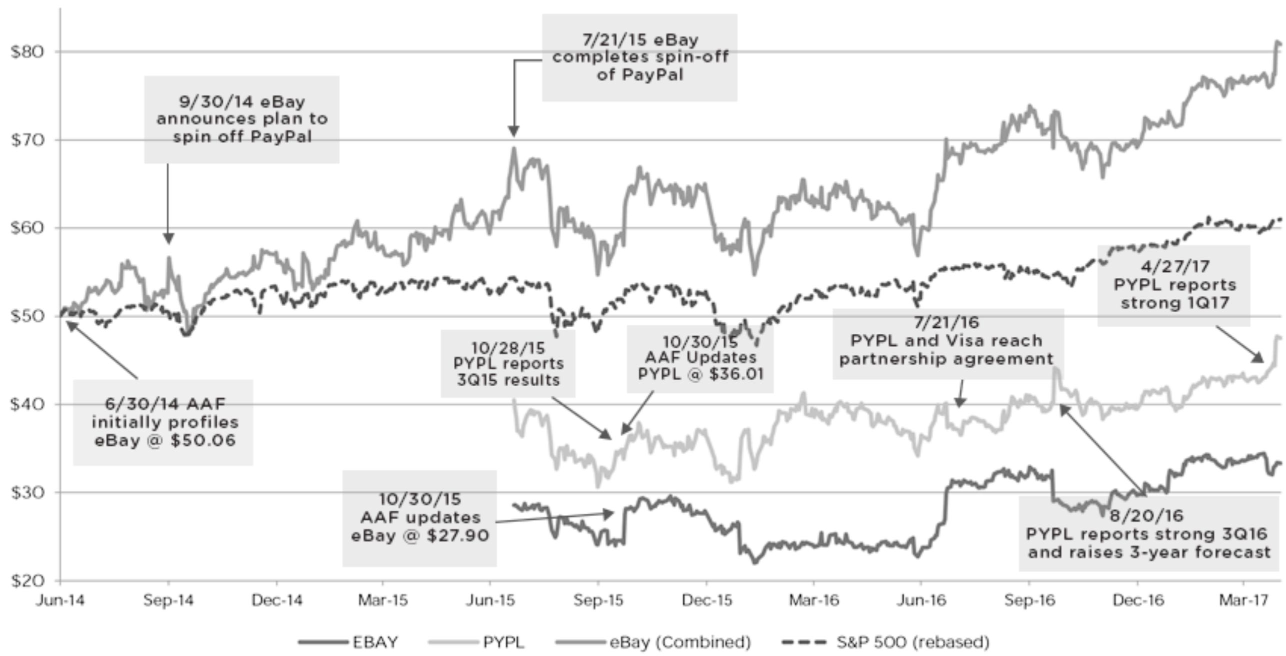
Until recently, PayPal's share performance as an independent company had underwhelmed, with PYPL shares declining 2% from their initial July 20, 2015 closing price to the end of 2016 (eBay shares had rallied 31% in the run-up to the spin-off, as depicted in the following chart). We attribute much of the underperformance to PayPal's difficulty in convincing Wall Street that its competitive position would not erode in an increasingly crowded online/mobile payment ecosystem. In addition to the slowdown at its largest customer, eBay (29% of TPV and closer to 50% of profitability as recently as early 2014), PayPal faced transaction margin declines and increased internal investment/public company costs, which depressed margins in 2015-2016. Shares also negatively reacted to the steady stream of news headlines (e.g., "Wallet Wars") covering a slew of new entrants into the payments marketplace, such as Visa Checkout, Masterpass, Apple Pay, Amazon Wallet, and Android Pay.

Despite the sideways share price action through 2016, competition has had no discernible impact on PayPal's financial performance. We believe that this speaks to PayPal's network effect, which has benefited from a huge head start over the competition (PayPal was formed in March 2000 via the merger of Confinity and X.com), as well as its unique strength among small online merchants and in facilitating cross-border e-commerce. Most recently, beginning in July 2016, PayPal reached a number of transformative agreements with key payment network partners in order to make PayPal a truly open system for consumers by eliminating barriers to credit/debit card payments. PayPal has consistently exceeded management's revenue guidance since the spin-off, and these new partnership arrangements have helped revenue growth remain close to 20% (constant currency) in recent quarters despite management's initial guidance for a slowdown to 15% over the medium term. Additionally, over the past couple of quarters, PayPal has finally started to show material signs of the operating leverage latent in its business model, with non-GAAP operating margins expanding 50 bps Y/Y to 21.6% in 1Q17.

In response to these developments, PayPal shares have surged >20% YTD, including ~10% since the Company reported 1Q17 results as this report was being prepared in late April. Although this dampens the upside to our estimate of intrinsic value, we still see PayPal shares as being extremely attractive from a long-term perspective. PayPal is ideally positioned to continue to capitalize on the secular trends toward cashless payments and mobile/e-commerce. We believe that PayPal, with ~25% market share of online/mobile commerce but just ~1-2% of total retail commerce globally, can continue to grow at double-digit rates for the foreseeable future. Projecting revenue growth of ~18% through 2019 and conservatively assuming no operating leverage, we estimate that PayPal's intrinsic value could reach $66 per share in 2019 at 23.5x forward FCF (after stock compensation expense), a discount to the current 26x.

In the near to intermediate term, in addition to achieving further operating leverage, we see the continued development of two product lines as potential positive catalysts for PYPL shares. PayPal's credit business contributes only ~8% of Company revenue but is growing at 28% per annum and has only 0.5% share of the U.S. market. The potential move to an asset-light credit model in the coming quarters could dramatically improve PayPal's cash position and cash flow (we estimate up to $6 billion or $5/share in potential immediate proceeds and ~$1 billion in incremental cash could be freed up annually). PayPal's mobile peer-to-peer payment app Venmo continues to grow TPV at triple-digit rates and reached 7% of Company-wide TPV in 1Q17, but it has yet to generate revenue for PayPal (transfers are free). The Company expects to roll out "pay with Venmo" capabilities to 5 million merchants during 2017, and we believe that Venmo's high user engagement statistics could translate to meaningful penetration in the B2C segment in the coming years.

eBay and PayPal Performance Since AAF Initiation



Business Description

PayPal holds a unique hybrid position in the payments ecosystem. For some brief background, in the United States, card-based on-premise retail transactions typically involve at least four parties beyond the customer: the credit/debit card issuing bank, the payment network (Visa and Mastercard are the largest), a merchant acquirer/payment processor (this may involve one or more parties) that connects individual merchants to the payment networks and that facilitates transaction settlement (First Data and Chase Paymentech are among the leading merchant acquirers), and the merchant. Point-of-sale (POS) terminals facilitate the physical swiping of the card. A percentage of each transaction is withheld from the merchant as interchange fees and split among the parties. E-commerce transactions present slightly different logistics. The POS terminal is replaced by an online gateway to encrypt and transmit payments. Online transactions also present unique costs and challenges associated with fraud risk due to the card-not-present status of the transaction and small merchant verification issues. International (cross-border) e-commerce also involves unique challenges.

