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**BRIEF**

# Special Report **Bitcoin**



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## INTRODUCTION

### Bitcoin Growing Pains: Matching Reality to the Rhetoric

Bitcoin introduced a lot of people to the idea of computerized money. Now the digital currency, which set off a minor frenzy when it broke into public consciousness in 2013, is trying to grow up.

Novelty has given way to the hard slog of starting and funding new companies, like brokerages and bitcoin storage sites, that can be boring and profitable. Utopian fantasies have subsided as consumers remain largely unconvinced of the value of swapping their cash for bitcoins, or using it to buy goods and services or for transferring money.

There are plenty of people in Silicon Valley, Wall Street and other tech or money hubs around the world working on it, but no definitive answers are in sight. With price swings that have shown that owning bitcoins isn't a sure path to riches — the currency lost half its value over the course of 2014, a worse showing than the ruble — you have to believe in the brainpower invested in bitcoins if you want to believe that the reality will eventually match the rhetoric.

Even as entrepreneurs look for new business models, the bitcoin community has been working through some legacy issues, like the 2013 indictment of the operator of Silk Road, an anything-goes online market where drugs were peddled for bitcoins, or the bankruptcy filing by Mt. Gox, a Tokyo-based exchange, after hackers pilfered 850,000 bitcoins.

Regulators are proving to be a bigger challenge than many entrepreneurs had hoped. Benjamin Lawsky, the outgoing New York state superintendent of financial services, proposed rules on digital currency companies that drew often-unprintable reactions from bitcoin entrepreneurs before being scaled back. European banks were *warned* against handling bitcoins until new EU regulations take effect. The U.S. Internal Revenue Service ruled that bitcoins would be treated as property, not currency — meaning that buying a \$2 cup of coffee with bitcoin you bought for \$1 could trigger a capital gains tax. And the Bitcoin Foundation is fighting an internal battle over whether supporters should focus on advocacy or improving the software that makes transactions in the currency possible.

Virtual currencies aren't new — online fantasy games have long used them — but the development of a secure digital currency without a central issuer rightly turned heads. The pseudonymous creator of the bitcoin system, Satoshi Nakamoto, solved a problem central to any currency: how to control its issuance, i.e., prevent counterfeiting. He also solved one specific hurdle for digital money — how to stop users from spending the same unit of currency twice. His breakthrough *idea* involves an online ledger that records every single bitcoin transaction, one maintained by a network of bitcoin "miners" whose computers perform the calculations that validate each transaction, preventing double-spending.

The miners earn a reward of newly issued bitcoin. The pace of creation is limited, and no more than 21 million bitcoins will ever be issued. Bitcoins can be used to buy an ever-expanding list of things, including a Tesla sports car. That's still a fraction of the fiat currency economy, but a band of well-funded startups with names like Coinbase, BitPay, Xapo and BitGo are making it easier to exchange and store bitcoins safely.

A bitcoin boom early in 2014 led *some* to call it a *bubble* with no intrinsic value. But entrepreneurs in the field say that focusing on the price of bitcoins is missing the point — the currency's value is as the basis of a new kind of payment system.

Dreams of replacing the dollar aside, putting bitcoins to work is a matter of applying enough time and money, they say. Convincing applications of the bitcoin system include moving money abroad and as a medium for micro-payments in emerging countries.

Tim Draper, a legendary Silicon Valley venture capitalist, bought about 30,000 bitcoins from the U.S. government (they had been seized from Silk Road) and aims to help people break free from weak local currencies. But even some of the currency's canniest boosters realize there is no guarantee that bitcoin ever will break into the monetary mainstream.

Mike Hearn, a member of the core team that updates the bitcoin software, said that the *"most plausible outcome"* is that it retains only a niche appeal.

— Carter Dougherty, Bloomberg News

#### IN THIS ISSUE

##### BITCOIN PRICE *VOLATILITY*

Bitcoin has fallen the most of any currency against the U.S. dollar since its November 2013 peak.

##### BITCOIN NEEDS TO MATURE FOR BROAD USE: *LURIA*

Wedbush's Gil Luria says the current version is good for the "sandlot and the lab."

##### MINING INDUSTRY DEVELOPING AS DIFFICULTY INCREASES

The speed of increase in bitcoin's hash rate has slowed, data show.

##### STRONG REGULATION IS SOLUTION TO RISKS: *WILLIAMS*

Boston University's Mark T. Williams says many risks are unaddressed.

##### N.Y. TAKES THE LEAD ON *RULES*

New York's Department of Financial Services granted the first charter to a bitcoin firm in May.

##### BITCOIN *DERIVATIVES* BEGIN TO EMERGE, LIQUIDITY STILL THIN

A growing number of market participants race to bring institutional-scale derivatives to bitcoin trading.

##### UTILITY IS BEST BAROMETER FOR BITCOIN SUCCESS: *BRITO*

Coin Center's Jerry Brito says the U.S. has done a good job of balancing freedom and the law in this area.

##### TOP BITCOIN *BANKRUPTCIES*

Mt. Gox and Cointerra are the top two filings by liabilities so far, court documents show.

##### CENTRAL BANKS SPLIT ON DIGITAL CURRENCY

The world's central banks are still struggling to understand their role, if any, in the digital currency landscape.

##### BITCOIN IS DIGITAL EQUIVALENT OF WHATSAPP FOR CASH: *HOSE*

Coins.ph's Ron Hose says bitcoin can lower the cost and time it takes to finalize remittance transfers and payments in emerging markets.

## CONTRIBUTORS

In this special issue of Bloomberg Brief, we examine the potential opportunities and pitfalls the new digital currency might bring to a changing marketplace. For some, bitcoin offers a chance to change the world, particularly when it comes to transfers and payments in emerging markets. For others, the bitcoin boom could be a bubble threatening to burst. With so many regulatory unknowns ahead for the currency, time will tell whether this is an investment with staying power or a tech-savvy flash in the pan. Contributors to this special edition of Bloomberg Brief include:



**Steven Lord** is editor of The Modern Money Report. He has founded and led several companies in the financial technology, investment media and asset management sectors in the U.S. and Europe. He was an early investor in bitcoin, but is no longer invested. In this issue, he looks at topics including bitcoin mining, leverage, privacy vs. anonymity and the emergence of bitcoin derivatives.



**Bill Rochelle** is a bankruptcy columnist and editor-at-large for Bloomberg News. Before joining Bloomberg in 2007, Bill was a bankruptcy lawyer for 35 years, the last 17 as a partner in the New York office of Fulbright & Jaworski LLP. In this issue, he looks at why future bitcoin bankruptcies wouldn't be a boon for underemployed U. S. bankruptcy professionals.



**Jerry Brito** is executive director of Coin Center, a non-profit research and advocacy center focused on the public policy issues facing cryptocurrency technologies. In this issue, Jerry says the U.S. has done "remarkably well" at finding a balance between preserving freedom of action to develop bitcoin technology while also upholding the law.



**Barry Silbert** is founder and CEO of the Digital Currency Group, as well as the founder of SecondMarket Inc. and Bitcoin Investment Trust. DCG has backed more than 50 bitcoin startups and created the Bitcoin Investment Trust, the first publicly traded bitcoin investment vehicle. In this issue, Barry says he's looking to developing markets for the next round of startups.



**Gil Luria** is managing director for financial technology research at Wedbush Securities. Previously, he was in equity research at Sanford C. Bernstein and a manager at Deloitte Consulting. In this issue, Gil explains why he doesn't think bitcoin is ready yet for broad, institutional use.



**Mark T. Williams** is a risk management expert and lecturer at Boston University. Prior to teaching, he worked as a senior trading floor executive, a bank trust officer and as a bank examiner for the Federal Reserve Bank. In this issue, Mark examines the need for stronger regulation and oversight in the nascent bitcoin sector.



**Ron Hose** is co-founder and CEO of Philippines-headquartered Coins.ph, a remittance company. Previously, he was a founding partner at Innovation Endeavors and co-founder of TokBox, which was acquired in 2012 by Telefonica. In this issue, Ron explains the appeal of bitcoin in emerging markets.



**Mike Belshe** is co-founder and CEO of BitGo. He previously worked at Microsoft and Google, where he was one of the first 10 members with Google Chrome. In this issue, Mike explains the reasoning behind bitcoin storage and the ways his company is trying to keep it safe.

Source: LinkedIn



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# VOLATILITY

## It's Been a Roller-Coaster Ride for the Price of Bitcoin

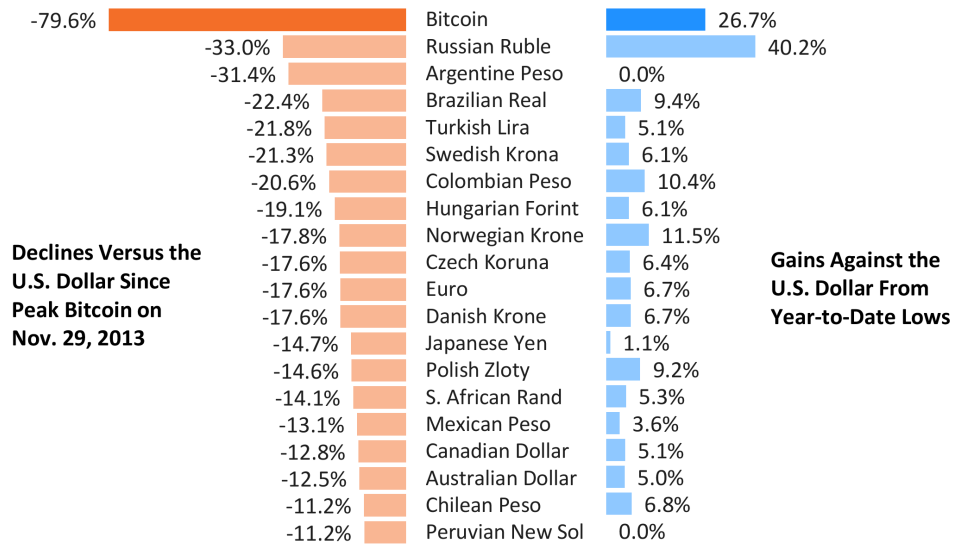
Bitcoin hit its high price of \$1,137 back on Nov. 29, 2013. Since then, the digital currency has plummeted in value by more than 79 percent against the U.S. dollar. This is the largest fall of any currency against the greenback. However, this doesn't tell the whole story of bitcoin's fall.

The decentralized digital coin has shown itself vulnerable to volatile price swings, closing almost 20 percent lower the day the Mt. Gox platform went offline. The price more than recovered the following day, finishing the day at \$609 — a 35 percent spike.

Bitcoin came into 2015 valued around \$314, and has dropped as low at \$183 since then. Still, the virtual currency has seen gains of almost 27 percent against the dollar from that year-to-date low.

— Ben Baris, Bloomberg Brief Editor

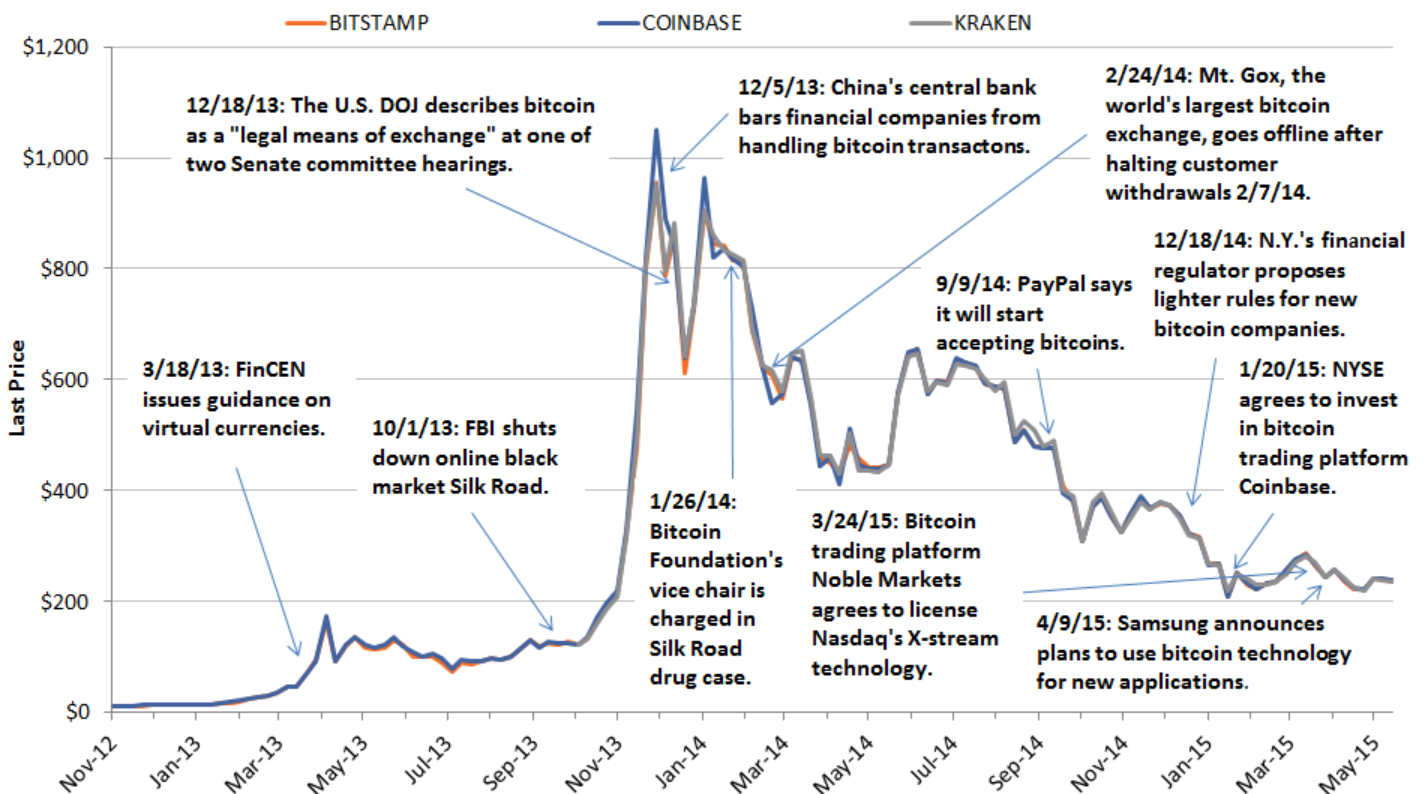
### Bitcoin Has Largest Decline vs. USD Since Nov. 2013 Peak



Source: Bloomberg. As of 7:30 a.m. New York on May 19.

