

Bitcoin Investment Trust (GBTC)

Initiating with OUTPERFORM and \$40 Price Target; Fuel for Promising Technology in Early Days of Disruption

July 9, 2015

Price
\$30.60

Rating
OUTPERFORM

12-Month Price Target
\$40

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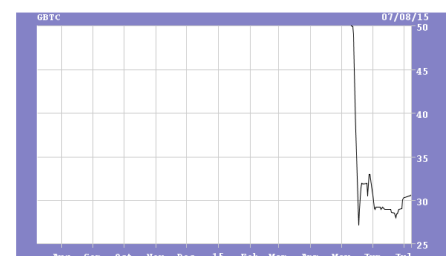
- We believe bitcoin and its associated blockchain technology have the potential to disrupt the existing financial infrastructure over the next few years. We believe the value of the bitcoin currency (BTC) will benefit from this trend and therefore are initiating coverage of GBTC with an OUTPERFORM rating and \$40 price target.
- GBTC is a NASDAQ OTCQX listing of the Bitcoin Investment Trust which holds BTC and serves as a proxy for the price of BTC at a 1/10 ratio. We expect GBTC to trade at a slight premium to BTC as the publicly traded liquidity benefit is only somewhat offset by the 2% management fee.
- We see BTC as a financial instrument the likes of which has not previously existed, which requires a new valuation approach. We see BTC as equity in a payment network, much like Visa, MasterCard and PayPal, which we also cover. However, since BTC does not generate cash flow like equity, we use a commodity-like valuation approach that values each BTC as a “packet” in limited supply that fuels the bitcoin network. The more the bitcoin network is utilized for current and future applications, the more demand for the packet. By aggregating the utilization of the various applications, we arrive at our \$400 BTC price target, which translates to \$40 per share of GBTC. This implies ~\$6 billion market capitalization, which we would also describe an option on bitcoin supplanting some payment volumes from V, MA, PYPL and WU, who combine for >\$300 billion in market cap.
- We believe much of the demand for BTC will come from payment applications where bitcoin offers significant benefits over alternatives - online payments (especially cross-border), remittance and micro payments. We believe bitcoin can reduce the cost of online payments from the current 3-8% to <0.5% and for remittance from 5-10% to <1%. Previously impractical, electronic payments of <\$1 could broadly change content monetization on the web, possibly supplanting ads.
- We see some potential for BTC as a banking alternative in developing or distressed economies, as is becoming evident to citizens of Greece unable to access or transact in their government currency. We also see possible applications for more far reaching applications such as facilitating machine-to-machine transactions (“Internet of Things”) and as an “anchor” for other blockchain technology applications in the securities industry, real estate sector and beyond.
- Growth in bitcoin usage evident in the metrics. With online payments being the early application, bitcoin adoption rivals much-higher-profile well-funded efforts such as Apple Pay and Visa Checkout. Popular wallets Blockchain.info and Coinbase have exceeded more than 5 million users and merchant acquirers Bitpay and Coinbase have signed up more than 80k merchants globally.
- We see investments by venture capital and engineering talent as an indication of the potential for bitcoin. More than \$832 million of VC funds have been invested in bitcoin companies, mostly over the last twelve months, not including the hundreds of millions invested in mining equipment.
- Incumbent payments and financial industry participants have been embracing bitcoin and incorporating bitcoin into their businesses. We believe the investment and integration (not just acceptance) of bitcoin and blockchain technology by companies such as PayPal, First Data, Intuit, NCR, Nasdaq, NYSE, Citi, Goldman Sachs, UBS, Barclays and more serve as validation for the potential of the technology.
- Risks to our price target include the fact that BTC could very well go to zero due to lack of cash flow, increased government regulations, lack of consumer adoption, rise of superior alternative crypto currency, failure of the protocol, and cyber hacks.

Company Information

| | |
|--------------------------|---------|
| Shares Outst (000s) | 1,382.0 |
| Market Cap (M) | \$42.3 |
| Units Outst – BTC (000s) | 14,363 |
| Market Cap – BTC (M) | \$3,884 |

Company Description

The Bitcoin Investment Trust (BIT) is a private, open-ended trust that is invested exclusively in bitcoin and derives its value solely from the price of bitcoin. BIT was launched in 2013 by Grayscale LLC, a wholly-owned subsidiary of SecondMarket Holdings, Inc.



Source: Thomson Reuters

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Disclosures

1. At the time of publication, Wedbush Securities owns a nominal amount of BTC and GBTC and has invested in bitcoin-related companies.
2. Much of the analysis on the following pages is an update to previously published research.

Other mandatory disclosures appear in the back of the report.

Additional Analysis

Valuation

Our approach is to use a commodity-like valuation that values each BTC as a “packet” in limited supply that fuels the bitcoin network. The more the bitcoin network is utilized for current and future applications, the more demand for the packet. By aggregating the utilization of the various applications (Figure 1) we arrive at our \$400 BTC price target which translates to \$40 per share of GBTC.

We start with the supply which is predetermined by the bitcoin software to create new “shares” in order to compensate the network node operators (i.e. miners). Of those, the relevant portion is the portion neither dormant nor held for investment. Those bitcoin cannot support economic activity and are therefore excluded from the relevant supply. We expect that proportion to fall in proportion as economic activity picks up and the number of bitcoin available to support applications to grow.

We then look at the four current applications for bitcoin – online payments, remittance, micro transactions and “banking” for the unbanked – as well as a catch all other category that includes black market activity and any other future application such as machine to machine (Internet of Things) and anchoring other blockchains.

For each of these applications we attempt to forecast demand by looking at the total addressable volumes and potential share bitcoin can achieve over the next 10 years. For micro transactions we use the total internet advertising market as a proxy for the size of the opportunity, considering the possibility direct monetization of content will help supplant the internet advertising model. We assume in our forecasts 10-20% bitcoin penetration for all these various opportunities by 2025.

In order to assess the amount of bitcoin required to support this level of activity we apply different levels of velocity. For example, if a consumer replenishes their bitcoin wallet every month that would equate to 12x annual velocity for their bitcoin. We apply velocity levels ranging from 5.5 for unbanked and other applications (current velocity of bitcoin) and 12 times for payments and remittance.

The ultimate calculation takes the *total bitcoin required to support these applications* in 2025 divided by the *number of bitcoin available for economic activity* discounted to the current period by a *discount rate*. We use a very high 40% discount rate to illustrate the uncertainty regarding these outcomes ten years out.

