

Bitcoin

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Gil Luria
(213) 688-4501
gil.luria@wedbush.com

Aaron Turner
(213) 688-4429
aaron.turner@wedbush.com

2014 Saw Bitcoin Go (Quietly) Mainstream as Blockchain Tech Unbundled from Bitcoin Currency Prices; 2015 Will be About Enterprise-Class Infrastructure

- **We believe bitcoin and the associated technology have the potential to disrupt the legacy financial infrastructure over the next few years. We see the early signs of this disruption in the form of increasing merchant adoption, transaction volumes and innovative technology development built to leverage the bitcoin blockchain.**
- **We see 2014 as the year bitcoin (quietly) became a mainstream technology, with many incumbent payments industry participants embracing it and incorporating bitcoin into their businesses (pages 2-5).** 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, not to mention the broad positive commentary from other industry participants. To be sure, there are still plenty of naysayers, especially among those that may ultimately be threatened by this technology.
- **We believe 2014 has shown that bitcoin prices are only related to the success of underlying technology as gasoline prices are related to car sales (page 6).** Although we have been arguing this unbundling for at least a year ([link](#)), we find investors continue to (mistakenly) view the price of the bitcoin currency as a forward indicator for the success and impact of bitcoin blockchain technology. We offer the substantial investment activity around bitcoin during a period of declining bitcoin prices as evidence that bitcoin should be regarded as a “fuel” for the blockchain technology and expect that innovation to continue to flourish irrespective of the bitcoin price. We see the relationship as analogous to the historical price of gasoline to the production of the internal combustion engine or the price of electricity to production of Teslas. That is to say – higher car sales (blockchain tech applications) may drive higher gasoline prices long term, but the opposite does not hold – lower gas prices (bitcoin currency) do not foreshadow lower car sales. In both these situations, the innovations (GPS, satellite radio, parking sensors) flourish even as the fuel they relied upon fluctuated in price.
- **Which is to say - we see value in the currency and a relationship between the value of the currency and the proliferation of applications of its underlying technologies, just not a 1-to-1 relationship.** In fact, it is a matter of public record that Wedbush Securities has made nominal investments in both bitcoin technology businesses as well as the currency.
- **Similarly, we liken the commentary around the lack of prospects for bitcoin based on the declining bitcoin currency prices as tantamount to dismissing “The Internet” in 2001, based on the price performance of CSCO.** We believe that just as the investment in Internet infrastructure (i.e., CSCO routers) in the late 90’s led to AMZN, GOOGL, and FB (page 7), the current investment in bitcoin infrastructure will lead to similar success for bitcoin companies, even if some disruption takes 10+ years (as it did for FB).
- **We see the adoption of bitcoin technology as going beyond bitcoin’s continued growth across many other metrics (pages 8-10). In fact, if merchant adoption is a metric for success, Bitpay/Coinbase have added significantly more merchants than Apple Pay ([link](#)).** 2014 saw big increases in merchant adoption, wallets, usage and venture funding. Popular wallets Blockchain.info and Coinbase saw their number of wallets increase from ~900k to over 2.6 million and 728k to over 1.8 million, respectively. Merchant acquirer Bitpay and Coinbase have now signed up a combined 77k merchants globally, up from 26k collectively since the start of the year. These two forces have contributed to driving a near-doubling of key usage metrics. 2014 saw more than \$300 million in venture funds raised for the crypto-currency startups, representing nearly 3x the amount of funding raised for the space in all previous years combined.
- **Weakness in unregulated foreign-domiciled third-party providers such as Bitstamp should be viewed as such, not as a weakness in bitcoin or the underlying technology, in our opinion. Similarly, we do not see the recent losses at Xoom as a sign of weakness in the payment networks they use i.e. Automatic Clearing House and wire transfer.** We continue to believe the bitcoin infrastructure will be enhanced when bitcoin transaction volumes migrate to regulated, robust, liquid and secure venues.
- **We expect bitcoin and other blockchain infrastructure to take the biggest step forward in 2015.** Although we expect some early applications such as micro transactions (e.g., ChangeTip) and remittance to gain traction, we expect 2015 to mostly continue the hard work of building venues, settling regulation, and integrating into the existing financial services environment.

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Additional Analysis

Figure 1: Companies Accepting or Integrating Bitcoin Payments**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: Wedbush Securities, Inc.