BloombergBriefs.com

## A Timeline of Bitcoin's Ups and Downs



Sources: Bloomberg news stories, Bloomberg Brief

BloombergBriefs.com

www.blockchain.com



# BLOCKCHAIN

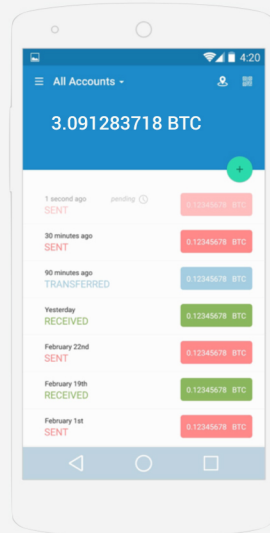
### The record of the Bitcoin eco-system

## BLOCKCHAIN Info

...	< 1 minute	\$ 642.26
81a0c072811f17a8a2914d0...	< 1 minute	\$ 143.65
2d5d0fa8a593204686e6072...	< 1 minute	\$ 653.65

+5 million visitors a day

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+3.5 million users

### The most used API in the industry

```

<repository>
  <id>api-v1-client-java-mvn-repo</id>
  <url>https://raw.githubusercontent.com/blockchain/api-v1-client-java/mvn-repo</url>
  <snapshots>
    <enabled>true</enabled>
    <updatePolicy>always</updatePolicy>
  </snapshots>
</repository>

```

+5 million API calls a day

# BY THE NUMBERS



**JAN. 3, 2009**

Initial bitcoin transaction.



**2140**

Estimated date last bitcoin will be mined, according to TradeBlock data.



**50%**

Share of the world population that is still unbanked, meaning it does not have access to basic financial services, according to the World Bank.



**6.8 MILLION**

Approximate number of bitcoins still left to mine, according to TradeBlock data.



**21 MILLION**

Total bitcoins that will ever be issued.



**25%**

Share of the U.S. population that is either unbanked or underbanked, according to the World Bank.



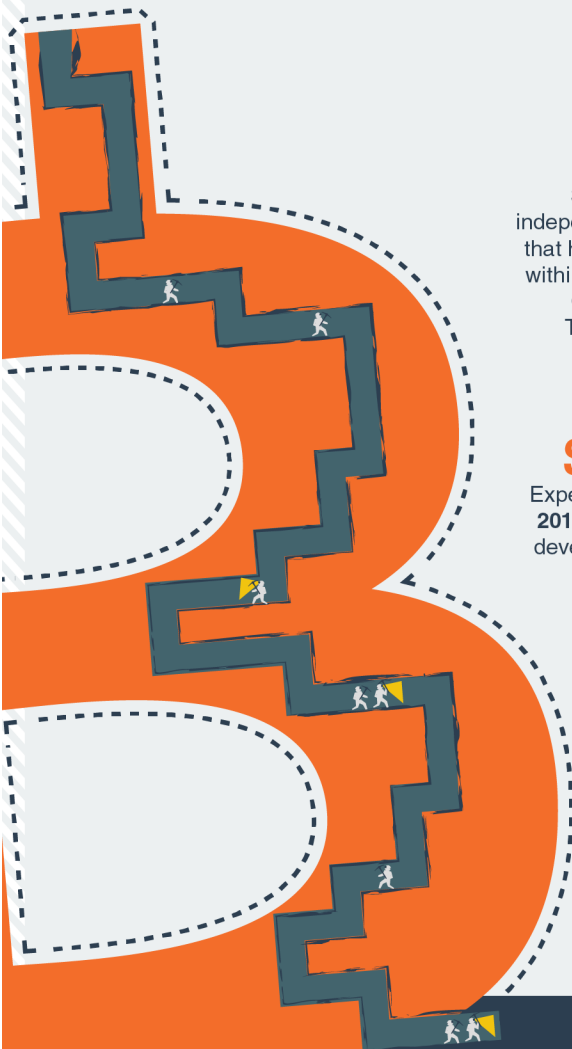
**23%**

Share of merchant acquirers or independent sales organizations surveyed that have plans to start accepting bitcoin within the next two years, according to a Goldman Sachs and Electronic Transactions Association survey.



**80%**

Share of bitcoin volume that is exchanged into and out of Chinese yuan, according to bitcoinity.org and Goldman Sachs Global Investment Research.



**\$610 BILLION** → **\$636 BILLION**

Expected global flows of remittances in **2016**, of which \$459 billion will flow to developing countries, according to the World Bank.

Expected global flows of remittances in **2017**, of which \$479 billion will flow to developing countries, according to the World Bank.



**900,000**

Approximate number of bitcoins stolen or hacked since 2011 through April 22, according to Blockchain.info data.



**1 MILLION**

Approximate number of bitcoins still owned by creator Satoshi Nakamoto as of April, according to Blockchain.info data.



## VOICES

## Wedbush's Luria Says Bitcoin Has to Be More Mature for Broad, Institutional Use

**Gil Luria**, managing director for financial technology research at **Wedbush Securities**, says the current version of the core bitcoin operating system, released in May, is good for the "sandlot and the lab," but is not ready yet for broad, institutional use. Luria spoke with Bloomberg Brief contributor Steven Lord. His remarks were edited and condensed.

**Q: How is the bitcoin ecosystem developing?**

**A:** Bitcoin will eventually have a number of key applications. Cross-border remittance and payment services are obvious places where the technology can radically reduce friction, and we will see a lot of rapid development in that space. Ditto for micropayments, which allow minuscule payment amounts to be sent via social media and lead to some big changes in terms of how subscription based publishers are monetizing their content. More strategically, the provision of banking-like services to underbanked populations around the world is going to get a lot of attention due to the sheer scale of both the savings possible and the customer base.

It's important to note that right now, bitcoin looks like it's all about payments, but it will ultimately also change the way assets are owned, tracked and traded. Slow, expensive legacy processes in securities trading, real estate transactions, legal contracts, etc. will be the areas of largest disruption. People are just starting to imagine these applications, but they're coming. And don't think innovation will only come from bitcoin startups — the legacy service providers are not asleep. They will undoubtedly come up with their own ways to utilize digital currency and the blockchain.

**Q: Is there interest from Wall Street at the moment?**

**A:** Just like with bitcoin in general, interest is growing at the grass roots. Institutional investors are starting to get involved on the trading side, and a lot of banks understand the potential. Many are actively exploring ways in which they can benefit. At the moment, though, we're still

constrained by the lack of regulatory clarity. Regulatory frameworks are needed that specifically spell out what can and can't be done. Until then, the big Wall Street firms won't engage in size. Also, remember that most global financial institutions don't view the technology as ready for prime time. It isn't proven at scale and in a broad context.

We just got version 0.10.2 of the bitcoin core protocol in May — nobody likes to deploy version 0.10.2 of anything. It's good for the sandlot and the lab, but for really broad, institutional use, bitcoin has to be more mature.

**Q: What do you see for the future of bitcoin?**

**A:** The potential exists for blockchain-esque technology to disrupt a whole range of financial services. Right now, transactions only occur through trusted third parties. Bitcoin eventually offers open, decentralized, trustless and secure infrastructure, which will radically reduce cost and increase efficiency. The Internet has removed middlemen and bottlenecks all over the place, but not yet for money. I think that's going to change.

**Q: Is ApplePay a bitcoin competitor?**

**A:** ApplePay is a front-end innovation that makes it significantly easier for people to use a smartphone to interact with the existing payments infrastructure. It's great, in that regard. But it does nothing for the back end, which is the expensive part. If anything, ApplePay entrenches the legacy payments system. Bitcoin's real revolution is on the back end. I don't really see them as competitors, but as

complements to one another. There is no reason they can't coexist.

**Q: What's your take on bitcoin's non-refundability?**

**A:** It's an advantage, not a disadvantage. It is much easier to go from a system that doesn't offer refunds to one that does. The legacy system essentially forces all merchants to systemically absorb the costs of refunds. Down the road, I think digital currency payment processors will offer refunds as a feature, and merchants can decide whether to add them or not. It will become a competitive advantage, just like it became an advantage to offer free shipping.

**Q: Is regulation coming for bitcoin?**

**A:** It's inevitable. But what's more important is that regulation is applied evenly and consistently. That's the best outcome. It's not going to be a panacea, though. Banks, money transmitters, payment processors, etc. have been involved in immeasurable fraud, hacks and legal issues, and they're among the most regulated companies on the planet. Just having regulations doesn't guarantee they're followed.

An interesting aspect about bitcoin is that it will actually make it harder for bad actors to hide. Bad guys do bad things in cash all the time, and when they do, it's gone. As we've seen with both the Silk Road seizure (and the DEA corruption that went with it), every transaction in bitcoin is tracked and, eventually, traceable. It seems counterintuitive, but using bitcoin actually makes it much easier to catch the bad guys.

## AT A GLANCE



**Education:** Bachelor's Degree in Economics, Hebrew University; MBA from Columbia University

**Career:** Equity research, Sanford C. Bernstein; Deloitte Consulting

**Industry expertise:** Crypto-currencies, payment systems, telecom

**Why cover bitcoin?** I've been covering payments companies for the last 10 years, and was introduced to bitcoin in 2013. I read the original paper, which speaks to problems in current payment networks and ways to solve them. That resonated with me, and I started doing some research. At the same time, interest began rising from our institutional clients, so we steadily became more involved.

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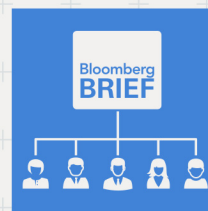
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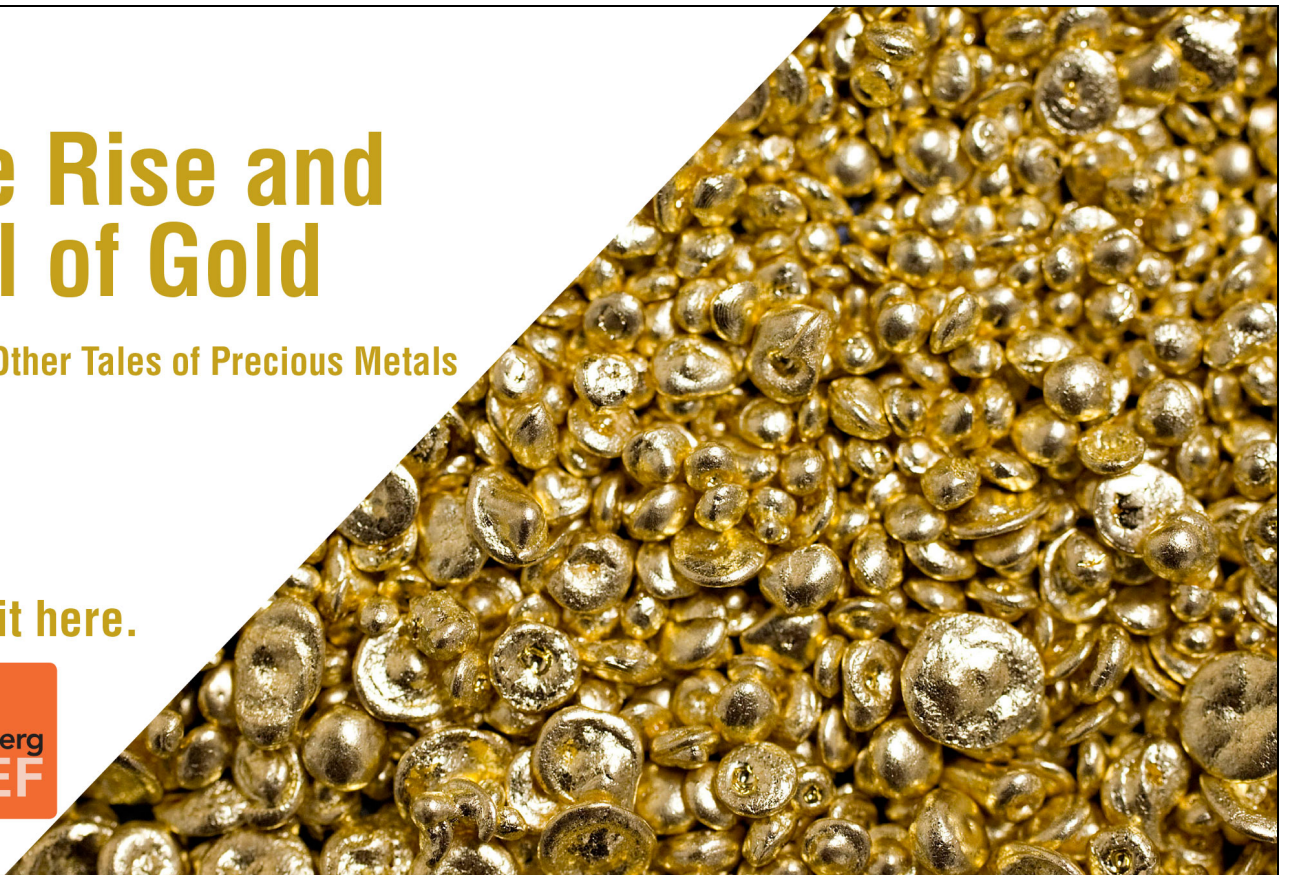
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**RESEARCH** COMPILED BY ANNE RILEY, BLOOMBERG BRIEF EDITOR

## As Mobile Banking Becomes Less Foreign, Bitcoin May Gain Traction

"The way we pay is changing." That's the opening line of Goldman Sachs's recent report on the future of finance, and with far more millennials today carrying smartphones than checkbooks, that shouldn't come as a surprise to anyone.