Figure 1: Valuation

| Supply | | | | | | | | | | | | |
|--|----------------|--|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|
| | 2014A | 2015E | 2016E | 2017E | 2018E | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E |
| Total Bitcoin in Circulation (End of Year) | 13,125,000 | 14,437,500 | 15,750,000 | 16,406,250 | 17,062,500 | 17,718,750 | 18,375,000 | 18,703,125 | 19,031,250 | 19,359,375 | 19,687,500 | 20,343,750 |
| % of total | | 68.75% | 75.00% | 78.13% | 81.25% | 84.38% | 87.50% | 89.06% | 90.63% | 92.19% | 93.75% | 96.88% |
| Held for Investment or Dormat % | 26% | 24% | 22% | 20% | 18% | 16% | 14% | 12% | 10% | 8% | 6% | 4% |
| Held as Working Capital % | 74% | 76% | 78% | 80% | 82% | 84% | 86% | 88% | 90% | 92% | 94% | 96% |
| Bitcoin Available for Transactions | 9,744,000 | 11,007,150 | 12,322,800 | 13,164,375 | 14,032,200 | 14,926,275 | 15,846,600 | 16,503,638 | 17,173,800 | 17,857,088 | 18,553,500 | 19,578,825 |
| Demand | | | | | | | | | | | | |
| \$ Billion | | | | | | | | | | | | |
| | 2014A | 2015E | 2016E | 2017E | 2018E | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E |
| Online Payments | 1,500 | 1,725 | 1,984 | 2,281 | 2,624 | 3,017 | 3,379 | 3,785 | 4,239 | 4,747 | 5,317 | 5,955 |
| Remittances | 435 | 457 | 480 | 504 | 529 | 555 | 583 | 612 | 643 | 675 | 709 | 744 |
| Micro Transactions | 540 | 567 | 595 | 625 | 656 | 689 | 724 | 760 | 798 | 838 | 880 | 924 |
| Unbanked | 4,305 | 4,435 | 4,568 | 4,705 | 4,846 | 4,991 | 5,141 | 5,295 | 5,454 | 5,618 | 5,786 | 5,960 |
| Other | 1,829 | 1,884 | 1,940 | 1,999 | 2,059 | 2,120 | 2,184 | 2,249 | 2,317 | 2,386 | 2,458 | 2,532 |
| Growth Rates | | | | | | | | | | | | |
| Online Payments | | 15% | 15% | 15% | 15% | 15% | 12% | 12% | 12% | 12% | 12% | 12% |
| Remittances | | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Micro Transactions | | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Unbanked | | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% |
| Other | | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% |
| Bitcoin Share | | | | | | | | | | | | |
| Online Payments | 0.02% | 0.04% | 0.08% | 0.17% | 0.34% | 0.67% | 1.35% | 2.70% | 5.39% | 7.00% | 9.00% | 10.00% |
| Remittances | 0.01% | 0.03% | 0.09% | 0.27% | 0.54% | 1.08% | 2.16% | 4.32% | 8.64% | 17.28% | 18.50% | 20.00% |
| Micro Transactions | 0.01% | 0.03% | 0.09% | 0.27% | 0.54% | 1.08% | 2.16% | 4.32% | 8.64% | 17.28% | 18.50% | 20.00% |
| Unbanked | 0.001% | 0.003% | 0.01% | 0.03% | 0.08% | 0.24% | 0.73% | 1.46% | 2.92% | 5.83% | 7.50% | 10.00% |
| Other | 0.01% | 0.02% | 0.04% | 0.08% | 0.16% | 0.32% | 0.64% | 1.28% | 2.56% | 5.12% | 7.50% | 10.00% |
| Capacity Supported by Bitcoin | | | | | | | | | | | | |
| Online Payments | \$ 0.32 | \$ 0.7 | \$ 1.7 | \$ 3.8 | \$ 8.8 | \$ 20.3 | \$ 45.6 | \$ 102.1 | \$ 228.6 | \$ 332.3 | \$ 478.5 | \$ 595.5 |
| Remittances | \$ 0.04 | \$ 0.1 | \$ 0.4 | \$ 1.4 | \$ 2.9 | \$ 6.0 | \$ 12.6 | \$ 26.4 | \$ 55.5 | \$ 116.6 | \$ 131.1 | \$ 148.8 |
| Micro Transactions | \$ 0.05 | \$ 0.2 | \$ 0.5 | \$ 1.7 | \$ 3.5 | \$ 7.4 | \$ 15.6 | \$ 32.8 | \$ 68.9 | \$ 144.8 | \$ 162.7 | \$ 184.7 |
| Unbanked | \$ 0.04 | \$ 0.1 | \$ 0.4 | \$ 1.3 | \$ 3.9 | \$ 12.1 | \$ 37.5 | \$ 77.2 | \$ 159.0 | \$ 327.6 | \$ 434.0 | \$ 596.0 |
| Other | \$ 0.18 | \$ 0.4 | \$ 0.8 | \$ 1.6 | \$ 3.3 | \$ 6.8 | \$ 14.0 | \$ 28.8 | \$ 59.3 | \$ 122.2 | \$ 184.4 | \$ 253.2 |
| Total | \$ 0.64 | \$ 1.5 | \$ 3.8 | \$ 9.8 | \$ 22.5 | \$ 52.7 | \$ 125.2 | \$ 267.3 | \$ 571.4 | \$ 1,043.5 | \$ 1,390.7 | \$ 1,778.2 |
| Assumed Annual Velocity | | | | | | | | | | | | |
| Online Payments | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Remittances | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Micro Transactions | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| Unbanked | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Other | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Bitcoin Monetary Base Required | | | | | | | | | | | | |
| Online Payments | \$ 0.03 | \$ 0.06 | \$ 0.14 | \$ 0.32 | \$ 0.74 | \$ 1.69 | \$ 3.80 | \$ 8.50 | \$ 19.05 | \$ 27.69 | \$ 39.88 | \$ 49.63 |
| Remittances | \$ 0.00 | \$ 0.01 | \$ 0.04 | \$ 0.11 | \$ 0.24 | \$ 0.50 | \$ 1.05 | \$ 2.20 | \$ 4.63 | \$ 9.72 | \$ 10.92 | \$ 12.40 |
| Micro Transactions | \$ 0.00 | \$ 0.01 | \$ 0.04 | \$ 0.14 | \$ 0.30 | \$ 0.62 | \$ 1.30 | \$ 2.74 | \$ 5.74 | \$ 12.06 | \$ 13.56 | \$ 15.39 |
| Unbanked | \$ 0.01 | \$ 0.02 | \$ 0.07 | \$ 0.23 | \$ 0.71 | \$ 2.21 | \$ 6.81 | \$ 14.04 | \$ 28.92 | \$ 59.57 | \$ 78.90 | \$ 108.36 |
| Other | \$ 0.03 | \$ 0.07 | \$ 0.14 | \$ 0.29 | \$ 0.60 | \$ 1.23 | \$ 2.54 | \$ 5.24 | \$ 10.78 | \$ 22.22 | \$ 33.52 | \$ 46.03 |
| Total BTC Monetary Base Required | \$ 0.08 | \$ 0.18 | \$ 0.44 | \$ 1.10 | \$ 2.58 | \$ 6.25 | \$ 15.50 | \$ 32.72 | \$ 69.12 | \$ 131.26 | \$ 176.78 | \$ 231.81 |
| Valuation | | | | | | | | | | | | |
| Bitcoin \$ Monetary Base Required / | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Bitcoins Available for Transactions | \$8 | \$16 | \$35 | \$83 | \$184 | \$419 | \$978 | \$1,982 | \$4,025 | \$7,350 | \$9,528 | \$11,840 |
| BTC Price | \$270 | 7/7/2015 | | | | | | | | | | |
| Excess Value Based on Future Demand | \$262 | | | | | | | | | | | |
| PV \$USD/BTC | \$409 | ← present value of the price per BTC required to support the expected level of economic activity in 2025 | | | | | | | | | | |
| Discount Rate | 40% | | | | | | | | | | | |

Source: Company data, Wedbush Securities, Inc.

Bitcoin Has a Much Wider Range of Outcomes than Comparable Stocks

We believe another view of bitcoin's value is as a weighted average of potential outcomes that can range between \$0/bitcoin to \$1,000,000/bitcoin (Figure 2). The negative outcome would be if bitcoin was to be overtaken at any point by a superior altcoin or somehow succumb to an unforeseen vulnerability, and the positive outcome would represent the ultimate upside scenario in which bitcoin became the global working capital of trade.

The broad set of outcomes means any small change in perception regarding the likelihood of the best case outcome drives significant changes to current valuation. Said otherwise, if market perception of the likelihood of the best case outcome changes by 0.01%, that could drive a \$100 change in current valuation, or >30% in today's prices. This is different than most other financial instruments that have a far narrower range of outcomes, which in turn create more stable values (Figure 4).

Figure 2: Bitcoin Valuation Framework

| | Outcome | \$/BTC | Probability | Probability Weighted |
|-------------------------------------|---|-------------|-------------|----------------------|
| "Napster" Outcome | - Overtaken by another coin - Fatal flaw uncovered - Broadly made illegal with strict enforcement | \$0 | 50.00% | \$0 |
| "PayPal" Outcome | - Specific use cases take hold (e.g. remittance, micro transactions, machine-to-machine, etc.) | \$400 | 49.98% | \$200 |
| "Internet" Outcome | - Bitcoin becomes global working capital of trade (\$20 trillion monetary base) | \$1,000,000 | 0.02% | \$200 |
| Probability-weighted outcome | | | | \$400 |

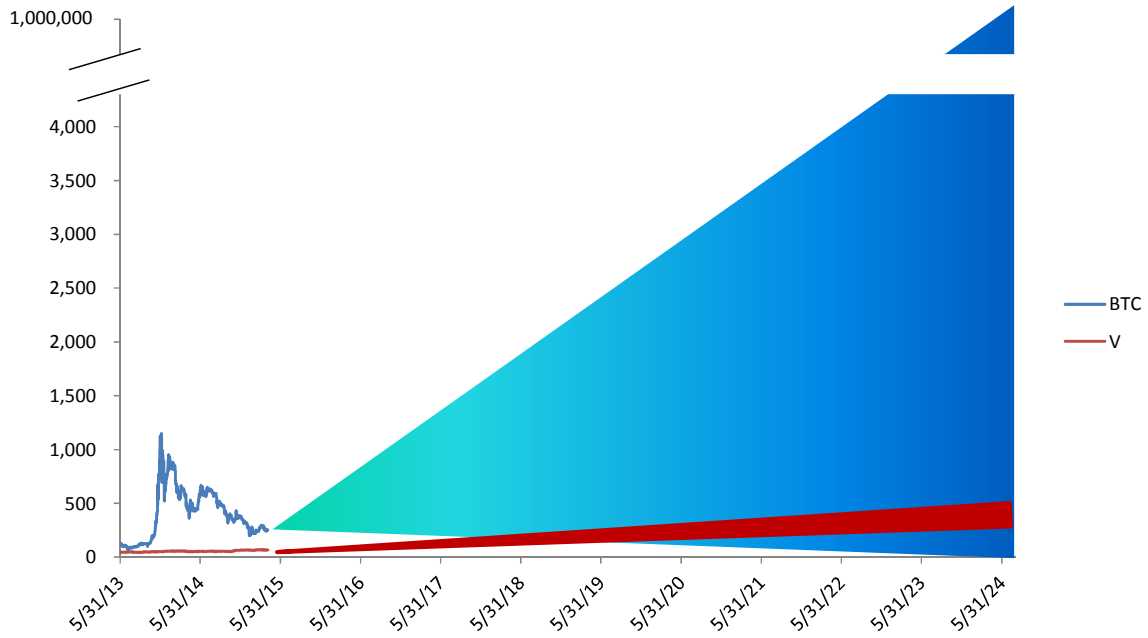
Source: Wedbush Securities, Inc.

