

Market Surveillance

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www.bsm-autorregulacao.com.br

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Brazilian Market

Overview of the Brazilian economy

Population: 209 million

Territory: 8.5 million km²

Capital: Brasília

Major cities:

São Paulo

Rio de Janeiro

Belo Horizonte

GDP USD 2.02 trillion*

Per capita GDP USD 9,700

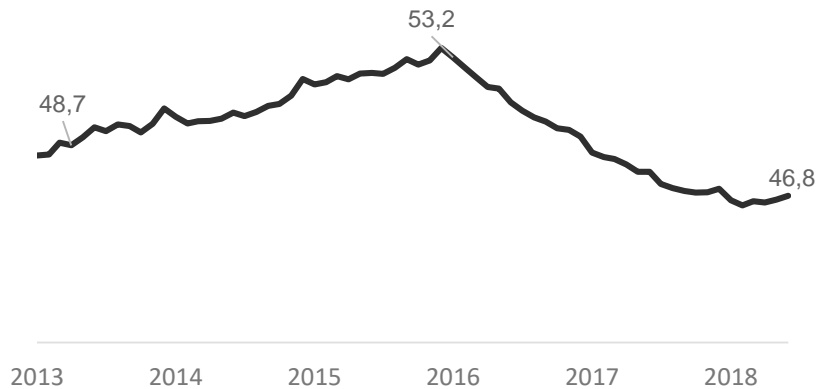
**Industry is the main economic activity, in particular:
Mining, Steel and Oil**



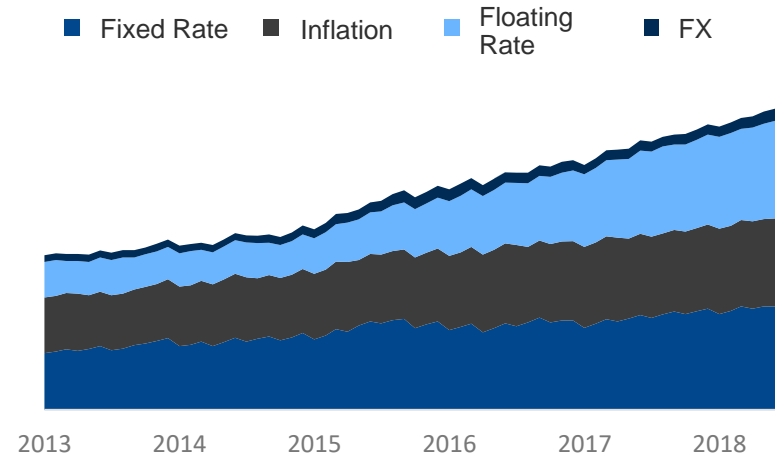
* US Dollar Exchange Rate on the publication date for the 2017 GDP (March 01, 2018), of R\$3.26/US\$1.00

Brazilian economy – a few figures

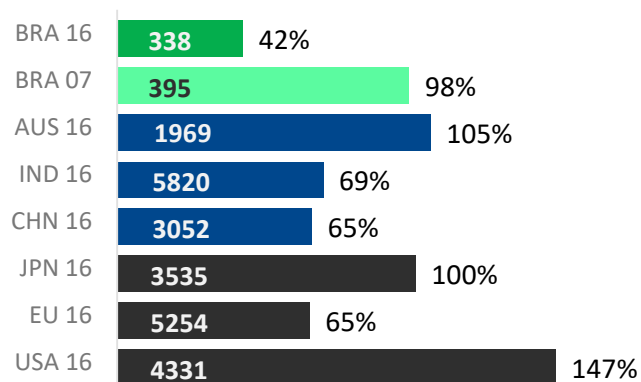
Credit to GDP (Source: BACEN)



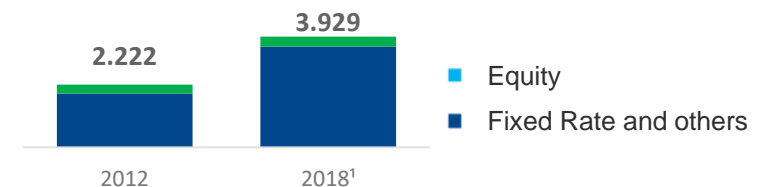
Breakdown of Public Debt (Source: Brazilian Treasury)



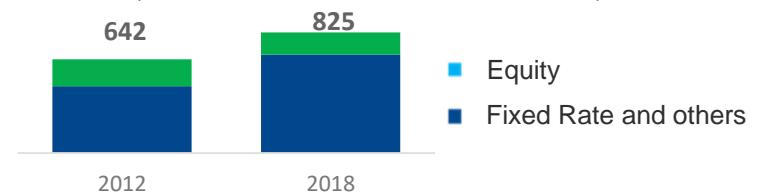
Market Cap/GDP (%) and # Companies; (Source: World Bank)



Investment Funds¹ (R\$ billion; % of the total; Source: ANBIMA)

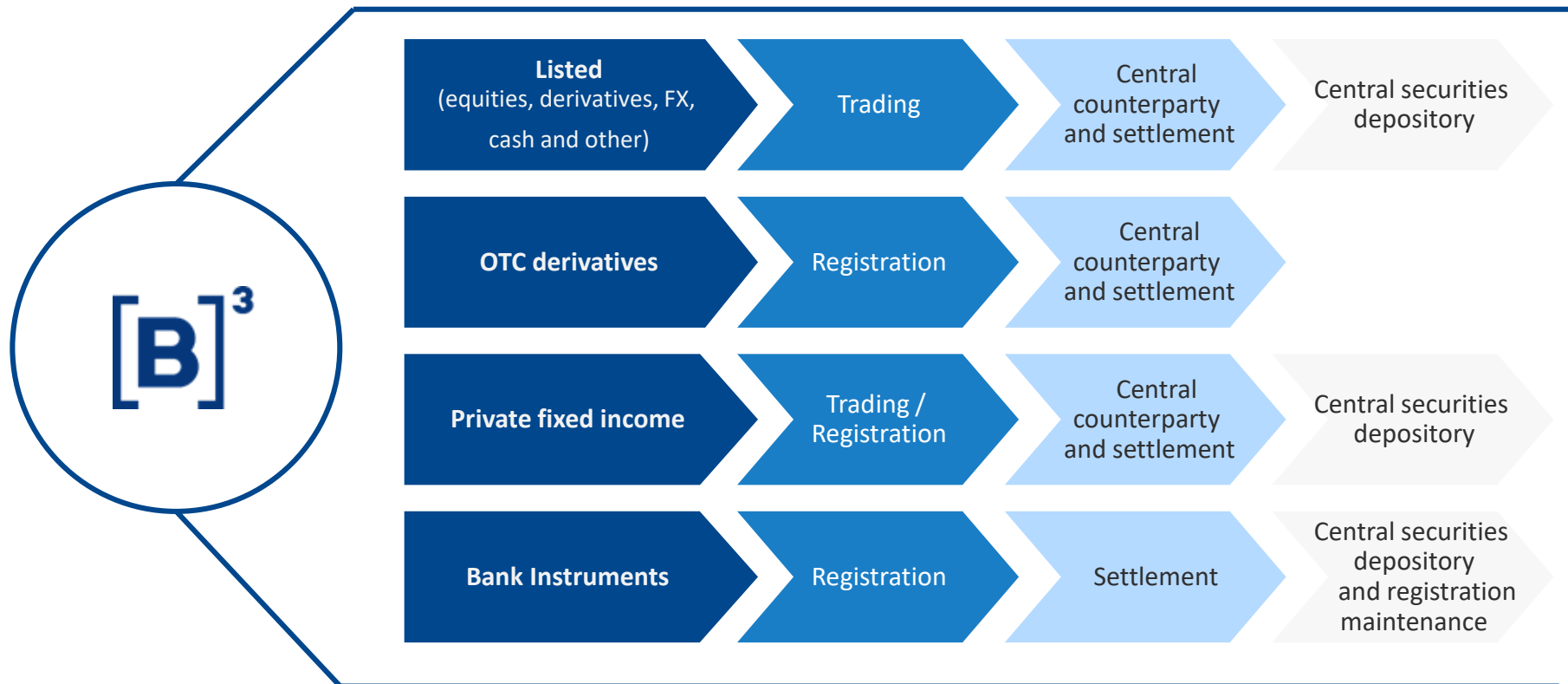


Pension Funds² (R\$ billion; % of the total; Source: ABRAPP)



B3 is the platform for Brazil's listing, trading (equities, futures and derivatives), clearing and depository services.

BSM is B3's self-regulatory organization



Regulatory Framework

Laws & CVM regulation: principles-based (general)

SRO regulation: details the conduct expected from market participants (specific), in line with general principles

Federal Laws

→ Law 6385/1976

CVM regulation

→ CVM Instructions 8/1979, 461/2007
and 505/2011

B3 regulation

→ Self Regulatory Rules

Addresses the securities market and establishes the Brazilian securities regulator (CVM)

Vests the regulator with competence to define what constitutes **artificial conditions of supply, demand or price for securities**, or **price manipulation**; fraudulent trades and unfair practices in securities brokerage and distribution.

Criminal framework

Art. 27-C. The execution of sham transactions or other fraudulent maneuvers aimed at raising, holding or lowering the quotation, price or trading volume of a security, with the aim of obtaining undue advantage or profit for oneself or another, or cause harm to third parties:

Penalty – imprisonment of one (1) to eight (8) years and a fine of up to three (3) times the amount of the illicit advantage obtained as a result of the crime.

Governs the regulated securities market and the formation, organization and operation of stock exchanges, commodities and futures exchanges and organized OTC markets

Determines the creation of a **self-regulatory department**, responsible for:

- ✓ Inspecting and supervising trades carried out in the organized securities markets for which it is responsible
- ✓ Overseeing compliance with the operating rules of the market and of the management body
- ✓ Imposing penalties for the breaking of the rules that it is responsible for inspecting

The management body must establish efficient mechanisms and procedures so that the self-regulatory department can:

- ✓ Oversee compliance with its rules and norms of conduct, as well as with the prevailing legislation
- ✓ Identify breaches, abnormal trading conditions or behavior that might risk the working, transparency and credibility of the market

Establishes trading rules and procedures to be observed in regulated securities markets

Assigns to the intermediary the following obligations, among others:

- ✓ **Ensuring the integrity and correct functioning of the market**
- ✓ Adopting and implementing appropriate and effective rules for compliance with the provisions of CVM Instruction 505, alongside internal controls and procedures to verify the implementation, application and effectiveness of these rules
- ✓ Designating a statutory director responsible for the compliance with CVM Instruction 505 and another statutory director responsible for the supervision of the internal controls-and-procedures

Prohibits intermediaries from creating artificial market conditions of securities' supply, demand or price, as well as price manipulation (market manipulation practices)

Sets out the following definitions:

- **Artificial conditions of securities' supply, demand or price**
Those created as a result of securities' trades whose participants or intermediaries, by action or deliberate omission, provoke direct or indirect changes to the buying or selling order flow
- **Price manipulation**
In the securities market, the use of any process or artifice directly or indirectly aimed at raising, maintaining or decreasing the quotation of a security, inducing third parties to buy or sell it

Legal classification of spoofing and layering

- Prohibited practices pursuant to CVM Instruction 8/1979
- These abusive practices have occurred since the days of open-outcry trading floor, continuing until the electronic trading of today, having changed its form of practice
- Legal classification:

BSM: creation of artificial conditions of securities' supply, demand or price
(CVM Instruction 8/1979, subparagraph II, item "a")

CVM: price manipulation
(CVM Instruction 8/1979, subparagraph II, item "b")

The protected legal interest is the same: the **integrity of the market**

CVM Punitive Administrative Proceeding RJ2016/7192: 1st case of spoofing judged by CVM (March 13, 2018).

"In this context, in which the administrative types represent the same kind of market manipulation, it shall follow that any eventual difference of interpretation of CVM and of BSM represents a consensus among institutions that the conduct of the Accused parties was in violation of the integrity of the securities market."