Online merchants were underserved by traditional merchant acquirers/payment processors, and PayPal (and its predecessors) stepped in to meet the needs of this growing market. PayPal does not fit neatly into any of the roles of the traditional four-sided retail commerce payment ecosystem. PayPal's online gateway or digital wallet serves as the digital payment processor which enables merchants to accept all forms of payment and encrypt and transmit the transactions. PayPal also serves as the merchant acquirer or merchant of record and provides merchants with a more complete set of payment service processor (PSP) functions, such as regulatory compliance, cross-currency settlement, fraud risk, and customer service functions. But PayPal also blurs the lines separating card issuing banks and payment processors. PayPal enables customers to pay with traditional credit/debit cards, but customers paying with PayPal must also create separate PayPal accounts and link to their bank accounts, enabling ACH payment directly from their checking accounts. Customers can also pay with their PayPal balance. Historically the Company has steered customers toward paying with these lower-cost funding sources, essentially cutting out the payment networks and credit-issuing banks. PayPal also has a small but growing direct lending business, with $5.4 billion in loans outstanding.

Additional services provided by PayPal include digital cross-border remittances through its Xoom platform and white label mobile wallet/loyalty apps through Paydiant (both acquired in 2015). PayPal's Braintree unit (acquired in December 2013) offers a leading payment gateway/API designed specifically for mobile apps as well as the popular peer-to-peer payment network Venmo.

Leading Scale, Competitive Position

PayPal's first mover advantage helped it gain an early lead on the competition in establishing a network effect in the digital space, and its 2002 union with eBay drastically expanded usage of the PayPal network among both small merchants and consumers. PayPal's network now includes 203 million active customer accounts, including 16 million merchant accounts. PayPal processed $354 billion in transaction volume in 2016, up 26% Y/Y. Approximately 45% of TPV was generated from over 200 markets outside the United States, and cross-border trade accounted for 22% of TPV. Mobile transactions now account for approximately a third of PayPal's TPV. eBay accounted for just 15% of PayPal's TPV in 1Q17, down from 18% a year earlier and ~30% as recently as 2013.

From a competitive standpoint, we believe that PayPal's position has long been underappreciated. PayPal's $354 billion in TPV in 2016 represents an impressive ~25% of the global mobile/e-commerce market. For small online merchants, PayPal's end-to-end capabilities, simple fee structure, ease of use, and customer reach/ubiquity are attractive alternatives to legacy merchant banks/PSPs. For larger merchants, offering the PayPal button is almost a no-brainer, because it can markedly improve customer conversion ratios; according to Comscore, PayPal's online checkout rate is a leading 87.5%, up to 36% higher than competing wallets and 42% higher than standard checkout options. For consumers, PayPal represents a simpler method of checking out than entering card/bank information, and PayPal provides a security protection guarantee. PayPal's "one touch" technology makes the mobile/online checkout processor even more frictionless. Developed by Braintree, the one touch technology has been rolled out to over 5 million merchants.

There is also growing evidence that upstart competitors will not have an easy time matching PayPal's scale. Visa Checkout last reported only 11 million users and 250k merchants in March 2016. Apple Pay transaction volume was recently estimated at $36 billion in 2016 by Loup Ventures' Gene Munster, versus his prior forecast that Apple Pay would exceed $200 billion. Loup estimated just 13% of iPhone users have used Apple Pay.[1] As we have previously pointed out, Apple Pay usage is also still principally confined to iPhone users and select retail channels, with large retail chains like Subway accounting for an outsized share of volume.

Upgraded Management Team

Asset Analysis Focus has frequently discussed the potential for a spin-off transaction to serve as a catalyst for a company to upgrade its management talent and more properly incentivize its management team. We believe that eBay/PayPal is a particularly strong example. In conjunction with the separation announcement in 2014, Dan Schulman (age 59) was named CEO of PayPal. Mr. Schulman had led American Express's Enterprise Growth division since 2010, focusing on digital and mobile payment initiatives. Prior to his time with American Express, he served as Virgin Mobile USA's founding CEO for 8 years until it was acquired by Sprint in 2009. He earlier served as CEO of Priceline and held various positions at AT&T. To date, we believe that Mr. Schulman has proved adept in shaping and communicating PayPal's standalone strategy and has met or consistently exceeded financial targets. We believe that PayPal's separation from eBay and the creation of a separate currency for equity-based compensation, as well as Mr. Schulman's efforts to reshape PayPal's image into that of a disruptive payments company, are also invaluable tools for employee recruitment at PayPal, especially as it competes with Silicon Valley for top talent.

We would also call attention to Bill Ready's position at PayPal. Mr. Ready (age 37) was elevated from SVP and global head of product and engineering to EVP and COO in September 2016. Mr. Ready served as CEO of Braintree prior to its acquisition by PayPal and before that guided online bill pay solutions startup iPay for 3 years, culminating in its sale for $300 million in 2010. Mr. Ready has a strong software/engineering pedigree and has leveraged Braintree's successes to upgrade PayPal's tech stack and user interface, among other accomplishments.

---

[1] https://www.wsj.com/articles/apple-pay-promised-to-make-plastic-obsolete-then-came-wary-shoppers-confused-clerks-1491384606

On PayPal's board, former eBay CEO John Donahoe resigned from an executive role after the spin-off but remains chairman of PayPal (he has no board seat at eBay). eBay founder Pierre Omidyar has reduced his stake to <6% and recently announced his resignation from the board (he remains a board member at eBay). Icahn Capital still retains a 3% stake in PayPal and has one representative on the board (Jonathan Christodoro). Icahn no longer holds a stake in eBay. The rest of PayPal's board, except Mr. Schulman, is independent.

PayPal Solidifies Payment Partnerships, Moves to Open Payment Model

Perhaps the largest overhang affecting PayPal shares since the separation from eBay has been uncertainty over the Company's relationship with card payment networks, most prominently Visa (V) and Mastercard (MA). Historically, consumers paying through PayPal funded a significant majority of their transactions through their PayPal balance or their directly linked bank accounts, utilizing the extremely low-cost ACH electronic payment network. PayPal also allows consumers to pay with debit and credit cards but historically has used various methods to nudge or steer its customers toward paying via ACH or PayPal funds. Nonetheless, debit and credit payments have been steadily gaining share, approaching roughly 50% share of PayPal transactions by 2016. These funding sources carry far higher transaction expenses for PayPal, ranging up to ~200 bps per transaction for credit versus single- or low double-digit bps for ACH (with debit costs between the two).

This has put downward pressure on PayPal's transaction margins and has also created greater friction between V/MA and PayPal given their sometimes opposing motivations. The relationship has been described as "frenemies" of sorts; on the one hand, PayPal provides the payment networks (and card issuing banks) a huge source of transaction volume in the important online channel, but on the other hand PayPal's incentives to lower cost and push ACH could be viewed as attempts to disintermediate the incumbents. V/MA and PayPal have increasingly encroached on each other's territory in recent years, including V/MA's development of competing online payment systems (Visa Checkout and Masterpass) and V/MA's imposition of digital wallet fees in response to PayPal's efforts to gain retail channel transactions through mobile payments. As PayPal approached the table to renegotiate its relationships with V/MA and other payment networks in 2016, the rhetoric emanating from the payment network companies also became more negative. For example, in mid-2016, Visa CEO Charlie Scharf commented,

> *"There's no such thing as [being] frenemies [with a company putting ~50% of transactions on ACH] . . . we've sat idly by for a bunch of reasons . . . we'd like to have a different relationship and either we will have a different relationship or we'll be fierce competitors which we haven't been."*

Ultimately, PayPal decided to trade transaction cost minimization for a more stable, collaborative relationship with payment partners and a more customer-friendly approach to method of payment—which management has called its "customer choice initiative." In conjunction with its 2Q16 earnings call on July 21, 2016, PayPal announced that it had reached a new U.S. strategic partnership agreement with Visa. A similar agreement with Mastercard was reached in September 2016, and Discover later followed suit. PayPal's primary concessions in the new deals were the elimination of policies that steered customers toward ACH; instead, the Company agreed to enable customers to select credit or debit cards as their preferred payment method. PayPal also agreed to provide transaction-level data to card networks and issuers, among other concessions. In exchange, PayPal received greater certainty of cost on credit/debit transactions, including volume-based payment incentives. The agreements also eliminated digital mobile wallet fees and provided PayPal access to V/MA's retail tokenization services, thereby enabling contactless in-store payment through the PayPal Wallet. Following these agreements, PayPal also made a broader push to integrate PayPal with many more partners in 2016, including Alibaba, Facebook, Android Pay, Citi, and Wells Fargo, among others. The payment-agnostic strategy should also improve PayPal's position when renegotiating its partnership agreement with eBay, which is set to expire in mid-2020.