Figure 3: Comparable Valuations (\$M)

| | Ticker | Market cap | P/E | |
|--------------------|------------|--------------|-------|-------|
| | | | 2015 | 2016 |
| Visa | V | \$132,655 | 25.9x | 22.4x |
| Mastercard | MA | 104,792 | 26.8x | 22.6x |
| American Express | AXP | 78,775 | 14.0x | 13.4x |
| PayPal | PYPL | 44,340 | | |
| Discover Financial | DFS | 25,816 | 10.9x | 10.0x |
| Western Union | WU | 9,862 | 11.6x | 11.1x |
| Square | | 6,000 | | |
| Stripe | | 5,000 | | |
| Bitcoin | BTC | 3,807 | | |
| Blackhawk Network | HAWK | 2,273 | 18.9x | 16.7x |
| Green Dot | GDOT | 988 | 13.7x | 12.4x |
| MoneyGram | MGI | 459 | 11.9x | 8.8x |

Source: Company data, Wedbush Securities, Inc.

Figure 4: Range of Outcomes Comparison between Bitcoin and Visa



Source: Company data, Wedbush Securities, Inc.

Bitcoin Technology Could Influence a Wide Range of Payment Applications

We believe the best approximations of the magnitude of shorter-term opportunity for bitcoin are the \$300+ billion payment card fee market (Figure 5) and the \$20+ billion cross border money remittance fees (Figure 6).

Figure 5: Global Payment Card Fees

| | 2013 | Merchant Discount Rate | Total Fees Generated (\$ billion) |
|----------------------|-----------------|------------------------|-----------------------------------|
| Global Credit Volume | \$8,597 | 2% | \$172 |
| Global Debit Volume | 11,970 | 1% | 120 |
| US Credit | 2,486 | 2% | 50 |
| US Debit | 2,250 | 1% | 22 |
| Total Global | \$20,567 | | \$292 |
| Total US | 4,736 | | \$72 |

Source: Nilson, Wedbush Securities, Inc.

Figure 6: Cross Border Money Remittance Fees

| <u>Western Union revenue</u> | <u>2014</u> |
|------------------------------|-------------|
| Consumer-to-Consumer | 4,486 |
| Consumer-to-Business | 599 |
| Business Solutions | 405 |

| Cross Border | Revenue (\$millions) | Volume (\$billions) | Overall blended rate |
|---------------------|-------------------------|------------------------|-------------------------|
| Western Union | 4,486 | \$82.0 | 5% |
| MoneyGram | 1,274 | 42.5 | 3% |
| EEFT | 523 | 12.0 | 4% |
| XOOM | 122 | 5.5 | 2% |
| Total Public | 6,405 | 142 | 5% |

Overall Estimated 2014 Cross Border Remittance Volume \$436.0 billion
 Overall Revenue Generated from Cross Border Remittance \$19.7 billion

Source: World Bank, Company data, Wedbush Securities, Inc.

The Scope of Bitcoin Technology Could Transcend Payments

We see the scope of disruption as substantial considering 20% of US GDP is generated by industries whose main function is as a trusted 3rd party (Figure 7). Although payment transaction fees are the most obvious fees that could be reduced by using bitcoin technology, we believe the use of the blockchain asset ledger and bitcoin protocol could also challenge financial services fees such as deposit fees, foreign exchange fees, escrow, trust management fees, collections fees, etc. (Figures 8, 9).

In addition to the disruption of decentralized trust, we see a potential role for bitcoin in the emerging area of machine-to-machine communication (Internet of Things). We believe M2M communication will require mechanisms for prioritizing resources and allowing internet connected devices to transact. Since there are no restrictions on bitcoin wallets being owned and operated by a device, we believe bitcoin and Ethereum may become enabling technologies. Some early examples of applications may be using payments to reduce distributed denial of service (DDoS) attacks or spam emails.

Figure 7: Portion of US GDP from Trust-Based Industries

| Value added (Millions of dollars) | 2013 | 2013% |
|--|--------------------|--------------|
| Gross domestic product | 16,768,100 | 100.0 |
| Agriculture, forestry, fishing, and hunting | 226,600 | 1.4 |
| Mining | 439,400 | 2.6 |
| Utilities | 276,700 | 1.7 |
| Construction | 619,900 | 3.7 |
| Manufacturing | 2,028,500 | 12.1 |
| Wholesale trade | 998,500 | 6.0 |
| Retail trade | 971,400 | 5.8 |
| Transportation and warehousing | 481,400 | 2.9 |
| Information | 779,200 | 4.6 |
| Finance, insurance, real estate, rental, and leasing | 3,381,700 | 20.2 |
| Finance and insurance | 1,206,900 | 7.2 |
| Federal Reserve banks, credit intermediation, and related activities | 519,300 | 3.1 |
| Securities, commodity contracts, and investments | 223,800 | 1.3 |
| Insurance carriers and related activities | 421,400 | 2.5 |
| Funds, trusts, and other financial vehicles | 42,300 | 0.3 |
| Real estate and rental and leasing | 2,174,800 | 13.0 |
| Real estate | 1,988,700 | 11.9 |
| Rental and leasing services and lessors of intangible assets | 186,200 | 1.1 |
| Professional and business services | 1,981,700 | 11.8 |
| Professional, scientific, and technical services | 1,154,800 | 6.9 |
| Legal services | 224,600 | 1.3 |
| Computer systems design and related services | 234,600 | 1.4 |
| Miscellaneous professional, scientific, and technical services | 695,500 | 4.1 |
| Educational services, health care, and social assistance | 1,380,400 | 8.2 |
| Arts, entertainment, recreation, accommodation, and food services | 621,700 | 3.7 |
| Other services, except government | 369,300 | 2.2 |
| Government | 2,211,600 | 13.2 |
| Sum of Trust-Based Service Sectors | \$3,606,300 | |
| As a percentage of GDP | 21.5% | |

Source: Bureau of Economic Analysis, Wedbush Securities, Inc.

Figure 8: Aggregate US Banks Non Interest Income

| | 2014 | | <i>Note</i> |
|---|----------------------|-------------------|----------------------------------|
| | <u>(\$ in 000's)</u> | <u>% of total</u> | |
| Total interest income | 469776 | | |
| Domestic office loans | 352440 | | |
| Foreign office loans | 22495 | | |
| Lease financing receivables | 4612 | | |
| Balances due from depository institutions | 5346 | | |
| Securities | 68898 | | |
| Trading accounts | 10293 | | |
| Federal funds sold | 2909 | | |
| Other interest income | 2783 | | |
| Total interest expense | 47126 | | |
| Domestic office deposits | 23934 | | |
| Foreign office deposits | 5691 | | |
| Federal funds purchased | 2166 | | |
| Trading liabilities and other borrowed money | 12548 | | |
| Subordinated notes and debentures | 2787 | | |
| Net interest income | 422650 | | |
| Provision for loan and lease losses | 29739 | | |
| Total noninterest income | 246723 | 34% | |
| Fiduciary activities | 32522 | | |
| Service charges on deposit accounts | 34086 | | |
| Trading account gains and fees | 22710 | | |
| Interest rate exposures | 4748 | | |
| Foreign exchange exposures | 11895 | | |
| Equity security and index exposures | 2641 | | |
| Commodity and other exposures | 1710 | | |
| Credit exposures | 1712 | | |
| Investment banking, advisory, brokerage and underwriting fees and commissions | 11256 | | |
| Venture capital revenue | 60 | | |
| Net servicing fees | 8992 | | |
| Net securitization income | 1312 | | |
| Insurance commission fees and income | 3158 | | |
| Net gains (losses) on sales of loans | 11885 | | |
| Net gains (losses) on sales of other real estate owned | -287 | | |
| Net gains (losses) on sales of other assets (except securities) | 1748 | | |
| Other noninterest income | 119282 | 17% | <i>Includes payments revenue</i> |
| Total noninterest expense | 421904 | | |
| Salaries and employee benefits | 189673 | | |
| Premises and equipment expense | 44759 | | |
| Other noninterest expense | 179803 | | |
| Amortization expense and goodwill impairment losses | 7669 | | |
| Securities gains (losses) | 3201 | | |
| Income (loss) before income taxes and extraordinary items | 220930 | | |
| Applicable income taxes | 67493 | | |
| Extraordinary gains (losses), net | -116 | | |
| Net income (loss) attributable to bank | 152685 | | |
| Net income (loss) attributable to noncontrolling interests | 635 | | |
| Net income (loss) attributable to bank and noncontrolling interests | 153321 | | |
| Net charge-offs | 39489 | | |
| Cash dividends | 90212 | | |
| Retained earnings | 62473 | | |
| Net operating income | 151154 | | |

Source: FDIC, Wedbush Securities, Inc.

