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COIN CATEGORY

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BITCOIN

TICKER **BTC**

PURPOSE

MARKET INSIGHT

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Wash trading on exchanges: The problem and how to easily detect it

A simple investor self defence mechanism against market manipulation

SEC's rejection of Bitcoin ETF is an obvious outcome. Today, we take a look at one of the main hurdles: wash trading, which BTI(Blockchain Transparency Institute) thinks composes of 60%+ of all volume. Causes for such may include ill modelled exchange token economics, commission rebates, and malicious market manipulation. But regardless of the reason, we proposes a simple method to detect possible wash trading in exchanges. Wash trading techniques will evolve under absence of regulation. Yet, the everyday investor can for now use this tool as their own first line of defence for optimal exchange selection. Limitations to this approach include: 1) does not identify the exact body conducting wash trades, and 2) included are samples and many more platforms may have problems.

What wash trading is and how it is done

Wash trading is a process whereby a trader or multiple colluding traders inflate trading volume by executing trades without effective change in ownership through submitting a buy & sell order for the same amount of an asset at an identical price. Wash trades on exchanges seemingly follows these steps: 1) wait until the spread widens, 2) execute orders at a tick (price) in which there is no existing order, and 3) halt when spread tightens as misguided investors make real orders. This enables wash traders to falsify large volumes regardless of the true order book size. The process repeats infinitely on exchanges or cryptos that have limited real volume.

Wash trading is used for price manipulation and indirect payment for questionable actions

There are two primary reasons wash trades are banned in traditional markets. First, it misleads investors to participate in trading by falsifying large volumes. This creates an ideal environment for market manipulation including pump & dump scenarios. Second, it can be used as a method to indirectly compensate brokers for questionable actions. The Libor scandal which involved global institutions such as Barclays, UBS, Citibank, JPMorgan, etc. is a key example. Despite Libor's importance in the system, some banks indirectly paid each other by generating commissions through wash trading in return for participation in the scandal.

Four red flags to spot possible wash trading

Under the current regulatory vacuum, top-down approaches done by bodies such as BTI or analysts like Sylvain Ribes is also important. But nevertheless, we provide a much easier way to spot possible wash trading activities on exchanges by monitoring for four red flags: 1) repeating transactions of same volume and price, 2) large number of orders executed during hours when most users are likely offline in that timezone, 3) continuous trades significantly larger compared to the order book size, 4) limited price volatility despite seemingly high liquidity. Utilizing this simple test, even the everyday retail investor will be able to identify possible wash trading within minutes and make optimal exchange platform selections.

MARKET PRICE & CCDEX

BTC	
USD	$4,005.65
KRW	₩4,459,248
JPY	¥454,929
CCDEX	1100.01

*As of 3 Dec 2018

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Four red flags

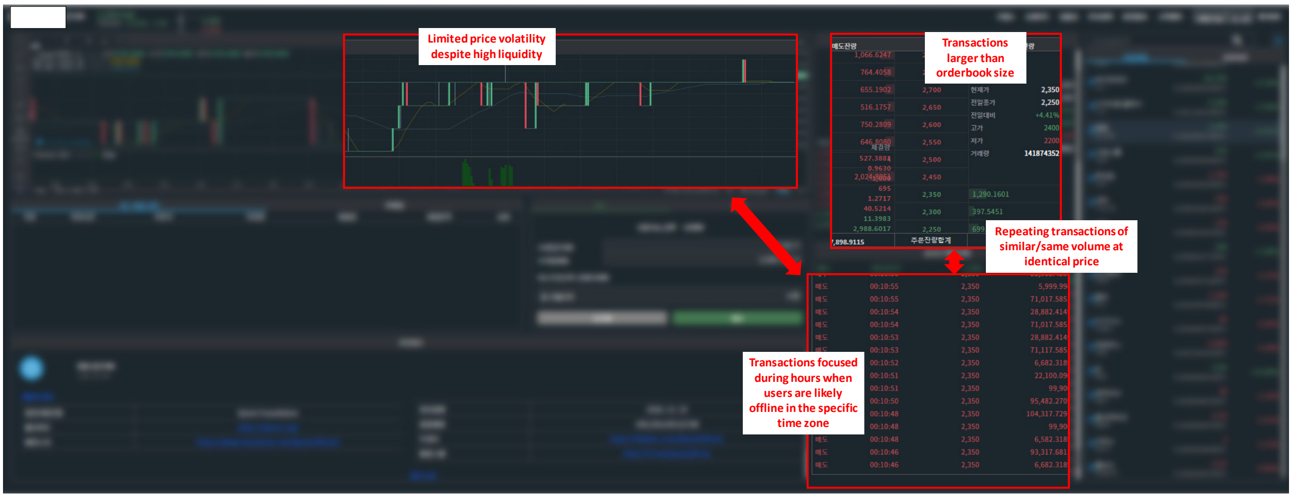
Not only professional, but also everyday retail investors will be able to identify possible wash trading on exchanges which can provide basis of market manipulation by looking for these four simple red flags: 1) repeating transactions of same volume and price, 2) large number of orders executed during hours when most users are likely offline in that timezone, 3) continuous trades significantly larger compared to the order book size, 4) limited price volatility despite seemingly high liquidity.