The initial reaction to PayPal's agreement with Visa was somewhat negative, with PYPL shares declining 7% on the first trading day. PayPal's failure to reaffirm its 15% medium-term revenue growth target, together with lack of details on the expected incremental transaction costs from the new deal, fed investor uncertainty over the business model change. However, as we detail in the following section, results over the subsequent quarters have eased these concerns. In fact, early results suggest that the benefits from the move to a more open frictionless payment system may ultimately significantly outweigh the incremental transaction costs from lower ACH usage. The incremental cost has been controlled to date, with PayPal's transaction expense rate increasing by ~6.5 bps Y/Y to just over 0.99% of total payment volume in 1Q17. Customer migration toward a preferred credit payment network tends to take time, and many customers do not have credit cards to begin with. Furthermore, the cost of debit card transactions, while higher than that of ACH, is still relatively modest. Direct benefits from the new business model include an accelerated rate of new customer acquisition, reduced customer churn, higher spending volume per customer, lower cart abandonment, and reduced service center operating costs due to fewer inbound calls.

PayPal Results and Outlook

PayPal's fairly lackluster stock performance after the spin-off—until the surge in 2017—seems to have reflected elevated uncertainty and yet-to-be substantiated investor concerns that increased competition (V/MA as well as Apple Pay, Android Pay, etc.) would slow growth and crimp margins. Financial comparisons have also been complicated by issues related to the relatively complex separation from eBay. But PayPal's underlying results have remained robust, and PayPal management has quickly established a pattern of beating its conservative guidance and upwardly revising its forecasts almost on a quarterly basis. PayPal's revenue growth accelerated from 15% in 2015 to 17% in 2016, or from 19% to 21% of an FX-neutral (FXN) basis. This compares to management's preliminary guidance for just 16-19% FXN revenue growth in 2016. Non-GAAP EPS of $1.50 in 2016 also came in at the top of management's initial forecasted range of $1.45-$1.50. Following the completion of the Visa and Mastercard partnership agreements, in October 2016 PayPal provided its initial 2017 outlook for 16-17% FXN revenue growth and flat operating margins. Beyond 2017, the Company also boosted its revenue growth outlook from 15% over the long term to 16-17% per annum over the three years from 2017 to 2019. By January 2017, PayPal already had enough of a sense of the preliminary impact from the new customer choice initiative to raise its 2017 FXN revenue growth forecast to 17-19% and modestly boost its operating margin forecast to flat to slightly up.

PayPal Historical Financial Metrics ($MM)

	FY 2014	FY 2015	1Q16	2Q16	3Q16	4Q16	FY 2016	1Q17
TPV	**$234,635**	**$281,764**	**$81,056**	**$86,208**	**$87,403**	**$99,348**	**$354,015**	**$99,327**
growth (Y/Y)	*26%*	*20%*	*29%*	*28%*	*25%*	*22%*	*26%*	*23%*
growth (cc, Y/Y)			*31%*	*29%*	*28%*	*25%*		*25%*
Total Revenue	$8,025	$9,248	$2,544	$2,650	$2,667	$2,981	$10,842	$2,975
growth	*19.3%*	*15.2%*	*19.0%*	*15.4%*	*18.1%*	*16.6%*	*17.2%*	*16.9%*
growth – FXN		*19%*	*23%*	*19%*	*21%*	*19%*	*21%*	*19%*
Transaction Take Rate	3.03%	2.88%	2.76%	2.69%	2.65%	2.63%	2.68%	2.62%
Total Take Rate	3.42%	3.28%	3.14%	3.07%	3.05%	3.00%	3.06%	3.00%
Trans. Expense Rate	0.92%	0.93%	0.93%	0.94%	0.95%	0.96%	0.95%	0.99%
Transaction and Loan Loss Rate	0.28%	0.29%	0.31%	0.30%	0.31%	0.31%	0.31%	0.30%
Total Transaction Margin	**64.9%**	**63.0%**	**60.4%**	**59.8%**	**58.7%**	**57.7%**	**59.1%**	**56.7%**
Other Expenses – GAAP	$3,941	$4,368	$1,130	$1,214	$1,218	$1,260	$4,822	$1,257
% revenue	*49.1%*	*47.2%*	*44.4%*	*45.8%*	*45.7%*	*42.3%*	*44.5%*	*42.3%*
Operating Margin	15.8%	15.8%	16.0%	14.0%	13.0%	15.4%	14.6%	14.5%
Operating Margin – Ex-Restructuring	15.8%	16.3%	16.0%	14.0%	13.0%	15.4%	14.6%	15.8%
Operating Margin – Non-GAAP	20.5%	21.4%	21.1%	19.9%	18.4%	20.8%	20.1%	21.6%
Diluted EPS – Non-GAAP	**$1.07**	**$1.28**	$0.37	$0.36	$0.35	$0.42	**$1.50**	$0.44
Diluted EPS – GAAP	**$0.34**	**$1.00**	$0.30	$0.27	$0.27	$0.32	**$1.15**	$0.32

1Q17 Results: Strong Growth and Operating Leverage

Shortly before publication of this report, on April 26, PayPal reported better-than-expected 1Q17 results and increased its outlook for the year. PayPal shares immediately surged 7% and rose a total of ~10% in the subsequent trading days as multiple analysts upwardly revised their longer-term forecasts and price targets for the Company. PayPal reported top-line growth of 16.9% or 19% FXN growth, better than its December 2016 guidance for +14-16% or +16-18% FXN growth. The Company also raised its 2017 revenue target by $70 million to $12.52-$12.72 billion, which could be conservative.

Strong user growth (+11% Y/Y) and engagement growth (32 transactions per active customer, up 12%) powered 25% TPV growth (FXN), and, surprisingly, PayPal's transaction revenue take rate stabilized Q/Q at 2.62% of TPV. Transaction expense increased from 0.93% of TPV in 1Q16 to 0.99% in 1Q17 due to the acceleration in the mix shift toward credit following the implementation of PayPal's customer choice initiative, but this was not as negative as many feared. Overall, the strong top-line growth and lower than anticipated transaction margin decline provided initial evidence that PayPal's shift to an open payment platform could be a meaningful net positive for the Company.

PayPal's results have also begun to show signs of the underlying operating leverage that we have long believed could be achievable in its model. The incremental margin excluding direct transaction costs on a PayPal transaction is very high, but PayPal's latent fixed leverage opportunities have been obscured by transaction margin declines, stand-up costs related to the separation from eBay, and customer growth initiatives (e.g., mobile, one touch, Venmo) that had yet to translate to meaningful revenue. PayPal's other expenses (operating expenses excluding transaction expenses and loan losses) grew just 7.6% Y/Y in 1Q16, excluding restructuring charges of $40 million related to the implementation of a strategic workforce reduction program in 2017. (PayPal excludes stock-based compensation from non-GAAP other operating expenses, but we include it, which accounts for the lower other opex growth rate of 4.5% in 1Q17 cited by the Company.) This translated to ~350 bps of other operating leverage in 1Q17, nearly entirely offsetting the impact of lower transaction margins. Excluding stock-based compensation (which we do not advise), PayPal's non-GAAP operating margins actually expanded ~50 bps Y/Y in 1Q17. Following the 1Q17 results, PayPal also raised its 2017 non-GAAP EPS forecast to $1.74-$1.79 from $1.69-$1.74.