Figure 9: Wells Fargo - Noninterest Income (\$M)

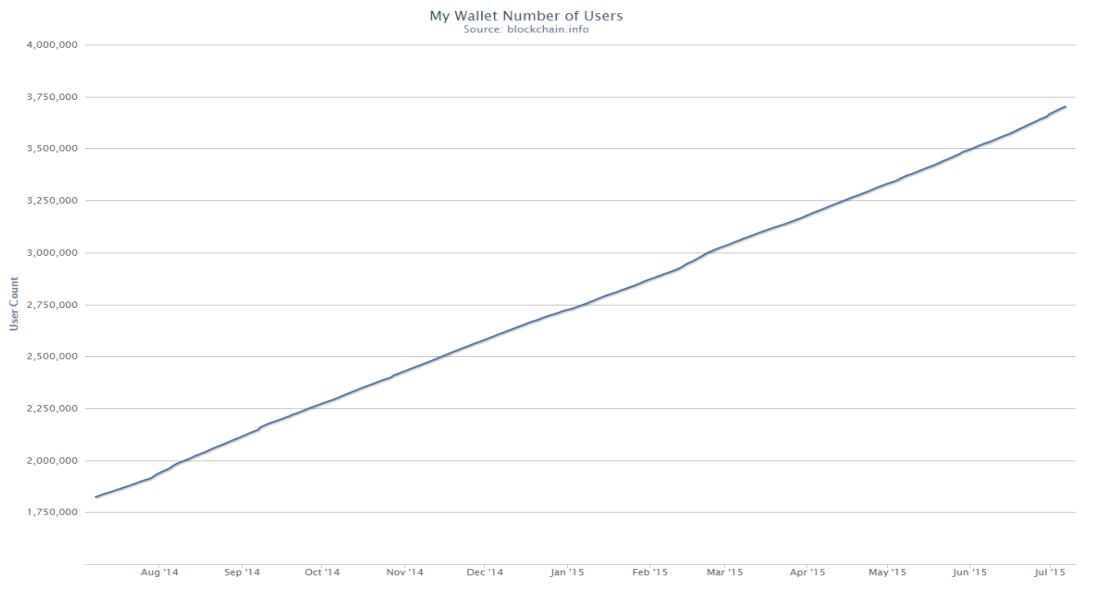
| <u>FY2014</u> | Noninterest Income | |
|-----------------------------------|--------------------|-----|
| Trust and Investment Fees | 14,280.0 | 35% |
| Mortgage Banking | 6,381.0 | 16% |
| Deposit Service Charges | 5,050.0 | 12% |
| Other Banking Fees | 4,349.0 | 11% |
| Net Gains from Equity Investments | 2,380.0 | 6% |
| Card Fees | 3,431.0 | 8% |
| Insurance | 1,655.0 | 4% |
| Net Gains from Trading | 1,161.0 | 3% |
| Other Noninterest Income | 2,133.0 | 5% |
| Total | 40,820.0 | |

Source: Company data, Wedbush Securities, Inc.

Growth in Bitcoin Usage Evident in the Metrics

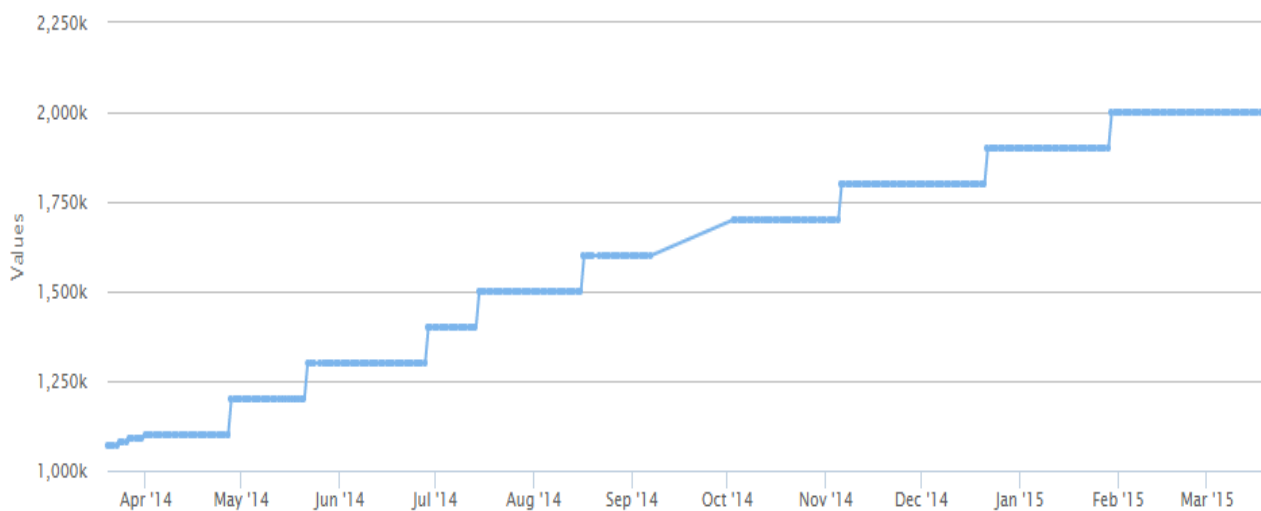
We see evidence of bitcoin technology adoption in a multitude of metrics (Figures 10-13). In fact, if merchant adoption is a metric for success, Bitpay/Coinbase have added significantly more merchants than Apple Pay. Popular wallets Blockchain.info and Coinbase have exceeded a combined 5 million wallets and merchant acquirers Bitpay and Coinbase have now signed up more than 80k merchants globally. These two forces have contributed to driving a near doubling of key usage metrics.

Figure 10: Blockchain.info Number of Wallets



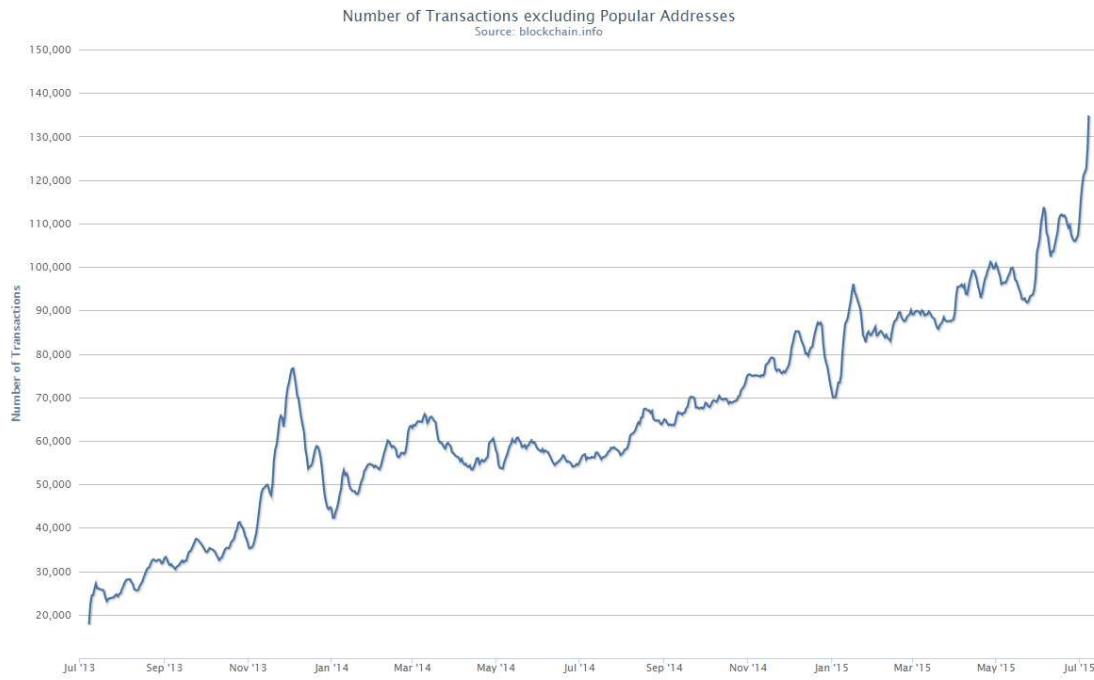
Source: Blockchain.info, Wedbush Securities, Inc.