Item 126 of Market Access Regulation (B3)

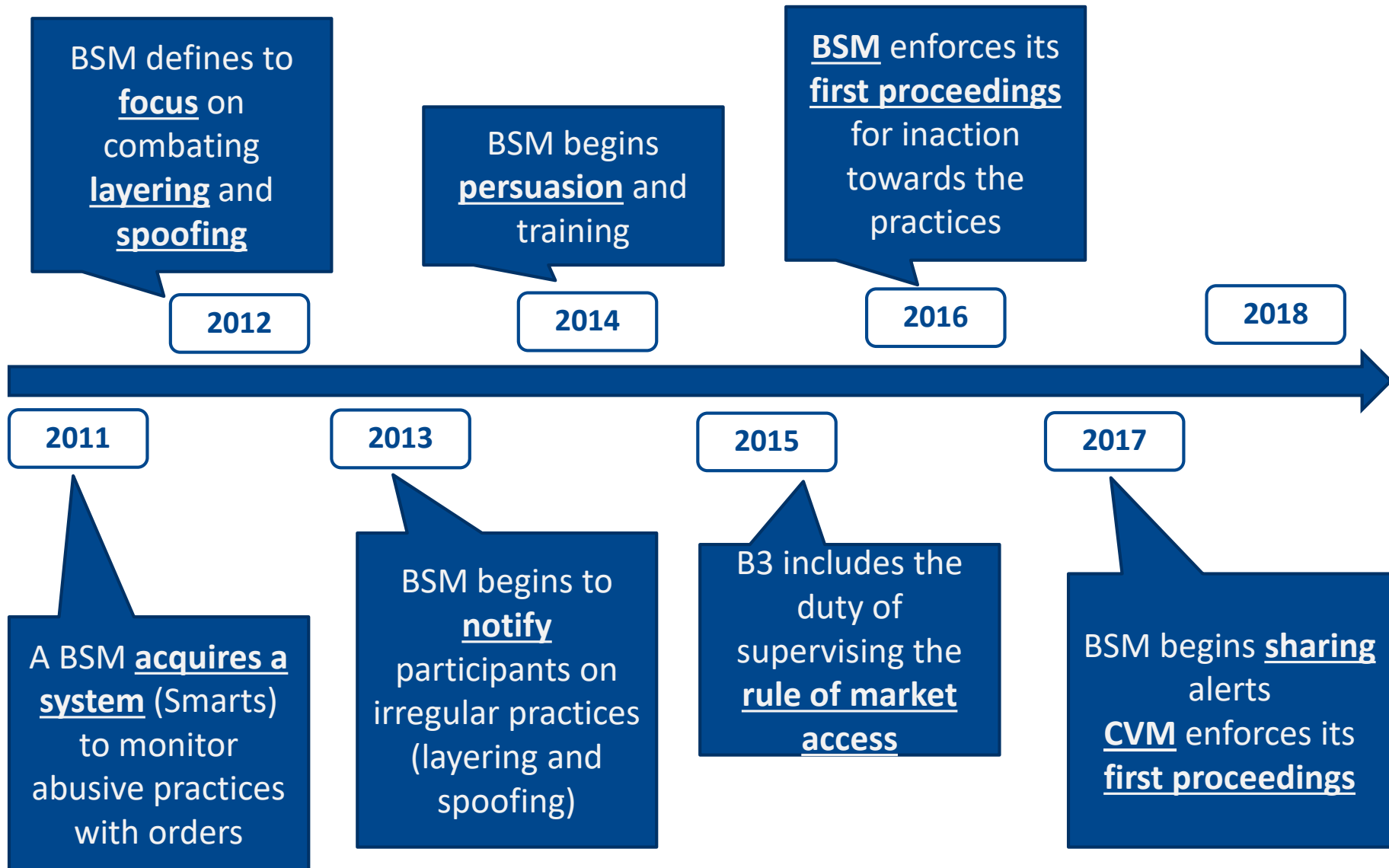
“The Participant will monitor all of the trades and orders which it intermediates, in order to identify, assess, register, prohibit and communicate, at least to the responsible director, the situations defined in the prevailing regulation as Abusive Practices, **examples of which are: creation of artificial conditions of supply, demand or price; price manipulation;** sham transactions; unfair practices; **Layering;** Squeezing; Quote Stuffing; **Spoofing**”.



Details the regulator’s general rule (**CVM Instruction 8/1979**)

BSM's approach to combating abusive practices with orders

Timeline for BSM's combat on layering and spoofing



History of the approach to layering and spoofing

2011: B3 and BSM acquire a system for monitoring abusive practices with orders.

2012: BSM defines a focus for action against layering and spoofing, develops its own alerts with minimal elements for identifying irregularities (cycle idea).

2013: BSM begins notifying participants of layering and spoofing by their customers; an educative approach with Participants that have customers suspected of layering and spoofing.

2014: BSM begins persuasion and training activities about layering and spoofing, the same work as executed in 2013, but now with all of the Participants.

<http://www.bsm-autorregulacao.com.br/assets/file/noticias/Workshop-Monitoracao-BSM.pdf>

2015: Change to the market access regulation to clarify the role of the participant in supervising the combat of abusive practices with orders. Maintenance of persuasion and training activities about layering and spoofing.

<http://www.bsm-autorregulacao.com.br/assets/file/noticias/Casos-de-praticas-abusivas-no-mercado-de-capitais.pdf>

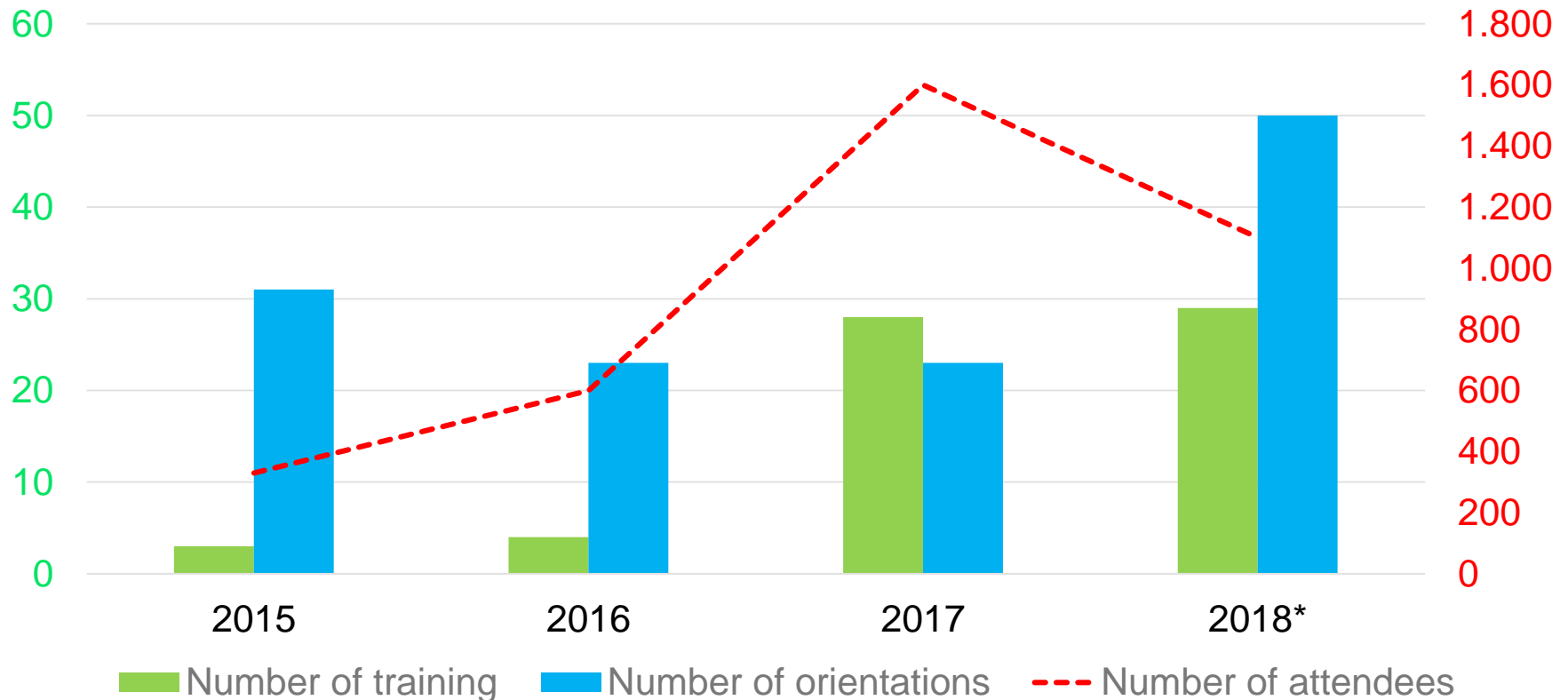
2016: BSM enforces the first punitive administrative proceedings regarding layering and spoofing, against Participants that did not prevent continuation after the investigation, and maintains persuasion and training activities.

http://www.bsm-autorregulacao.com.br/assets/file/noticias/Monitoraca_Ofertas.pdf

2017: BSM enforces new proceedings and CVM enforces first proceedings against investors. BSM begins sharing layering and spoofing alerts with Participants.

History of Participant training

One of BSM's functions is to help the market understand the regulation and how to comply with them, taking into consideration the complexity and scale of each Participant.



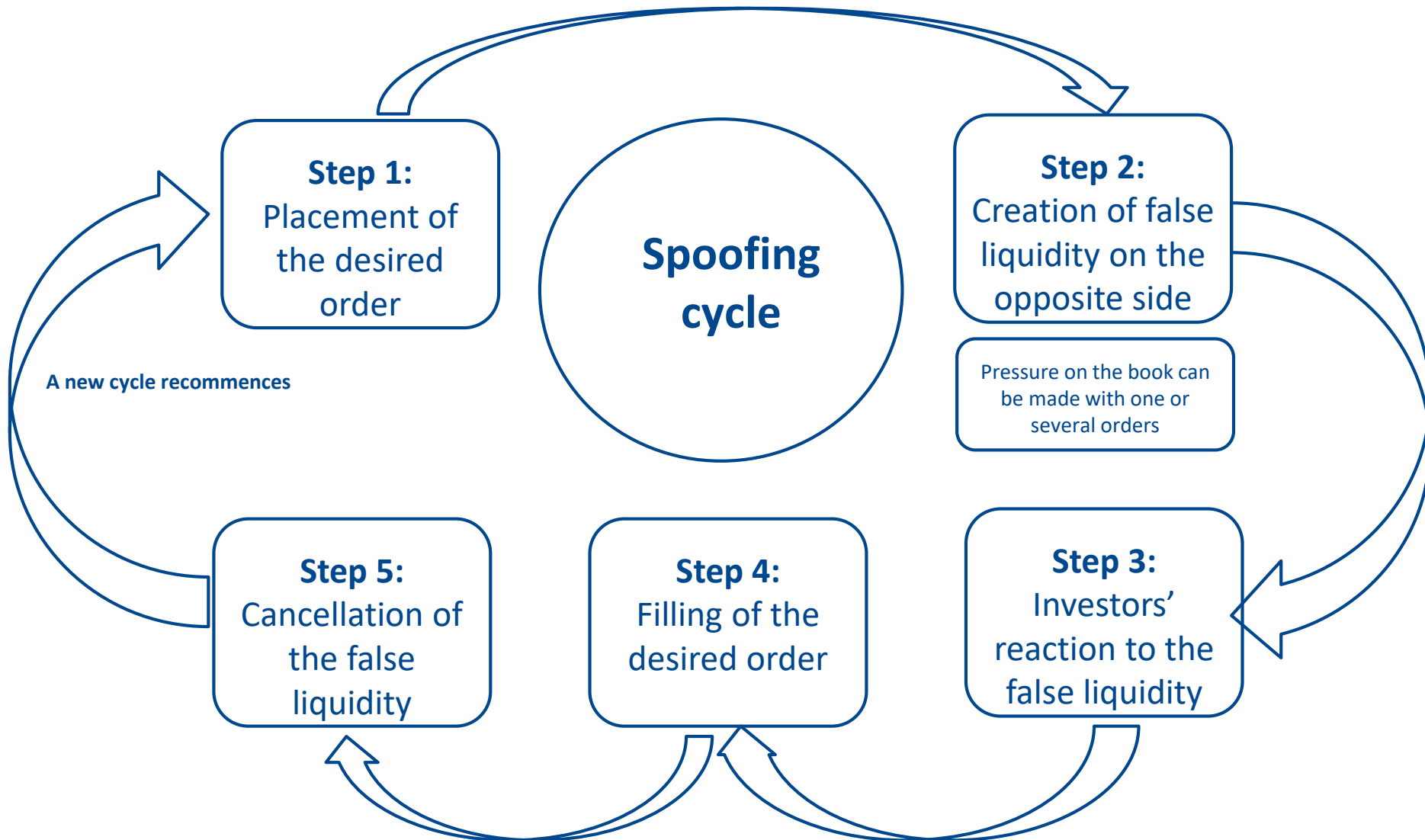
* Updated to August 31, 2018

Definition of Spoofing

Spoofing as a cycle:

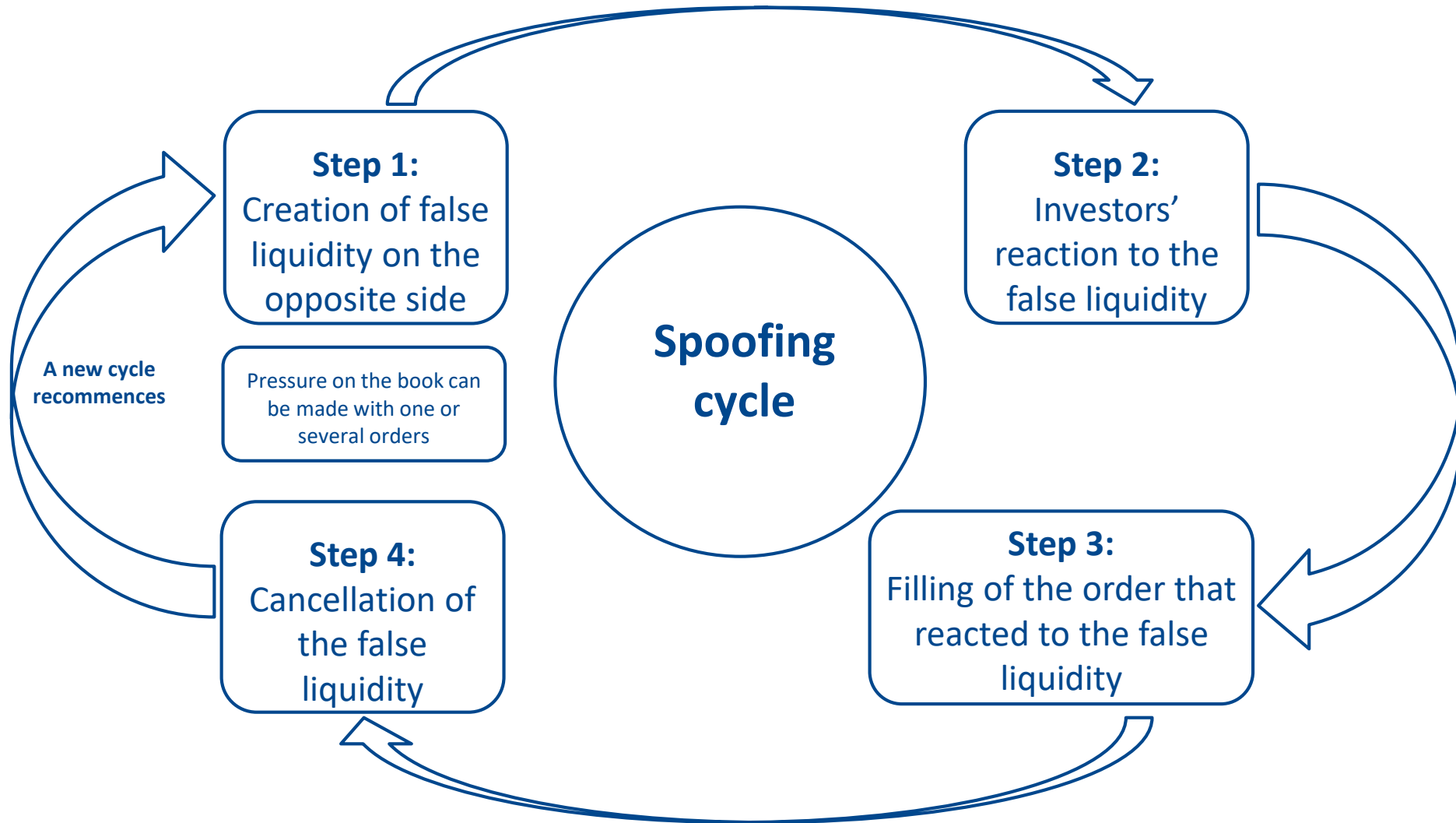
An abusive practice that creates artificial liquidity with the use of an order with an off-standard size (order book standard) with the objective of influencing investors to surpass the artificial order and generate trades on the opposite side of the book. After the trade, the artificial liquidity in the form of the off-standard order is cancelled

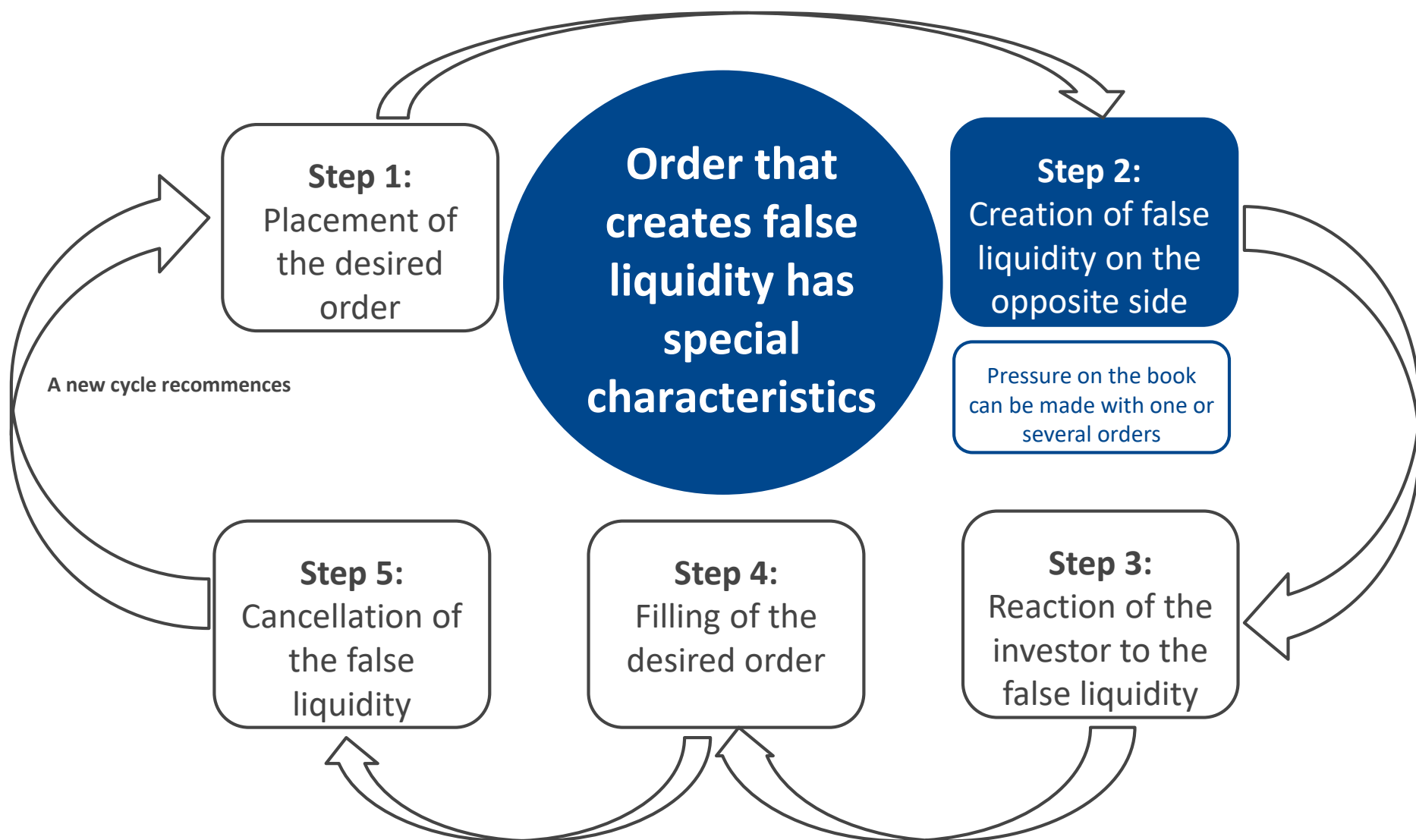
Irregularity is comprised of several elements



Variation of the irregularity

This is one variation example, other variations are possible:





Special characteristics of the order that creates the false liquidity (key to detecting the irregularity)

- i. **Order six times larger than the average size practiced by the market in the three trading sessions prior to the trade**

The percentile was analyzed and we identified atypical quantities above the 95th Percentile (P95). We verified that the values at P95 were six times higher than the average practiced by the market.

- ii. **Order at least 1.8 times larger than the sum of all of the other orders contained in the same side of the order book, up until the third price level**

The total of all of the other orders contained in the same side of the book was calculated in the moment prior to the customer's order entries, to the third price level, and it was found that the customer's orders were on average 1.8 times higher.

- iii. **Order that has remained less than 10 seconds in the order book of the security**

BSM verified that among the customers selected in filters i and ii, order cancellation occurred in up to ten seconds.

What are the characteristics that we consider when filtering:

We filter the cycle in the system. All of the elements need to be there for generating an alert (recurrence is also a necessary condition), being at least eight events in the BSM analysis period (15 days).