We do note limitations to this approach: 1) it does not identify exactly which market participant is conducting wash trading, and 2) our note is a mere sample and there may be many more platforms where such unfair actions are taking place. Wash trading techniques will become more "sophisticated" as the regulatory vacuum continues. Yet, the everyday investor will at least for the time being be able to use this method to act as their own first line of defence by making optimal exchange selections. We hereby introduce eleven examples to train our readers.

All alarms flashing (Exchange C & D)

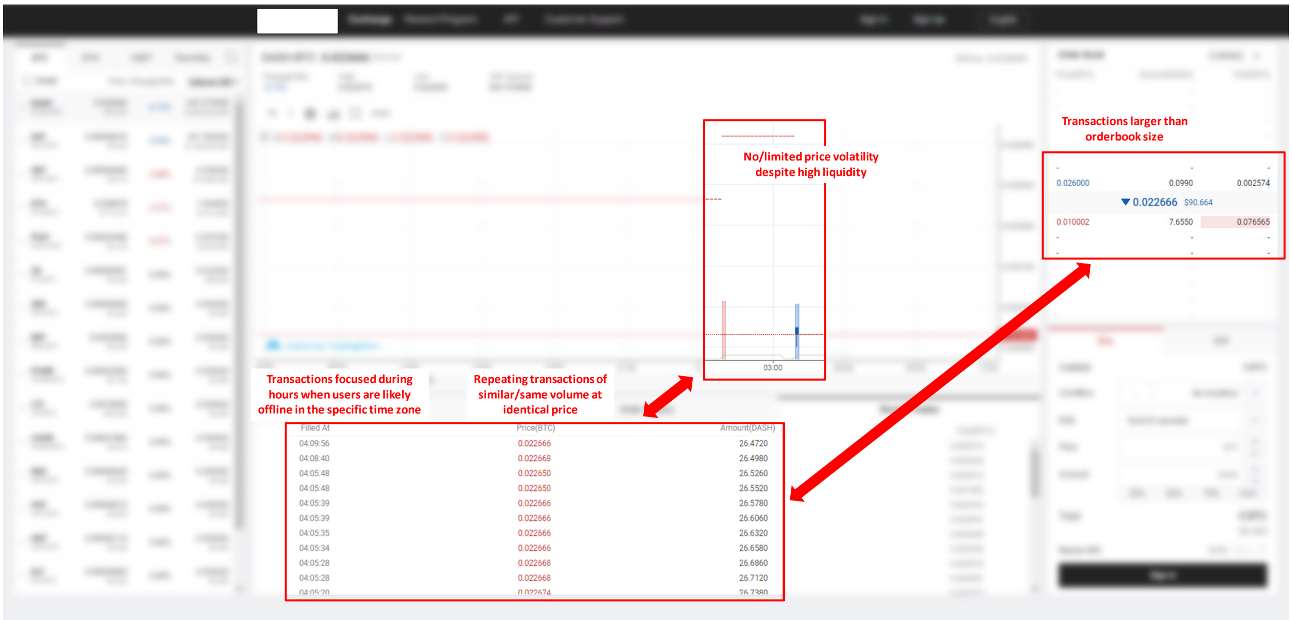
Here we present a case where we can easily spot all four red flags. We see repeating identical transactions which are far larger than its orderbook size. Also, most trades took place at 4AM and 12AM local time, which are hours we likely would expect its main user base to be offline. Lastly, price volatility is extremely limited despite high volume.

