Chainalysis Inc.

Intersection of Bitcoin & Banking

February 2017
Overview: Bitcoin is already here

VECTORS
1. Cash deposits
2. Wire Transfers
3. Credit/Debit Cards

RISKS
- Blackmail, operating unlicensed MSBs, account takeover, third party fraud, chargeback fraud, gambling, money laundering

MITIGATION
- Characteristics of the blockchain: public, immutable
- Identify high risk activities
- The Chainalysis Solution
Bitcoin Ecosystem Participants

Personal Wallets
- Responsible for storing, sending and receiving of bitcoins
- Allow users to store Bitcoin on their computer and phones

Payment Processors
- Support merchants in accepting bitcoin for goods and services.
- Payment services for exchanges, payment services for merchants
- Charge fees for transferring funds, converting payments into local currency, bank wire fees and security fees.

Exchanges
- Act as an intermediaries
- Allow users to trade (buy/sell) Bitcoin in exchange for local currency, precious metal or stock
Legitimate Participants - Facilitating Safe Transactions

The Industry

There are many misconceptions about the Bitcoin industry. Much of the industry constitutes legitimate activity and the participants want to assist law enforcement.

Blockchain Alliance

• Mission: to provide a forum for open dialogue between industry, law enforcement and regulatory agencies in order to help combat criminal activity on the blockchain.

• Common goal to make the blockchain ecosystem more secure and to promote further development of the technology.

• Address misconceptions about Bitcoin - highlight the industry’s good-faith efforts to cooperate with investigations promote an approach to enforcement and regulation that does not stifle innovation.
Legitimate Participants - Facilitating Safe Transactions

Bitstamp

- Virtual currency exchange platform. Bitstamp Ltd. is the EU’s first licensed and fully regulated bitcoin exchange.

Coinbase

- Bitcoin exchange for buying, selling, sending, receiving and storing bitcoin.

Kraken

- Digital currency-to-digital currency exchange and digital currency-to-national currency exchange.
Depositing Cash for Bitcoin

METHODS

• There are many online market places, P2P matching services, that connect bitcoin buyers and sellers

• Contact is made and necessary instructions are given to individual who wants to buy Bitcoin

• Payment instructions cash drops

• Paxful, Localbitcoins, Wall of Coins

RISKS

• Blackmail - cyber criminals use bitcoin to extort payments from their victims

• Customers operating unlicensed MSBs

• Inaccurate customer risk profile
Cash Deposits - Paxful

How it works

P2P Bitcoin marketplace connecting buyers with sellers. Select preferred payment method and how many bitcoins are needed.

Payment methods listed

• Capital One

• Wells Fargo

• Bank of America

• Money Gram

• Debit

• Whatever anyone will accept in return for bitcoin - members can create their own payment methods
Cash Deposits - Paxful

Buy Bitcoin with bank cash deposits - “Get the best price”

No ID or bank account needed, just walk over to your closest branch and deposit cash to the teller. Upload the receipt and have bitcoin in less than 3 hours.
Buying instructions on Paxful

For big buys over $100 and the best price you can deposit cash to any local bank, Western Union or Monogram office

1. See which vendors have accounts at banks near you and start a trade with them. They will give you their bank account number and name.

2. Go to the nearest local bank of that bank and deposit cash to the teller

*Note: you don’t need to have an account there and don’t need to mention bitcoin to the teller. You are just paying the vendor to his account with cash, the bank has no idea what for and knows nothing about bitcoin.

3. Save the receipt showing it was a cash deposit and upload it to the vendor in the trade chat and click confirm paid button. Wait for your bitcoins to be sent to your wallet
How “Localbitcoins.com” works

Users post advertisements on the site - exchange rate stated and payment method for buying and selling bitcoins.