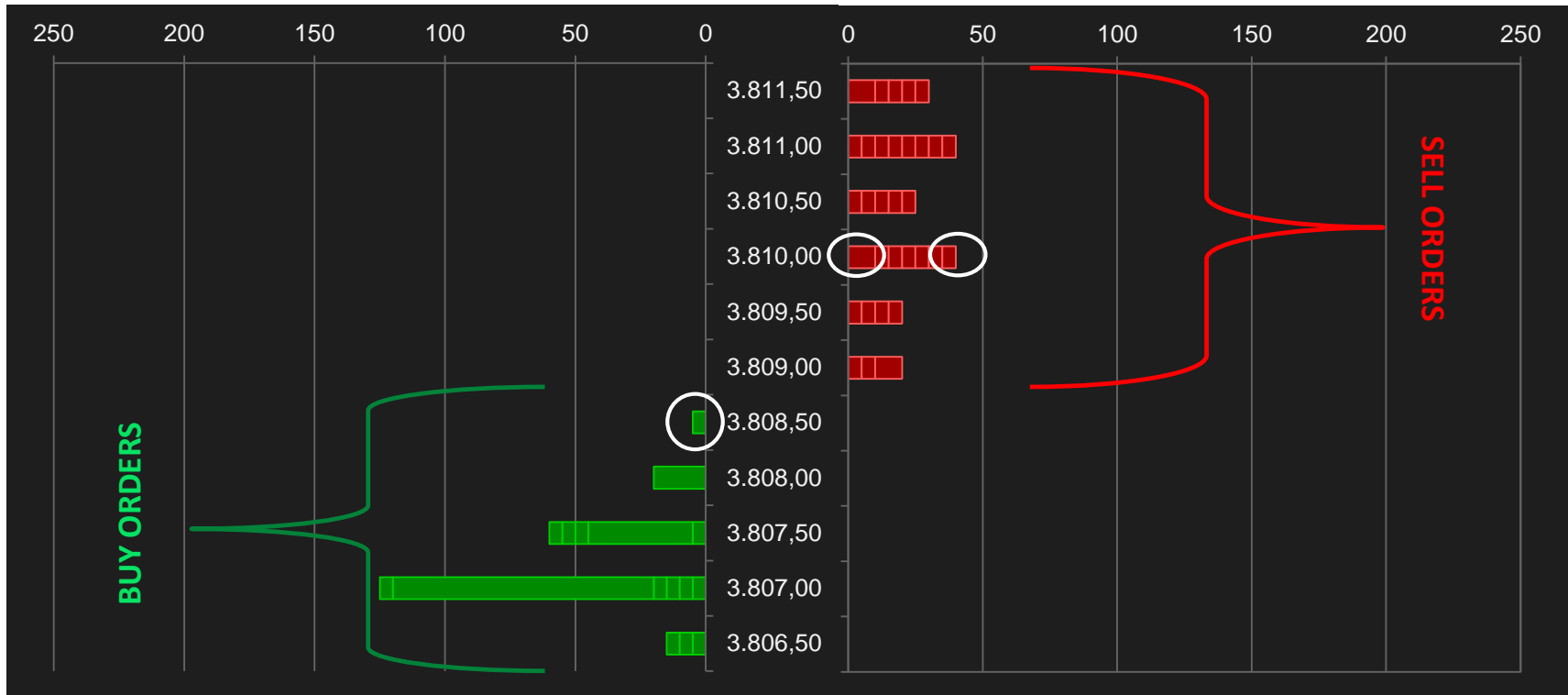
Therefore there is no irregularity in isolated elements:

1. Speed: the speed with which an investor executes its decisions and trades is not relevant in detecting the irregularity;
2. Orders on both sides of the book: if the investor really wishes to trade and tries to capture the spread, there is no irregularity;
3. Orders of atypical size: our studies show that trading of significant lots occurs while trying not to issue this message onto the market, but if the investor wishes to demonstrate its intention to trade there is no irregularity;
4. Order cancellation: is part of the dynamic of an exchange book and is not considered irregular.

Real example of spoofing

Representation of the order book

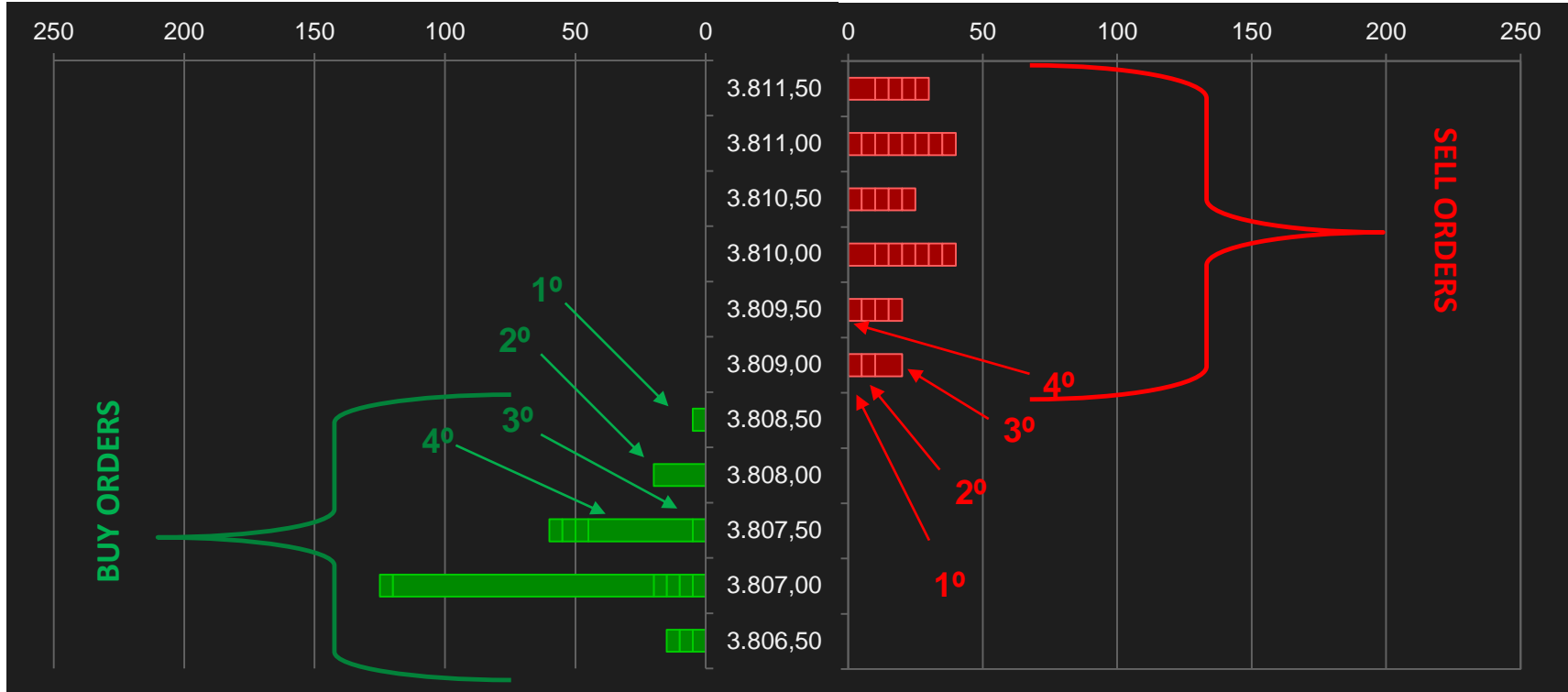
Status **before** the start of the spoofing cycle, the **US Dollar Futures Contract** book (code DOLZ15) expiring December 2015, on November 17, 2015 at 12:09:44.099.



Each **rectangle** represents an **order**, on the right hand side are **buy** orders (in green) and on the left hand side the **sell** orders (in red), the **size** of the rectangle designates the **quantity** placed in the order book.

Representation of the order book

The orders are set out in accordance with their priority pursuant to B3 regulation:

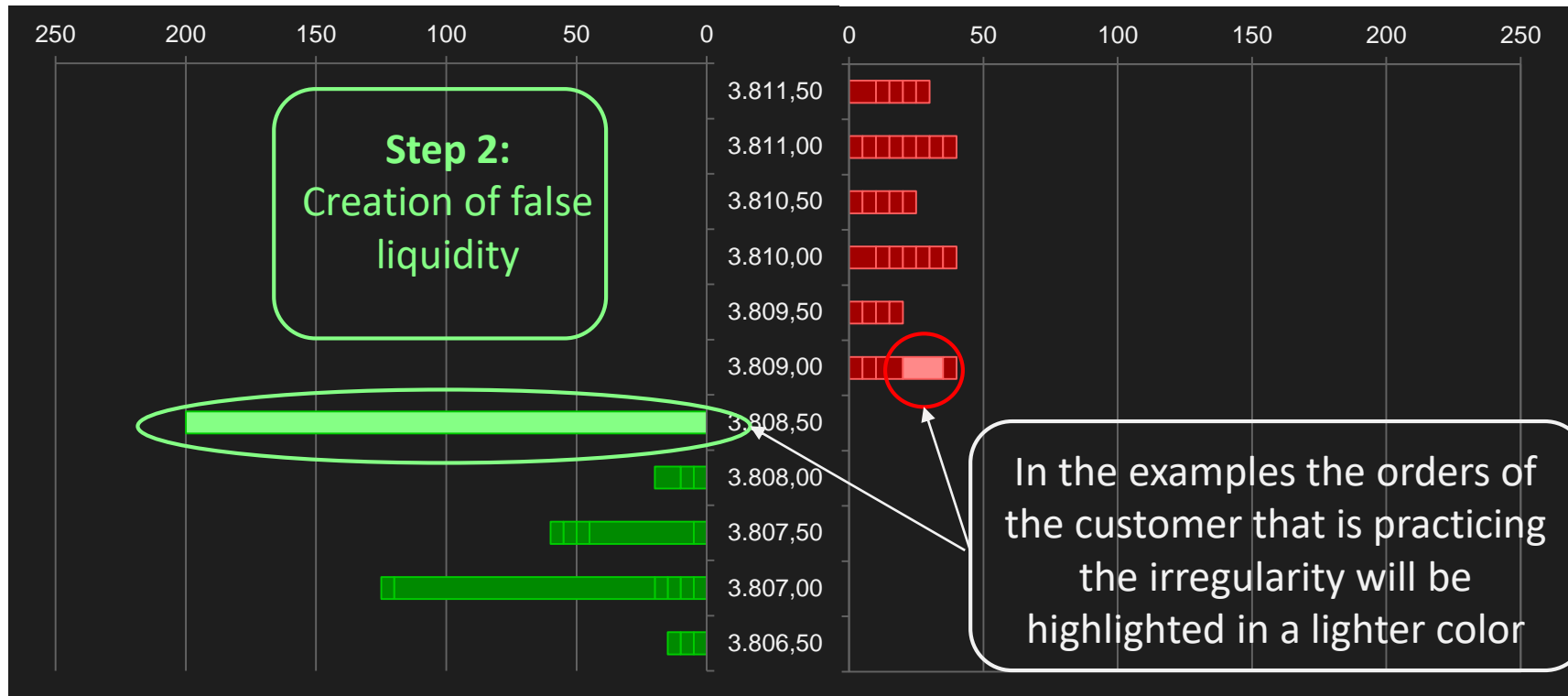


For buy orders, the higher the price, the higher the priority. When there is more than one order at the same price level, the order that was entered first has priority.

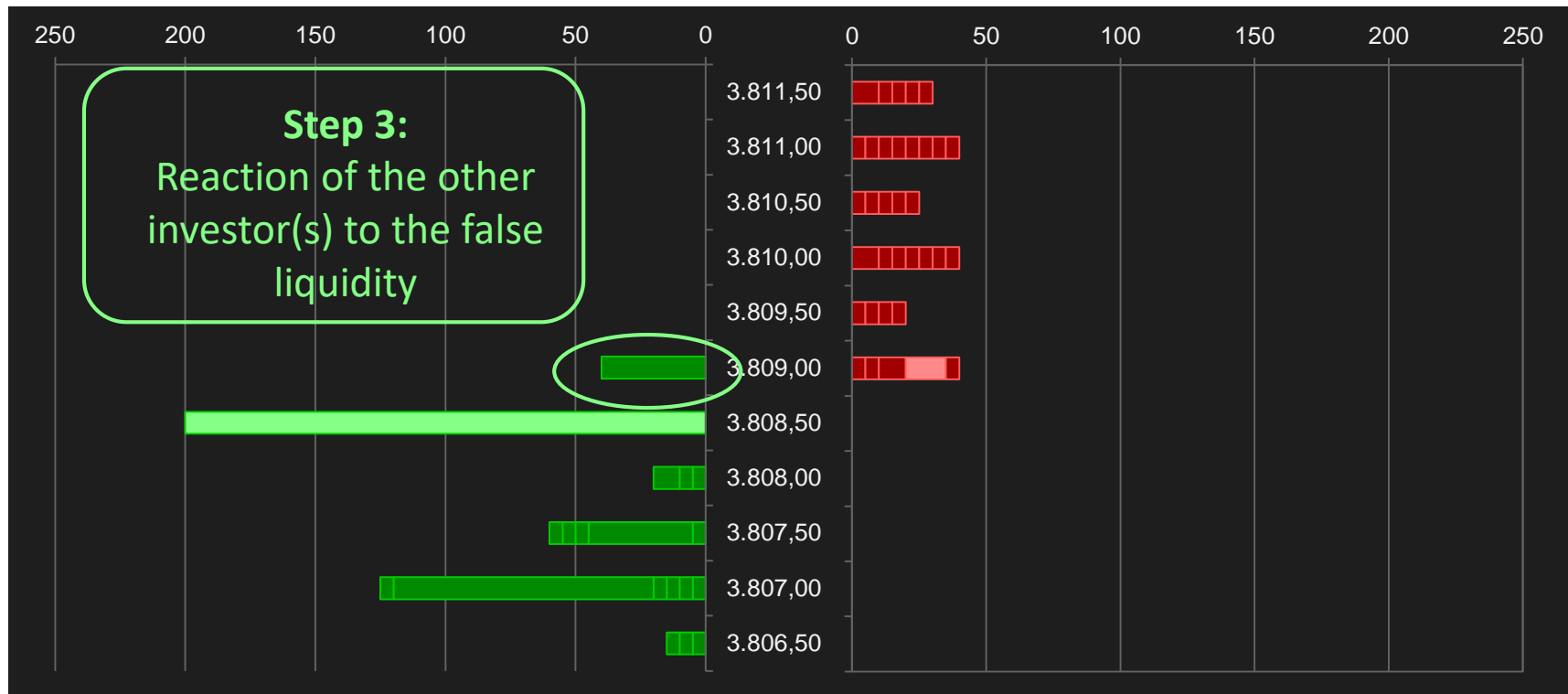
For sell orders, the lower the price, the higher the priority. When there is more than one order at the same price level, the order that was entered first has priority.