Longer-term, we see no reason why PayPal should not be able to continue to grow at or close to the rate of overall digital commerce growth, which is currently ~15% with no substantial slowdown in sight. In addition to continued momentum in core results, in the following sections we highlight two businesses that remain underpenetrated with tremendous long-term opportunities: Venmo and PayPal Credit. From a margin perspective, management disclosed that the marginal operating cost (non-transaction-related) on incremental revenue was just ~10% in the latest quarter. As PayPal begins to lap the transaction expense impact of the customer choice initiative in the back half of 2017 or early 2018 (there will be some ongoing impact, as not all customers update their wallet preferences immediately), this could translate to more meaningful operating margin expansion. The Company also expects the restructuring program to generate ~$75 million in annualized savings. Longer-term, 50-100 bps of annual margin expansion does not appear unreasonable. The results achieved by Visa/MA in recent years provide some perspective here. The V/MA models are not directly comparable to PayPal due to the countervailing margin pressures from method of payment shift (toward credit) and merchant mix shift that are unique to PayPal. Nonetheless, the impressive margin expansion achieved by V/MA in recent years is informative. Despite revenue growth that was only approximately half PayPal's, Visa achieved annual operating margin expansion averaging ~300 bps in recent years, with adjusted operating margin expected to reach the mid-60% level going forward. Mastercard's non-GAAP margins expanded 50 bps in 2016 to 54.5% on 8% FXN revenue growth.

Venmo Growth Opportunity

Unfortunately, lack of disclosure makes it difficult to precisely evaluate the return on PayPal's ~$700 million acquisition, in December 2013, of mobile payment gateway Braintree and its peer-to-peer payment subsidiary Venmo, but we believe that it is well on its way to being a home run. Braintree's TPV nearly doubled in 2014 to $23 billion, and while PayPal has not subsequently updated Braintree statistics, growth has likely continued at a torrid rate considering Braintree's high-profile customer base (e.g. Uber, AirBnB, StubHub). Braintree earns a substantially lower transaction margin than the rest of PayPal because it skews toward large merchants and higher credit card payment mix, but it is likely already meaningfully profitable at the current scale.

On the other hand, Venmo remains an essentially unmonetized asset. Venmo transaction volume continues to grow at a triple-digit rate: TPV increased 135% in 2016 to $17.6 billion and was up ~110% Y/Y in 1Q17 to $6.8 billion. Venmo is an extremely attractive asset for PayPal, as well as potential partners, because its customer base skews heavily toward millennials (roughly age 20-35) and younger. According to a recent survey of over 2,000 millennials conducted by LendEdu, a remarkable 68% of mobile payment app users named

Venmo their primary app.[2] To date, nearly all transaction volume on Venmo consists of free peer-to-peer money transfers. This represents a cost center for PayPal. But PayPal is finally moving to position Venmo as a B2C mobile/digital payment option. PayPal has been beta testing Pay with Venmo as a mobile payment option with select Braintree merchants such as Gametime and Delivery.com since January 2016, and it expanded the beta version to select PayPal merchants in April 2017. Pay with Venmo utilizes the same one touch technology as Braintree/PayPal, and the Company expects that it can quickly roll it out to millions of PayPal merchants during 2017 without any additional integration efforts required from merchants.

Considering Venmo's popularity with millennials, its adoption as a mobile payment option looks promising, and its cannibalization of PayPal transactions should be minimal. Additionally, the customer funding mix could be more favorable than at Braintree, at least initially: as a peer-to-peer payment network, Venmo has already linked all of its users to bank accounts. Venmo users are also more likely to leave a balance in their account due to heavier usage versus PayPal and the dual nature (used to send and receive payments) of the peer-to-peer network, providing a virtually free (for PayPal) default funding source (assuming sufficient funds; also, note that the default payment method can be changed).

Assessing PayPal's Credit Portfolio: Undermanaged, Undervalued Asset?

In this update, we decided that it would be helpful to provide a detailed analysis of PayPal's credit business. Credit is a relatively small portion of PayPal's overall business—we estimate that ~8% of revenue is directly tied to credit, as is a moderately higher percentage of income, depending on the assumptions. But the business is growing faster than PayPal's overall business, has distinct risk/valuation attributes, complicates PayPal's financial results and analyst models, and is overlooked or misunderstood by investors.

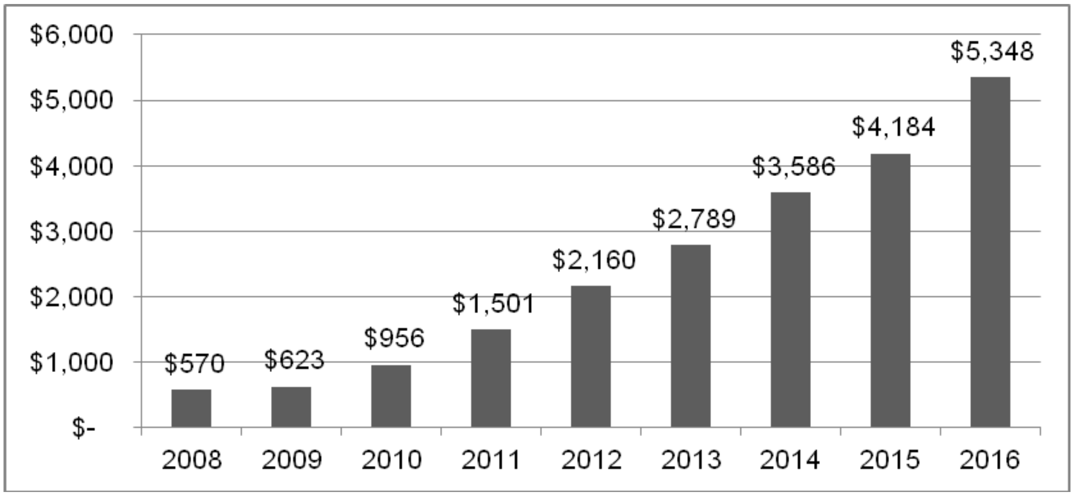
PayPal (and then-parent eBay) entered the U.S. consumer lending business via the acquisition of Bill Me Later for approximately $900 million in November 2008. Bill Me Later had established a platform for online merchants to offer consumers the ability to make purchases on credit. Bill Me Later offered consumers fast, secure access to credit, with interest often deferred for up to 6 months. Introduced as a funding method for PayPal users in 2010 and subsequently renamed PayPal Credit, the service typically charges borrowers a 20% APR (plus late fees) outside of promotional periods or monthly installment plans. Technically, PayPal is not a chartered financial institution allowed to extend loans in the United States and must rely on third parties to directly extend credit (PayPal Credit uses Alliance Data's Comenity Bank). But PayPal purchases the vast majority of these loans upon origination, maintaining all or substantially all of the associated credit exposure and funding costs on its balance sheet. Additionally, since 2004, Synchrony (formerly part of GE Capital) has partnered with eBay/PayPal to issue eBay- and (post-separation) PayPal-branded retail credit cards using the Mastercard network. During 3Q15, the Company negotiated with Synchrony to eliminate its obligation to repurchase in October 2016 approximately $1.5 billion in credit receivables (as of 2Q15) related to the retail credit card financed by Synchrony while retaining an option to purchase the receivables at the end of the new contract term.