Figure 2: Chart in Diebold’s Investor Day Presentation (December 10, 2014)

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

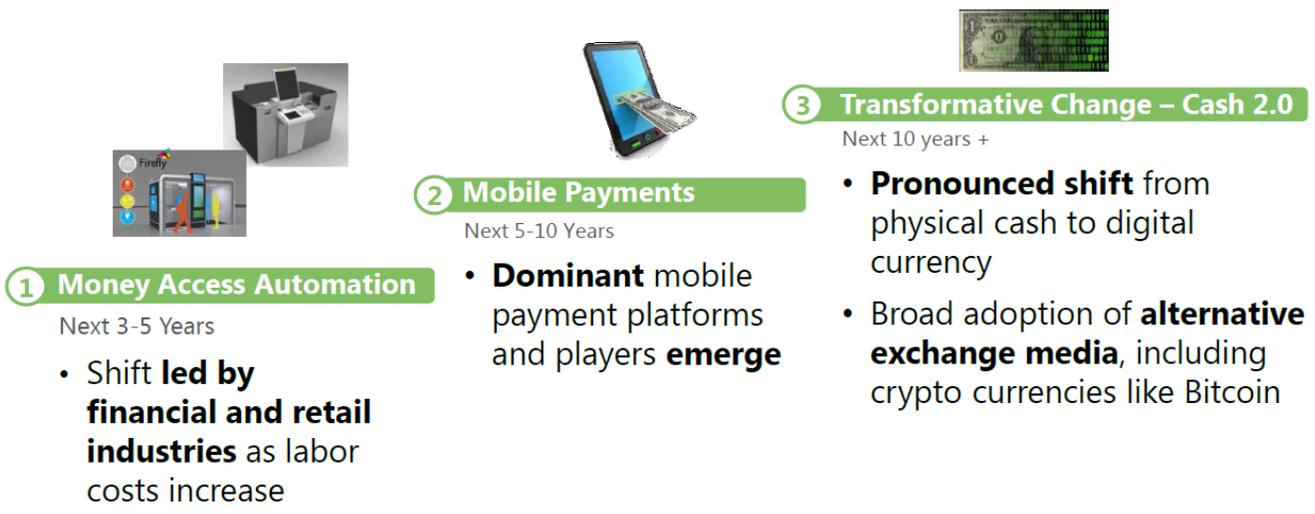


Figure 3: Bitcoin Sentiment Shifting Among Business Leaders...

EBAY CEO, John Donahue	June, 2014 Interview, CNBC.
<p>"I think there's no doubt that digital currency is going to play an important role going forward, and at PayPal, we're going to have to integrate digital currencies into our wallet." "I think you'll begin to see Bitcoin used in different use cases, whether it's a peer-to-peer use case, a cross-border transaction, someone sending currency to someone else, and over time, you'll begin to see it with some merchants accepting Bitcoin." "And I don't know how big it will get, how quickly, but I do think that the underlying theme of digital currency is something that we are aware of and we are going to pay attention to." "I think there are two sides of it, the investment side and the digital currency side. I'm more interested in the digital currency side about how you and I can exchange value seamlessly using technology."</p>	
EBAY President, eBay Marketplaces, Devin Wenig	November, 2014 Interview, Wall Street Journal.
<p>"Both eBay and PayPal are open to (Bitcoin)-PayPal is experimenting with it-through our relationship we're likely to do the same. I am very open to it."</p>	
INTU CEO, Brad Smith	February, 2014 Interview, Daily Ticker at Yahoo Finance.
<p>"(Bitcoin is) an increasingly growing alternative currency and our customers were asking for it. No one can argue there is a large audience out there using this type of currency."</p>	
INTU PayBycoin Engineer, Clinton Neilsen	July, 2014 Interview, Daily Ticker at Yahoo Finance.
<p>"The only thing I heard was one customer said they'd rather having us focus on things that are right now rather than things that are far-reaching, but the overwhelmingly positive attitude from the media in general and our customers has drowned that out. We've seen more sign-ups than we expected."</p>	
NCR Small Business Director of Business Development, Reggie Kimble	November, 2014 Press-release, company issued.
<p>"Gone are the days when cash and cards were the only payment options available to customers shopping at small businesses. Offering bitcoin as a payment alternative allows small businesses the flexibility they need to better serve their growing number of customers who prefer digital payment solutions."</p>	
ACIW CEO, Philip Heasley	November, 2014 ACI Worldwide Inc Investor Day.
<p>"Bitcoin, something totally different (than debit/ACH). I totally don't understand this concept of a currency that has no theoretical economic back. I read the Wealth of Nations and I had no support of Bitcoin as it relates to that. Bitcoin as software and its implications to potential real-time settlement, I think is a fascinating thing to explore. So I think the open source software of Bitcoin potentially- or the concept, the construct behind it, because it has a lot of the same token aspects that we're thinking about in Apple Pay. And if you could really operationalize that in how you thought about real-time reconciliation, the way we're thinking about real-time payment I think it could be a fascinating notion."</p>	
AXP CEO, Kenneth Chenault	December, 2014 Interview, DealBook Conference.
<p>"The reality is, we compete with any form of payments. Everyone focuses on the displacement of Bitcoin and the credit card industry. There's a reason why credit cards were invented. People wanted to defer payment. They wanted to borrow." "Customers have different payment needs. I actually think that the protocol of bitcoin is going to be important. The analogy that I would give is I think about bitcoin and alternative currencies is really Napster and iTunes. I don't know how this is going to evolve. We're following it closely, but at the end of the day I think there's a lot of room for growth, \$25 trillion? That's a lot of opportunity out there. \$6 trillion in credit charge cards, so I think there's room for a lot of players."</p>	
DISH COO, Bernie Han	May, 2014 Press release, company-issued.
<p>"Bitcoin is becoming the preferred way for some people to transact and we want to accommodate those individuals." "(Dish's decision to accept Bitcoin) is a large step forward in the growing momentum of customers paying companies in bitcoin for things we do everyday, like watching premium TV."</p>	
IBM VP & North America Leader of Mobile & Internet of things, Paul Brody	September, 2014 Interview, GigaOM.
<p>"I think that demand for the blockchain technology, the programmable ledger, autonomous distributed systems is going to be colossal. As devices become smarter and smarter, why shouldn't they be able to manage themselves? The blockchain allows you to run a totally distributed platform. And by our calculation, if you use the blockchain, you can cut the cost of managing a high volume device network by 99%." "My smartwatch has to have a transaction contract with my door to unlock it. That transaction has to be broadcast in the blockchain so that all the devices in my block chain, that I own, recognize me and allow my watch to unlock any doors." "Transaction processing is the foundational workload of all modern computing. Tweets, likes, airline reservations, utility bills -- they're all transactions. On the block foundation level, we can do more than just infrastructure, we can write applications."</p>	
MSFT Corporate Vice President of Universal Store, Eric Lockard	December, 2014 Press release, company-issued.
<p>(After announcement of Bitcoin to be accepted by Microsoft as "a payment option to buy apps, games and other digital content from Windows, Window Phone, Xbox Games, Xbox Music or Xbox Video Stores".) "For us, this is about giving people options and helping them do more on their devices and in the cloud. The use of digital currencies such as bitcoin, while not yet mainstream, is growing beyond the early enthusiasts. We expect this growth to continue and allowing people to use bitcoin to purchase our products and services now allows us to be at the front edge of that trend."</p>	