Figure 1. All alarms flashing (exchange C)



Source: Coinone Resarch, company data

Figure 2. All alarms flashing (exchange D)

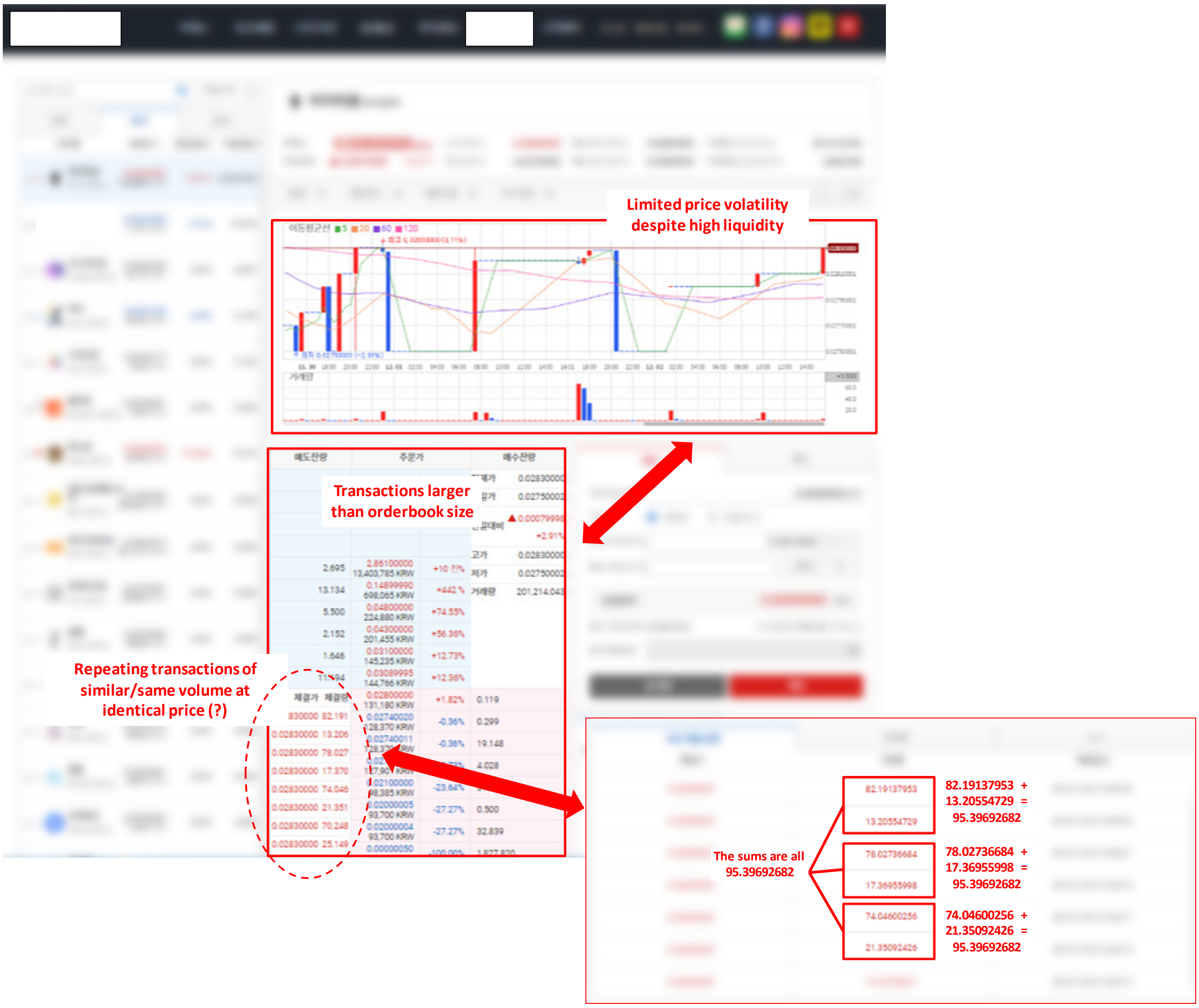


Source: Coinone Resarch, company data

A dose of creativity (Exchange C)