### How much do you want to buy?

- **Payment method:** Cash deposit: Wells Fargo
- **Risks:** Low
- **Seller’s rate:** 930.00 USD/BTC
- **Trade limits:** 3000 - 5580 USD

### Info

**Terms of trade with llfigarella**

- ONLY CASH DEPOSIT
- Wells Fargo Bank
- Beneficiary: Lillianella Diaz
- Account Number: 3403304466
- Please write in your receipt “user llfigarella, localbitcoins.com”
- For contact me please use WhatsApp +12565371900, or email llfigarella@hotmail.com Thank you

You have too many unfinished buy contacts! You must finish at least one of them before you can make new ones. Your unfinished buy contacts are #8830590
Cash Deposits - LocalBitcoins.com

How it works
1. View open advertisements

<table>
<thead>
<tr>
<th>Seller</th>
<th>Payment method</th>
<th>Price / BTC</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PeerTradeCapital (30+; 97%)</td>
<td>Transfers with specific bank: RBC</td>
<td>1390.65 CAD</td>
<td>300 - 2781 CAD</td>
</tr>
<tr>
<td>PeerTradeCapital (30+; 97%)</td>
<td>Interac e-transfer</td>
<td>1306.27 CAD</td>
<td>200 - 1045 CAD</td>
</tr>
<tr>
<td>PeerTradeCapital (30+; 97%)</td>
<td>Cash deposit: RBC / TD / CIBC / Scotia</td>
<td>1293.91 CAD</td>
<td>300 - 3668 CAD</td>
</tr>
</tbody>
</table>

PeerTradeCapital will sell bitcoin for cash deposits up to 3,668 CAD

2. Buyer clicks on open advertisement matching their needs and opens a trade.
Cash Deposits - LocalBitcoins.com

Instructions - TD Bank

**Step 1: Pay the seller**

The reference message must be included or the seller can't identify your payment. Send a message to the PeerTradeCapital to receive help with completing the payment.

**Method:** RBC / TD / CIBC / Scotia

No need to wait for a response. We are available and ready to complete the trade.

**NOTE FOR SCANNERS:** We always call the teller to verify cash and will notify teller transaction is irreversible

1. Text your USERNAME to: (647) 484-5009 to receive the business account information for the deposit, and the bank you will be making the deposit.

2) Say that you would like to make a cash deposit into a business account to pay an invoice. Make a cash deposit to the business name & account provided. Do NOT mention bitcoin to the teller. Do not deposit anything but cash - We will not release the coins if anything other than cash is deposited.

ID will be required to go into Bank.

3. Upload a picture of the deposit receipt. Write on Receipt: "No Refunds. For Bitcoin Purchase" and your username.

*We may require a copy of your photo ID at any time for any reason.

Amount: 1200.00 CAD
Reference/message: L8879054B5A84G
Instructions detail for the bitcoin buyer to visit TD branch #0335, say to the bank teller you would like to make a cash deposit into Canada Inc.’s business account for an invoice. Instructions specifically state to NOT mention Bitcoin.

3. Buyer to send a text message with user name to (647) 484-5009 and receive seller’s bank account details

Receiving Branch: TD

Account Name: 9455817 Canada, Inc.

Account Number: 523163

Branch Number: 0335

Transit Number: 03352

Type: Business Checking

Province: Ontario
4. Once the money is deposited by the buyer and the payment is complete, seller confirms the payment has been received. The Bitcoins are moved from escrow to the buyers LocalBitcoins wallet.

**Risks**

- Is the customer risk profile accurate in the bank’s system?
- Is Bitcoin activity being captured?
- Could the individual tied to this account be operating an unlicensed MSB?
Cash Deposits - Wall of Coins

How it works

Peer-to-peer market for buying and selling bitcoins. It connects buyers and sellers. To purchase bitcoins for cash, only phone number and email address needed for the transaction - identify verification is not necessary.