Figure 11: Coinbase Number of Wallets



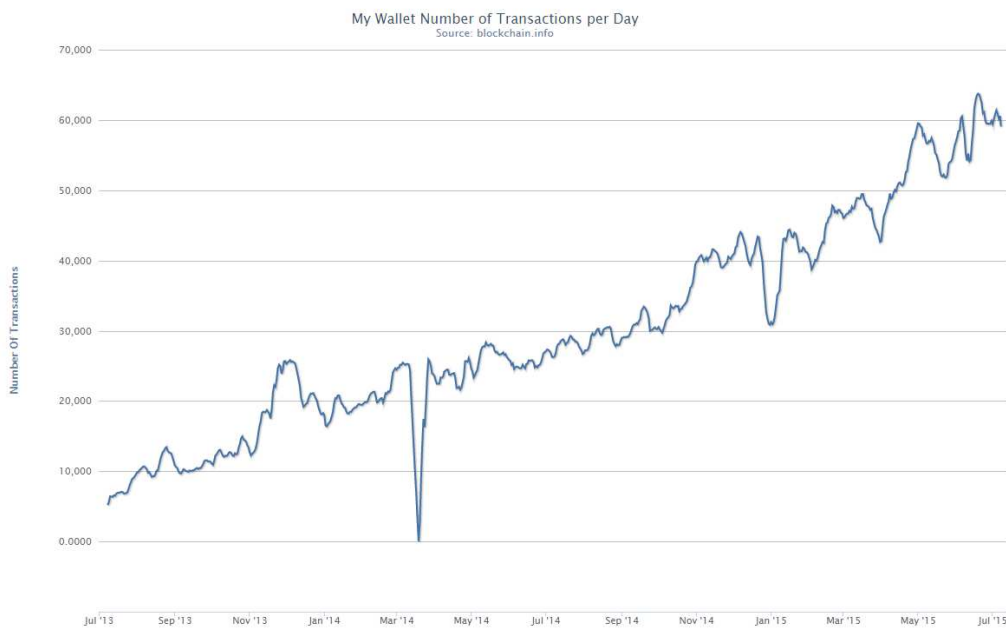
Source: Bitcoin Pulse, Wedbush Securities, Inc.

Figure 12: Number of Transactions excluding Popular Addresses



Source: Blockchain.info, Wedbush Securities, Inc.

Figure 13: Blockchain.info Wallet Number of Transactions per Day

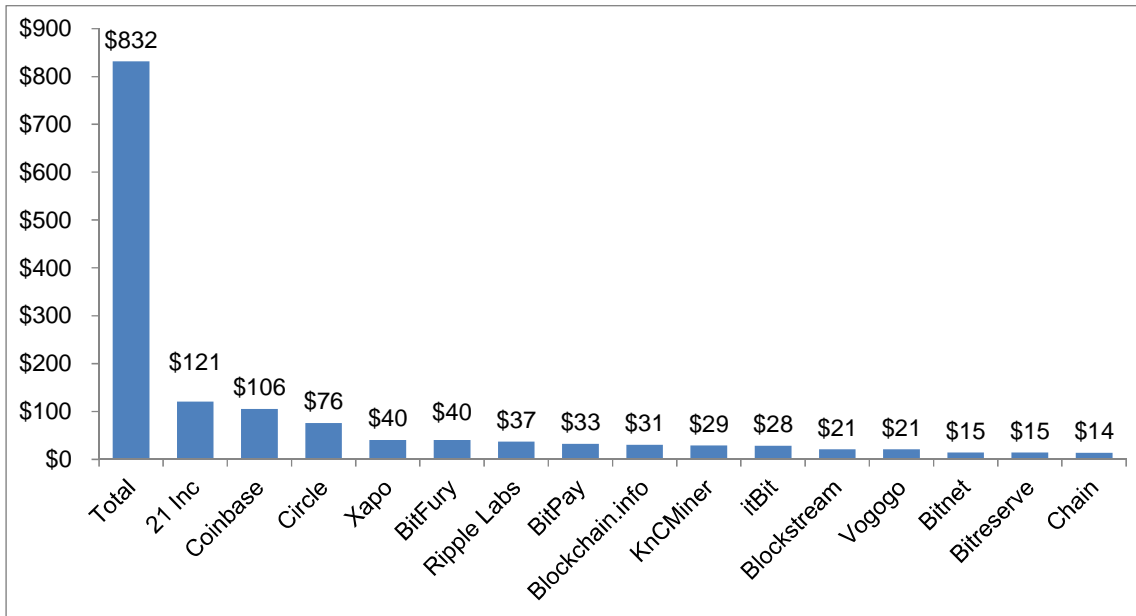


Source: Blockchain.info, Wedbush Securities, Inc.

Investment of Venture Capital and Engineering Time Also Illustrate Growth

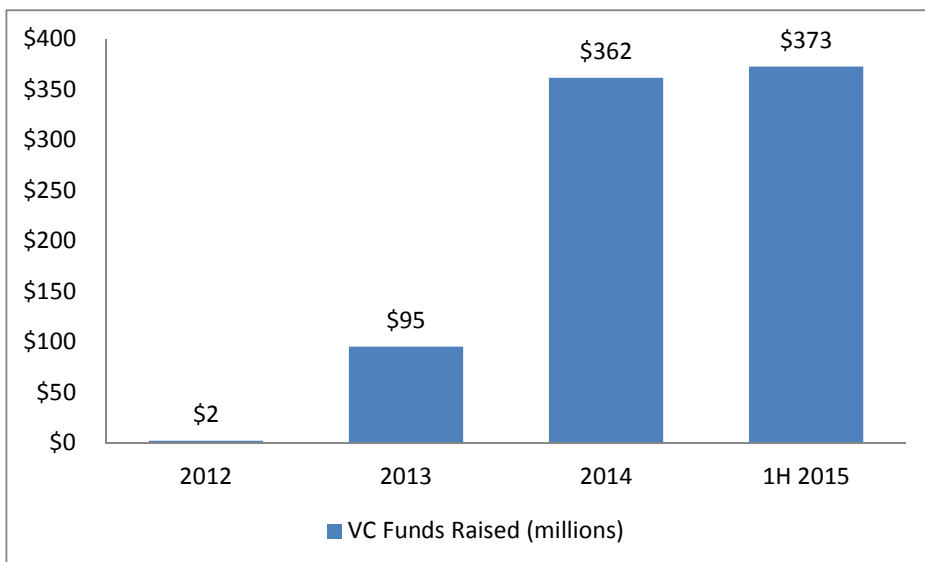
We see several signs that entrepreneurs and developers are swarming to the bitcoin platform (Figures 14-16). We found nearly 5,500 Github repositories, double six months ago, which was nearly double from the previous six months. We see this as the best indication of the potential for bitcoin as these developers allocate their most valuable resource - development hours. We believe nearly \$832 million of venture funds have been invested in bitcoin companies, mostly over the last twelve months, which does not include the hundreds of millions we believe have been invested in network node (mining) equipment.

Figure 14: Total Venture Funds Raised to Date with Top 15 Recipients (\$ millions)



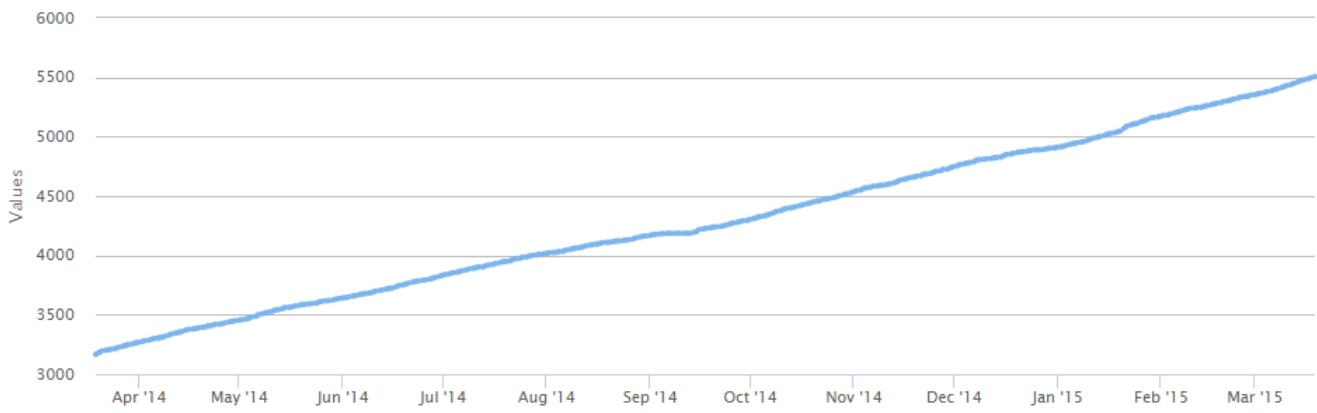
Source: CoinDesk, Wedbush Securities, Inc.