Some platforms tend to be slightly more creative. In this case, significantly larger trades compared to its orderbook are continuously executed and price volatility is virtually non-existent despite supposedly abundant liquidity. But volume of the separate trades are not identical. While the aforementioned two signals are already concerning, we take an extra step and discover an interesting phenomenon. When the order size of two consecutive trades are summed, all turn out to be the same 95.39692682ETH.

Figure 3. A dose of creativity (exchange C)

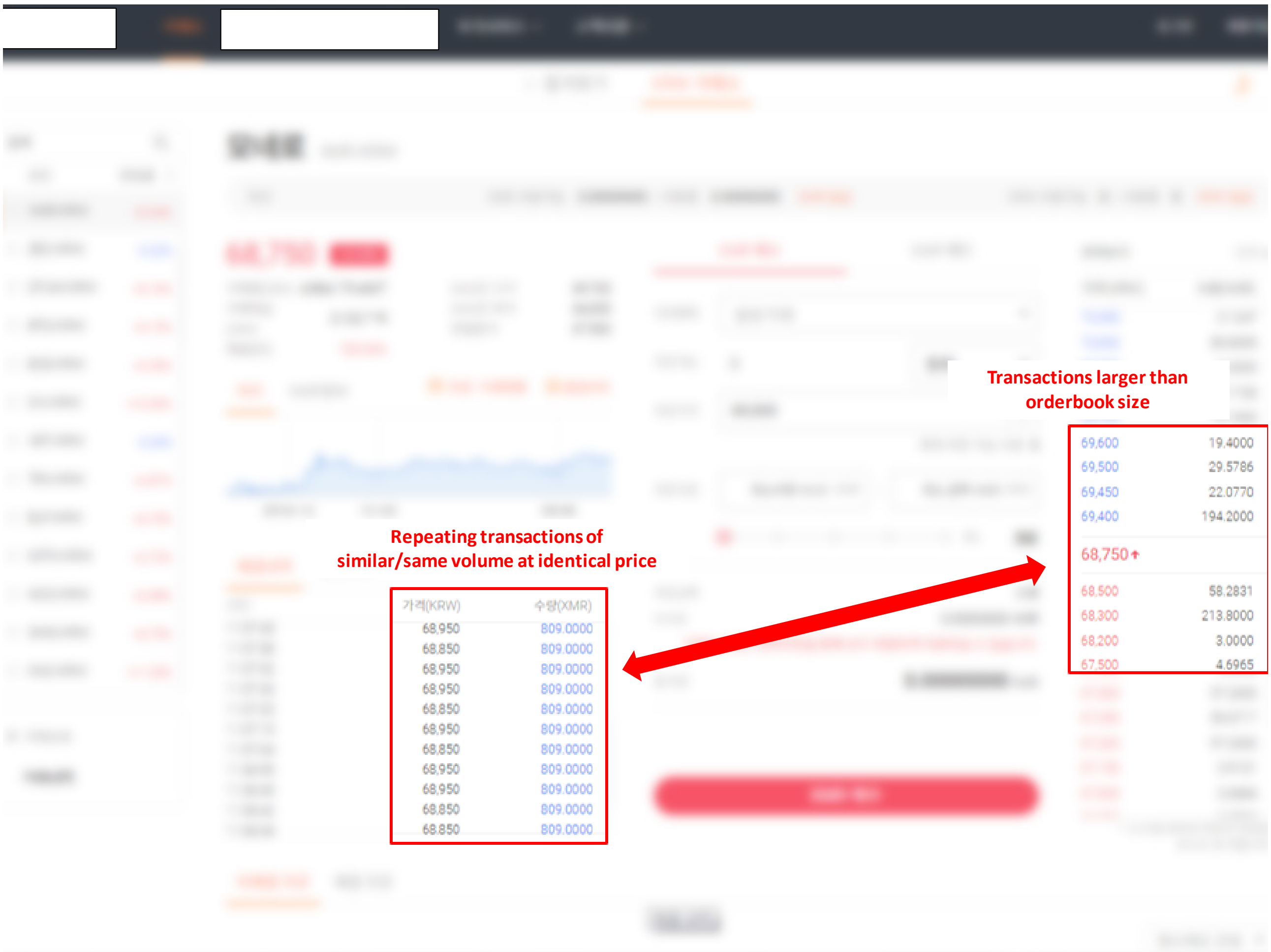


Source: Coinone Resarch, company data