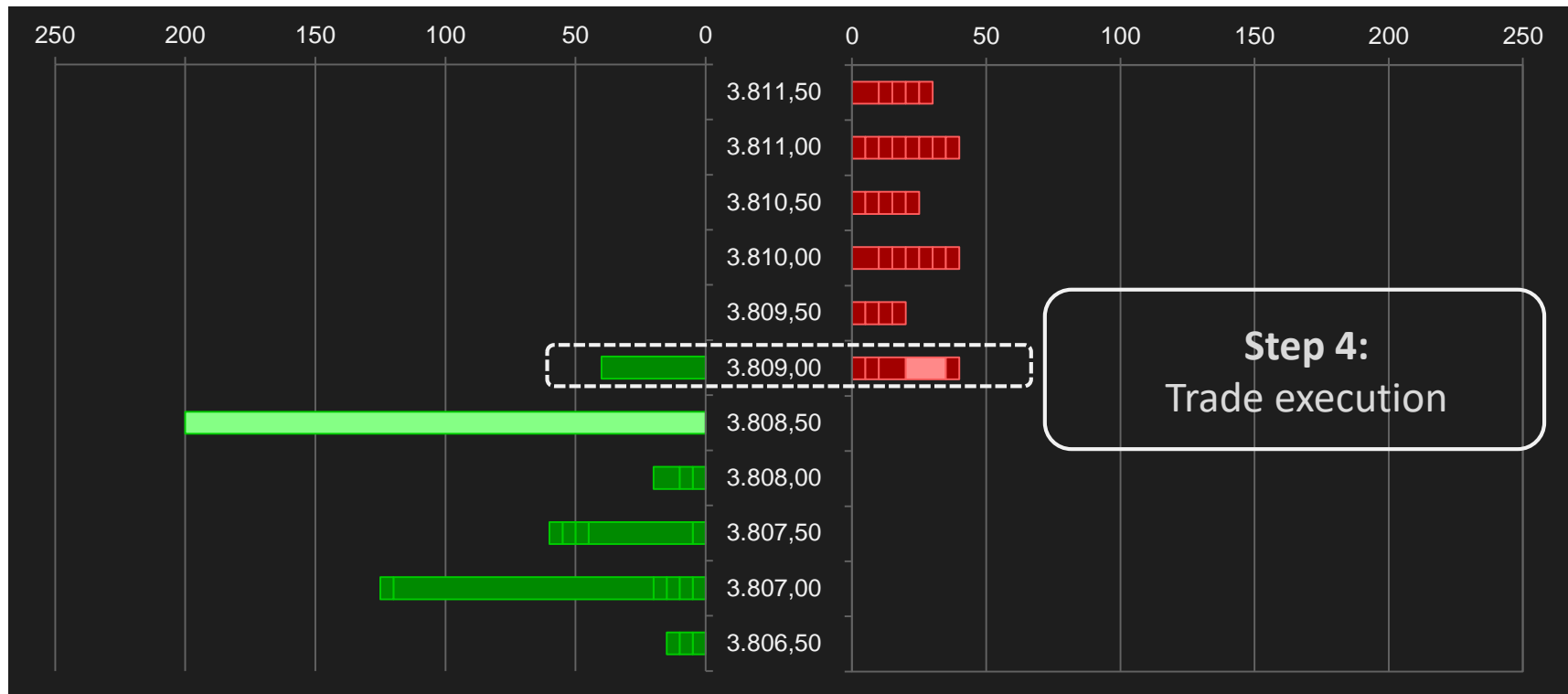
The cycle starts with the entry of the sell order for 15 contracts, at this moment the sell order is at the best price level, but there are three orders at the same level that were entered previously.



In the image we can see that the false order is 16 times higher than the desired order and it shows the market, at the exact moment of the irregularity, that there are more buy orders close to the execution price.



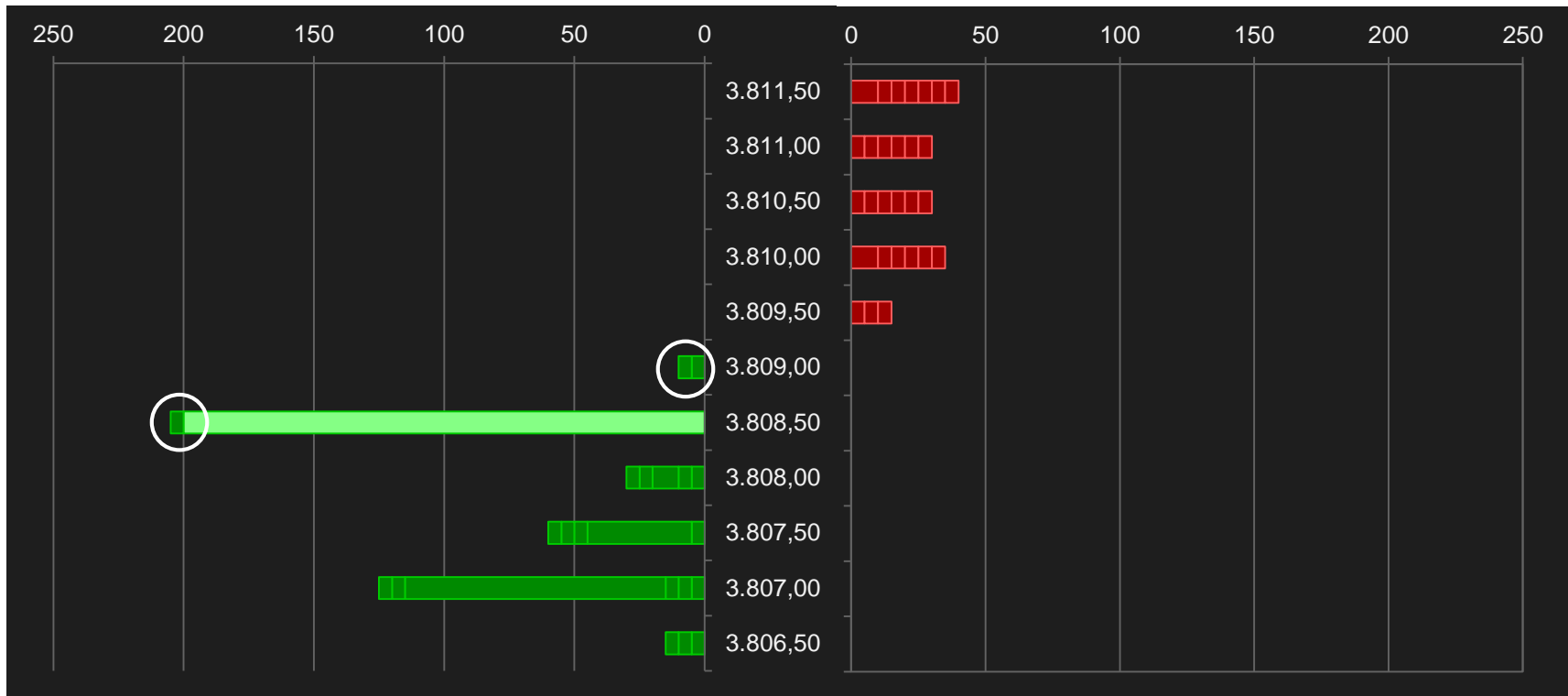
The false liquidity induces investors to enter or modify orders, attempting to anticipate a possible change to the spread. The information disclosed to the market from the book's orders is relevant in trading decisions and cannot contain signals aimed at deceiving investors.



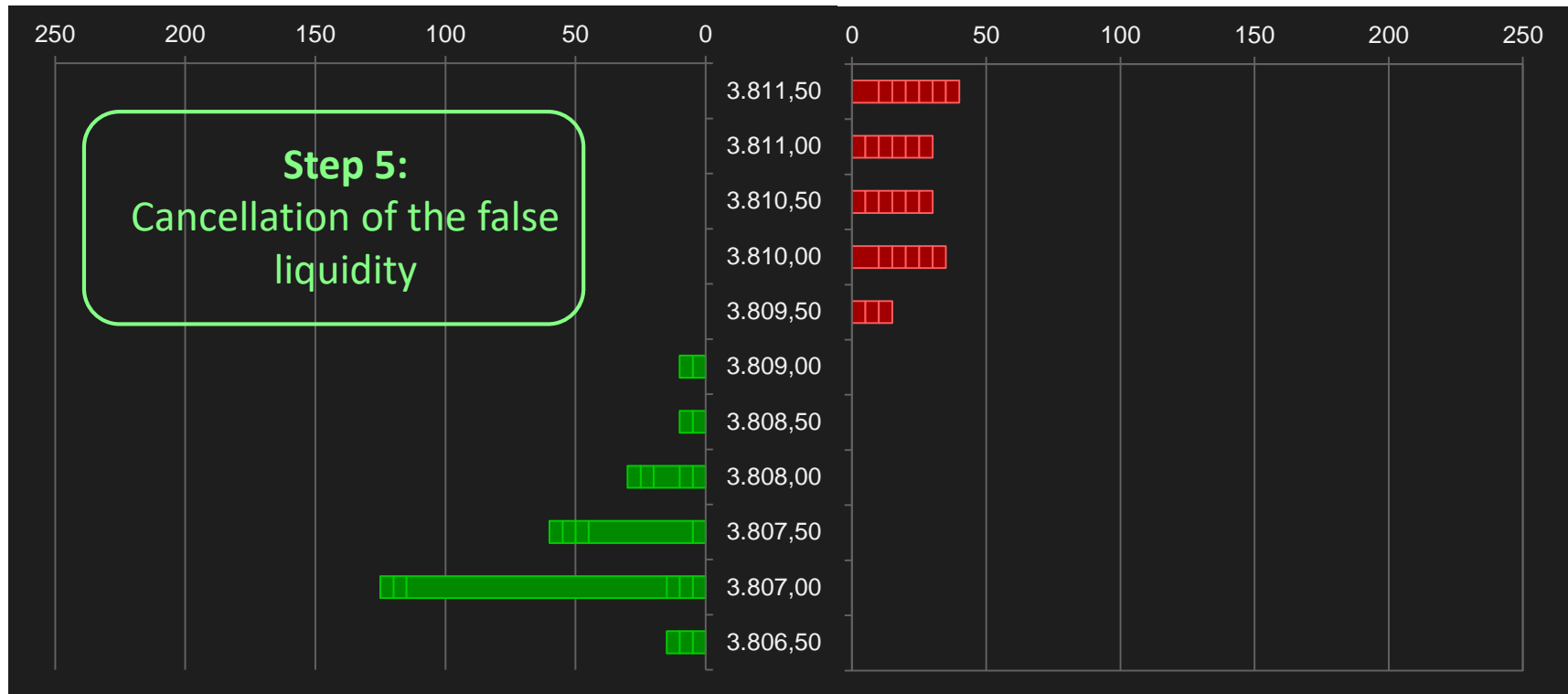
The reaction to securities with closed spread induces trade executions. In this case there is no available tick size, the improvement means trades are executed benefitting the sell order which was the true objective of the strategy.