Figure 15: Venture Funds Raised by Year (\$ millions)



Source: CoinDesk, Wedbush Securities, Inc.

Figure 16: Github Number of Created Repositories



Source: *Bitcoin Pulse, Wedbush Securities, Inc.*

Adoption of Bitcoin Technology by Incumbent Payments Companies Indicates Promising Role

Incumbent payments industry participants have been embracing bitcoin and incorporating bitcoin into their businesses (Figures 17-18). We believe the integration (not acceptance) of bitcoin by a range of companies from old guard NCR and First Data to Silicon Valley leaders PayPal and Intuit serves as the ultimate validation of the impact of the technology.

Figure 17: Companies Accepting or Integrating Bitcoin Payments**Companies investing in Blockchain Technology**

Goldman Sachs
NYSE
NASDAQ
UBS
Citi
Barclays
Overstock.com
Wedbush
CME

Companies incorporating Bitcoin payment options

PayPal/Braintree
Stripe
NCR
Square
Intuit
First Data
Global Payments
Toshiba, VisualTouch

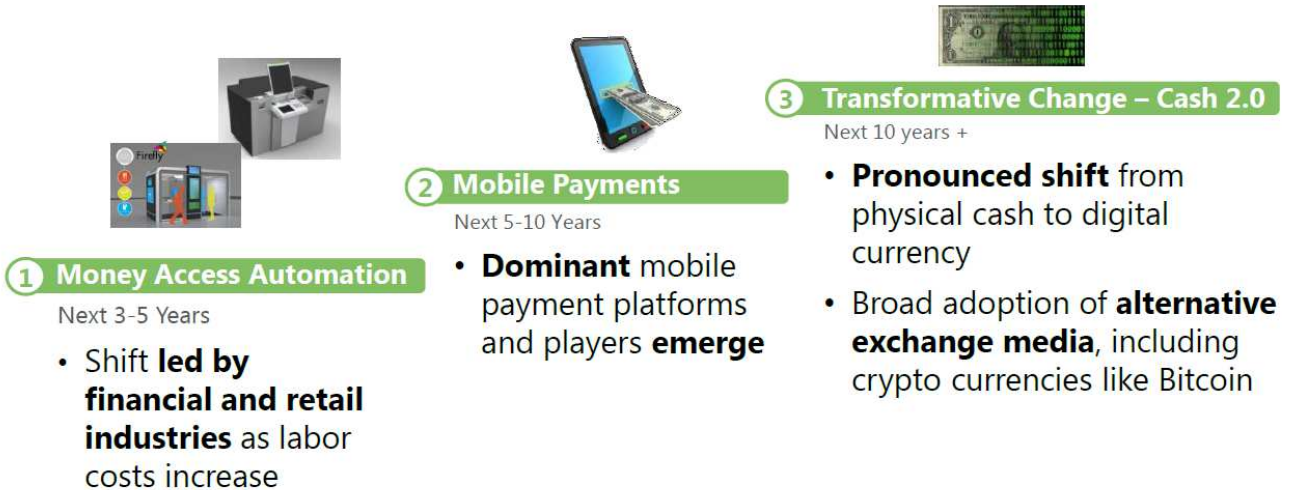
Companies accepting Bitcoin payments

Microsoft
Dell
United Way
Wikipedia
Wordpress
Expedia
Dish
Overstock
American Red Cross
Time Magazine
Mozilla
Newegg
Reddit
Soundcloud
Zynga
Subway (very few)
Virgin Galactic
Sacramento Kings
Gyft
TigerDirect
Chicago Sun-Times
OKCupid
Rakuten (via subsidiary Rakuten Super Logistics)
OpenSSL
Khan Academy

Source: Company data, Wedbush Securities, Inc.

Figure 18: Chart in Diebold's Investor Day Presentation (December 10, 2014)

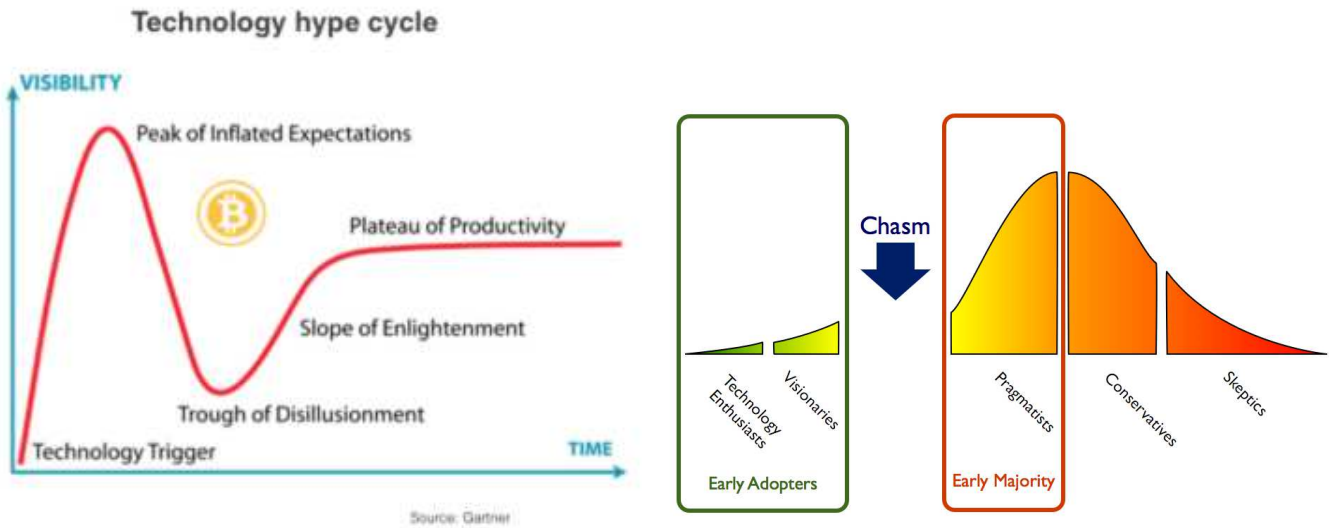
Three main phases characterize the transformation in the way people connect with their money



Like Any Other Disruptive Technology, Timeline May be Extended

Like other new major technology disruptions (e.g., Social, Mobile), we believe the disruption from bitcoin will take longer than expected but have an even more profound impact than anticipated. We believe bitcoin is going through the “adoption chasm,” making the timing of broader implementation of the technology still at least 1-3 years away.