In September 2013, PayPal also launched a small business lending program called PayPal Working Capital (PPWC). PPWC allows PayPal merchant partners to borrow against a portion of their annual payment volume processed by PayPal. PayPal charges a fixed fee that varies based on the merchant's credit profile, and loans are repaid out of a fixed portion of the merchant's ongoing payment volume, generally with a targeted 9- to 12-month period for repayment of the initial principal and fixed fee.

Since entering the lending business during the height of the financial crisis, PayPal has been growing its credit book faster than TPV or revenue. PayPal Credit's consumer loan portfolio grew from $570 million at the close of 2008 to $5.1 billion at year-end 2016, including 28.3% growth in 2016. PPWC receivables reached $558 million at the close of 2016, up 32.5% Y/Y.

[2] https://lendedu.com/blog/best-mobile-payment-apps

PayPal Net Loans and Interest Receivable ($MM)



Unfortunately, it is impossible to precisely evaluate the income that PayPal currently generates on this portfolio, as the Company discloses only the associated interest/fee revenue within the more broadly defined "other value added services" revenue line. Other value added services revenue totaled $1.35 billion in 2016, but this line item includes other items such as subscription fees, gateway fees, and Paydiant revenue. As a rough estimate, we assume approximately two-thirds of other value added services revenue in 2016 was derived from the credit portfolio, or ~$900 million. As a percentage of average receivables, this translates to approximately an 18.5% gross yield on the receivables versus PayPal's stated APR of 20% on consumer loans. Direct costs against the loan portfolio included $555 million in loan loss and interest receivable provisions in 2016 (of which $51 million was from PPWC). This consists of $433 million in loan loss provisions which are recognized as an expense, $116 million in interest receivable loan loss provisions (which are contra-revenue), and $6 million in fee receivable provisions which are recorded as reduction in deferred revenue. This implies $473 million in net revenue from the loan portfolio in 2016, or ~7% of PayPal's total revenue net of transaction expenses, transaction losses, and loan losses, and translates to a 9.6% risk-adjusted net interest margin (revenue net of loan loss provisions). We suspect that this may actually understate the contribution of PayPal's credit business (i.e., credit represents >67% of value added services revenue)—potentially by a significant margin. For a point of reference, PayPal (then eBay) last disclosed a risk-adjusted margin[3] of 15.8% on its consumer loan portfolio in 4Q13.

Credit Growth Opportunity versus Credit Risks

In our view, PayPal's lending business—while not without its risks—represents an underappreciated asset with tremendous long-term value potential. The primary barriers or risks to continued profitable growth are credit quality constraints and balance sheet/funding needs. But given the relatively low penetration of credit compared to PayPal's vast payment network, we believe that the Company has plenty of room to continue to profitably grow the credit business. PayPal Credit TPV totaled $5.7 billion in 2015, or just 2.4% of PayPal's overall TPV. (PayPal did not disclose credit TPV in 2016 but noted that it remained ~2% of total TPV.) PayPal Credit's current loan balance represents just 0.5% share of the $1.0 trillion in total revolving consumer credit outstanding in the United States. Together, these figures suggest that there is plenty of room for its credit portfolio to continue to grow well above overall PayPal TVP without compromising credit quality standards, with 20%-plus annual growth achievable for many years to come.

From a credit quality perspective, the PayPal Credit portfolio deserves some scrutiny. PayPal Credit is overweighted to the subprime end of the spectrum, with approximately 48% of PayPal's U.S. consumer loans

[3] eBay defined risk adjusted margin as the annualized ratio of loan revenue, excluding contra-revenue incentives to customers or merchants, less cost of funds less net credit and fraud losses relative to average loans receivable.

sourced from subprime borrowers (FICO <680), including 11.1% from extremely-high-risk borrowers (FICO <600). According to Experian, 61% of consumers with a FICO below 579 are likely to become seriously delinquent. The outsized subprime exposure reflects the particular appeal of PayPal Credit's rapid, low-documentation credit approval process and 6-month no-fee promotional rate offer to underbanked or subprime customers with limited credit alternatives or no credit cards.

PayPal's consumer loan portfolio has experienced a slight deterioration in credit quality in recent quarters. The portfolio's weighted average FICO score declined from 687 at year-end 2014 to 682 at the close of 2016, and the percentage of extremely-high-risk borrowers with FICO <600 increased 170 bps in 2016 to 11.1%, from 9.4% at the close of 2015. The portfolio experienced a very modest uptick in delinquencies in 2016, with the >30-day delinquency rate increasing to 10.0%, from 9.9% at the close of 2015 and >90-day delinquencies increasing 10 bps to 10.0% on December 31, 2016. The net charge-off ratio increased from 5.7% in 2014 to 5.9% in 2015 and to 6.4% in 2016. In 1Q17, delinquency trends improved sequentially (8.7% 30-day, 3.9% 90-day), but the net charge-off rate reached 6.9%, up 60 bps Y/Y, and the average FICO score declined to 678.

Consumer Loans and Interest Receivable by FICO Score and Delinquency Trends ($MM)

	2014	2015	2016	1Q 2017
≥760	553	569	665	625
680-759	1,439	1,529	1,938	1,897
600-679	1,344	1,449	1,840	1,842
≤599	341	369	553	635
Outside U.S.	8	70	117	135
Total	**3,685**	**3,986**	**5,113**	**5,134**
Wtd. avg. FICO	687	686	682	678
Delinquency >90 days	4.0%	3.9%	4.1%	3.9%
Net principal charge-off rate	5.7%	5.9%	6.4%	6.9%
Loan loss allowance % receivables	NA	4.5%	5.2%	5.7%

The past several years have seen historically low delinquency rates across the U.S. revolving credit industry, and PayPal's recent uptick in nonperforming loans could continue. PayPal's recent credit performance reflects broader market trends, as there have been some signals since late 2015 or early 2016 that the credit cycle is slowly turning. U.S. revolving consumer credit growth has steadily expanded from 1.4% in 2013 to 4% in 2014, 5.4% in 2015, and 6.5% in 2016. Delinquency rates have been inching up in recent quarters, and industry executives have been more aggressively rebuilding their loan loss allowances in expectation that these trends will continue. Early results in 2017 show more of the same, with revolving credit volume up ~6.5% in 1Q17 and PayPal Credit competitors such as Discover Financial, Capital One, and Synchrony Financial all reporting at least modestly higher charge-offs and provisions. Capital One CEO Richard Fairbank recently cautioned that consumer indebtedness was growing much faster than wages—especially in the subprime credit card segment, where loan growth is running at ~2x the overall consumer revolving credit segment. But he also noted subprime lending still appears to be extremely profitable at the current stage of the cycle.