According to the report by analysts James Schneider and S.K. Prasad Borra, the percentage of banked smartphone or tablet owners who said they have performed at least one mobile money-related transaction in the previous month grew sharply across all age groups in the U.S. between the fourth quarter of 2011 and the second quarter of 2014. The survey data, which comes from AlixPartners, not surprisingly shows the youngest generations to be the most active when it comes to online banking.

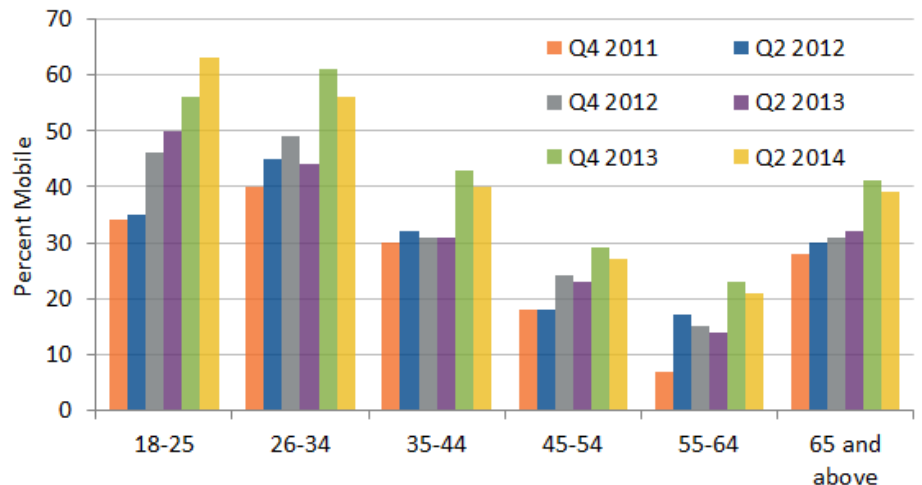
"This suggests to us that the adoption [of] technologies — even within age cohorts — is rapidly evolving and is far from static," the analysts wrote in the Goldman Sachs report, entitled "The Future of Finance, Part 2: Redefining 'The Way We Pay' in the Next Decade."

As online and mobile banking evolves, bitcoin and other online currencies could gain more traction.

Merchant acceptance of bitcoin is still in its "infancy," the Goldman analysts wrote, but a growing number of merchants have expressed an interest in accepting bitcoin and other cryptocurrencies in the future. According to a survey conducted by Goldman Sachs and the Electronic Transactions Association (ETA), 23 percent of merchant acquirers or independent sales organizations surveyed have plans to start accepting bitcoin within the next two years.

"A number of other major retailers have been testing bitcoin payment in specific areas of their business, including Dell, which is accepting bitcoin for digital goods purchases. Despite optimism among

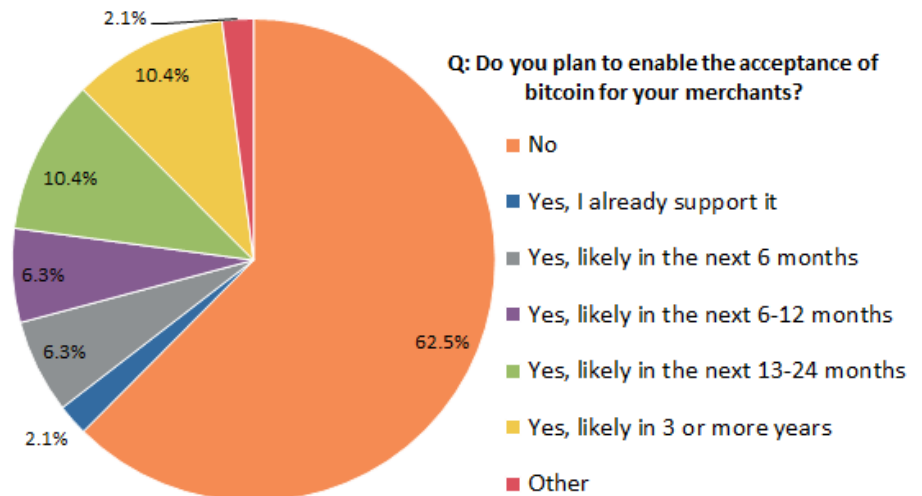
### Money-Related Transactions Move Toward Mobile



Source: AlixPartners, Goldman Sachs

BloombergBriefs.com

### Acceptance of Bitcoin Expected to Pick Up in Mid-Term



Source: ETA, Goldman Sachs Global Investment Research

BloombergBriefs.com

some merchants, there has been little evidence of strong sales traction among consumers," they wrote in the report,

published on March 10, noting that most merchant bitcoin activity has been concentrated in the U.S. and Europe.

Bloomberg Commodity Index  
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**INSIGHT: MINING** BY STEVEN LORD

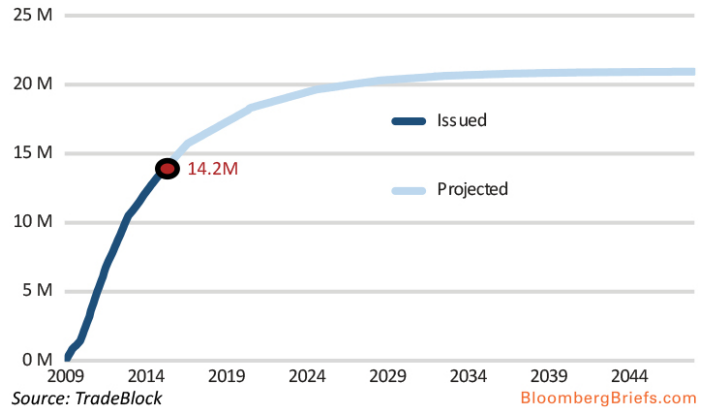
**Bitcoin Mining Industry Developing as Difficulty Increases**

Unlike fiat currency systems, inflation of bitcoin's supply is fixed at a very predictable rate by the mining process, which currently gives a reward of 25 new bitcoins for each new block solved, and a finite total supply of 21 million.

Blocks are solved about every 10 minutes and the reward halves every 210,000 blocks (approximately every four years), meaning the supply expansion can be calculated with some accuracy.

To date, about 14.2 million XBT have been mined since bitcoin was launched in 2009; the last one will likely be mined sometime in 2140.

**Just Over 14M Bitcoins Have Been Mined**

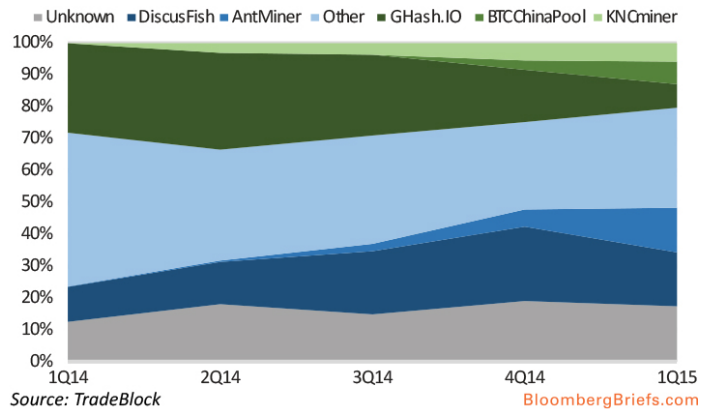


The proportion of bitcoin mining being accomplished by smaller operators has steadily declined since the start of last year. A number of industrial-scale operations, including GHash, DiscusFish and AntMiner, have increasingly become the dominant players in the business of creating new bitcoins.

Despite its theoretically distributed nature, the concentration of mining power among a handful of firms has raised centralization concerns, as has the advent of so-called cloud mining, which rents mining capacity out on the web for a fee.

Meanwhile, the proportion of blocks solved by unknown miners has remained relatively constant at 10 percent to 15 percent.

**Percentage of Bitcoin Mined by Major Pools**

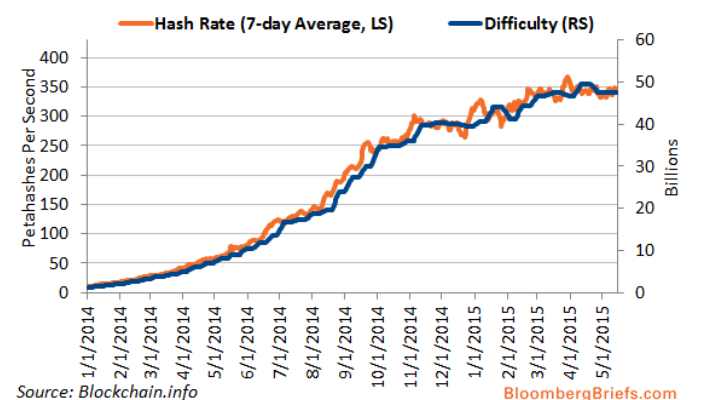


Bitcoin mining relies on a self-adjusting system that varies the difficulty of solving a transaction block according to how much aggregate computing power, worldwide, is utilized in the effort.

Rapid growth in the scale and sophistication of mining activity has resulted in an increase in bitcoin's hash rate, the number of calculations per second across the bitcoin network. As designed, this has been accompanied by a similar rise in mining difficulty.

However, the rate of increase has slowed as the economics of mining have tightened; difficulty dropped for the first time in December 2014 as mining power exited the ecosystem.

**Speed of Bitcoin Hash Rate Increase Slows**



## VOICES

### Strong Regulation, Global Standards Are Solution to Bitcoin Risks, Says Williams

**Mark T. Williams**, a risk management expert and lecturer at Boston University, told Bloomberg Brief's Melissa Karsh that there are many risks surrounding bitcoin that have yet to be addressed. Until there's stronger regulation and oversight, and the pseudo-anonymous nature goes away, the virtual currency remains a major macroeconomic risk, he said. His remarks were edited and condensed.

#### Q: What's your stance on bitcoin?

**A:** It has always been that with this opportunity comes substantial new risk into the economy from a macro perspective. This is an experiment being done outside of the controlled environment of a laboratory. As a result, there need to be controls around it, which means stronger regulation. There are many risks still to be addressed.

#### Q: What are those specific risks?

**A:** The most obvious is the risk that cryptocurrencies, as currently constructed, continue to be the designer currency of choice for the criminally inclined. That's why the recent high-profile Financial Crimes Enforcement Network (FinCEN) action against Ripple Labs was important in policing the onramps used to exploit the legitimate financial system. However, FinCEN cannot police the globe.

Other risks include the fact that bitcoin is a nationless currency. It's not controlled and regulated by any one entity, so it's hard to protect vulnerable consumers. The pseudo-anonymous nature of bitcoin also exposes consumers to risk of theft with little chance of recovery if private keys are taken.

Also, it's a voluntary currency, so it only has value in the marketplace as long as people accept it. There's always a risk that bitcoin can go from its current value to being virtually worthless. We've already seen a drop of more than 75 percent since its November 2013 market high. That price risk hasn't declined, which is a problem. If a currency can fluctuate by 10 or 20 percent in a given day, then there's less incentive to own or use it. When you have these extreme price movements, it also reduces the

In 2014, the Internal Revenue Service ruled that bitcoin was not legal tender and should be taxed like property. That's a significant blow to the use of bitcoin for transactional purposes because if you buy it at a low cost, you would have to pay tax for using it. Bitcoin also has the potential to be a sovereign attack. Sovereign nations around the globe have a monopoly on money creation and use this power as a means to help manage economic well-being for their citizens. Nation-state treasuries print currency but the vital role of currency management needed to spur economic growth is reserved for central bankers. If not controlled and tightly regulated, bitcoin has the potential to undermine the longstanding bond between sovereigns and their currency.

Last, bitcoin trades like a high-risk virtual commodity and is more risky than the U.S. dollar.

#### Q: What is the solution?

**A:** Regulation that protects consumers and our global financial market — reducing the chances of use for financial terrorism, money laundering, drug running, sex trafficking and tax evasion, etc. There need to be high industry standards set globally. For instance, whether transacting on an exchange in Cyprus or San Diego, California, there needs to be assurance that controls are in place and market integrity is strong. There also needs to be greater market price stability.

Regulation can encourage wider use of virtual currencies as safeguards and financial protections are in place. Right now, it appears that the financial cost of using bitcoin is greater than the benefit. With the 2014 collapse of Mt. Gox and adding up other fraudulent events,

consumers have lost almost \$1 billion. Since the November 2013 market peak, the total market value of bitcoins in circulation has also dropped by roughly \$8 billion.