Figure 19: Chasm of Adoption and Trough of Disillusionment

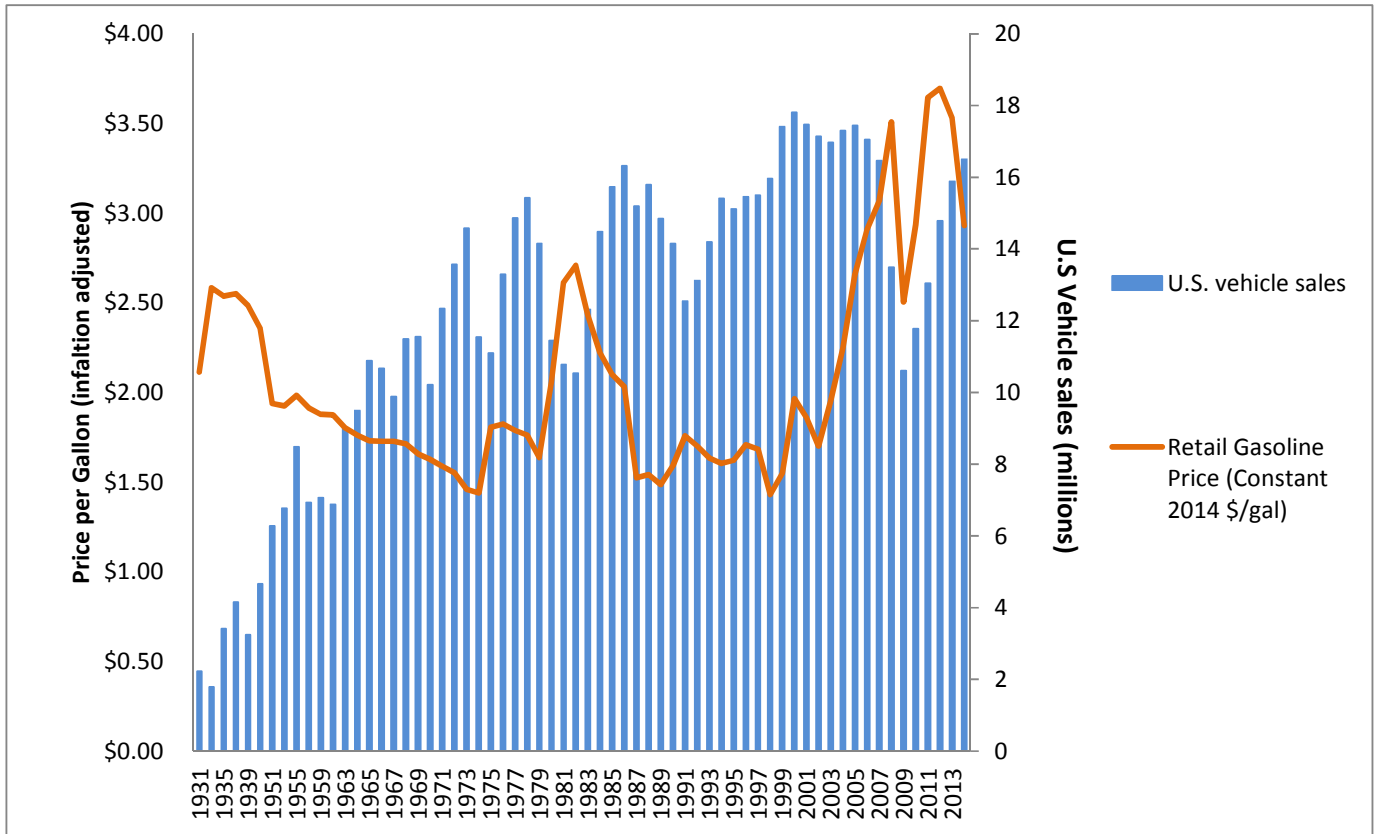


Source: CoinDesk, Wedbush Securities, Inc.

Relationship between BTC and Blockchain Technology Similar to Gasoline and Cars

We see the relationship between BTC and Blockchain technology as analogous to the historical price of gasoline to the production of the internal combustion engine (Figure 20). That is to say – higher car sales (blockchain tech applications) will drive higher gasoline prices long term, but the opposite does not hold – lower gas prices (bitcoin currency) do not foreshadow fewer car sales. In both these situations, the innovations (GPS, satellite radio, parking sensors) flourish even as the fuel they relied upon fluctuated in price. So we see value in the currency and a relationship between the value of the currency and the proliferation of applications of its underlying technologies, however not a 1-to-1 relationship.

Figure 20: Price of Gasoline to the U.S. Vehicle Sales



Source: EIA, Wedbush Securities, Inc.

Volatility a Feature as Much as an Impediment

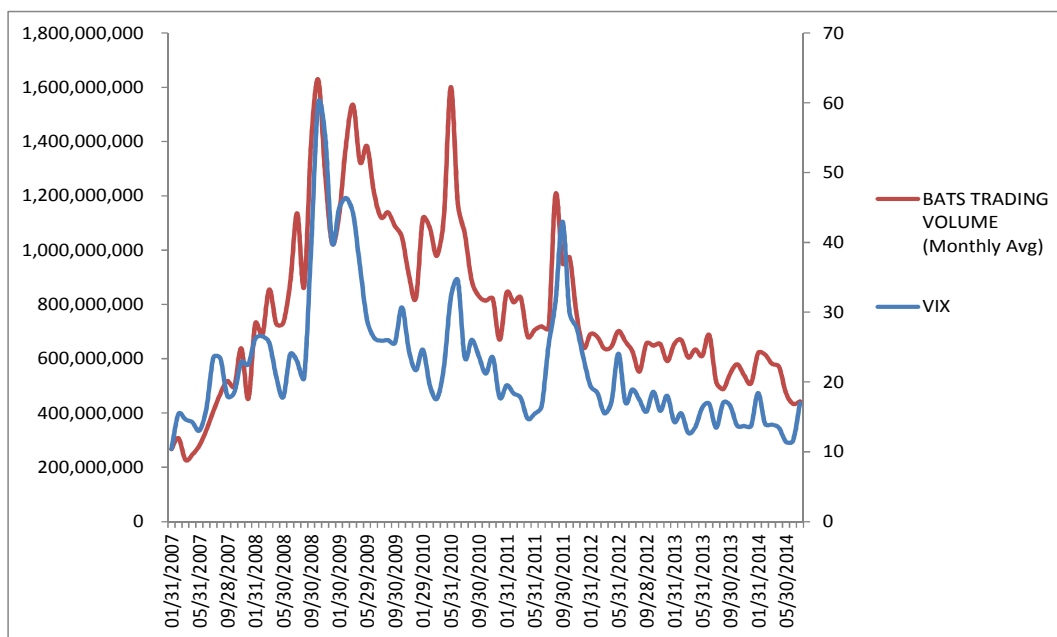
Some of the above analysis implies volatility in the price of BTC may not go away anytime soon, as the potential for bitcoin is being constantly measured by the market in light of rapid technology development and unpredictable regulatory constraints. However, we do not believe this volatility, in itself, will impede the growth of bitcoin technology and ecosystem.

Since economic activity (sale of goods & services, money remittance, P2P) is intermingled with trading activity, we believe the trading activity is helping create the network capacity and monetary base to support the future economic applications of bitcoin. As “first wave” bitcoin applications such as remittance, online payments and micropayments mature, we expect them to make up an increasingly large proportion of overall transaction volumes. In the meantime, investment and trading have “paid” for the hundreds of millions of network equipment (i.e., mining equipment) and iterative refinements of the bitcoin code.

Volatility in the price of bitcoin should not impede retailer acceptance of bitcoin, in our opinion, as merchants and payment processors are entirely shielded, and we expect consumers will be shielded in the future. Since retailers have the choice of receiving the same dollar amount as the items are listed for into their bank account, and payment processors have the ability to hedge real-time, both are already free from volatility risk. We expect wallet providers such as Coinbase and Circle to work on solutions that will allow consumers (as opposed to investors/traders) to hold only a limited amount of bitcoin in their wallet and still be able to benefit from the simplicity of using bitcoin and incentives retailers will share with them as they reduce the cost of payment acceptance. Just as consumers carry a certain amount of cash in their physical wallets in spite of commonly using payment cards, consumers may hold a certain amount of bitcoin in a digital wallet for online transactions, and have that balance replenished by the wallet provider out of their bank account. We believe that other payment applications will be shielded from volatility through futures contracts facilitated by the burgeoning bitcoin derivative market, just as companies currently shield themselves from government currency volatility.