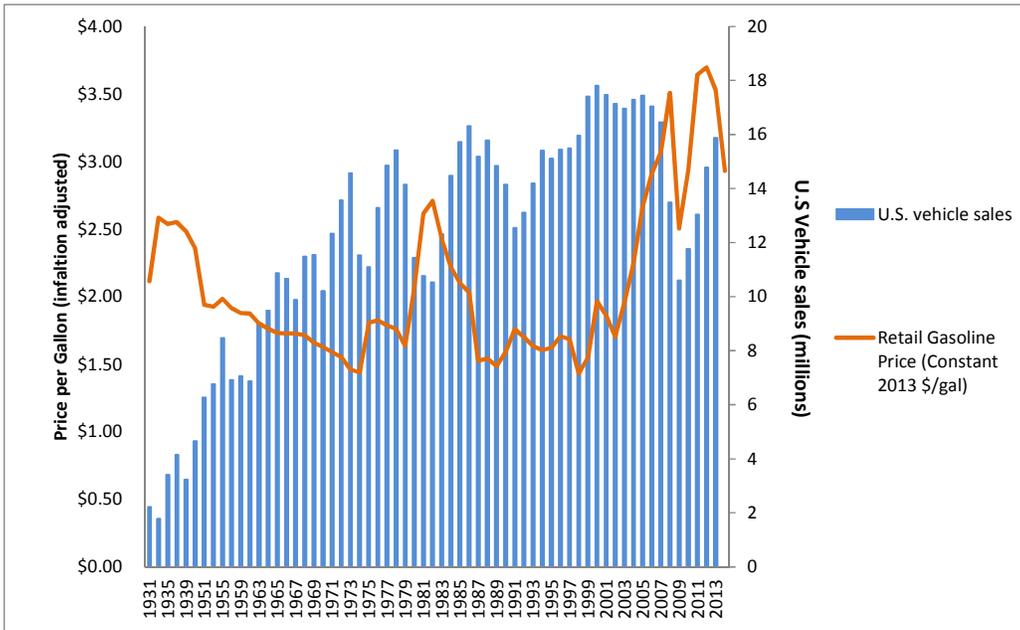
Source: Wedbush Securities, Inc.