#### Q: So what's been the benefit?

**A:** The economic benefit would be if we can reduce frictional costs globally in how we transact business. Virtual currencies do have a place as long as there's regulation, strong oversight and the pseudo-anonymous nature goes away. For instance, if the Federal Reserve stepped in and made a Fed coin with good controls around it — a safety net for consumers of sorts — and did away with the anonymous nature, then that coin would be trusted, used and be more widely adopted. Virtual currencies have such an opportunity here, but it's a short window. If the bitcoin community is willing to acknowledge that regulation is inevitable, and embrace it, it will be able to increase the chance for wider bitcoin adoption.

#### Q: What about bitcoin 2.0 projects?

**A:** There's two components — bitcoin the engine and bitcoin the delivery system. The delivery system is like the rails the train rides on, and even if they are sturdy, if the engine isn't stable, it doesn't matter how great the rails are: The system doesn't work. Unless price stability is achieved, the 2.0 discussion can't be fully realized. What use is the blockchain if consumers don't feel safe using the access coin? At a recent conference in Washington, D.C., claims were made that virtual currencies could save the third world. But, are we helping or hurting impoverished citizens if they could lose up to 20 percent of their wealth in a single day?

## AT A GLANCE



**Education:** BSBA in Finance from the University of Delaware and a MBA from Boston University.

**Career:** Since 2002, has been on the Finance & Economics Faculty at Boston University. Prior to teaching, worked as a senior trading floor executive, a bank trust officer and as a bank examiner for the Federal Reserve Bank.

**Industry expertise:** Risk management in the energy trading and banking industry, and derivative matters in the capital markets.

number of merchants willing to take such extreme market risk.

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## REGULATION: AGENCIES

### Switzerland Looks to Money Laundering; U.S. Targets Virtual Cash; CFTC on Demand

#### Finma

■ Switzerland's financial market regulator says bitcoin needs to be treated as a serious medium for illicit activity like money laundering in a sign of the widening acceptance of the digital payment system. Bitcoin's ability to be used anonymously and internationally increases the risk it could play a role in terrorist financing, Finma, as the regulator is known, said in a February report on draft of its revised decree on money laundering. Finma has been cautious in its approach to bitcoin. The Swiss regulator in June asked Swiss exchange **Bitcoin Suisse** to suspend operations of its network of automated teller machines pending inquiries about its operations. Finma held a two-month consultation period that wrapped up last month and will incorporate that feedback into the revision of its Anti-Money Laundering Ordinance.

— Hugo Miller and Jeffrey Vogeli

#### FinCEN, DOJ, IRS

■ U.S. authorities effectively tightened their grip on virtual currencies, reaching a settlement with a San Francisco-based start-up that regulators accused of negotiating a quarter-million-dollar deal with a convicted explosives dealer. **Ripple Labs Inc.** agreed to pay \$700,000 to settle allegations of poor money-laundering controls with the U.S. Justice Department, the Internal Revenue Service and Financial Crimes Enforcement Network, or FinCEN.

The May 5 settlement is the first civil enforcement action against a virtual currency exchanger, FinCEN said in a statement. It enforces rules that FinCEN laid out in 2013. Ripple sold its XRP, the second-largest virtual currency, even though it hadn't registered with FinCEN, the Justice Department said in a statement. Ripple failed to maintain appropriate anti-money laundering controls under federal banking laws, the DOJ said. Ripple spokeswoman Monica Long said the company is pleased to resolve this matter, adding that it hasn't willfully engaged in criminal activity and

cooperated with investigators while bolstering compliance efforts in a "Wild West" industry. "An early company in an emerging, undefined fintech category, Ripple Labs was one of the first to proactively build out a compliance and risk program," Long said.

The ruling underscores the costs such startup companies seeking to carve out a piece of the cryptocurrency market may bear — in the form of potential enforcement actions, or in compliance and legal costs. Ripple Labs "acknowledged that digital currency providers have an obligation not only to refrain from illegal activity, but also to ensure they aren't profiting by creating products that allow would-be criminals to avoid detection," said U.S. Attorney Melinda Haag of the Northern District of California. "We hope that this sets an industry standard."

In late 2013, the company negotiated a \$250,000 transaction with an individual who had prior felony convictions for dealing in explosive devices and had been sentenced to prison, the DOJ said in a statement, adding the company hadn't followed its own "know your customer" requirements. That individual was a Ripple Labs investor, the statement of facts said. Ripple was co-founded in 2012 by Internet entrepreneur Jed McCaleb, a company blog said. McCaleb also started Mt. Gox. As part of the settlement, Ripple will have external audits through 2020 and beef up its AML controls and training program. A subsidiary of the firm, XRP II LLC, was cited for failing to file suspicious activity reports and for lax money laundering controls.

— Keri Geiger and Greg Farrell

■ In March 2013, FinCEN issued guidance classifying as money services businesses both exchangers — persons engaged as a business in the exchange of virtual currency for real currency, funds or other virtual currency — and administrators — persons engaged as a business in putting into circulation a virtual currency and having the authority to withdraw it from circulation, requiring some virtual currency companies to register with the agency.

— Stephen Joyce, Bloomberg BNA

■ The IRS on March 25, 2014 issued Notice 2014-21, which in part stated the sale or exchange of convertible virtual currency and the use of convertible virtual currency to pay for goods or services have tax consequences that may result in a tax liability.

— Stephen Joyce, Bloomberg BNA

#### CFTC

■ Financial industry regulators have largely been on the periphery regarding bitcoin reforms, though the U.S. Commodity Futures Trade Commission, or CFTC, has started to look more closely at the demand for derivative products based on the digital currency. CFTC Commissioner Mark Wetjen said at a fall conference that the agency does have authority under the Commodity Exchange Act to regulate virtual currencies, although it hasn't to date. "I believe we have the authority because bitcoin, by a rational reading of our statute, qualifies as a commodity under the definition of a commodity under the Commodity Exchange Act," Wetjen said at the conference. This does not mean, however, that the agency would have oversight over bitcoin exchanges that do not offer or trade in derivative contracts.

In April, Wetjen said in testimony that bitcoin-like technologies have the potential to further reduce market risk if they are more widely embraced. "Bitcoin-like protocols or distributed public ledger technologies could provide and enhance various settlement and other trustee-like services provided by registered entities in the derivatives markets, where monies and collateral are frequently transferred and settled throughout a trading day," he said in prepared remarks. "These technologies work to provide a record of transactions and changes of ownership, and can be used to validate any type of transaction — including the more familiar concept of exchanging cash or currencies, as well as other types of assets or collateral, such as stocks, bonds, and securities. With these technologies, this can be done without the use of banks or other intermediaries."

— Steven Lord and Melissa Karsh

## REGULATION: STATES

BY STEPHEN JOYCE, BLOOMBERG BNA

### N.Y. Grants First Charter to Bitcoin Firm; Waiver Mulled

For the first time, a U.S. bank regulator granted a charter to a trust company operating an exchange for bitcoin.

The New York State Department of Financial Services (NYDFS) May 7 announced it granted a state charter to **itBit Trust Co. LLC**, a global exchange where institutions and retail customers may buy and sell bitcoin using U.S. dollars. The company counts former federal regulators on its board and said it will provide customers with federal insurance for their accounts.

The precise benefits of the charter were debated among financial services lawyers. At issue is whether the charter exempts or provides reciprocal waivers from existing money transmitter and money services licensing requirements that currently exist in a majority of states. Obtaining the charter might also exempt itBit from registration obligations required by the Treasury Department's Financial Crimes Enforcement Network (FinCEN).

In public disclosures itBit promotes itself as a bitcoin exchange that meets high regulatory, service and security standards. Its board of directors includes Sheila Bair, a former Federal Deposit Insurance Corp. chairman; Bill Bradley, a former Democratic senator from New Jersey; and Robert Herz, a former Financial Accounting Standards Board chairman. It counts RRE Ventures, Canaan Partners and Liberty City Ventures as venture-capital companies participating in its first capitalization round, during which itBit said it raised \$25 million. A key element of its structure is that it will accept U.S. dollars from U.S. customers and place those dollars in an insured depository, giving customers FDIC insurance protection.

In a May 7 statement, NYDFS said it reviewed itBit's anti-money laundering, capitalization, consumer protection and cybersecurity standards as part of its assessment of itBit's charter application. ItBit will be required to meet those obligations applied to operators of a trust company under New York law, it said.

"We have sought to move quickly but carefully to put in place rules of the road to protect consumers and provide greater regulatory certainty for virtual currency entrepreneurs," said NYDFS

Superintendent Benjamin Lawsky, who will step down in June as New York's top bank regulator. "Indeed, we believe that regulation will ultimately be important to the long-term health and development of the virtual currency industry."

While the granting of the charter may technically establish itBit as a type of New York banking entity, the charter does not allow itBit to accept deposits and hold them or make loans to customers, Latham & Watkins LLP partner Alan Avery said. ItBit also won't be considered a bank for purposes of the federal Bank Holding Company Act, he said.

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*"Indeed, we believe that regulation will ultimately be important to the long-term health and development of the virtual currency industry."*

— BENJAMIN LAWSKY

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In a May 7 e-mail, itBit spokeswoman Dorothy Jean Chang asserted the charter does exempt the company from FinCEN and state money transmitter license requirements. "Money transmitters are subject to FinCEN regulations, but itBit is not because it's regulated by the New York Department of Financial Services and meets much more rigorous standards," she wrote. The trust will also not be required to obtain the envisioned BitLicense because it meets those rigorous standards, she wrote.

ItBit's legal view was not wholly accepted by some lawyers. "I do not believe it is correct to say that a trust company charter granted by the New York DFS allows an entity to provide services to residents of other states. Unlike retail banks, there is no reciprocity for state chartered trust companies under

Hastings LLP partner and electronic payments specialist Chris Daniel said in an e-mail. "While itBit may have engaged in this exercise already, it will require a state-by-state approach to determine whether other states agree that a trust company is the right regulated structure to engage in commercial cryptocurrency exchange activity in their state."

FinCEN spokesman Stephen Hudak declined to comment without knowing the full facts and circumstances of the matter.

### BitLicense to Be Finished, Issued by End of May

The charter announcement was made in the runup to the release of an eagerly anticipated New York Department of Financial Services final regulation that will create a first-in-the-nation BitLicense requiring companies engaged in certain activities related to virtual, or digital, currencies to register with NYDFS.

Those activities are defined in the proposed regulation as receiving virtual currency for transmission or transmitting virtual currency with some exceptions; storing, holding or maintaining custody or control of virtual currency on behalf of others; buying and selling virtual currency as a customer business; performing exchange services as a customer business; and controlling, administering or issuing a virtual currency.

Outgoing NYDFS Superintendent Benjamin Lawsky told reporters April 21 the BitLicense regulation will likely be released no later than May 31.

In February 2014 the Conference of State Bank Supervisors formed an Emerging Payments Task Force to examine the intersection between electronic payment systems and the role of state financial regulators. The CSBS Dec. 16 issued a draft model state regulatory framework including language that states could use when drafting rules regarding consumer protection, licensing, market stability, anti-money laundering and cybersecurity for state-licensed virtual currency firms. A spokeswoman said previously that the framework will be finalized by the end of the year. Members of the task force include state regulators from California, Florida, Georgia, Massachusetts, New York, Tennessee, Texas, Utah and Washington state.

the Nationwide Cooperative Agreement  
for Supervision and Examination of Multi-  
State Trust Institutions (1999),” Paul

## REGULATION: ANONYMITY COMMENTARY BY STEVEN LORD

### Anti-Money-Laundering Rules Creating Arms Race Between Anonymity, Transparency

There's an arms race of sorts between those trying to de-anonymize bitcoin and those trying to enhance anonymity, spurred by anti-money-laundering and know-your-customer requirements, increased regulation, and the identification of individuals in a number of high-profile criminal cases. Some users have started going to extraordinary lengths to obscure their identities even more than what is already possible with the blockchain, which is the public, distributed and decentralized ledger in which every bitcoin transaction is recorded.

One common technique users have employed to obscure their identities is through the use of tumblers or mixers, the third-party services that break transactions up into many smaller ones or exchange one set of bitcoin for another of the exact same value less a fee, essentially laundering the coins in question. However, using such services means the user has less control over the bitcoin transaction and has to place trust in an unknown third party. Tumblers and mixers also have difficulty handling large amounts of bitcoins, so they tend to work better with smaller transaction amounts. Also, they have been decoded by using sophisticated techniques to link bitcoin public keys — the alphanumeric string of numbers and letters that identifies the sender or recipient in a bitcoin transaction — with real people.

The ability to circumvent the banking system's anti-money laundering and know your customer rules, known as AML/KYC, by having a bitcoin address has been a natural draw for all manner of illicit activities, from online black markets selling illegal drugs to a large number of thefts, frauds and hacks. Bitcoin supporters say its use in illegal activities should be considered a separate and distinct issue from the digital currency

itself, just as it is with the dollar, euro or precious metals.

Many in the community cite the 2013 takedown of online black market Silk Road as the moment bitcoin became visible on the radar of regulators around the world. The bust has resulted in two convictions and the auction of tens of thousands of bitcoins seized by the U.S. government.

Yet it is important to understand the difference between privacy and anonymity. With the former, details of a purchase or sale, i.e., the amount, the product, or the date, are kept confidential. With the latter, the identity of the purchaser or seller is kept confidential, or in bitcoin's case, not known in the first place.