These trends bear close monitoring, especially because PayPal appears moderately under-reserved for loan and interest/fee losses. As of March 31, 2017, PayPal's allowance for consumer loan losses stood at 5.7% of receivables, well below the standard reserve levels of 12 months of forecast charge-offs at the current charge-off run rate. PayPal has been slowly building its reserve levels, and reserve building will most likely continue to be a drag on profitability. However, these figures must be put in proper context. The additional expense to bring PayPal's consumer loan allowance up to 6.9% of our projected average receivable balance in 2017 would be just $63 million as of 1Q17. A continued increase in charge-offs could be a headwind, but, as noted, we estimate that PayPal generates an ~18.5% average yield on its loan portfolio (net of interest/fee allowances, which are contra-revenue) to compensate for the borrower risk profile and is still generating close to a double-digit risk-adjusted margin on the receivables. For some additional context, Bill Me Later charge-offs remained contained after the financial crisis, declining from 7.7% in 2010 (2008-2009 data not available) to 4.5% in 2011. Even an extreme spike in charge-off rates to financial crisis levels of ~10% would translate to only an approximate $300 million incremental hit to PayPal's projected pretax income in 2017. PayPal's portfolio also presents limited balance sheet risk, because it has been almost entirely funded out of the Company's free cash flow, as detailed shortly. With $5.5 billion in net cash on the balance sheet and annual free cash flow projected at >$2.7 billion in 2017, PayPal has a large buffer in case of incremental credit losses. Finally, with credit still a small portion of PayPal's overall business, management should have little hesitation in reigning in credit growth if credit trends show accelerated deterioration.

Loan Portfolio Projections, Leveraged Financial Model Analysis

We believe that PayPal has a tremendous untapped opportunity to move to a liability-financed or asset-light lending business model. Historically, PayPal has funded all its credit receivables growth out of the Company's cash balance/annual free cash flow. This "lazy" balance sheet funding approach reduces risk, but it ties up significant capital and depresses the return on equity (ROE) PayPal earns from the loan portfolio. Technically, the interest cost on PayPal's cash funding source is zero, but this ignores the huge opportunity cost of not reinvesting the cash into the business, M&A, and/or returning the capital to shareholders. PayPal took a small step toward liability funding in March 2016 by setting aside a modest $800 million in European customer funds (cash balances in PayPal accounts), making them available to borrow against for its credit extension. But the Company has not drawn on these funds, which represent just 20% of available European customer funds and 5% of its $15.7 billion in total customer funds currently sitting on its balance sheet.

If PayPal were to move to an 85% liability-financed loan portfolio, more typical of the industry, this would immediately free up ~$4.6 billion in incremental cash, or nearly $4 per share. Importantly, it would also eliminate roughly $1 billion (~$1 per share) in annual cash outflows (combined operating cash flow and investing cash tflow) that PayPal currently uses to fund the growth of its credit receivables portfolio. Furthermore, the current low interest rate environment, as well as the potential to tap additional zero-cost funding via PayPal customer funds, offers the opportunity to generate an outsized ROE. Assuming that the cost of incremental debt financing is 2% in 2017 (roughly in line with current U.S. revolving credit issuers' average cost of funds, and not factoring in the potential for PayPal to borrow against its customer deposits interest-free), we project that PayPal's credit portfolio could generate a pretax ROE of 54% in 2017 versus just 10% ROE without additional leverage.

PayPal Credit Portfolio Analysis ($MM)

Current Unlevered Scenario	**2015**	**2016**	**2017E**	**2018E**	**2019E**	**2020E**
Est. credit revenue net of IR/fee provisions	$706	$906	$1,189	$1,478	$1,794	$2,152
yield	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%
Est. credit revenue – % other value added services rev.	63.0%	67.0%				
Loan loss provisions	$(298)	$(433)	$(591)	$(719)	$(873)	$(989)
Net interest revenue after provisions	$408	$473	$598	$759	$921	$1,163
yield	10.7%	9.6%	9.3%	9.5%	9.5%	10.0%
ROE (pretax)	10.4%	10.7%	9.9%	10.2%	10.4%	10.9%
Net income @ 35% tax rate	$265	$307	$388	$493	$599	$756

Fully (85%) Levered Scenario	2015	2016	2017E	2018E	2019E	2020E
Incremental cost of debt funding	$68	$77	$103	$142	$179	$227
Net interest revenue after provisions – fully levered	$340	$396	$495	$617	$742	$937
yield	8.9%	8.1%	7.7%	7.7%	7.6%	8.1%
ROE (pretax)	58.3%	55.4%	54.4%	55.6%	55.6%	58.5%
Net income @ 35% tax rate	$221	$258	$321	$401	$482	$609
ROE – fully levered	37.7%	35.7%	35.3%	36.1%	36.1%	38.1%
Incremental standalone opex @ 13.8% rev.	$97	$125	$164	$204	$248	$297
ROE – fully levered – standalone	26.9%	24.5%	23.6%	24.2%	24.1%	26.0%

Loan & Other Assumptions	2015	2016	2017E	2018E	2019E	2020E
Avg. gross loans and receivable	3,822	4,900	6,426	7,990	9,695	11,634
Gross loans and interest receivable (YE)	4,417	5,687	7,166	8,814	10,576	12,692
loan and receivable growth	*16.8%*	*28.8%*	*26.0%*	*23.0%*	*20.0%*	*20.0%*
Principal reserve allowance	199	296	431	583	767	930
principal reserves % receivables	*4.5%*	*5.2%*	*6.0%*	*6.6%*	*7.3%*	*7.3%*
Net principal charge-offs	(241)	(338)	(456)	(567)	(688)	(826)
net charge-off ratio	*6.3%*	*6.9%*	*7.1%*	*7.1%*	*7.1%*	*7.1%*
Principal provisions	298	433	591	719	873	989
% avg. balance	7.8%	8.8%	9.2%	9.0%	9.0%	8.5%
Cost of debt			2.00%	2.25%	2.38%	2.50%
Net interest and fee yield	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%

This ROE projection does not include any operating expenses, which of course the consumer credit business does entail. But we believe that on a standalone basis, PayPal Credit would have an extremely low operating efficiency ratio (the industry term for operating expenses as a percentage of net revenues) given its unique characteristics. PayPal Credit has virtually no marketing/promotional expenses, for the PayPal payment portal serves as a direct customer acquisition portal, and there are no rewards costs. G&A should be modest as well considering that the business largely rides off of PayPal's existing infrastructure. As a benchmark, Discover Financial (DFS) has an industry-leading operating efficiency ratio, coming in at 39.4% in 2016, including loan loss provisions. Excluding loan loss provisions and marketing costs, DFS's operating expenses totaled 13.8% of net interest revenue (not including non-interest income here), a total which we believe PYPL could surpass if its credit business were separately operated/disclosed. Nonetheless, assuming a comparable 13.8% opex ratio, this implies that a recapitalized PayPal Credit/PPWC business could generate an attractive after-tax ROE of 24% based on 2017 projections.

This financial analysis excludes the substantial net transaction revenue/earnings that PayPal generates from credit transactions. As PayPal Credit transactions do not involve credit/debit card transaction costs—by far PayPal's largest operating expense—they are extremely profitable on a net transaction revenue basis. PayPal is also underearning on an accrual basis due to the rapid growth in its portfolio, which necessitates higher loan loss provisioning expenses than realized charge-offs in any given period as PayPal builds its reserve allowance. The magnitude of this factor is particularly large for PayPal Credit given its outsized growth rate; principal provisions totaled $433 million in 2016, versus net charge-offs of $338 million.

Premium Value in Asset-Light Deal?

Without a bank charter or proven access to large-scale, low-cost debt funding, PayPal's balance sheet is somewhat of a limiting factor in maximizing ROE. A transition to becoming a leveraged credit lender would also complicate PayPal's story among the analyst/investment community, potentially with negative ramifications. For these reasons, among others, it could be more opportune for PayPal to move to an asset-light model by partnering with a financial institution to remove the loan portfolio from its books and/or tap the securitization market to monetize the receivables.