Further examples

To train our readers, we lay down eight more examples which show different combinations of the four red flags.

Figure 4. Repetitive trades larger than order book size at same price & volume (exchange B)

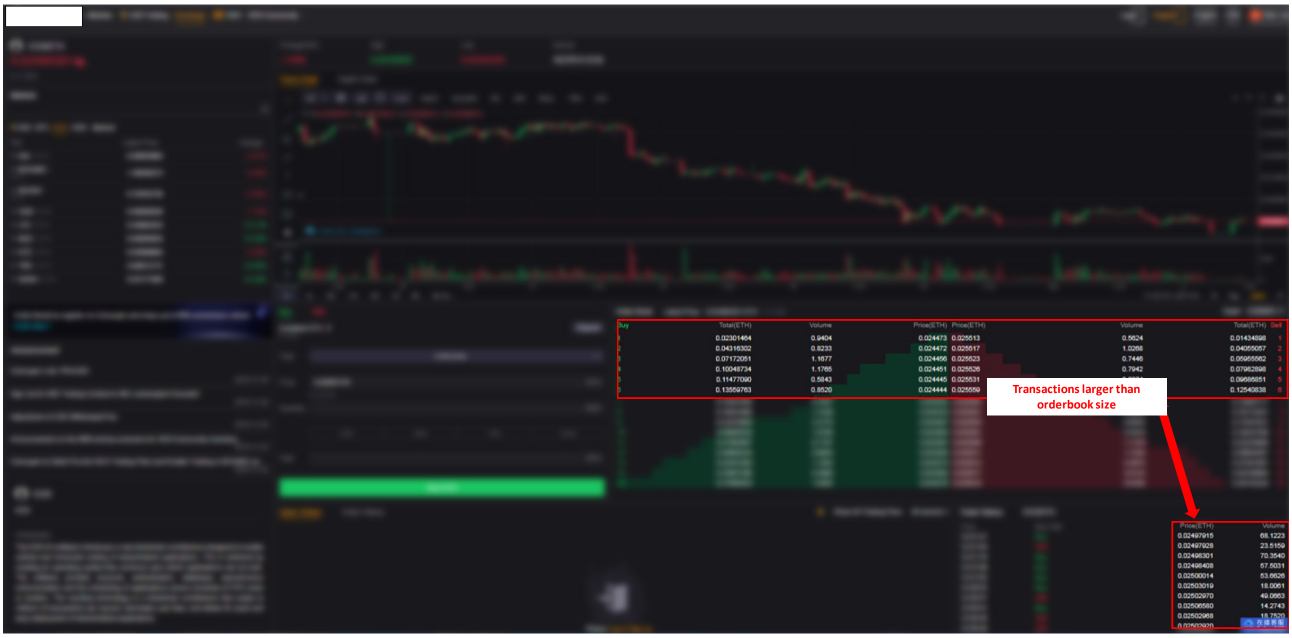


Source: Coinone Resarch, company data

Figure 5. Repetitive trades larger than order book size at same price & volume (exchange N)

Source: Coinone Research, company data

Figure 6. Repetitive trades larger than order book size (exchange C)



Source: Coinone Research, company data

Figure 7. Repetitive trades larger than order book size (exchange L)