Spoofing cycle

DOLZ15 on November 17, 2015 → 12:09:45.883



Book scenario after trade execution and before the manipulator cancels the false order, new buy orders are registered reacting to the signal.

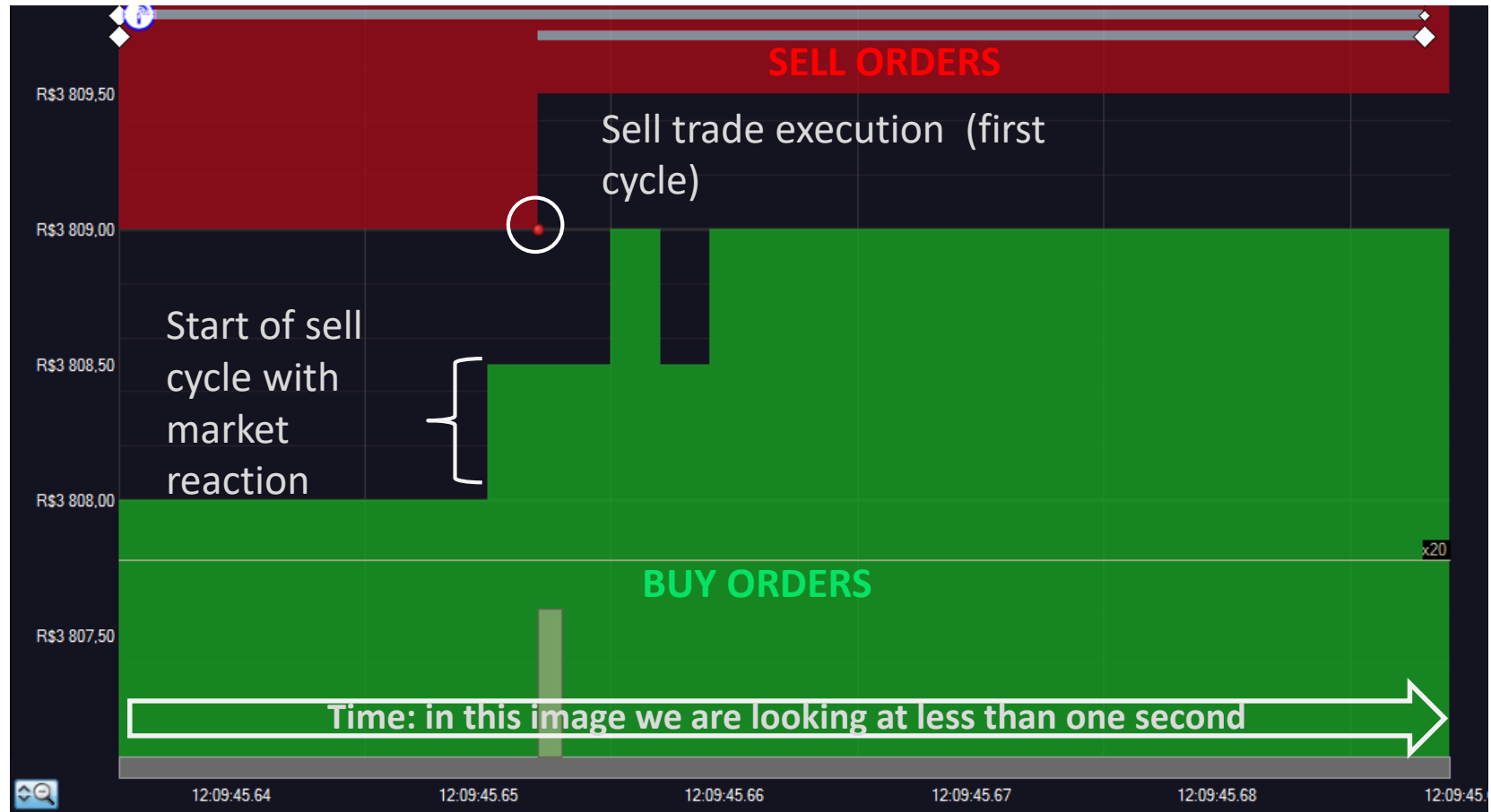


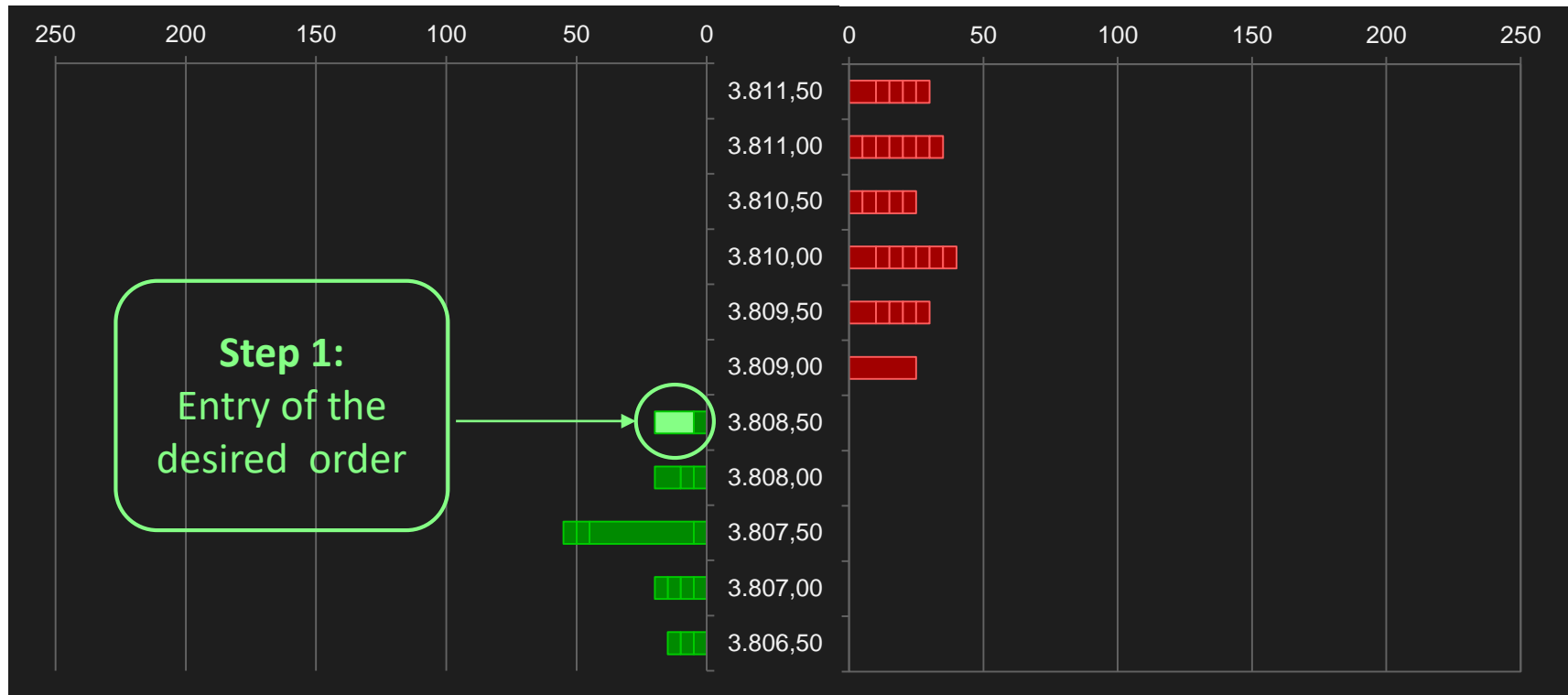
Cancellation of the buy order of 200 contracts at 12:09:45.883, the spoofing cycle in this case lasted **00:00:01:783 (less than two seconds)**. Our experience shows that the speed of the irregularity is compatible with the speed of the order book. In fast books (massive presence of fast traders, high liquidity etc) the practice will be executed successfully if it is fast.

Spoofing cycle

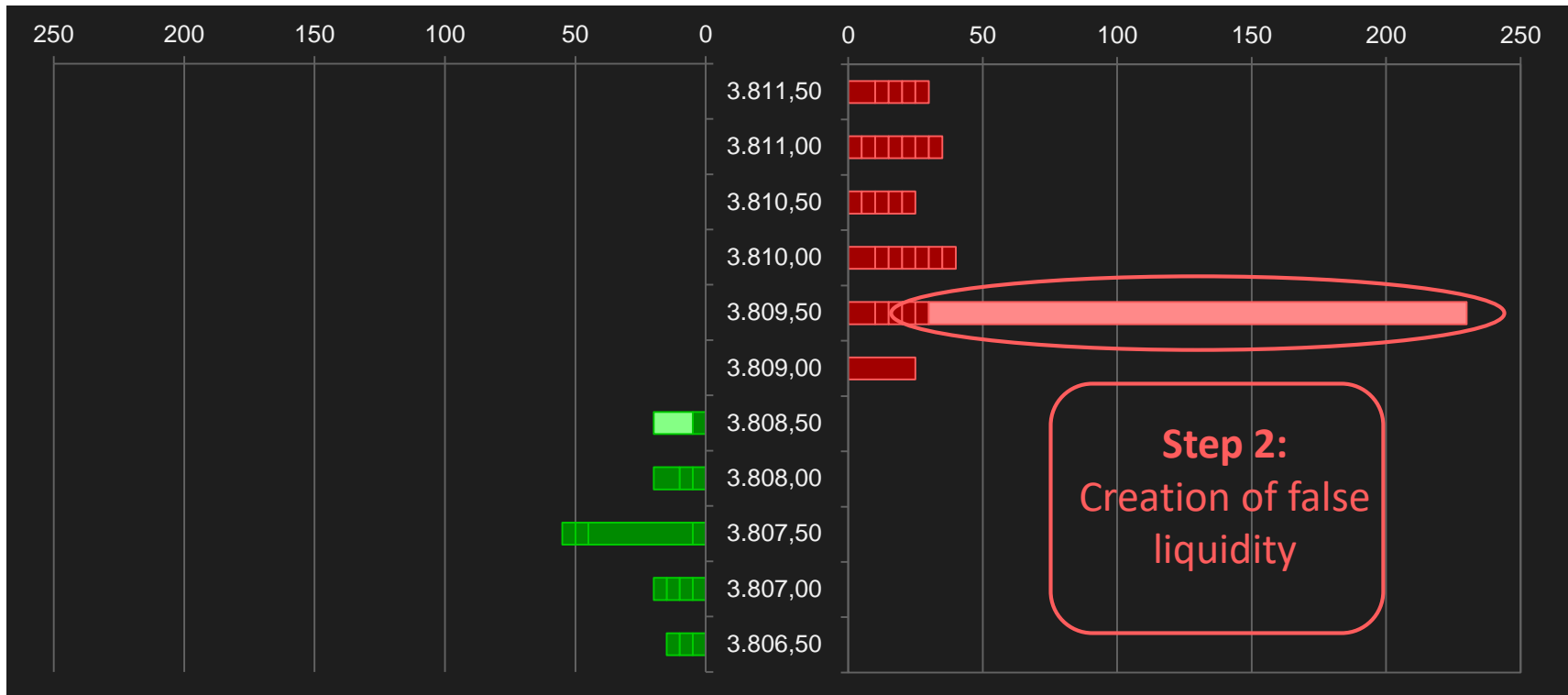
DOLZ15 on November 17, 2015

In this case the practice lasted 00:00:01:783 (less than two seconds)