1. Buyer enters the amount in either bitcoin or dollar that they would like to purchase and a bank of their choice.
Cash Deposits - Wall of Coins

How it works

2. Wall of Coins generates options that fit buyer’s criteria. When an option is chosen, buying instructions are sent.

3. Deposit cash at a local branch into bank account given in buying instructions.

4. Buyer uploads receipt for the cash deposit and once verified, BTC will be sent to buyer’s bitcoin wallet address.

Order 1.639 B from Wells Fargo:

- Bank Branch: Wells Fargo
- Name on Account: Nick Gitlin
- Account #: 7143652266
- Cash to Deposit: $1718.40
- Deposit Due: Today 5:05 p.m.

Do not throw away or misplace your receipt. A receipt is required to get your coins! *For your convenience, we are texting you the payment instructions.
Wire Transfer

METHODS

• Online P2P marketplaces that connect bitcoin buyers and sellers

• Contact is made and necessary instructions are given to individual who wants to buy/sell Bitcoin via wire transfer

• Interact transfer, SEPA transfer, SWIFT

• Paxful, Localbitcoins, 247 exchange

RISKS

• Blackmail - cyber criminals use bitcoin to extort payments from their victims

• Customers operating unlicensed MSBs

• Account takeover
Wire Transfer - Paxful

Open offers

How it works

• Pay the maximum of 1505 CAD into “shawmoney66” account via Interac e-transfer

• Terms of trade detail that no ID verification is required

• Once payment is confirmed, bitcoins will be released into buyer’s Paxful wallet
How it works

From the buyer’s Paxful wallet, the received bitcoin can be sent anywhere.

HOW TO SEND YOUR BITCOIN TO BACKPAGE

1. On Backpage.com create an ad and then click bitcoin.
2. Click Create Invoice.
3. Then click Pay with Paxful.

You will be redirected to your Paxful wallet with the amount prefilled and click Send Bitcoin now. Congratulations, you have just paid for your Backpage invoice! Click here to open the Backpage credits page.
Interac Transfer - Paxful

Risks

• Is the customer risk profile accurate in the banks system?
• Is Bitcoin activity being captured?
• Could the individual tied to this account be operating an unlicensed MSB?

User Profile - shawmoney66

INFO
3568 Trade partners
10133 Trades
Between 300 and 1000 BTC
Trade volume
Trusted by 738 people
Blocked by 168 people
Joined 1 year ago
Wire Transfer - LocalBitcoins.com

How it works

Buyer would like to purchase $501 worth of bitcoins.

The payment instructions detail where the buyer should wire the money.

Send message to PayBank.Pro

Write your message here

Send Attach document

Step 1: Pay the seller

The reference message must be included or the seller can’t identify your payment. Send a message to the PayBank.Pro to receive help with completing the payment.

Method: BCYPCY2N

Give the name of the Bank from which the money to be transferred and swift. After checking (3-10 minutes), we will provide details for payment.

Amount: 501.00 USD

Reference/message: L6888380B43N3W

Terms of trade with PayBank.Pro

Step 2: Confirm the payment

The bitcoins are held in escrow for 70 minutes, during which it is
Wire Transfer - LocalBitcoins.com

Payment details

Account Number - 357023177167
IBAN - CY19002001950000357023177167
SWIFT/BIC - BCYPCY2N

Branch - International Business Unit Limassol 3 (0388)
Account Name - Perfilov Iurii

How it works

• Once payment is confirmed, bitcoins are released into buyers LocalBitcoins wallet.
247 Exchange has banking and payment processing partners in Canada

Canada

Direct transfers are supported from the following banks and financial institutions:

• BMO Bank of Montreal
• Beaubear Credit Union
• Interior Savings Credit
• Limestone Credit Union
• RBC Royal Bank of Canada
• Scotia Bank
• Tania Financial Credit Union
• TD Canada Trust
• The Police Credit Union
• Your Credit Union
Wire Transfer - 247 Exchange

Sell Bitcoins Using Wire Transfer

• Send bitcoin (BTC) to a generated address and receive a SWIFT/SEPA wire transfer to your bank account

• Details of payment optional
Credit/Debit Card Transactions

METHODS
• Online P2P marketplaces that connect bitcoin buyers and sellers
• Vendors accept various payment forms - Prepaid visa cards, MasterCard, AMEX
• Paxful, Localbitcoins, 247 exchange, Indacoin

RISKS
• Chargeback fraud
• Gambling
• Money laundering
Credit/Debit Card Transactions - LocalBitcoins.com

How it works
• Users post advertisements on the site - exchange rate stated and payment method for buying and selling bitcoins.