Source: Coinone Research, company data

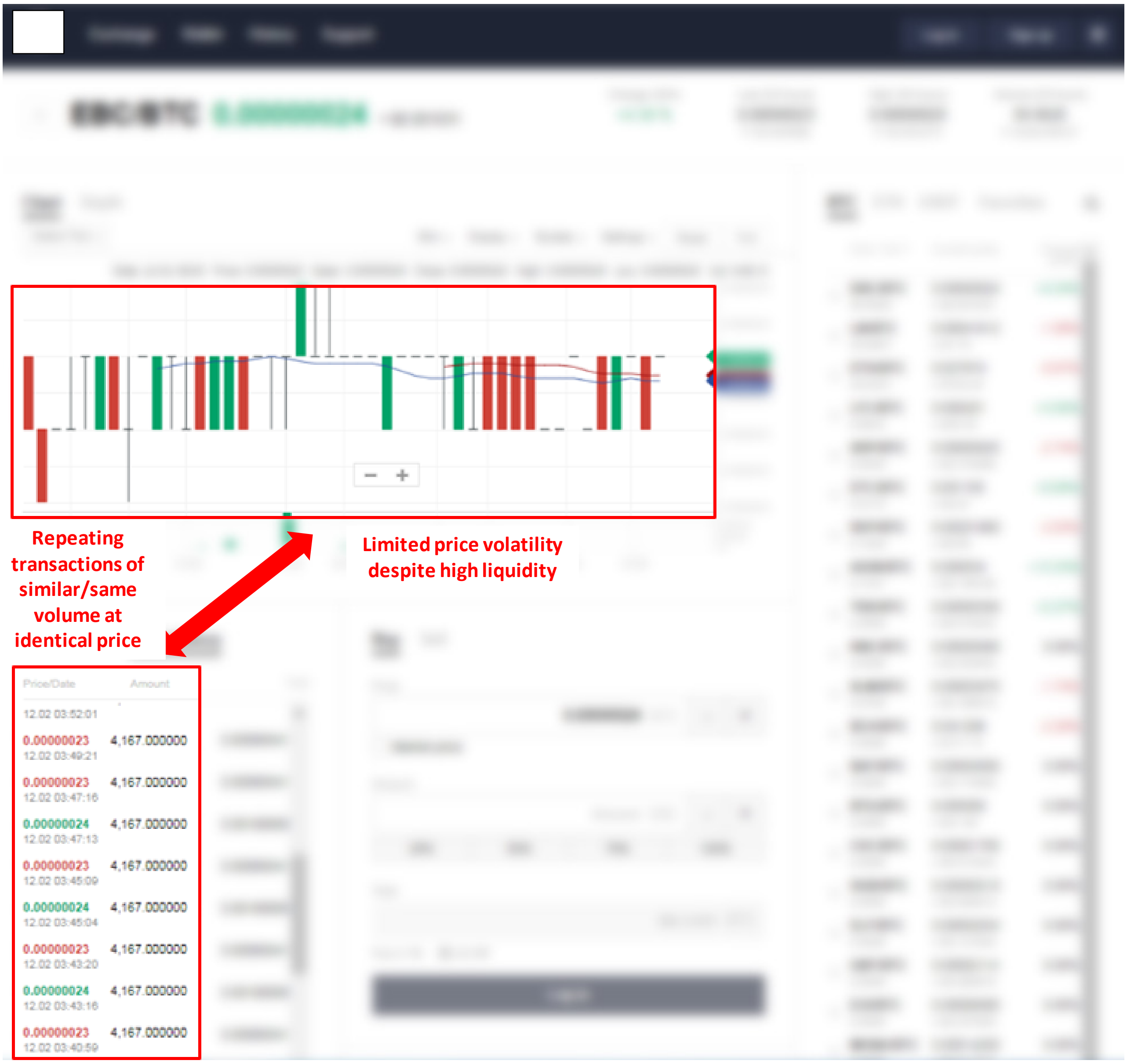
Figure 8. Repetitive trades at same price & volume (exchange B)

Source: Coinone Research, company data

Figure 9. Repetitive trades at same price & volume (exchange F)