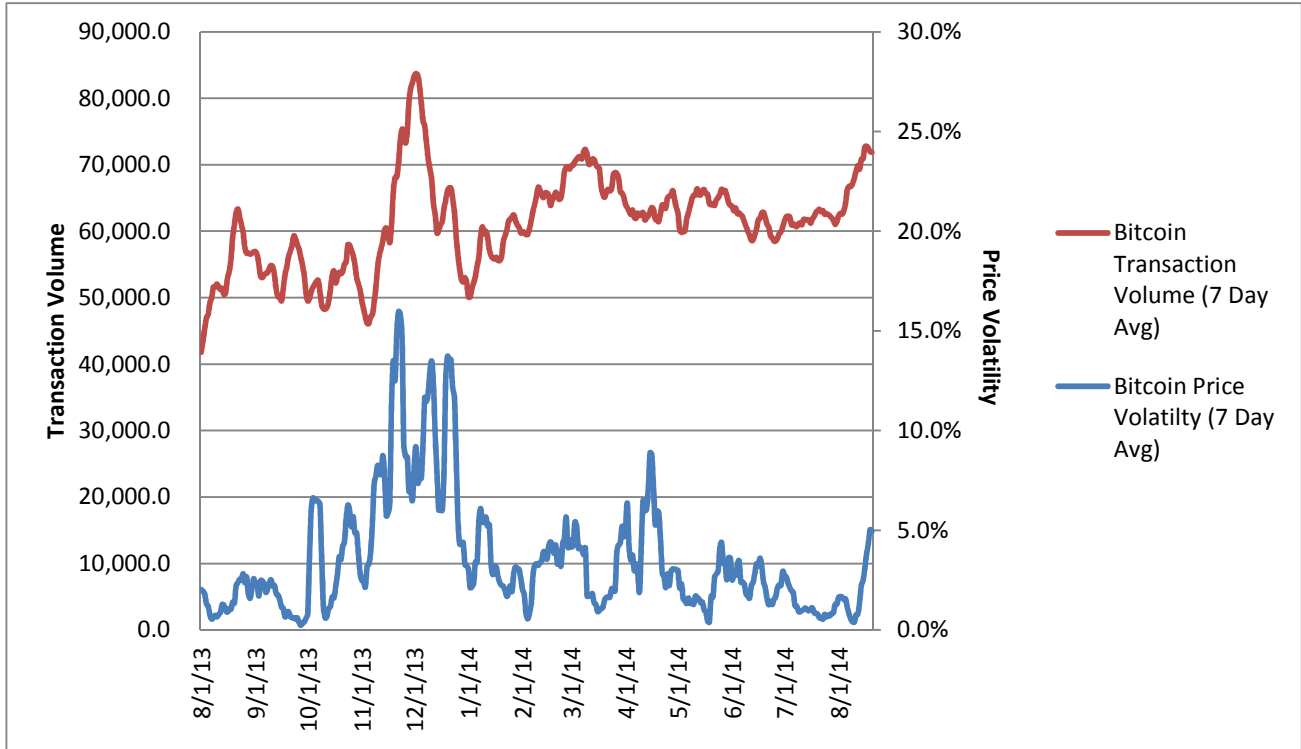
We further believe traders actually value volatility as they continue to gravitate to bitcoin trading as an active 24/7 market uncorrelated with other asset class returns. The connection between volatility and trading volumes is well established in equities (Figure 21) and is beginning to emerge in bitcoin trading (Figure 22).

Figure 21: Equities Trading Volume and Volatility



Source: BATS, CBOE, Wedbush Securities, Inc.

Figure 22: Bitcoin Trading Volume and Volatility



Source: Blockchain.info, Wedbush Securities, Inc.

GBTC Structure and Management

The Bitcoin Investment Trust (BIT), or the “Trust”, is a private, open-ended trust that is invested exclusively in bitcoin and derives its value solely from the price of bitcoin. It enables investors to gain exposure to the price movement of bitcoin without the challenges of buying, storing, and safekeeping bitcoins. The Trust was formed as a statutory trust in the State of Delaware in September 2013.

Grayscale Investments, a wholly-owned subsidiary of SecondMarket Holdings, Inc, serves as the Trust sponsor. SecondMarket Holdings serves as the custodian and administrator, Sidley Austin LLP as legal counsel, Continental Stock Transfer & Trust (SEC registered & regulated) as transfer and administrative agent, and Ernst & Young as the auditor.

Shares of the Trust represent units of fractional undivided beneficial interest in and ownership of the Trust and have no par value. Shares trade on the OTC Markets Group OTCQX exchange under the ticker symbol “GBTC.” The Trust is authorized to issue unlimited shares, and can only issue shares in “baskets” of 100 shares. Initially when privately held, each share was backed by 0.1 Bitcoins (BTC). The investment objective of the Trust is for the net asset value (NAV) per share to track the Bitcoin market price per share less the Trust’s expenses.

The Trust has not experienced any change of control within the last three years. During the life of the Trust, the shares will only be owned by the Trust and held by the Custodian, disbursed (or converted to USD, if needed) to pay the Trust’s expenses, distributed to authorized participants upon receipt of redemption baskets, liquidated in the event that the Trust terminates, or liquidated as otherwise required by law or regulation.

Risks to Bitcoin

Future risks that may face bitcoins, the Shares' underlying asset, may be:

- Bitcoin does not generate any cash flow.
- Changes in global bitcoin demand, by changing levels of acceptance by merchants and consumers, may adversely affect market pricing of bitcoins.
- Cyber theft of bitcoins by or from online bitcoin wallet providers, or theft from individual bitcoin wallets.
- Monetary policies of central banks and governments may impose risk by trade restriction or currency revaluation, possibly having adverse effects on bitcoin market pricing.
- Increased competition from other payment technologies, services, or forms of crypto currency.
- The maintenance and development of the open-source software protocol of the Bitcoin Network.

Risks to GBTC Shares

Future risks that may face the Trust, and its Shares, may be:

- Regulatory changes that may change the way BIT operates in regards to the way the Shares are traded on its designated exchange.
- Countries curtailing or outlawing trading and/or ownership of bitcoins.
- Additional expenses incurred by the Trust due to possible future regulatory compliance changes, though the Trust holds the ability to terminate should these expenses be disadvantageous to investors.
- Due to the Shares' direct relationship to historically volatile bitcoin market prices, the value of the shares may fluctuate.
- BIT is a passive investment vehicle; therefore it is not actively managed and is susceptible to losses that may have been mitigated by active trading.

Acknowledgements – thank you to Sherwin Dowlat for his contribution and Ryan Selkis and Kirill Gourov for their enlightening perspective on valuation.

Analyst Biography

Gil Luria is a Managing Director, Equity Research, covering Financial Technology stocks at Wedbush Securities. He joined Wedbush in 2005 and was previously at Sanford C. Bernstein covering large U.S. telecommunications companies. Prior to that he was a Manager with Deloitte Consulting focused on telecommunications companies.

Mr. Luria holds a B.A. in Economics from Hebrew University and an M.B.A. from Columbia Business School.

Gil's Edge: Gil relies on bottom-up fundamental analysis building on his deep understanding of technology and its implications for his companies.

Public companies mentioned in this report (closing prices on 7/9/15)

| COMPANY | TICKER | RATING | PRICE | PRICE TARGET |
|----------------|---------------|---------------|--------------|---------------------|
| Visa | V | NEUTRAL | \$66.73 | \$65 |
| Mastercard | MA | NEUTRAL | \$92.49 | \$90 |
| PayPal | PYPL | N/A | N/A | N/A |
| Intuit | INTU | NEUTRAL | \$103.43 | \$97 |
| NCR | NCR | NEUTRAL | \$29.31 | \$22 |

Analyst Certification

I, Gil Luria, Aaron Turner, certify that the views expressed in this report accurately reflect my personal opinion and that I have not and will not, directly or indirectly, receive compensation or other payments in connection with my specific recommendations or views contained in this report.

Disclosure information regarding historical ratings and price targets is available at <http://www.wedbush.com/ResearchDisclosure/DisclosureQ115.pdf>

Investment Rating System:

Outperform: Expect the total return of the stock to outperform relative to the median total return of the analyst's (or the analyst's team) coverage universe over the next 6-12 months.

Neutral: Expect the total return of the stock to perform in-line with the median total return of the analyst's (or the analyst's team) coverage universe over the next 6-12 months.

Underperform: Expect the total return of the stock to underperform relative to the median total return of the analyst's (or the analyst's team) coverage universe over the next 6-12 months.

The Investment Ratings are based on the expected performance of a stock (based on anticipated total return to price target) relative to the other stocks in the analyst's coverage universe (or the analyst's team coverage).*

| Rating Distribution (as of March 31, 2015) | Investment Banking Relationships (as of March 31, 2015) |
|---|--|
| Outperform: 55% | Outperform: 31% |
| Neutral: 43% | Neutral: 3% |
| Underperform: 2% | Underperform: 0% |

The Distribution of Ratings is required by FINRA rules; however, WS' stock ratings of Outperform, Neutral, and Underperform most closely conform to Buy, Hold, and Sell, respectively. Please note, however, the definitions are not the same as WS' stock ratings are on a relative basis.

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Wedbush Equity Research Disclosures as of July 9, 2015

| Company | Disclosure |
|--------------------------|------------|
| Bitcoin Investment Trust | 1 |
| Visa | 1 |
| MasterCard | 1 |
| PayPal | 1 |
| Intuit | 1 |
| NCR | 1 |

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5. WS provided investment banking services within the last 12 months.
6. WS is acting as financial advisor.
7. WS expects to receive compensation for investment banking services within the next 3 months.
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* WS changed its rating system from (Strong Buy/Buy/Hold/Sell) to (Outperform/ Neutral/Underperform) on July 14, 2009. Please access the attached hyperlink for WS' Coverage Universe: <http://www.wedbush.com/services/cmgequities-division/research/equity-research> Applicable disclosure information is also available upon request by contacting Ellen Kang in the Research Department at (213) 688-4529, by email to ellen.kang@wedbush.com, or the Business Conduct Department at (213) 688-8090. You may also submit a written request to the following: Business Conduct Department, 1000 Wilshire Blvd., Los Angeles, CA 90017.

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