By design, the bitcoin protocol offers anonymity. Bitcoin can be earned by mining or private transaction, and held in cold storage entirely offline, with the only identifying information associated with the bitcoin address being the private key. Tracking subsequent transactions can be difficult, since the blockchain doesn't record identities.

But in practice, the majority of users now interact with the digital currency via an online wallet or exchange service, such as Xapo, Blockchain.info or BitPay. At that point, any anonymity they gained by using bitcoin is out the window, since the information they provided when creating accounts links them to their bitcoin balances, as does their computer usage. This is where efforts to establish robust AML/KYC regulations are strongest — no one is going to change the inherent anonymity offered by the bitcoin protocol, but for businesses that interface between it and the customer, rules will apply.

"There is no retreating from the fact we live in AML/KYC world," said James Jalil, digital currency practice head at law firm

Thompson Hine, in an interview in March. "Despite all the technological advances of digital currencies, there is no way we go back to the days of bearer bonds," which can be redeemed by anyone holding the securities and were declared virtually illegal in the U.S. in 1982.

"Plus, anytime bitcoin or a bitcoin user touches the fiat currency system, there will be AML/KYC obligations," Jalil said. This means that any time you buy or sell bitcoin using a bank account or credit card, your identity is going to be linked with that transaction.

Moreover, several techniques have been developed, some more precise than others, to associate particular addresses and transactions with particular individuals or businesses. It's not easy, but it is not impossible. The ledger itself is perfectly transparent; every transaction that takes place is visible, time stamped and searchable, making it easy to map what is happening across the bitcoin ecosystem.

Also, bitcoin exists online, so at some level every interaction with the blockchain requires Internet access, and thus is theoretically identifiable via IP address to the bitcoin nodes — a source of computing power for the network that authenticates transactions — processing the transaction. Through a triangulation process using multiple nodes, it is possible to narrow down which was the originating one, and thus a place for the traditional tools of law enforcement — subpoenas and the power to compel — to start.

"Ultimately, law enforcement has what it needs," J. Dax Hansen, a partner at law firm Perkins Coie LLP, said in an interview. "In fact, this conversation may eventually flip from bitcoin's anonymity to whether it is actually private enough."



Special Edition

**CYBERSECURITY** The New Threat Landscape



Read it here.

## VOICES

## BitGo's Belshe Says Security Platform Has Twofold Litmus Test for Transactions

**Mike Belshe**, co-founder and CEO of **BitGo**, a venture-backed security-as-a-service platform that powers enterprise-level secure bitcoin wallets, says a core principle at the company is that it doesn't hold enough private keys to make a transaction, so that if the company disappears, the customers still have their money. Belshe spoke with Bloomberg Brief contributor Steven Lord. His remarks have been edited and condensed.

**Q: How did you first get the idea for bitcoin storage?**

**A:** I began looking into bitcoin two and a half years ago, and I started out skeptical. But the more I researched, the more I began realizing this was real, so I began buying bitcoin, convinced my friends to buy bitcoin, etc. Pretty soon, we all realized that we didn't have a decently secure way to store it.

I was involved in Google Chrome early on, and security is a big deal at Google, so it was very much on my daily radar. I was afraid of having all this money on my laptop, so my research led to the idea that multi-signature authentication could solve some of our concerns.

**Q: Security is often described as the bitcoin Achilles' heel. Is this true?**

**A:** It's important to point out that when bitcoin first started, it was worth zero. How much security should be applied to something that isn't worth anything? Failures on the security side came because the early core developers simply didn't worry about it. Then, suddenly, bitcoin was worth something, but the security was lacking because no one had thought it would matter. Secondly, the core technology absolutely works. All the hacks and losses you've heard about have involved human error and negligence, not the technology itself. It turns out that humans are just not very good at keeping secrets. We routinely forget passwords, lose thumb drives,

share credentials, etc. We need a lot of process and backup to handle secret information, and even then, we screw it up.

Bitcoin is so compelling because it essentially empowers people to be their own bank. But that's both good and bad, since we're so terrible at security, and no one is there to blame or absorb the losses. That's why security has to be as good as possible.

**Q: How does BitGo approach this issue?**

**A:** We started with a simple question: What if we could secure digital currency against theft? So we started applying the best security principles already in place to bitcoin, with the goal of eliminating any single point of failure. We reasoned that if we were able to accomplish that, we'd end up with something better than cash. We started with multidevice technology that required two machines to access the blockchain, and then moved to multi-user and multi-signature. Our goal is to ensure no single entity has access to enough keys to sign a transaction. It gets complicated, with multiple levels of wallets with multiple keys, but each level makes it exponentially harder for the bad guys.

Our main product is our platform API, which is about securing online, real-time transactions. The best method used to be cold storage, but that is unwieldy. We wanted to make bitcoin secure and usable, so we started with our own web

wallet, with cutting edge security, plus multi-signature technology, plus policy options. A lot of breaches in the bitcoin space to date have involved companies holding assets on behalf of customers, so the API is also great for exchanges, remittance providers, payment processors — anyone holding funds on a customer's behalf.

**Q: Can you give an example?**

**A:** Earlier this year, a major bitcoin exchange suffered a breach and reached out to us for help. It turned out that all they needed to do on their end was change one line of source code to get a fully secured, multi-signature, hot wallet onto their platform.

**Q: Is Wall Street already utilizing multi-signature technology?**

**A:** Yes. We have a number of customers doing segregated accounts on the blockchain. Instead of having to go to a bitcoin exchange and trade there, they can create a multi-signature wallet, develop policies, give one key to the exchange, one to BitGo, and keep one for themselves. No single party has all the information necessary to transact at all times. To compromise it, you'd have to hack at least two of the three. A core principle is that we do not hold enough private keys to make a transaction. If we disappear, you still have your money. We have a twofold litmus test — we can't transact without you, and you can transact without us.

## AT A GLANCE



Source: Twitter

**Education:** BS, Computer Science, California Polytechnic

**Career:** Software engineer, Google; Development manager, Microsoft; Co-founder, Lookout Software. At Google, was one of the first 10 members of Google Chrome, and invented SPDY, now known as HTTP/2.0.

**Industry expertise:** Coding, networking, security protocols



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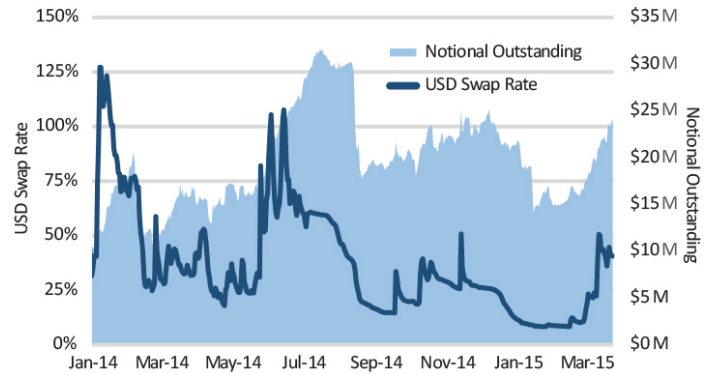
# INSIGHT: SWAPS & TRADING BY STEVEN LORD

## XBT/USD Swap Rates Show Bitcoin Volatility; Trade Volume Heavily Concentrated

Swaps allow traders to gain exposure to bitcoin without having to actually own it, but the nascent market remains relatively illiquid and expensive.

Rates for USD/XBT swaps on Bitfinex have been very volatile, ranging from more than 100 percent twice in the past 18 months to under 10 percent during the first quarter. Although a general trend lower is visible and notional values are heading up again, the market remains very small and the cost of such contracts extremely high.

### USD/XBT Swaps Trend Lower, Notionals Up



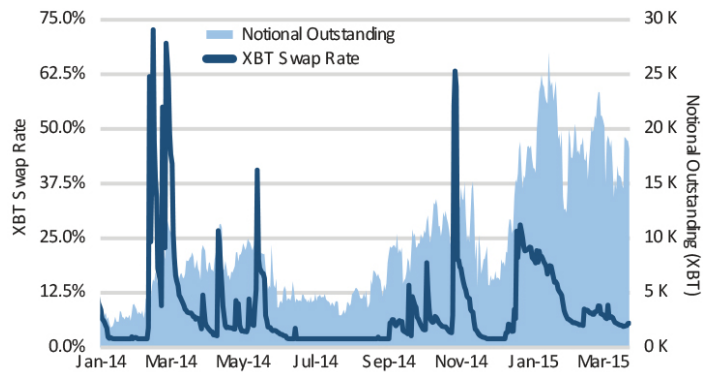
Source: TradeBlock

XBT/USD swap rates have also been volatile since the start of last year, but bitcoin's price swoon since the end of 2014 has resulted in a fairly steady downward push in rates.

Notional outstanding, meanwhile, has remained in the 15,000-20,000 XBT range, suggesting traders are staying short the digital currency at fairly consistent levels.

The difference in rates between XBT/USD swaps and its counterpart USD/XBT partly illustrates the cost and difficulties associated with effectively borrowing bitcoin in order to short it.

### Traders Remain Short Bitcoin Amid Volatility



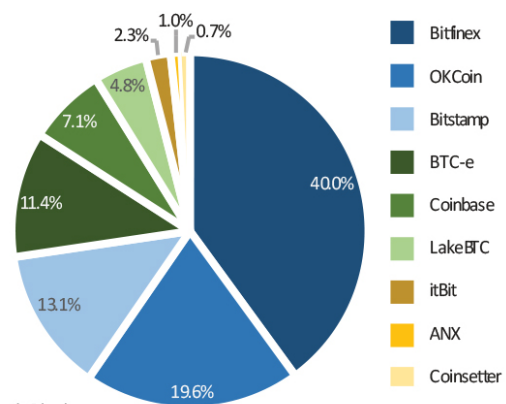
Source: TradeBlock

USD bitcoin trade volume for the year to date through mid-May is heavily concentrated among a few exchanges.

Most are located outside the U.S., with the top three — Hong Kong-based BitFinex, China-based OKCoin and U.K.-based Bitstamp — responsible for more than 72 percent of volume.

U.S.-based Coinbase, meanwhile, launched an exchange in January 2015 and has rapidly grown to account for more than 7 percent of USD trading volume in bitcoin.

### Volume Concentrated at Few Exchanges



Source: TradeBlock

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**John Reinsch**  
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## DERIVATIVES

### Bitcoin Derivatives Begin to Emerge, But Liquidity Remains Thin

BY STEVEN LORD

Bitcoin earned the title of best performing currency in 2013 and worst performing just one year later. With that kind of volatility, a growing number of opportunistic market participants from Silicon Valley to Wall Street are racing to bring institutional-scale derivatives to bitcoin trading.

“Traders have a natural affinity for something that is imperfectly priced, unregulated, thinly traded, and volatile,” said Dan Gallancy, CEO of SolidX Partners, one such financial services company pushing into the nascent industry. “But until leveraged instruments exist to offload some of the risk, they’re reluctant to get seriously involved.”

To date, the development has been focused in two areas. First, some companies have started to develop swap and non-deliverable forward contracts, or NDFs, similar to those already heavily traded by institutional investors. They

generally settle in cash and create synthetic exposure to bitcoin without the need for an investor to own the digital currency directly. Some players in this area include SolidX, Hedgy and Tera Exchange, among others.

The second area of development involves options. LedgerX, for example, filed for U.S. Commodity Futures Trading Commission approval in December as both a swap-execution facility and a derivatives clearing exchange with the goal of becoming bitcoin’s first fully regulated options exchange. If approved, it will offer 100 percent collateralized, physically settled options in an order-book format.

“An order book mechanism is familiar to traders,” LedgerX CEO Paul Chou said in an interview. “We’ve spoken to a lot of people — miners, processors, investors — and the need is there.”

Interest in bitcoin derivatives is not limited to the U.S. In London, former

Goldman Sachs Group Inc. and BNP Paribas SA executives have set up Crypto Facilities, which offers futures contracts on bitcoin, while Singapore-registered Coinarch’s offerings include a custom out-of-the-money put option that functions as a type of reverse convertible.

As more companies look to get involved in bitcoin derivatives, some worry whether the underlying bitcoin market is robust enough yet to support them. For instance, limited price discovery and concentrated bitcoin positions could result in a swaps market that is still very volatile and extremely expensive.

“Contracts will come, but we have enough liquidity challenges in spot trading,” Mike Moro, chief operating officer at Genesis Trading, said. “Everyone wants these advanced trading tools, like we’re used to in other asset classes. But it took years for them to develop in other markets. It’s not going to happen right away.”

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## EXCHANGE-TRADED NOTES

### Swedish Firm Lists First Exchange-Traded Note Tracking Bitcoin

BY YAKOB PETERSEIL

A Swedish firm says it has become the world's first to offer an exchange-traded note (ETN) tied to bitcoin.

**XBT Provider AB** listed 200 million Swedish krona (\$24 million) of Bitcoin Tracker One securities on the Nasdaq OMX exchange in Stockholm on May 18. The ETNs track the price in U.S. dollars of a unit of bitcoin.

While bitcoin attracted a wave of negative publicity due to thefts and the bankruptcy of Mt. Gox, a leading exchange, major financial companies are backing the virtual currency. In April, Goldman Sachs Group Inc. participated in a \$50 million fundraising round in bitcoin start-up **Circle Internet Financial Ltd.**, and the New York Stock Exchange has invested in a trading platform for the currency.

XBT is seeing demand from "private investors and institutions that are curious about bitcoin, but still think it's complicated to invest with bitcoin exchanges," **Johan Wattenstrom**, the

company's head of trading, said in an interview prior to the listing. XBT will charge a 2.5 percent annual fee for the securities, he said, and sells them in denominations of 10 krona, which is less than the price of a liter of Pepsi in the Nordic capital.