Results for buying bitcoins online

<table>
<thead>
<tr>
<th>Trader</th>
<th>Payment method</th>
<th>Price / BTC</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>coinrobot (30+; 100%)</td>
<td>Credit card</td>
<td>5128.50 USD</td>
<td>350 - 975 USD</td>
</tr>
</tbody>
</table>

Payment instructions
1. Only 3D Secure cards allowed; MasterCard - worldwide; Visa - Europe only
2. Link is given by the seller- taken to a separate window, enter card details and press “buy”
3. To pay, enter verification code which is sent to the buyer’s email address
4. When payment is complete, bitcoin is sent to LocalBitcoins wallet.

No ID is required by this seller
Credit/Debit Card Transactions - Paxful

How it works

• Accept all credit and debit cards from any country or currency
• Card must be able to accept online international payments

Payment instructions

In order to enter the trade, the buyer needs to send a picture of their ID and a picture of the payment card, showing the last four digits of the card.

Once verified, Bitcoins will be loaded into the buyer’s Paxful wallet.
Credit/Debit Card Transactions - Indacoin

How it works

• Global platform that lets people buy bitcoins with a credit or debit card without registration and ID requests.

• Verification step - Enter a verification code found on the online card statement

Payment instructions

1. Buyer enters amount of USD or EUR or amount of Bitcoin to purchase

2. Enter mobile number, bitcoin address and credit/debit card number. Only cards verified by Visa or MasterCard SecureCode are accepted.

3. Buyer will receive a phone call from Indacoin with a four digit code - enter code on the order page.

4. Bitcoin purchased is sent to bitcoin address entered. The purchase will show up on the buyer’s credit/debit card statement as “indacoin.com +44 207 048 25 82”.
Implications and Risks

Facts
• Bitcoin activity intersects with the traditional banking system - legitimate and illegitimate uses
• Bad actors are using traditional methods to buy and sell bitcoin - cash deposits, wire transfers and credit/debit card transactions
• Nature of the blockchain allows transparency - have to know what to look for and how to identify malicious activity

Challenges
• Incorporating new techniques to identify illicit activity
• Modifying approaches to transaction monitoring
• Accurately identifying and reporting suspicious and/or unusual transactions
• Training compliance staff to identify and investigate cases that involve digital currencies.
Mitigation in the old world

LIMITED view within a FI, making it easier for ML

Source: The Wolfsberg Group
Chainalysis Network allows for greater information sharing

Diagram shows connections between:
- Exchange
- Merchant Processor
- Bank
- Cyber Security Company
- Law Enforcement

PRIVATE AND CONFIDENTIAL
The Chainalysis Solution: Identify and Mitigate Risk

Identify bad actors and mitigate risk

- Identify all wire activity that relates to bitcoin activity
- Prioritize transactions that require further investigation

Chainalysis Risk Scores

- Most comprehensive database of potentially suspicious activity that occurs on the Bitcoin network
- Risk scores based on blockchain activity
- Benchmark different exchanges according to exposure to potentially suspicious activity, i.e. Dark Net Markets: venues where predominantly illegal goods are bought and sold.
- Produce alerts on high risk bitcoin wire activity
- Incorporate risk score to create accurate customer risk profiles & file SARs
Thanks

Jonathan Levin
Cofounder Chainalysis

jonathan@chainalysis.com