Although PayPal would potentially lose some or all of the earnings generated by the loan portfolio depending on the scenario, it would bring in $5.4 billion in cash at current book value and substantially improve annual cash generation (combined OCF and ICF). PayPal's credit business has also long created investor confusion and, we believe, more skepticism than is warranted given the accounting complexity and concerns over credit risk. Although the move would negatively impact EPS, the market would most likely react quite favorably given the reduced complexity and outsized cash benefit. This could also be a favorable time in the credit cycle for PayPal to reduce its exposure to consumer credit, especially subprime credit.

Although PayPal's credit portfolio contains a somewhat higher-than-average percentage of subprime loans, we still believe that PayPal should not have difficulty receiving at least net asset value—and more likely, a premium—for its credit receivables balance considering the attractive risk-adjusted yield. For example, in 2Q15 PayPal sold participation interests in $708 million (gross value) in consumer loan receivables for a $26 million gain. Given the attractive projected ROE potential and extremely high growth rate of the loan portfolio, PayPal could also strike a deal to retain a portion of the ongoing earnings via a revenue/risk sharing arrangement—a common industry practice. Securitization transactions also typically provide additional upside for the originator via excess interest/overcollateralization.

PayPal has often discussed the possibility of moving to an asset-light model over the years, but a decision may finally be imminent. CEO Dan Schulman recently suggested that some sort of asset-light arrangement could be reached as soon as the second half of 2017. Mr. Schulman elaborated on the process and benefits of such a strategic move during the Company's 4Q16 conference call in January:

> *". . . there is no reason, really, to use our balance sheet for the receivables, and there are, as we've mentioned before, a lot of benefits of asset-light. Obviously, we tie up a lot of our free cash flow in the receivables with free cash flow for other capital allocation that we might do. We have reduced exposure. We still have a differentiated proposition: we would use our data and our modeling with a partner to bring back a differentiated proposition into our base, and there are very attractive economics to share. And as we've seen right now from people who are very interested in partnering with us, our portfolio is very attractive. The size of our base that doesn't have credit and the ability to expand, that is very attractive, and the risk in modeling capabilities we have are also very attractive. And so there are a lot of economics here to share, and we believe that we can significantly reduce our risk exposure but maintain strong economics for our business."*

Strong Balance Sheet and Free Cash Flow, but Still Suboptimal

PayPal has an attractive free cash flow profile and, like many tech companies, an overcapitalized balance sheet. PayPal generated $1.8 billion in free cash flow in 2015, and FCF expanded to $2.5 billion in 2016 (~$2/share) on strong revenue/OCF growth and capex leverage. Capital expenditures are forecast to decline from 7.8% in 2015 to ~5% of revenue in 2017. PayPal expects FCF to exceed $2.7 billion in 2017.

As of March 31, 2017, PayPal held $6.4 billion in cash and investments on the balance sheet and no debt. Backing out $800 million in customer deposit liabilities held as cash, and building in a cash equity buffer of 15% of PayPal's credit receivables, we estimate that the Company has an adjusted cash position of $4.8 billion ($4/share). Although $5.6 billion of PayPal's cash is held overseas, a repatriation tax holiday appears imminent. It is also worth mentioning PayPal's free float of customer account balances. At $15.7 billion and rapidly growing, this could generate a fairly significant interest stream in a normalized interest rate environment, although some of this would likely be paid back to customers.

PayPal Net Cash Balance ($MM, 3/31/17)

Cash and investments		6,380
Less customer deposits held as cash		(800)
Less PayPal Credit equity buffer		(803)
Cash and equivalents – net		4,777
Per share	$	3.93

PayPal launched an initial $2 billion share repurchase program in January 2016 and completed $1.5 billion in repurchases through 1Q17, including $517 million purchased in 1Q17. Concurrent with the Company's 1Q17 earnings announcement on April 26, the board authorized an incremental $5 billion share repurchase program. We view the increased capacity favorably, and as a potential sign that PayPal plans to put excess cash from a move to an asset-light credit model into share repurchases. Moderately sized M&A has also been a recurring use of cash at PayPal/eBay in recent years, and management continues to look for acquisitions. Most recently, the Company announced the acquisition of Canadian bill payment provider (for underserved/unbanked customers) TIO Networks for $233 million. Generally we are not attracted to M&A-heavy capital allocation plans, and the case of PayPal is no different. However, we would acknowledge that eBay/PayPal have had some tremendous successes in the past with the "flywheel" model of leveraging their large customer network into newly acquired products. Of course the hallmark example is PayPal itself, but more recently, PayPal has demonstrated similar capabilities with the huge growth rates achieved at Braintree/Venmo. The wisdom of the

Xoom acquisition remains to be determined. We are also soothed by the modest size of PayPal's recent acquisitions.

In the following table, we have attempted to quantify the impact that a transition to an asset-light credit strategy could have on PayPal's free cash flow profile and balance sheet. The transformation is remarkable. Despite steadily growing free cash flow, PayPal generated only ~$1 billion in truly unencumbered cash during each of the past two years, after deducting cash needed to support the credit portfolio (receivables growth and charge-offs). We project that unencumbered cash flow would remain close to $1.2 billion in 2017 versus $3.0 billion in FCF under the standard definition. If PayPal were to move to an asset-light model, despite losing the earnings on the credit portfolio (we assume that PayPal retains a 20% profit interest), the transformation would add approximately $1 billion to annual unencumbered cash flow. Adding in the sale of the receivables portfolio at YE 2017E book value of $6.7 billion, we estimate that PayPal could generate a cumulative $9.4 billion, or $8 per share in additional unencumbered cash flow, between 2017 and 2019.

Cash Flow Projections ($MM)	2015	2016	2017E	2018E	2019E
Operating cash flow	$2,546	$3,158	$3,681	$4,280	$4,901
Capital expenditures	$(722)	$(669)	$(661)	$(753)	$(888)
% revenue	*7.80%*	*6.20%*	*5.20%*	*5.00%*	*5.00%*
Free cash flow	$1,824	$2,489	$3,020	$3,527	$4,013
Loan principal loss charge-offs	$(241)	$(338)	$(456)	$(567)	$(688)
Net cash outflow to fund receivables – unlevered	$(635)	$(1,173)	$(1,344)	$(1,347)	$(1,616)
Unencumbered cash flow	$948	$978	$1,220	$1,613	$1,708
Asset-Light Cash Flow Projections ($MM)	**2015**	**2016**	**2017E**	**2018E**	**2019E**
Unencumbered cash flow – unlevered	$948	$978	$1,220	$1,613	$1,708
Lost credit portfolio earnings at 20% retained interest	$(212)	$(246)	$(311)	$(395)	$(479)
Receivables funding reversal, net of charge-offs	$876	$1,511	$1,800	$1,914	$2,305
Loan loss provision OCF reversal	$(298)	$(433)	$(591)	$(719)	$(873)
Unencumbered cash flow – asset-light	$1,314	$1,810	$2,118	$2,414	$2,661
One-time cash inflow from sale of receivables at par			$6,735		
Incremental cash flow – cumulative			$7,633	$8,433	$9,386

Valuation and Conclusion

When we last published a report on PayPal, on October 30, 2015, we highlighted the favorable relative valuation of PayPal compared to payment networks Visa and Mastercard. PayPal traded roughly on par with or at a discount to these peers on virtually any metric, prior to adjusting for PayPal's full cash balance. Visa and Mastercard certainly deserve a market premium valuation given their stranglehold over the traditional payment network business. But PayPal's prominent position in the online and mobile channels translates to roughly double the payment volume growth of Visa and Mastercard, and it has additional long-term upside from penetration of the retail and credit channels. PayPal shares have increased 32% since our last report, versus exactly 17.6% price appreciation for both Mastercard and Visa shares, coincidentally. (The S&P 500 has returned 14.9%.) However, the relative valuations have not markedly changed, as PayPal also recorded faster earnings growth.