The notes track the average price of a unit of bitcoin in U.S. dollars using data from three exchanges, then converts it into Swedish krona. Wattenstrom said the firm must completely hedge its bitcoin exposure by buying units of the currency and is "not allowed to have market risk," though repayment on the ETNs depends on the creditworthiness of XBT, as with all such products.

XBT is part of **KnCGroup AB**, which Wattenstrom called one of the largest bitcoin miners in the world.

One challenge of holding bitcoins is keeping the currency safe from hackers. The firm can keep "a small part" of its holdings on bitcoin exchanges, according to Wattenstrom, but at least 90 percent will be in a secure location accessible

only by using private keys held by certain shareholders and company executives in separate bank vaults.

Issuing bitcoin-tracking products as an ETN is cheaper and quicker than doing so as an exchange-traded fund (ETF), Wattenstrom said. **Tyler and Cameron Winklevoss**, who claimed Mark Zuckerberg stole their idea for a social-networking website to start Facebook Inc., have proposed a bitcoin ETF that has been under review by the U.S. Securities and Exchange Commission since 2013.

The lack of a regulated market for bitcoin is behind volatility in its price, the Winklevoss twins said at a conference in January.

**Samuel Lee**, an ETF analyst at **Morningstar Inc.** in Chicago, said the new ETN could be useful not only for avoiding the hassles of storing bitcoins, but also as a way of shorting the virtual currency.



## TradeBlock

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**LEVERAGE** COMMENTARY BY STEVEN LORD

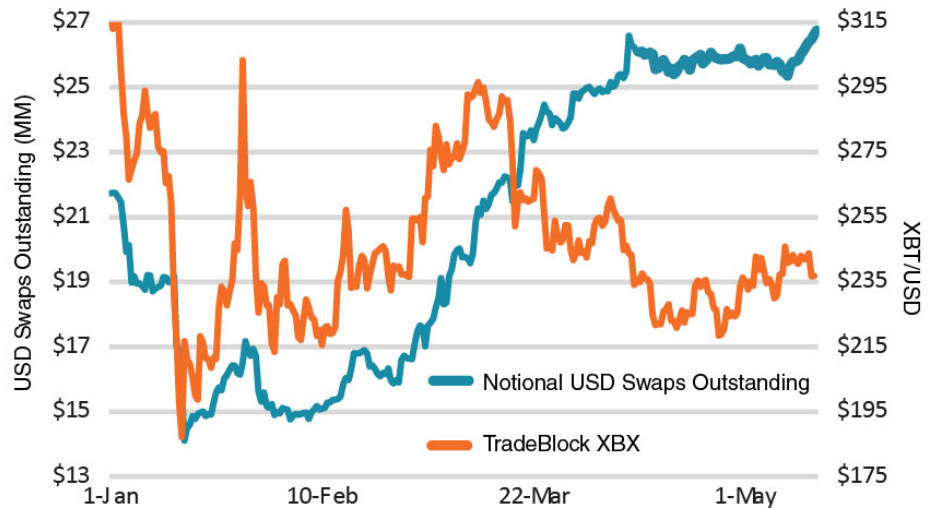
**Drop in Correlation Between Price and Leverage Raises Margin Call Concern**

Data from the largest dollar-denominated bitcoin exchange suggest the traditional relationship between bitcoin's price and the amount of leverage outstanding has shifted, at least temporarily.

The bitcoin spot rate against the U.S. dollar and the total long leverage outstanding were highly correlated throughout most of the first quarter. The relationship is so tight that recent movements in bitcoin are thought to be driven largely by changes in leverage, which in turn feeds through to the total notional value of bitcoin being bought, and, thus, liquidity. Some 70 percent of total USD bitcoin trading that takes place on-exchange does so via service providers that offer leverage to their clients.

Accordingly, sharp rises in bitcoin's price have often been accompanied by corresponding increases in leverage, and vice versa — with decreases in price occasionally heightened by margin calls. Over the last few weeks of the year's first quarter, though, this relationship broke down. The two measures diverged, with the USD spot price of bitcoin falling sharply, while total long leverage outstanding remained uncharacteristically elevated. According to TradeBlock, total long leverage at Bitfinex climbed by

**XBT Price Continues to Decline as Leveraged Longs Increase**



BloombergBriefs.com

Source: TradeBlock

Since the start of last year, bitcoin price movements have been generally in line with swings in the amount of gross long XBT leverage in the system as measured by USD swaps. This suggests that the leveraged buying (or the lack thereof) has been partly responsible for bitcoin's infamous volatility, helping push the price up but also generating automatic margin calls on underwater positions. However, since mid-March 2015, this normally correlated relationship has diverged, with the price of XBT dropping despite a steady increase in leveraged longs.

nearly 20 percent since mid March, despite a dropping bitcoin price.

If past is prologue, the relationship may revert to its previous state in due course. In the meantime, the potential for

significant automatic margin calls — and thus increased selling — on leveraged bitcoin positions will continue to increase should the price of bitcoin fall more and leverage remain high.

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## VOICES

## Coin Center's Brito Says Utility Will Be the Best Barometer of Bitcoin Success

**Jerry Brito**, executive director of **Coin Center**, says the U.S. has done "remarkably well" at finding a balance between preserving freedom of action to develop bitcoin technology while also upholding laws on theft, fraud and money laundering, though it potentially lags on regulations surrounding money transmission. Coin Center, which includes Marc Andreessen of Netscape and Andreessen Horowitz and Union Square Ventures' Fred Wilson among its advisory board members, is a non-profit research and advocacy center focused on the public policy issues facing cryptocurrency technologies. Brito spoke with Bloomberg Brief contributor Steven Lord. His remarks were edited and condensed.

**Q: What's your goal with Coin Center?**

**A:** Three things: education, policy research and advocacy. Education is the most basic function, but also the most important. It involves briefings, creation of resource materials, etc. At least on a weekly basis, we have some Congressional committee staff member or agency officer asking us to explain bitcoin. Our goal is to make sure the technology is understood, so that if regulatory frameworks are necessary, policy makers can create rules appropriate to the problem they're trying to address. That was the problem with the first draft of the Bitlicense — the technology was just not well understood.

Policy research entails exploring novel questions as they emerge. For instance, who has custody of bitcoins in a wallet with multi-signature technology? It's a fascinating question. So we do the legal research, write position papers and comment in proceedings to help answer these kinds of cutting-edge questions. Finally, although we accomplish a lot of advocacy through the first two activities, we are registered lobbyists, so we can suggest a lawmaker vote this way or that. We're not a trade association, so we can't advocate for a particular company or technology, but we are there to help make sure, to the extent possible, no regulation infringes on the right to innovate.

**Q: How do you see regulation developing?**

**A:** People serious about digital currencies, even the core developers, have always known that their use in certain ways would be regulated. To us, the more interesting question is not whether there should be regulation, but whether we can get it right. Can we preserve freedom of action to develop this technology while also upholding laws in place against theft, fraud, money laundering and so on?

**Q: Where does the U.S. stand when it comes to finding that balance?**

**A:** Remarkably well, in spite of everything. We're way ahead on tackling some of the thornier issues. The early rules are not perfect, but so far they're pretty reasonable. The failure of Mt. Gox precipitated much of what we now see because it highlighted the need to deal with bad actors and comply with rules already on the books.

Where the U.S. potentially lags is in money transmission regulations because they are handled at the state level. It's the biggest drawback to U.S. regulation because it is very complex, repetitive and costly. This industry is overwhelmingly dominated by venture and angel-funded startups, so getting legal counsel in every state will be prohibitive. One regulator, one license is better; eventually, federal pre-emption will be the way to go.

**Q: What do you make of the corruption in the Silk Road case?**

**A:** On the one hand, it shows how federal authorities were able to piece together bitcoin transactions to get to an identity. On the other hand, Silk Road shows that

digital currencies pose a new, but not insurmountable, challenge for law enforcement. It's not any different than other new innovations — criminals will use a new technology first, and then the good guys have to catch up. The government didn't ban the car because bank robbers used them first; we taught cops how to drive and gave them cars with bigger engines.

**Q: What's next for you?**

**A:** We conduct a monthly survey aimed at discovering consumer attitudes, which will drive policymaker attitudes. Right now, we're doing it on a monthly basis, but the numbers are not changing much. After one year of data, we will see whether to go quarterly.

The vast majority of individuals still haven't heard about bitcoin. The comparisons to Transmission Control Protocol/Internet Protocol (TCP/IP) are valid; most people who use the Internet every day have no idea what TCP/IP is or how it works. We can easily envision a world where bitcoin is extremely successful, but most of those that interact with it can't tell you what it does.

**Q: What will be the best barometer of success?**

**A:** Utility. The chance exists to turn old, sturdy, expensive, slow business models into rapid, cheap and nimble ones, and allow for things that were not possible before, like micropayments, the internet of things, etc. For us, how well this technology is utilized will be the best way to tell if it succeeded.

## AT A GLANCE



**Education:** BA, Florida International University; JD, George Mason  
**Career:** Adjunct Professor of Law, George Mason; Director, Technology Policy Program, Mercatus Center; Director of Operations, America's Future Foundation's Manager of Media Relations, Cato Institute.

**Other activities:** Wrote a pamphlet called "Bitcoin: A Primer for Policymakers," released in 2013; Host of "Surprisingly Free," a weekly half-hour podcast.

**Why bitcoin?** "I came across bitcoin in 2011 and was immediately taken by its elegance. However, I also realized there were going to be a lot of regulatory issues. So I did some research and realized that at least among policymakers, little was known."

## INSIGHT: BANKRUPTCIES

### Mt. Gox, Cointerra Top the List of Bitcoin Bankruptcy Filers by Liabilities

U.S. and non-U.S. businesses within the bitcoin world have sought bankruptcy protection in the U.S. court system through three different bankruptcy types: Chapter 7, Chapter 11 and Chapter 15 petitions.

The largest was the March 2014 Chapter 15 filing of **Mt. Gox**, where creditors were owed as much as \$100 million. According to court documents, the Tokyo-based bitcoin exchange halted withdrawals by customers on Feb. 7, 2014 after the company became subject to a massive theft or disappearance of bitcoins being held on behalf of its

customers and itself. More recently, Mt. Gox affiliate **Tibanne Co. Ltd.** — also known as Taro Awataguchi in filings — filed a Chapter 15 petition in New York's southern district in order to protect U.S. assets from creditors.

To date, there have been two Chapter 7 cases — **Cointerra Inc.** and **HashFast Technologies** — which call for a liquidation of the debtor's assets. Cointerra, a bitcoin mining company that gave no reason for its filing, had the second-largest petition with assets and debt of \$10 million to \$50 million each. In June 2014, mining startup HashFast was

converted to a Chapter 11, joining **CLI Holdings** and the industry's most recent filer, the **World Bitcoin Association**. Both listed assets of \$0 to \$500,000, according to the filings. World Bitcoin Association said in an affidavit that its petition for court protection was precipitated by a dispute with its landlord, while CLI Holdings, another bitcoin miner, said in court documents that it could not generate a positive cash flow from its mining operations.

— Aleksandrs Rozens, Bloomberg Brief Editor

### A Look at the Largest Bitcoin-Related Filings So Far

DEBTOR	DATE OF FILING	COURT	JUDGE	DEBTOR HOME STATE /COUNTRY	ASSETS	LIABILITIES	BANKRUPTCY FILING TYPE	DEBTOR COUNSEL
Mt. Gox Co. Ltd	3/9/2014	N.D. Texas	Stacey G. Jernigan	Tokyo	\$10 million - \$50 million	\$50 million - \$100 million	Chapter 15	Baker & McKenzie
Cointerra Inc.	1/24/2015	W.D. Texas	H. Christopher Mott	Austin, Texas	\$10 million - \$50 million	\$10 million - \$50 million	Chapter 7	Andrews & Kurth LLP
Taro Awataguchi (Tibanne Co. Ltd aka KK Tibanne)	2/3/2015	S.D. New York	Robert E. Gerber	Tokyo	\$1 million - \$10 million	\$1 million - \$10 million	Chapter 15	Reid Collins & Tsai
HashFast Technologies	5/9/2014 (involuntary Ch. 7), 6/9/2014 (converted to Ch. 11)	N.D. California	Dennis Montali	San Francisco	\$1 million - \$10 million	\$50,000 - \$100,000	Chapter 11 (Originally Chapter 7)	Katten Muchin Rosenman LLP
CLI Holdings (DBA Alydian Inc.)	11/1/2013	W.D. Washington	Karen Overstreet	Bainbridge Island, Washington	\$0-\$50,000	\$1 million - \$10 million	Chapter 11	Keller Rohrback LLP
World Bitcoin Association	3/16/2015	S.D. New York	Robert E. Gerber	New York	\$0-\$50,000	\$100,000 - \$500,000	Chapter 11	Shafferman & Feldman LLP

Source: Bloomberg LP, bankruptcy filings

### Commentary: Future Bitcoin Bankruptcies May Not Have U.S. Roots

COMMENTARY BY BILL ROCHELLE

If more bankruptcies hit in the bitcoin sector, it's unlikely to be a boon for underemployed U.S. bankruptcy professionals for several reasons.

First, a bitcoin operator has no particular need to be located in the U.S. Indeed, there may be good reason for locating in a lightly regulated, far-away country.

Second, and perhaps more important, bitcoin companies may not have much in the way of valuable assets.