Figure 4: ...But Some Scepticism Still Remains

V CEO, Charlie Scharf	August, 2014 Interview, The Australian Financial Review.
"Visa is not a currency, it's a network. We can process real or virtual currencies to the extent that it makes sense. So, [facilitating bitcoin payments] is possible but we are not thinking about it today."	
V CEO, Charlie Scharf	August, 2014 Bank of America Merrill Lynch 2014 Banking & Financial Services Conference.
"Bitcoin is something- it is not a today issue, it is not a three to four year issue. It is something that we think about, but not something that we are particularly worried about." "Bitcoin is two things. Bitcoin is a currency and it is a way to create a network. And the two today are not disassociated. They are one. People say, well are you going to accept Bitcoin. And the answer is we will think about it when our clients actually want to use it. The way I would think about that is, again, we are a network already. The question is, for us, is there a more efficient way to run our network than having one centralized processing operation that we have today. But the idea of just taking Bitcoin's network, it doesn't do what we need to do for our clients. It would have to be built around the needs that we have for our acquirers and our issuers."	
MA President South East Asia, Matthew Driver	December, 2014 Company-published video, "Trust is a Critical Component".
"(MasterCard is) not completely comfortable with the idea of cryptocurrencies." "Trust and security, a stable form of value, are incredibly critical if you're going to be able to gain acceptance for the services you're looking to provide. The challenge for cryptocurrencies, like bitcoin, is that they're unstable in terms of their intrinsic value." "(MasterCard is working towards) moving to a world beyond cash and ensuring greater transparency and security and simplicity to the way people live their lives." "(Cryptocurrencies) don't offer, perhaps, the recourse that consumers are naturally expecting that come from using cash in the day-to-day." "(Cryptocurrencies) serve a purpose that's not necessarily completely clear." "Trust is a critical component of any payment system. So, if you think about the idea that, all of a sudden you have cryptocurrencies being manufactured, if you like, on an anonymous computer in an anonymous location, it's completely legitimate to have some legitimate concerns about how it's working." "If it's an anonymous transaction, that sounds like a suspicious transaction. Why does someone need to be anonymous?"	
AXP President of Enterprise Growth & Incoming PayPal CEO, Dan Schulman	February, 2014 Interview, Bloomberg News.
"Protection and trust are crucial to us and our card members and merchants. We don't believe that is offered by crypto-currencies today".	
MGI CEO, Pam Patsley	May, 2013 Interview, Business-Standard.
"(Bitcoin) is coming under some interesting regulatory scrutiny. I don't see it displacing currency as we know it today."	
MGI Executive Vice President of Global Product Management, Alex Hoffman	February, 2014 Interview, Bloomberg News.
"It's a volatile currency, and that makes it very difficult for consumers and merchants to know the value of what they have when using Bitcoin to purchase or receive goods and services. Today people speculate on the potential, but today you do not have it."	
MGI CEO, Pam Patsley	March, 2014 Credit Suisse Global Services Conference.
"I would say if bitcoin becomes or ever is established or recognized as a valid currency, and by that I mean like you can't get in trouble for touching it or processing it or facilitating its movement, then I think it's just another currency like all those others that we do around the world."	
DFS CEO, David Nelms	February, 2014 Interview, Bloomberg News.
"I'm a bit skeptical...(other things pose) a lot more potential threats or opportunities than Bitcoin".	
WU CEO, Hikmet Ersek	March, 2014 Self-published, Fortune Magazine.
"If there is significant consumer adoption of digital currencies, I think it is likely to occur first in the developed world as a business payments vehicle. If and when it is regulated and used for remittances, a need will arise to transfer digital currency across borders, and pay out in case, or into accounts maintained in regulated currency by the receiver. Consumer adoption is just one part of the digital currency story. Regulation and compliance issues also need to be addressed, and much work remains to be done in this regard. The conversation continues to evolve on a daily basis, and it may be a case of two steps forward, one step back, before we see formal regulation in place. But in the end, this is a path digital currencies must walk, before they can arrive, at scale, within the global payments business."	
WU CEO, Hikmet Ersek	June, 2014 Interview, Bloomberg TV.
"Once bitcoin should be regulated by the regulator as a proper currency, why should we not also use bitcoin? That's the issue with bitcoin. We are a very regulated industry. If bitcoin is regulated and the customer wants that, I mean, why not? I am not sure bitcoin is a currency. Bitcoin is a system. It is not used as a currency, it is defined as an asset. When the reserve bank issues bitcoin and when it is regulated we would be more than happy."	
WU CIO, John David Thompson	November, 2014 Interview, CoinDesk.
"I have some [KnCMiner] Neptunes- about two terahashes in bitcoin mining. It's done well." "Bitcoin as a technology doesn't solve any problems for us in the core of our business. Our challenge is the last mile. How do I get that money in the person's hand, and meet all the regulatory compliance needs in that country? So, I don't really need it for the minimum. Moving a bit from Point A to Point B isn't hard. The last mile is really hard. " "It might be a niche product, a niche capability for domestic money transfer. But for global money transfer, does it add value? Does it really solve that last-mile problem? Does it solve regulatory concerns? Does it get better visibility? Does it reduce risk? In my mind, those are still questions to be answered." "(Bitcoin is) a solution looking for a problem to solve."	