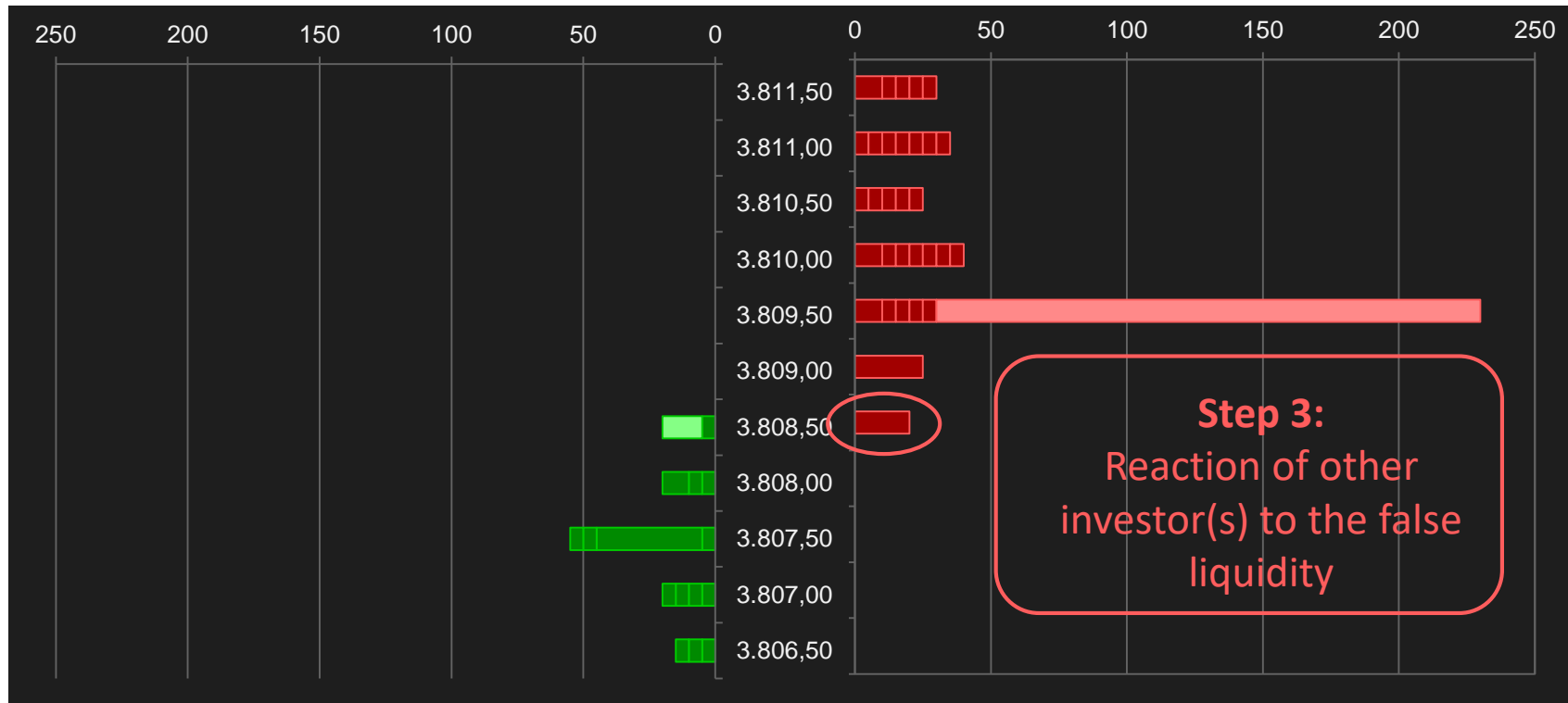




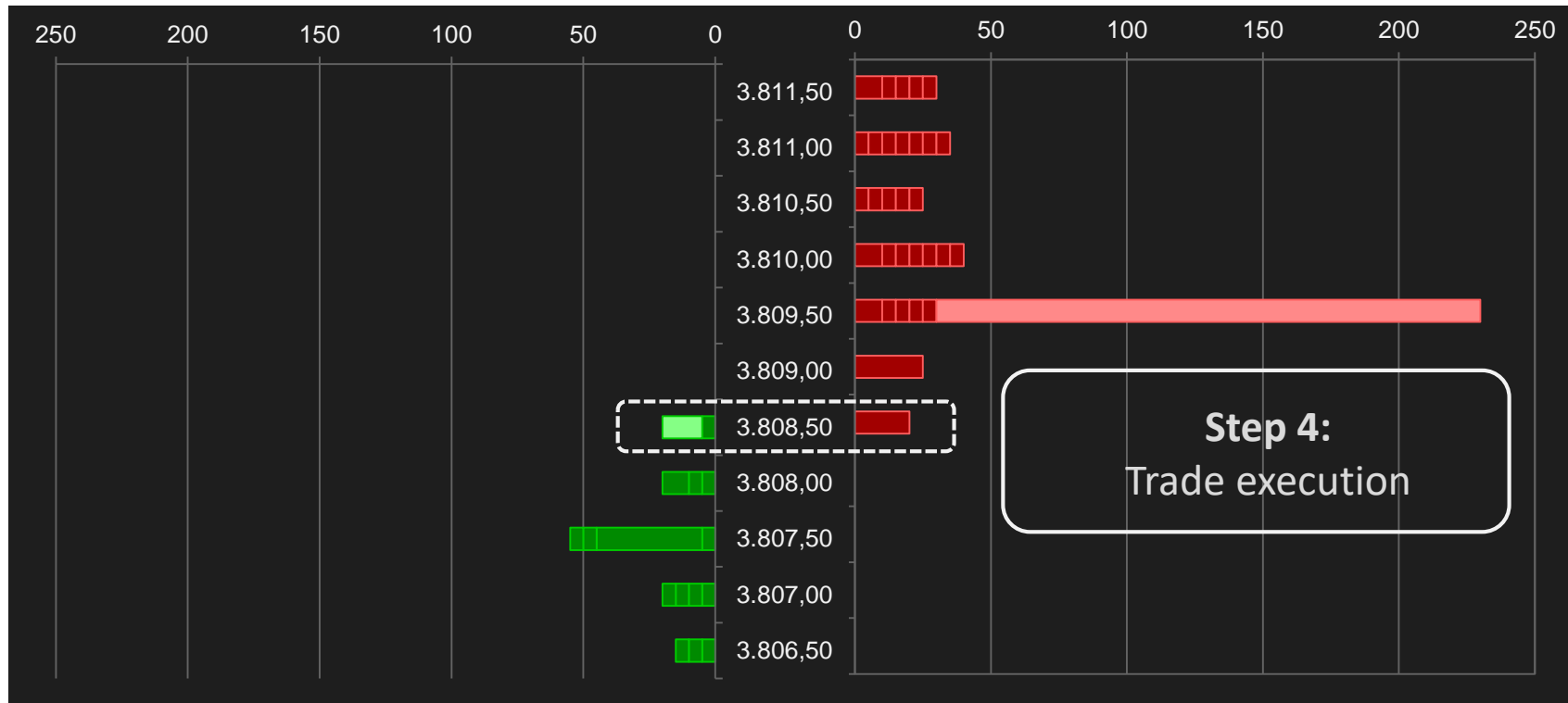
Start of the new cycle (opposite side of the book), now wishing to buy to execute the day trade, the manipulator enters a buy order for 15 contracts. At this moment the buy order is at the best price level, but there is one previously-entered order at this same level.



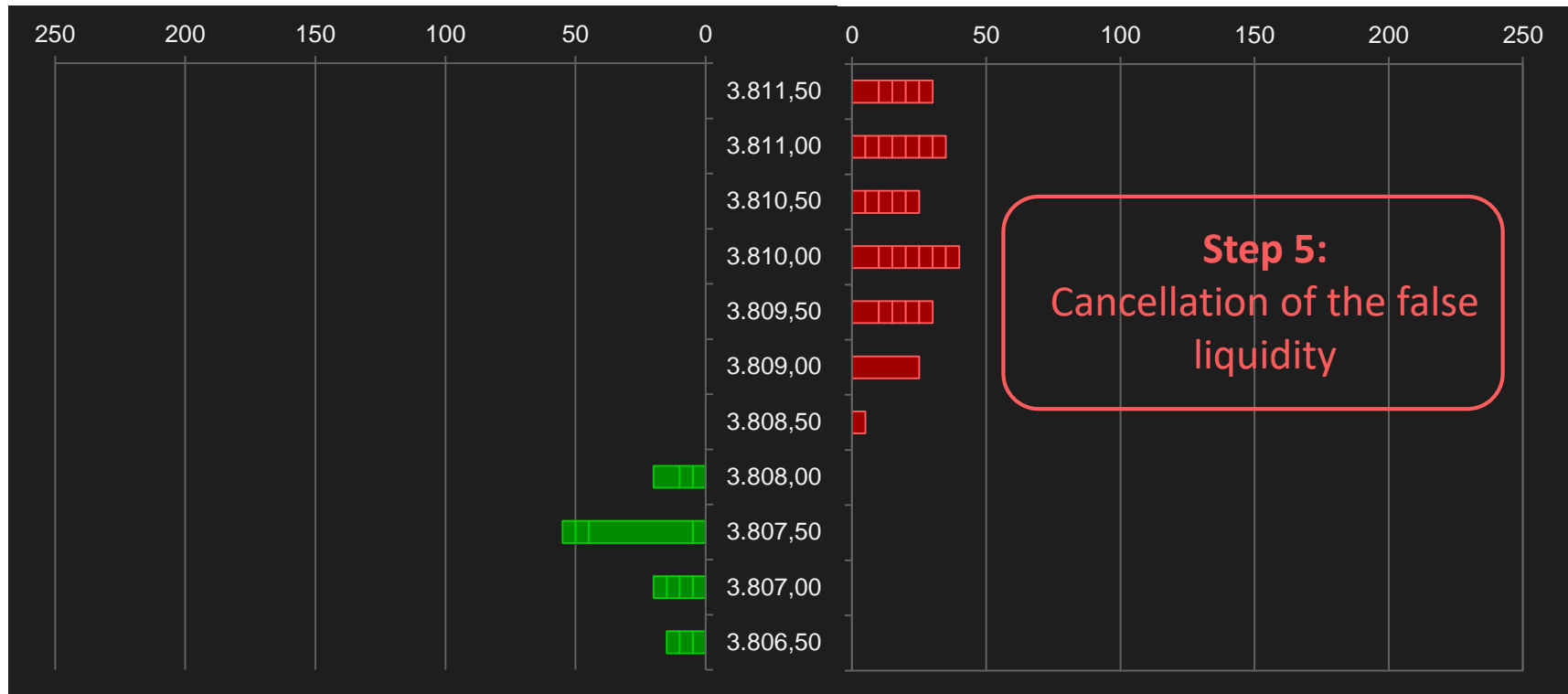
We can also see in the image here that the false order is 16 times higher than the desired order and it shows the market that there are more sell orders close to the execution price at that moment.



The false liquidity induces investors to enter or modify orders trying to anticipate a possible change to the spread. The information disclosed to the market with the book orders is relevant for the trading decision and cannot contain signals aimed at deceiving investors.



The reaction to securities with closed spread induces trade executions. In this case there is no tick size available, the improvement means trades are executed, benefitting the buy order which was in fact the objective of this strategy.