Some bitcoin miners and repositories

may find themselves insolvent. Some, especially the miners, may simply dry up and blow away, without going through the court-supervised bankruptcy process.

Some miners have large sums tied up in massive computers, but a computer for a dead business has a defined market value that won't go far to cover a debt if it's large. There won't be valuable trademarks, and competitors have their own software.

If the miner had truly novel software and the best supercomputers, it probably wouldn't be bankrupt in the first place.

In the case of bankruptcy by a bitcoin repository, there won't be much in the way of assets if customers' bitcoins were held in trust and properly accounted for.

Bankruptcy would mostly be an exercise in parceling out bitcoins to customers, although there could be significant litigation to decide who gets how much if there is a shortfall.

And if any bitcoin bankruptcies turn out to be Ponzi schemes, they would be the most interesting for the lawyers — but nightmares for everyone else.



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## COMMENTARY BY NOAH SMITH, BLOOMBERG VIEW

### Bitcoin Must Die as Investment to Become a Currency

Bitcoins become more useful as a currency the more their price drops, according to **Noah Smith**, an assistant professor of finance at Stony Brook University and a freelance writer for a number of business publications, including Bloomberg View. He maintains a personal blog, called *Noahpinion*.

"Bitcoin is collapsing," BoingBoing recently tweeted. "Will Bitcoin ever rebound?" wonders CNN. "Bitcoin is headed to the ash heap," USA Today proclaims.

But what all this weeping, wailing, and gnashing of teeth fails to grasp is that bitcoin isn't supposed to be an investment-grade financial asset. It's supposed to be a medium of exchange. Surprisingly few people understand the difference.

The Washington Post's Matt O'Brien is one of the few who does:

*"If Bitcoin were a currency, it'd be the worst-performing one in the world, worse even than the Russian ruble...But Bitcoin isn't a currency. It's a Ponzi scheme for redistributing wealth from one libertarian to another. At least, that's all it is right now."*

O'Brien is correct. The reason for bitcoin's wild price volatility is that many people — not just O'Brien's "libertarians," but many others — fail to understand the difference between money and risky long-term assets.

Long-term assets are things like stock. As the human race invents more ways to create value, and as corporations find more ways to capture that value in the form of profit, the price of stock goes up. By buying stock and holding it, you get to share in that value. In return, you lower the cost of capital for the companies — in effect, you lend them money, and when the stock price goes up (or the stock pays dividends), you get paid back.

But stock isn't money. If you don't believe me, go to the store and try to use a share of General Electric to buy a loaf of bread. Eventually, security will gently

escort you from the premises.

Money is a medium of exchange. It's what you use to buy stuff. There can be multiple kinds of money that exist alongside each other — for example, in some countries, you can pay for things in the local currency or in U.S. dollars.

But what money doesn't usually do is increase in value over time. Sometimes it does, a little bit — for example, in the long deflation of the 1800s. Usually, though, money slowly decreases in value, because of inflation. The central bank tries to keep these decreases slow and steady, so money isn't risky.

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*"The sooner people give up the hope that bitcoin will skyrocket in price, the sooner they will be willing to spend bitcoins in everyday life, the way they now spend dollars."*

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So if money loses value slowly, why do people keep any money in their checking accounts? Because they need it to buy stuff. If you want assets that will tend to go up over time, you buy stocks, bonds or real estate.

At least, if you're sensible, that's what you do. If you're a gambler, you might consider something along these lines:

"At some point, people are going to switch to using a different kind of money. I bet I can predict that switch, and get in ahead of the game. I'll buy up a bunch of the future money, and when people switch to using that, I'll be sitting on a whole pile of cash!"

That's the implicit thought process of the people who buy bitcoins as a speculative investment. It's also the implicit thought process of gold bugs. "Gold is money," gold bug websites stubbornly repeat. But it isn't. You can't buy stuff with gold. David Andolfatto, vice president of the Federal Reserve Bank of St. Louis, explains this very well. Bitcoin is a bit more currency-like, but most things still can't be bought with bitcoins.

What gold bugs hope — almost certainly in vain — is that people will switch to using gold as money in the future. What bitcoin speculators hope — possibly correctly, possibly incorrectly — is that people will switch to using bitcoins as money in the future. They're not funding any sort of productive activity, they're just making risky speculative bets about future currency regimes.

But speculative bets on bitcoin don't actually help it become a true currency. More likely, they hurt it. There's a rule in economics called Gresham's law, which is that when you have two currencies, people tend to hoard the one with greater material value and spend the one with less material value.

If people think bitcoin has value as a speculative asset, they will hoard it, and buy their groceries with greenbacks instead — after all, they expect bitcoin's price to go up, and the price of the greenback to go down. This makes it more difficult for bitcoin to establish itself as a medium of exchange, because no one wants to actually spend them!

So I suspect that the people who have invested in bitcoin-related companies and technologies are not too upset when bitcoin prices crash. The sooner people give up the hope that bitcoin will skyrocket in price, the sooner they will be willing to spend bitcoins in everyday life, the way they now spend dollars. The quicker bitcoin as an investment dies, the quicker bitcoins as currency can come to life.

*(This was originally published on Jan. 21, 2015.)*

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**BRIEF** 

## CENTRAL BANKS COMMENTARY BY STEVEN LORD

### Central Banks Remain Split on Digital Currency

The world's central banks are still struggling to understand their role, if any, in the digital currency landscape. While they're viewed as potentially having some jurisdiction in the arena, most central banks have been quick to back away.

Federal Reserve Chair Janet Yellen has noted that the U.S. central bank doesn't have much of a role to play when it comes to regulating bitcoin. "It's important to understand that this is a payment innovation that's happening outside the banking industry," Yellen said in early 2014 following the Mt. Gox bankruptcy. "The Federal Reserve simply does not have the authorization to regulate bitcoin in any way."

By definition, bitcoin and other digital currencies exist outside the traditional monetary systems of any central bank, which has led to confusion about exactly how a central bank should respond to it. The growth and persistence of the bitcoin ecosystem has kept it on the radar, and although ducking the question of regulatory authority, most major central banks now view the technology with at least guarded interest. The result has been a hodgepodge of interpretations and reports from various national and supra-national monetary stewards.

Underlying this discussion is a strident debate among regulators and users alike about whether bitcoin qualifies as money. A common refrain from central banks such as the European Central Bank and the Bank of England is that digital currencies cannot be legitimately counted as "money" due to comparatively low levels of acceptance.

Moreover, the fact that many participants are seemingly holding bitcoins with an eye toward price appreciation is not lost on central banks. They correctly point out that something used as a medium of exchange is rarely simultaneously held as an asset for appreciation value. Goods are purchased with money, not investments.

Adherents make the case that, at least in the case of bitcoin, the six commonly held characteristics of money are fulfilled.

Bitcoin is scarce, transportable, durable, divisible, uniform and acceptable.

In addition, the Fed defines the main functions of money to be as a store of value, a unit of account and a medium of exchange. Bitcoin satisfies all three, albeit from an admittedly minuscule base relative to current fiat currencies. "There are three basic functions of money," said Wences Cesares, co-founder of Xapo. "Saving, paying and pricing. Bitcoin does all three."

To date, information from central banks has primarily consisted of consumer warnings about the lack of refund rights, volatility and fraud in the digital currency

ability to influence monetary systems.

This year, both the ECB and BOE have covered digital currencies and the potential role for central banks in reports. Each explored the advantages that digital currency and blockchain technology might bring, while highlighting the risks they pose. The ECB released a highly skeptical [report](#) on virtual currencies in February, noting the "several drawbacks and disadvantages for users, i.e. lack of transparency, clarity and continuity; high dependency on IT and on networks; anonymity of the actors involved; and high volatility." It also acknowledged that benefits may exist in terms of lower transaction costs, borderless flows, rapid settlement and privacy.

The BOE considered digital currencies in a section of a One Bank Research Agenda [discussion paper](#) in February on the bank's response to technological, institutional, societal and environmental change. The section noted the promise of such systems' distributed ledger technology. "Digital currencies, potentially combined with mobile technology, may reshape the mechanisms for making secure payments, allowing transactions to be made directly between participants," the BOE's report said. "This has potentially profound implications for a financial system whose payments mechanism depends on bank deposits that need to be created through credit."

Central bank interest in bitcoin hasn't gone unnoticed by the private sector. International Business Machines (IBM) is reportedly developing an extension of bitcoin and blockchain technologies that could be applied to traditional fiat currencies, creating a distributed, open ledger of a specific country's currency that would make payments cheap, nearly instantaneous and without middlemen.

The effort, while still in the very early stages, suggests prospective adaptation of a blockchain-esque structure that connects central bank control over the monetary system with the potential advantages of digital currency.

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*"The Federal Reserve simply does not have the authorization to regulate bitcoin in any way."*

— JANET YELLEN

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ecosystem. Several have studied whether digital currencies represent a threat to their respective monetary systems, not how and to what extent they should be regulated.

Perhaps unsurprisingly, many have studied digital currencies from the perspective of how they would function as national currency. In this context, concerns have focused on whether bitcoin's fixed money supply would lead to price deflation and the inability to manipulate the money supply in response to shifts in demand. Extrapolating out to an unlikely future, some have concluded that, if widely adopted, digital currencies would severely impair a central bank's

## REFERENCE RATES COMMENTARY BY STEVEN LORD

### Creation of a Single Reference Rate Is Complicated by Characteristics, Benchmarks

The growing interest in bitcoin as a financial asset has spawned a large number of competing reference rates for the digital currency. Unlike most instruments traded on Wall Street, there is no globally accepted spot rate for bitcoin. Instead, a fractured network of exchanges all over the world has evolved, each with its own inside market. The result has been a confusing collection of “best” prices that can vary tremendously between exchanges.

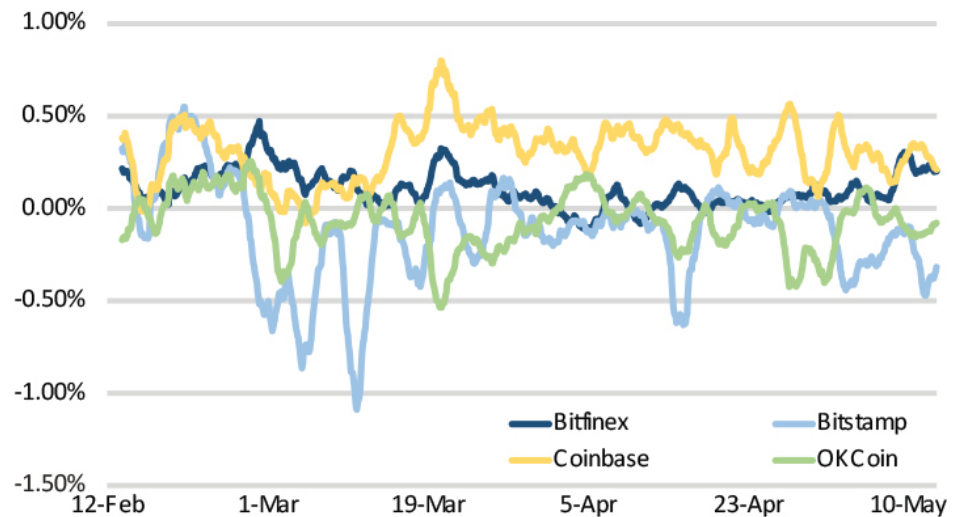
At the same time, interest in sophisticated derivatives designed to manage bitcoin price risk, which depend on reliable and stable reference rates, has expanded. Yet the unique characteristics of digital currency make it difficult to create a consolidated “tape” of bitcoin trades on which everyone agrees. Large spreads between different exchanges, combined with low liquidity and little visibility about off-market, OTC trades that increasingly dominate institutional involvement in bitcoin trading result in incomplete and often competing pictures of the true cash price.

Moreover, exchange-specific problems, such as the bankruptcy of Tokyo-based Mt. Gox in February 2014 or Bitstamp’s security breach in January, can cause posted prices to diverge quickly, freeze or disappear entirely, skewing any index that relies on them. Liquidity is still thin enough that a determined effort to push prices at a particular exchange would not be prohibitively expensive, particularly if underpinning a large derivative contract.

Several data providers have developed index products that seek to address these issues. Most utilize a volume-weighted average of several exchanges that must meet screening characteristics in order to be included. Media site Coindesk launched its Bitcoin Price Index in mid-2013, and describes it as a “standard retail price reference” representing an average across global exchanges meeting specific criteria regarding international availability, volume minimums, bid-offer spreads, and bitcoin-to-fiat transaction speeds.

TradeBlock’s XBX Index takes a similar approach, tracking global bitcoin liquidity from a range of carefully screened

#### Bitcoin Spreads Narrowing on Liquidity, Rates, Stability



Source: TradeBlock

BloombergBriefs.com

Bitcoin trading is fractured across a number of global exchanges, each with their own inside market, available liquidity and tools like margin, CFDs and high-speed algorithms. Differences, or spreads, exist between the prices offered on various exchanges. At times, these spreads have widened considerably, although gradually increasing liquidity, the availability of established reference rates, and improved exchange stability are slowly bringing them in.

exchanges and constantly monitoring spreads to identify exchange-specific pricing anomalies, which are then discounted in real time.

"The result," according to TradeBlock’s Greg Schvey, "is a tamper-resistant, institutional-quality reference rate for the USD-denominated price of bitcoin, ideal for use with any instrument using bitcoin as an underlying asset." XBX serves as the reference rate for the Bitcoin Investment Trust, the first publicly traded bitcoin investment vehicle, as well as a variety of products on other derivative platforms that license TradeBlock’s index.