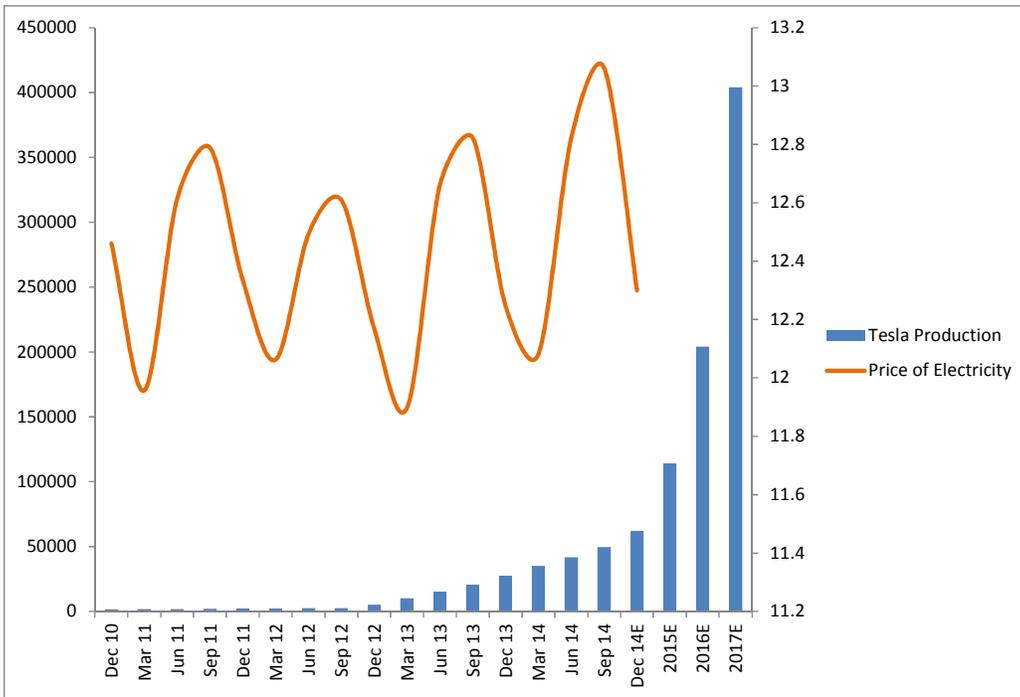
Source: Wedbush Securities, Inc.

Figure 5: Price of Gasoline Relative to U.S. Vehicle Sales



Source: Energy.gov, Wards Auto, Wedbush Securities, Inc.

Figure 6: Price of Electricity to Tesla Production



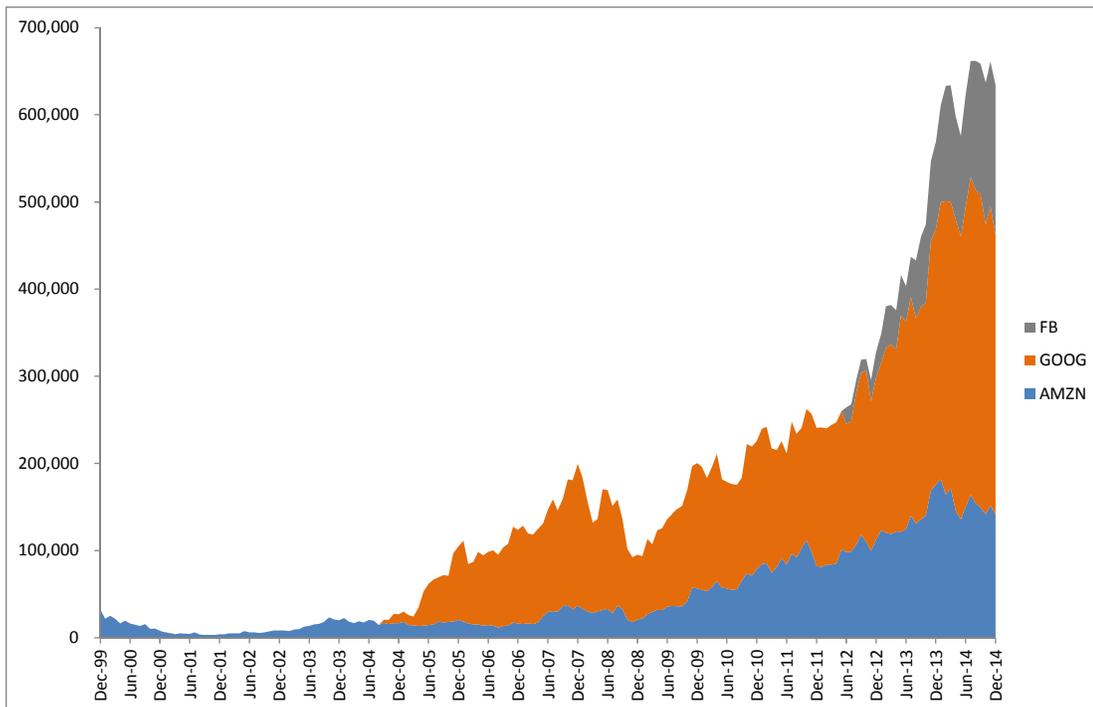
Source: EIA, Tesla, Wedbush Securities, Inc.