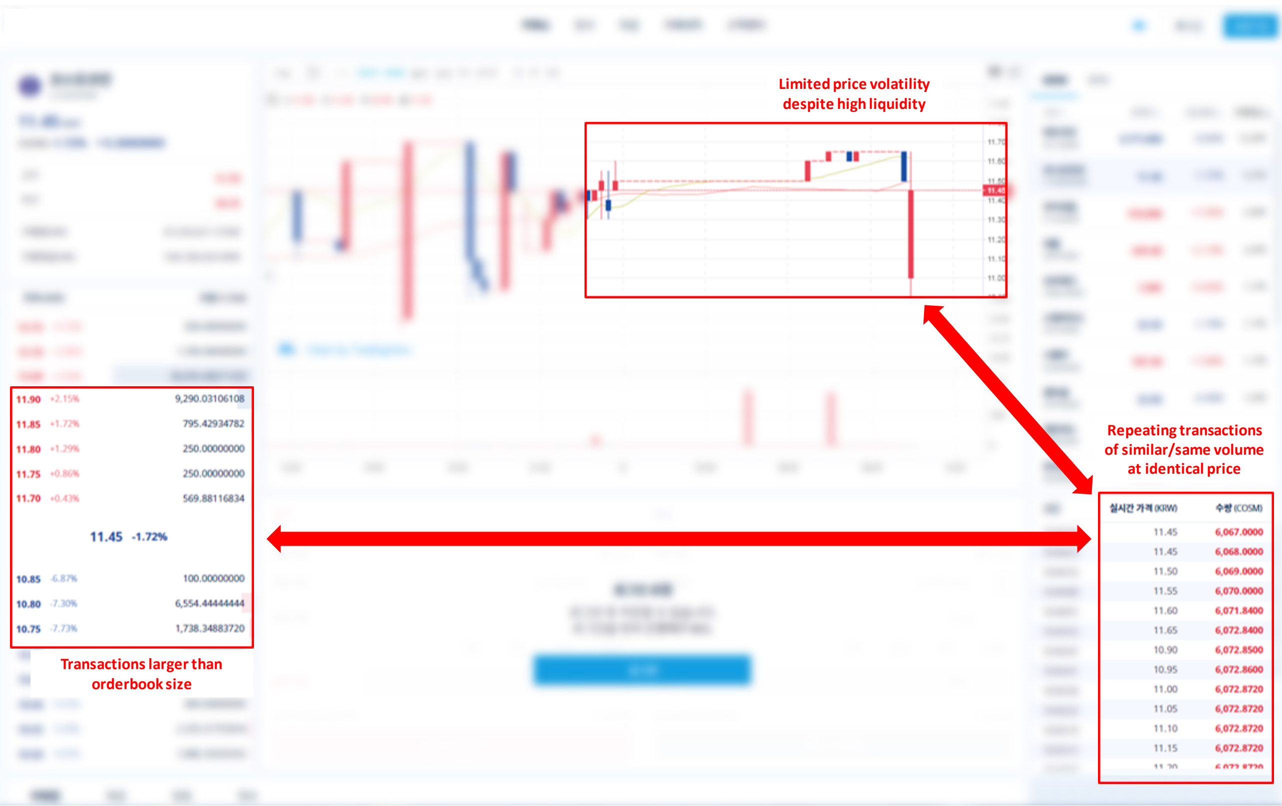
Source: Coinone Research, company data

Figure 10. Repetitive trades at same price & volume and limited price volatility despite large liquidity (exchange B)



Source: Coinone Resarch, company data

Figure 11. Repetitive trades at same price & volume larger than orderbook and limited price vol despite large liquidity (exchange G)



Source: Coinone Resarch, company data

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Dan is currently the Head of Research at Coinone. Before that, he was a senior Research Analyst at Deutsche Bank covering the telecom, media, and internet sectors. His team was highly ranked in the world's most competitive research survey, the Institutional Investor All-Asia Research Team Survey, including an Asia top 3 rank in 2016. Dan has a Bachelor of Business Administration from Korea University, and has also completed the Blockchain Strategy Programme executive education at Saïd Business School, University of Oxford. Dan holds professional designations including CAIA (Chartered Alternative Investment Analyst), Certified Research Analyst, and Registered Fund Manager.

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Disclamer

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