Tera Exchange has created the TeraBit Index, which also employs a robust set of quantitative measures to generate a reliable and precise spot benchmark. Like XBX, Tera’s index is a weighted average of prices from a set of qualified exchanges, the data from which are continually subjected to a proprietary set of filters to weed out anomalous data. To date, the TeraBit Index is the only reference rate to have passed regulatory

muster, satisfying Commodity Futures Trading Commission scrutiny that it was not susceptible to price manipulation and could thus form the backbone of Tera’s regulated Swaps Execution Facility.

Finally, Pantera Capital’s BitIndex quantitatively measures the growth of bitcoin’s technological power, adoption and activity to gauge growth in the ecosystem as a whole. The index specifically avoids price, which the company says is too easily manipulated or distorted to be useful as an indicator. It tracks seven measures: developer interest, merchant adoption, Wikipedia views, hashrate, Google searches, wallet growth and transaction volume. Pantera weights these factors on its opinion of their importance, with developer interest, user adoption, and merchant adoption seen as the three most important leading indicators. When viewed from this perspective, the steep volatility in price over the past year has masked surprisingly steady growth in bitcoin’s key measures.

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## VOICES

## DCG's Silbert Says He's Focusing on Bitcoin Startups in Africa, the Middle East, India

**Barry Silbert**, founder and CEO of the **Digital Currency Group**, says he's been focusing on startups in places like India, the Middle East and Africa, where he sees bitcoin taking off. DCG has backed more than 50 bitcoin startups and created the Bitcoin Investment Trust, the first publicly traded bitcoin investment vehicle. Silbert, who spoke to Bloomberg Brief contributor Steven Lord, says digital currencies, including bitcoin, will have as much impact on society as the Internet. His remarks have been edited and condensed.

**Q: How and when did you first get into bitcoin?**

**A:** Around the time of the first price bubble in mid-2011, when the price went to \$10-\$12, and I started getting really excited about it by late spring of 2012. That's when I started buying. I had recently read Charles Hugh Smith's book "An Unconventional Guide to Investing in Troubled Times," so I was really drawn to bitcoin because it has many of gold's traits but also has practical uses. I envisioned a world where you could actually have a global digital currency.

Honestly, I didn't understand or appreciate the technological breakthrough at the time. But I'm a former investment banker, so I'd missed plenty of wire deadlines, struggled to send money overseas, etc. It didn't take me long to realize bitcoin was a game changer.

**Q: How do you see the bitcoin ecosystem developing?**

**A:** Fundamentally, you still have to look at this as a binary bet. But every day that goes by without bitcoin dying, the odds of the better outcome increase. Digital currencies will have at least as much impact on society as the Internet did. They revolutionize how goods and services can be purchased, and how business can be transacted, anywhere in the world.

However, none of the great things under development — payment rails, global remittances, smart contracts, etc. — are going to be feasible if we stay at a monetary base of \$3-\$4 billion and daily volume of \$100 million. People will get excited about bitcoin when they

believe its price will rise, which will create a flywheel effect of increased adoption, velocity, trading etc. Bitcoin can live up to its promise, but it will only be possible if the price and liquidity are a lot higher than they are today.

**Q: Bitcoin Investment Trust recently became the first publicly traded bitcoin fund (GBTC). How was that process?**

**A:** We formed the Bitcoin Investment Trust (BIT) in 2013 as a private Delaware grantor trust only available to accredited investors. The process to move to the public market was unique; it took advantage of a rule that allows existing holders of a trust to sell into a secondary market after holding their specific shares for one year, as long as certain disclosure and trading requirements are met. The alternative was to pursue a full listing with the U.S. Securities and Exchange Commission, which as evidenced by the Winklevoss effort, is a bit of a black hole.

We've teamed up with OTC Markets, quoting GBTC shares on their top-tier marketplace, OTCQX, and Merriman Capital as the initial market maker and designated adviser for disclosure. To provide liquidity to existing BIT investors, shareholders may elect to sell into the public market, free of restriction, and those shares are eligible to be purchased by any individual or entity. The result is a way for investors to gain exposure to the price movement of bitcoin in their regular securities accounts, even their IRAs, without the challenges of buying, storing and safekeeping. At the same time, we have an ongoing private placement happening. It creates new BIT shares at

net asset value (NAV), but with the attendant lockup restrictions. We think the public shares will trade at a premium to the trust's NAV, which creates a natural arbitrage.

**Q: Does GBTC give the appearance of liquidity to a pretty illiquid asset?**

**A:** This does put a relatively liquid overlay onto a relatively illiquid asset, but we think GBTC is unlikely to be more liquid than bitcoin itself, given the size of the market. Our model for GBTC was the SPDR Gold Trust (GLD). When GLD launched in 2004, it made investing into gold by the masses possible. That's what we're trying to do here. Before you ask, the trust's financials are audited annually by Ernst & Young LLP, to allay concerns about our holdings.

**Q: What's next for GBTC and DCG?**

**A:** Our near-term focus is on creating the aftermarket, signing up new authorized participants, working with RIAs, wirehouses, etc. so they know they can use GBTC as an instrument to gain exposure to bitcoin. We fully intend to uplist GBTC when possible, and eventually we want to get options trading on it. It will take time, though — we own about 1 percent of the outstanding bitcoin, so it's not a very deep market yet.

DCG is making investments in the bitcoin ecosystem. I've been focusing a lot lately on startups in countries where I think bitcoin will really take off, like in India, Africa, and the Middle East. I'm interested in the companies building the early infrastructure that will make bitcoin adoption possible in these places.

## AT A GLANCE



Source: Bloomberg/  
Andrew Harrer

**Education:** BBA, Emory University

**Career:** Founder & CEO, Digital Currency Group; Founder, SecondMarket Inc.; Founder Bitcoin Investment Trust. DCG is a combination of the Bitcoin Opportunity Corp., which holds our early stage investment portfolio, with two businesses that were formerly under SecondMarket — Grayscale, which develops products, such as the Bitcoin Investment Trust, that facilitate access to digital currency investing, and Genesis Trading, which conducts digital currency trading and brokerage business.

**Industry expertise:** Digital currencies, illiquid securities, venture investing



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## VOICES

## Coins.ph CEO Says Bitcoin Is to Remittances What Skype Was to Overseas Calls

**Ron Hose**, co-founder and CEO of Philippines-headquartered **Coins.ph**, a remittance company, says bitcoin can lower the cost and time it takes to finalize remittance transfers and payments in emerging markets along the lines of how Skype lowered the cost of calling overseas. Hose spoke with Bloomberg Brief contributor Steven Lord. His remarks have been edited and condensed.

**Q: Why does bitcoin appeal to emerging markets?**

**A:** The first thing you notice when you come to a developing market is that everything is done in cash. Money is saved in a mattress, if at all, so what little financial infrastructure there exists tends to be very costly, slow and inefficient. It's too expensive to establish large, efficient banking networks because there is no savings and the amounts are so small. Bitcoin is seen as a payment novelty in developed countries, but here, the advantages it has over traditional methods could solve large, daily problems for millions of people.

**Q: Is addressing the unbanked as much of a focal point as the remittance market?**

**A:** They're intertwined. It's hard to exaggerate just how unbanked places like the Philippines are. More Filipinos have Facebook than bank accounts. Only 3 percent have credit cards. That means only three people out of a hundred landing on an e-commerce website have an immediate way to pay for what they buy. Everything is done cash on delivery (COD). It's the same story in the rest of Asia — more than half the Asian population is unbanked, and only 5 percent have credit cards. Yet these people are consuming services all the time, and their relatives are sending cash home from all over the place. The average Filipino remittance is \$250 and costs 8 percent, or \$20, a pretty high number considering the average monthly salary here is only \$280. Imagine paying 8 percent of your monthly salary just to have access to your money.

**Q: Where does bitcoin come into play regarding remittances?**

**A:** Bitcoin is the digital currency equivalent of WhatsApp for cash. It's accessible from anywhere, it's borderless, has low friction and few middlemen. Costs are low and utility is high. It can theoretically be used going from any currency to any currency, anywhere, quickly and securely. A person in the Philippines might wait all day in line at Western Union to get that \$250 from overseas. Using digital currency, it takes minutes. The difference is like night and day.

**Q: What's your goal in this market?**

**A:** We've built an extensive network for transacting in a cash-in/cash-out fashion. The customer puts cash into a partner ATM or convenience store, we exchange it into bitcoin, and deliver cash, in the form of cardless ATM withdrawals, mobile money, bill pay, etc., on the other end. Once money is in the system, it can be maneuvered freely. We use bitcoin as a vehicle and the blockchain as a mechanism. Our customers are not exposed to bitcoin itself. They don't care very much about the underlying technology — all they see is that a transaction that used to take hours or days and cost a fortune now takes an average of five seconds and is cheap. For people in developing countries, it's a game changer.

Our mission is to improve financial inclusion in emerging markets, and our company is built around the goal of improving lives through bitcoin technology. All of the products we develop stem from this same main goal.

Think of how Skype lowered the cost of calling overseas a decade ago — bitcoin can have the same effect on the remittance market.

**Q: What's next?**

**A:** We've recently plugged into the existing global ecosystem via a partnership with Coinbase. We've integrated their API so that Coinbase customers in 24 countries can use our cash-to-cash remittance service to send money to the Philippines. In the meantime, we're expanding ATM and similar networks in popular remittance origins like Hong Kong to build out the network of input locations, and are working on adding to our network of 450 ATMs and more than 5,000 cash pickup locations here in the Philippines. We've also inked an exciting partnership with Bitwage in which Filipinos working for U.S. firms, for instance in BPO, can be paid in U.S. funds into a U.S. bank account, but through the blockchain and our two services, collect the money here in either Philippine pesos, preloaded cash cards, mobile wallets, or bank deposits. And it all happens quickly, cheaply and securely.

**Q: Are there any other countries that you're eyeing for expansion?**

**A:** We're already growing at a healthy double-digit clip, and have to bring what we're doing to other Asian countries that share similar characteristics as the Philippines — Indonesia and Vietnam, for instance. Right now, we're about 20 employees, with half developers and an operations group in Thailand.

## AT A GLANCE



**Education:** Master's Degree in Computer Science, Cornell University

**Career:** Founding Partner, Innovation Endeavors; Co-founder TokBox, acquired in 2012 by Telefonica

**Industry expertise:** Information technology, digital currency, venture capital

## EVENTS CALENDAR COMPILED BY STEVEN LORD

DATE	EVENT	LOCATION
June 9-10	PayExpo 2015	London, U.K.
June 10-11	iBitcoin Expo	Shanghai, China
June 11	BLOCKCHA1N: The Blockchain Forum	Paris, France
June 12	Controlling Crypto-Currencies	Birmingham, U.K.
June 15-16	Money Conference	Belfast, U.K.
June 22-23	CE Week/CoinAgenda	New York, NY
July 8	Wired Money	London, U.K.
July 10-11	Inside Bitcoins Chicago	Chicago, IL
June 24-25	Internet Finance Innovation CEO & Bitcoin Summit	Shanghai, China
July 28	American Banker's Digital Currencies + the Blockchain	New York, NY
Aug. 13	Coin Congress San Francisco	San Francisco, CA
Aug. 31- Sept. 2	Mobile Payment Conference	Chicago, IL
Sept. 1	Inside Bitcoins London	London, UK
Sept. 9-11	ATM & Mobile Innovation Summit	Washington, D.C.
Sept. 10	Consensus 2015	New York, NY
Oct. 25-28	Money 20/20	Las Vegas, NV
Oct. 28-30	CoinAgenda/BitAngels Global Conference	Las Vegas, NV
Nov. 3-5	Mobile Money & Digital Payments	Istanbul, Turkey
Nov. 9	MTBIT: Bitcoin & Remittances	Miami, FL
Nov. 16-18	Inside Bitcoins San Diego	San Diego, CA
Dec. 10-11	Inside Bitcoins Seoul	Seoul, South Korea
Jan. 19-21, 2016	Mobile Money & Digital Payments (Asia)	Jakarta, Indonesia
April 4-7, 2016	Money 20/20 Europe	Copenhagen, Denmark
April 5-10, 2016	Coinfest 2016	Global
April 10-12, 2016	Inside Bitcoins New York	New York, NY

## Bloomberg Brief: Bitcoin

### Bloomberg Brief

#### Managing Editor

Jennifer Rossa  
jrossa@bloomberg.net  
+1-212-617-8074

#### Bloomberg Brief Editors

Ben Baris  
bbaris1@bloomberg.net  
+1-212-617-2459

Melissa Karsh  
mkarsh@bloomberg.net  
+1-212-617-4557

Anne Riley  
ariley17@bloomberg.net  
+1-212-617-0061

### Designers

Pekka Aalto  
pekka2@bloomberg.net  
+852-2977-6013

Ian Maready  
imaready@bloomberg.net  
+1-212-617-3761

Chris Yerkes  
cyerkes1@bloomberg.net  
+1-212-617-3375

### Newsletter

#### Business Manager

Nick Ferris  
nferris2@bloomberg.net  
+1-212-617-6975

#### Advertising

Adrienne Bills  
abills1@bloomberg.net  
+1-212-617-6073

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Lori Husted  
lori.husted@theygsgroup.com  
+1-717-505-2204 x2204

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To contact the editor:  
mkarsh@bloomberg.net

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**+1 (212) 273-9580 [INFO@SLDX.COM](mailto:INFO@SLDX.COM)**