Figure 7: NASDAQ and CSCO Through “Dot Com” Period



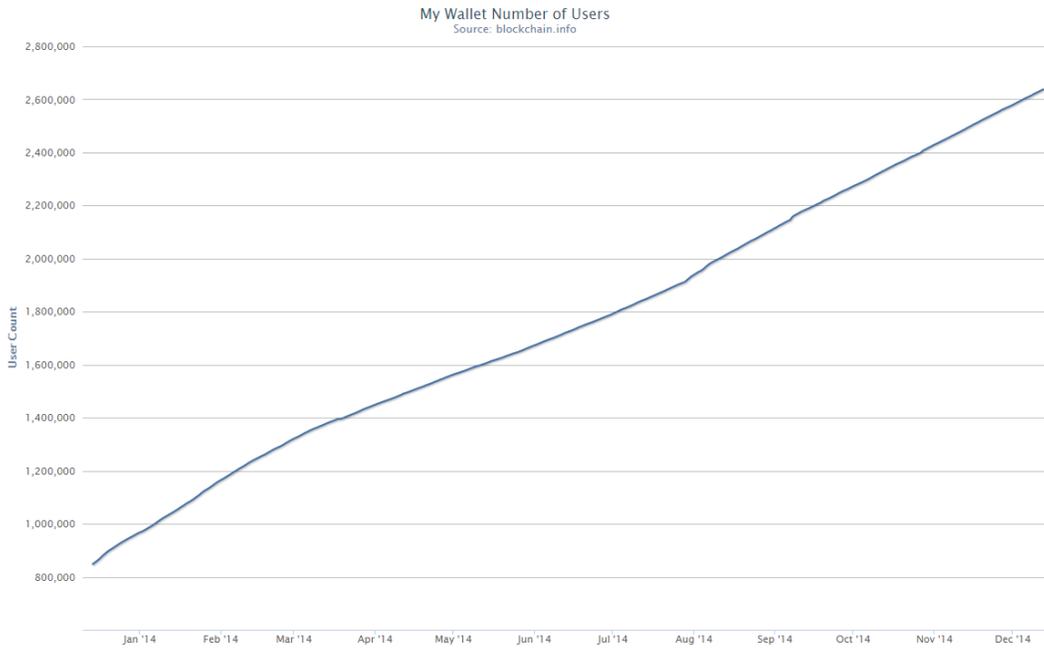
Source: Thomson Reuters, Wedbush Securities, Inc.

Figure 8: Cumulative Market Cap for AMZN, GOOGL and FB



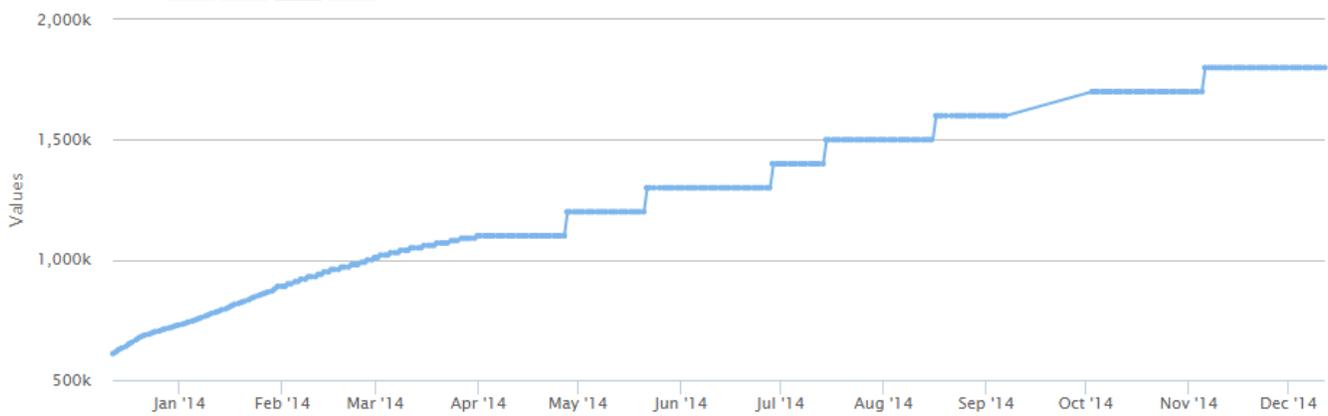
Source: Thomson Reuters, Wedbush Securities, Inc.

Figure 9: Blockchain.info Number of Wallets



Source: Blockchain.info, Wedbush Securities, Inc.

Figure 10: Coinbase Number of Wallets



Source: Bitcoin Pulse, Wedbush Securities, Inc.