PayPal Trades at Discount to Visa, Mastercard ($MM)

Company Name	Price	Market Value	Enterprise Value	EV/EBITDA FY1	EV/EBITDA FY2	Price to Earnings FY1	Price to Earnings FY2	Price to FCF FY1	Price to FCF FY2	EBITDA Margin FY1	Revenue Growth FY1
PayPal Holdings	48.91	58,754	54,699	16.5x	13.8x	27.5x	23.2x	20.8x	18.8x	25.6%	17%
Mastercard A	117.92	126,401	123,441	17.8x	15.6x	27.4x	23.6x	29.2x	23.4x	57.5%	11%
Visa A	92.62	213,589	226,123	17.7x	15.7x	27.5x	23.5x	32.2x	23.4x	69.8%	10%

Source: FactSet, 5/3/17

At first glance, PayPal's valuation does not appear statistically cheap at 27.5x 2017E P/E (adj.) or 21x 2017E free cash flow. However, backing out the hefty cash balance, these figures fall to a more reasonable 25x P/E or <20x FCF. On an EV/EBITDA basis, PayPal trades at ~16.5x 2017E. Although PayPal may not be a traditional "value" investment, and the recent rally has cut into the upside, we believe that PayPal's valuation is still quite compelling when viewed with a longer term perspective. PayPal is growing the top line at 19%, is beginning to generate operating leverage, and has the leading position in a ~$1.5 trillion addressable market (global mobile/e-commerce) that is growing at ~15% per annum and that seems likely to continue to do so for the foreseeable future. Credit penetration ($1 trillion U.S. revolving credit market), Venmo monetization (7% of TPV and growing at triple-digits), and broader retail channel penetration ($20 trillion-plus addressable market) represent opportunities for PayPal to drastically expand the addressable market.

Looking forward, we project PayPal's top-line growth moderates slightly from 19% in 2017 to ~18% per annum over 2018-2019. We conservatively project PayPal's transaction margins decline from 59% in 2016 to just over 51% in 2019 to account for the shift toward Braintree/Venmo and credit card payment. Assuming that other operating expenses decline by ~180 bps per annum, we estimate that FCF could expand from $2.5 billion in 2016 to ~$4 billion by 2019. In estimating PayPal's valuation, we have assumed that the Company completes the strategic transition to an asset-light credit strategy at the close of 2017. As detailed in the preceding section, we estimate that this will reduce PayPal's 2019E FCF to $2.7 billion but that it will generate an incremental $9.4 billion in cash flows over the next 3 years. We would also expect the market to award PayPal a higher multiple in response to reducing its credit exposure. Nonetheless we project PayPal's valuation multiple contracts from ~26x forward FCF after stock-based compensation expense (net of free cash on the balance sheet) currently to 23.5x forward (2020E) FCF after stock-based compensation, to derive a year-end 2019 intrinsic value estimate of approximately $66 per share, or 39% above the current share price. As a sanity check, we would note that this 23.5x P/FCF multiple corresponds to a 5.5% terminal growth rate (at a 10% discount rate). If PayPal's growth rate does not drastically slow down over the next 3 years—and we would be surprised if it did—this estimate could prove conservative. Additionally, we have assumed only ~$2 billion in annual capital deployment toward share repurchases. Given the potential cash build under this scenario ($15 billion in cash by 2019), incremental capital deployment could be a catalyst for material upside to our estimate of intrinsic value.

PayPal Intrinsic Value Estimate ($MM)

	2019E
FCF (2020E) net of stock comp. – asset-light model	$ 2,613
multiple	23.5x
Enterprise value	$ 61,407
Net cash	$ 14,980
Equity value	$ 76,387
Diluted shares outstanding	1,158
Implied intrinsic value per share	$ 65.96
Implied upside	39%
IRR @ 12/31/19	13%

Risks

Risks that PayPal may not achieve our estimate of the Company's intrinsic value include, but are not limited to, general economic or currency weakness impacting the Company's businesses, slowing growth or loss of key corporate accounts at Braintree, failure to monetize Venmo transactions, faster-than-expected declines in transaction take rates and margins, misallocation of corporate capital, and recent or future executive personnel losses. The Company's eBay relationship also presents a unique risk, as detailed below:

- eBay Partnership Renegotiation: Prior to the separation, PayPal and eBay signed an initial 5-year operating agreement that preserves PayPal's position as the predominant payment form on eBay, at competitive rates with incentives for eBay to increase PayPal's share of GMV. The agreement also includes cooperation, data sharing, and non-compete clauses. After the 5-year term, the agreement is renewable for successive one year terms by mutual agreement. PayPal faces the risk that its market share of eBay transactions is significantly reduced from the current ~80% or even eliminated after the 5-year agreement expires. The latter seems unlikely, as there are no neutral alternative payment networks that offer ubiquitous acceptance and comparable scale or a cost advantage versus PayPal (Stripe is the largest neutral alternative). Although the digital payments field continues to grow, most of the new competitors gaining headlines are also attached to real or potential eBay competitors (e.g., Amazon Payments, Google Wallet, Apple Pay). Nonetheless, at minimum, we would expect eBay to more fully open up its network to alternative payment sources and/or extract more favorable pricing terms from PayPal after the separation agreement expires. Merchants selling on eBay accounted for 22% of PayPal's revenue in 2016 and 15% of TPV in 1Q17, but these figures are declining rapidly due to ~30% annual TPV growth outside of eBay, so the downside risk to PayPal post-2020 appears manageable.

Analyst Certification

Asset Analysis Focus certifies that the views expressed in this report accurately reflect the personal views of our analysts about the subject securities and issuers mentioned. We also certify that no part of our analysts' compensation was, is, or will be, directly or indirectly, related to the specific views expressed in this report.

PAYPAL HOLDINGS, INC.
CONDENSED COMBINED AND CONSOLIDATED BALANCE SHEET
(In millions, Unaudited)

ASSETS	**March 31, 2017**	**December 31, 2016**
Current assets:		
Cash and cash equivalents	$1,240	$1,590
Short-term investments	2,815	3,385
Accounts receivable, net	178	214
Loans and interest receivable, net	5,354	5,348
Funds receivable and customer accounts	14,941	14,363
Prepaid expenses and other current assets	897	833
Total current assets	*25,425*	*25,733*
Long-term investments	2,325	1,539
Property and equipment, net	1,448	1,482
Goodwill	4,060	4,059
Intangible assets, net	184	211
Other assets	51	79
TOTAL ASSETS	**$33,493**	**$33,103**
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$164	$192
Funds payable and amounts due to customers	15,741	15,163
Accrued expenses and other current liabilities	1,300	1,459
Income taxes payable	81	64
Total current liabilities	*17,286*	*16,878*
Deferred tax liability and other long-term liabilities	1,581	1,513
TOTAL LIABILITIES	18,867	18,391
Commitments and contingencies (Note 11)		
Equity:		
Common stock, $0.0001 par value	—	—
Treasury stock at cost, 39 and 27 shares	(1,512)	(995)
Additional paid-in-capital	13,724	13,579
Retained earnings	2,412	2,069
Accumulated other comprehensive income	2	59
TOTAL EQUITY	14,626	14,712
TOTAL LIABILITIES AND EQUITY	**$33,493**	**$33,103**