Figure 11: Number of Transactions Excluding Popular Addresses



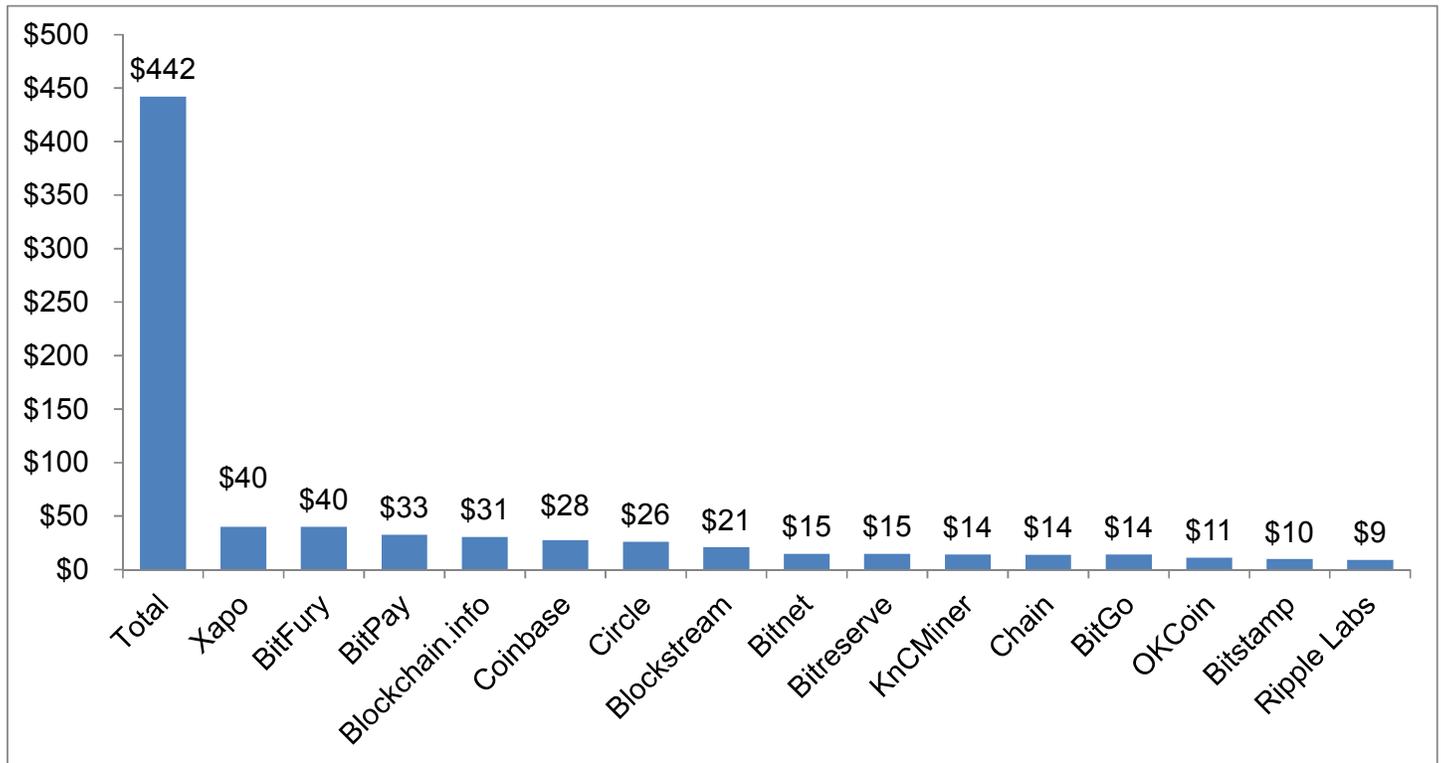
Source: Blockchain.info, Wedbush Securities, Inc.

Figure 12: My Wallet Number of Transactions per Day



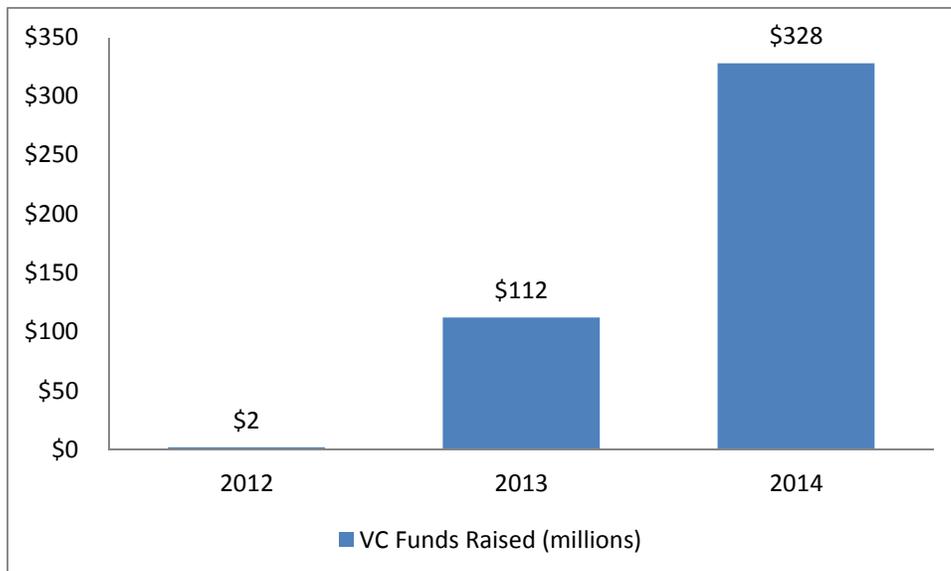
Source: Blockchain.info, Wedbush Securities, Inc.

Figure 13: Venture Funds Raised to Date (\$ millions)



Source: Venture Scanner, Coindesk, Wedbush Securities, Inc.

Figure 14: Venture Funds Raised by Year (\$ millions)



Source: Venture Scanner, Coindesk, Wedbush Securities, Inc.

Public companies mentioned in this report (closing prices on 1/5/15)

COMPANY	TICKER	RATING	PRICE	PRICE TARGET
Amazon.com	AMZN	NEUTRAL	\$302.19	\$330
Google	GOOGL	NEUTRAL	\$519.46	\$530
Facebook	FB	OUTPERFORM	\$77.19	\$90
eBay	EBAY	NEUTRAL	\$55.74	\$55
Intuit	INTU	NEUTRAL	\$90.85	\$92
NCR	NCR	NEUTRAL	\$28.15	\$18
Cisco Systems	CSCO	OUTPERFORM	\$27.06	\$31.50

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RESEARCH DEPT. * (213) 688-4505 * www.wedbush.com

EQUITY TRADING Los Angeles (213) 688-4470 / (800) 421-0178 * EQUITY SALES Los Angeles (800) 444-8076

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WEDBUSH

EQUITY RESEARCH DEPARTMENT

(213) 688-4529

DIRECTOR OF RESEARCH

Mark D. Benson (213) 688-4435

MANAGER, RESEARCH OPERATIONS

Ellen Kang (213) 688-4529

RETAIL AND CONSUMER

Healthy Lifestyles

Kurt M. Frederick, CFA CPA (415) 274-6822
Alicia Reese (212) 938-9927

Restaurants

Nick Setyan (213) 688-4519
Colin Radke (213) 688-6624

Specialty Retail: Hardlines

Joan L. Storms, CFA (213) 688-4537
John Garrett, CFA (213) 688-4523

Seth Basham, CFA (212) 938-9954

Specialty Retail: Softlines

Morry Brown (213) 688-4311
Taryn Kuida (213) 688-4505

RETAIL CHANNEL CHECKING GROUP

Lupine Skelly (505) 417-5427

INDUSTRIAL GROWTH TECHNOLOGY

Environmental Services / Building Products

Al Kaschalk (213) 688-4539

Water and Renewable Energy Solutions

David Rose, CFA (213) 688-4319
James Kim (213) 688-4380

TECHNOLOGY, INTERNET, MEDIA & SOCIAL MEDIA

Communications Equipment

Scott Thompson (212) 938-9933

Communications and Application Software

Shyam Patil, CFA (213) 688-8062
Andy Cheng (213) 688-4548

Computer Services: Financial Technology

Gil B. Luria (213) 688-4501
Aaron Turner (213) 688-4429

Enterprise Software

Steve Koenig (415) 274-6801

Entertainment: Retail

Michael Pachter (213) 688-4474
Alicia Reese (212) 938-9927
Nick McKay (213) 688-4343

Entertainment: Software

Michael Pachter (213) 688-4474
Nick McKay (213) 688-4343

Internet: Media and Gaming

Michael Pachter (213) 688-4474
Nick McKay (213) 688-4343
Alicia Reese (212) 938-9927

Internet: Social Media, Advertising & Technology

Shyam Patil, CFA (213) 688-8062
Andy Cheng (213) 688-4548

Media

James Dix, CFA (213) 688-4315

Movies and Entertainment

Michael Pachter (213) 688-4474
Alicia Reese (212) 938-9927
Nick McKay (213) 688-4343

Semiconductors

Betsy Van Hees (415) 274-6869
Ryan Jue, CFA (415) 263-6669

LIFE SCIENCES AND HEALTH CARE

Biotechnology/Biopharmaceuticals/BioDefense

David M. Nierengarten, Ph.D. (415) 274-6862
Dilip Joseph (415) 273-7308

Heather Behanna, Ph.D. (415) 274-6874

Emerging Pharmaceuticals

Liana Moussatos, Ph.D. (415) 263-6626

Healthcare Services - Managed Care

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Tao Levy (212) 938-9948

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1000 Wilshire Blvd., Los Angeles, CA 90017-2465

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