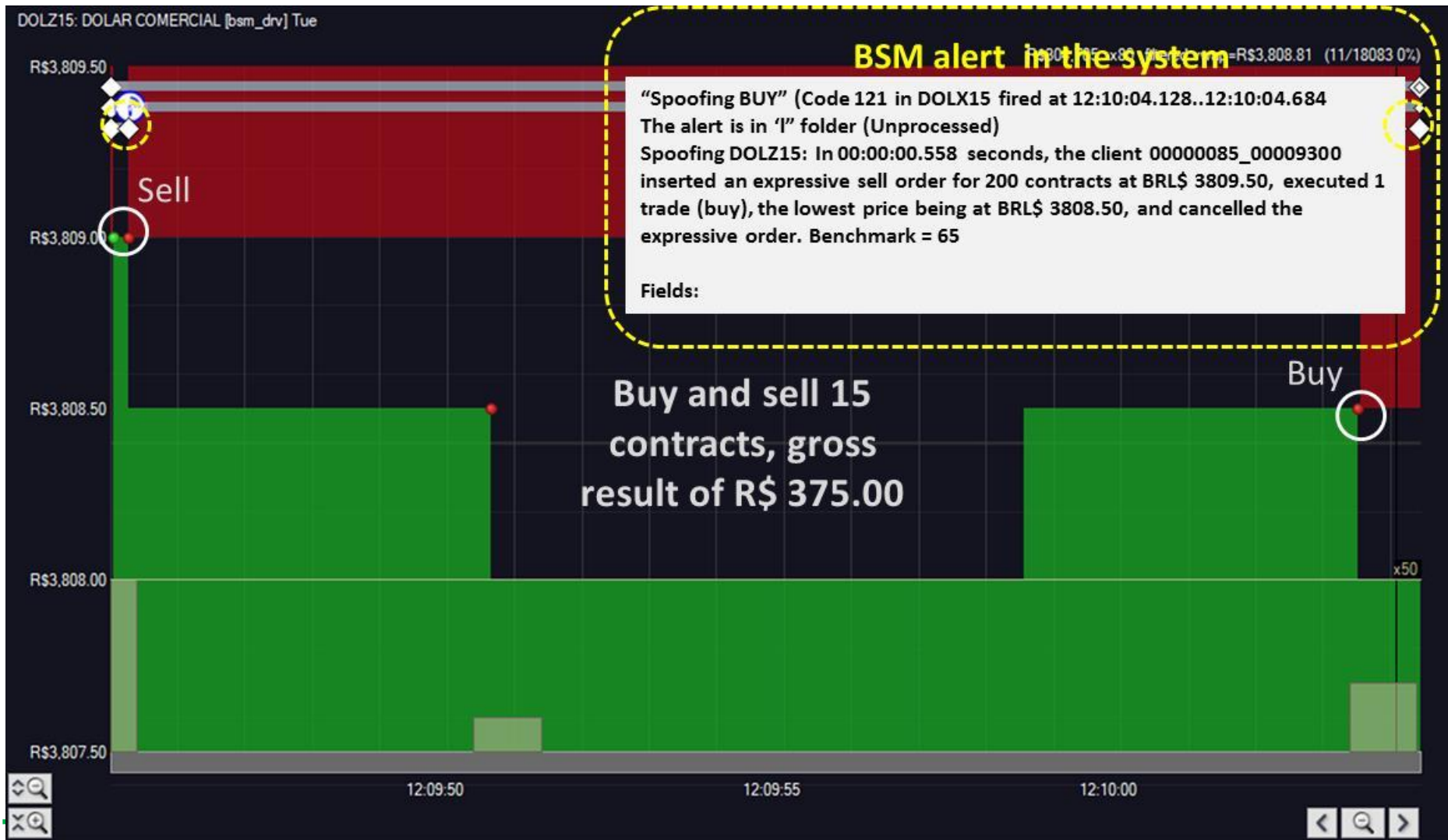


Cancellation of the sell order for 200 contracts at 12:10:04.684, the spoofing cycle in this case lasted **00:00:01:963 (less than two seconds)**.

Day trade with Spoofing

DOLZ15 on November 17, 2015 → 12:10:02.724

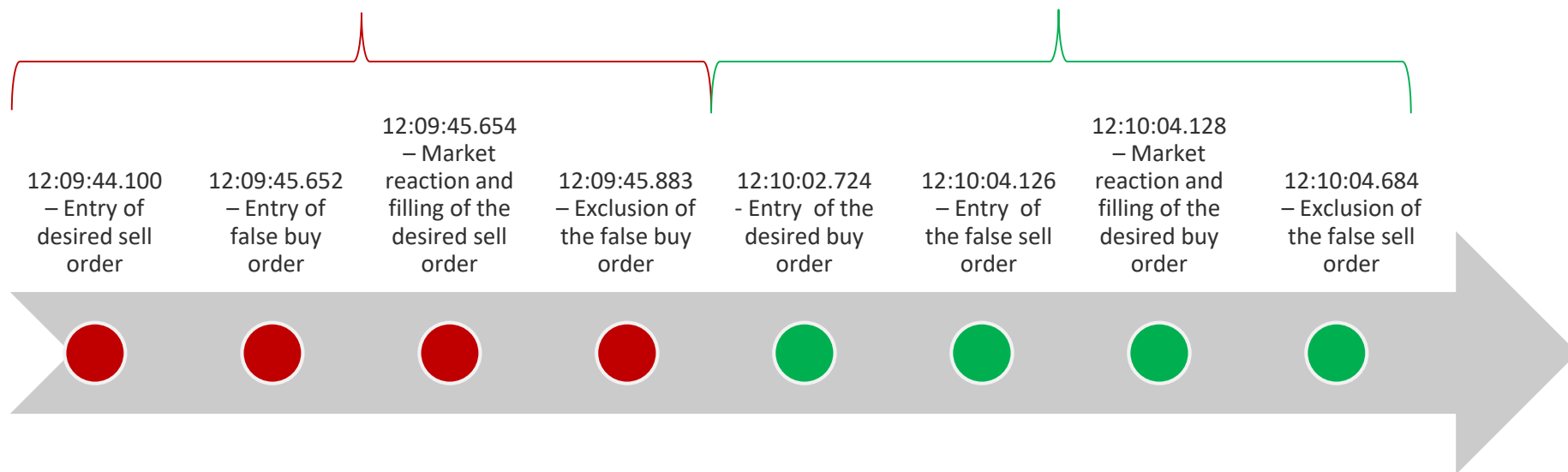
The duration of each cycle was two seconds, the day trade was finalized in 18 seconds.



Economic benefit from the irregular practice of spoofing

We only consider as **irregular** the trades executed with spoofing with a **complete cycle**. In other words, we do not consider all of the investor's trades as irregular

Sell Cycle – financial benefit BRL\$ 750.00 **Buy Cycle – financial benefit BRL\$ 375.00**



We have quantified the financial benefit for each trade with spoofing. This calculation singles out the benefit at each unit of the irregularity, even if an investor only executes buy or sell transactions.

The result of the day trade is not the result of the irregularity, in fact, there may be situations in which there is no day trade result to be calculated.

Each spoofing cycle is demonstrated in a document attached to the case report (attachment of examples):

DOLZ15 - November 15, 2015 - Sell – strategy 433

Occurrence	Buy/Sell	Time	Time of Cancellation	Price (BRL)	Quantity	Benchmark	Quantity cancelled	Sell Broker	Sell Customer	Buy Broker	Buy Customer	Financial Benefit (BRL)
Registration	Sell	12:09:44.100		3,809.00	15			85	9300			
Registration	Buy	12:09:45.652	12:09:45.883	3,808.50	200	65	200			85	9300	
Trade	Sell	12:09:45.654		3,809.00	15			85	9300	8	-	750.00

DOLZ15 - November 15, 2015 - Buy – strategy 434

Occurrence	Buy/Sell	Time	Time of Cancellation	Price (BRL)	Quantity	Benchmark	Quantity cancelled	Sell Broker	Sell Customer	Buy Broker	Buy Customer	Financial Benefit (BRL)
Registration	Buy	12:10:02.724		3,808.50	15					85	9300	
Registration	Sell	12:10:04.126	12:10:04.684	3,809.50	200	65	200	85	9300			
Trade	Buy	12:10:04.128		3,808.50	15			8	-	85	9300	375.00

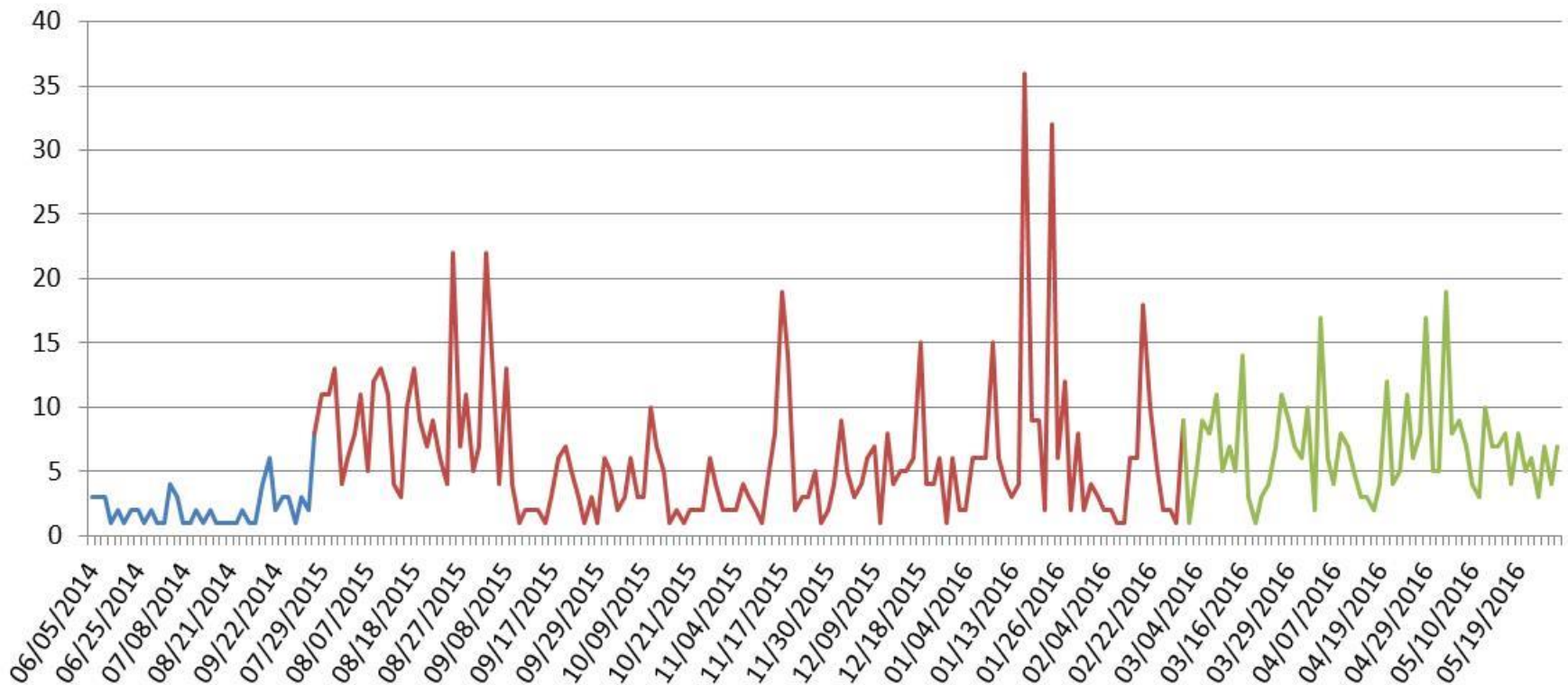
The financial benefit is the result obtained by the irregularity, calculated by multiplication of the quantity of contracts traded/contract quotation and the spread difference that was identified prior to the large order.

Accusation of the Spoofing example

The investor practiced 1,271 spoofing cycles:

Between June/2014 and May/2016 the investor, using DMA tools from 6 brokerage firms, executed **1,271** cycles* obtaining the financial advantage of **BRL\$1,5 million**.

Cycles distribution in the period



* One cycle may have more than one trade executed

Irregularity verified:

Inducing a book reaction (existing orders and new orders) through the placement of an artificial and expressive order to execute trades on the opposite side of the order book, with cancellation or modification of this artificial order

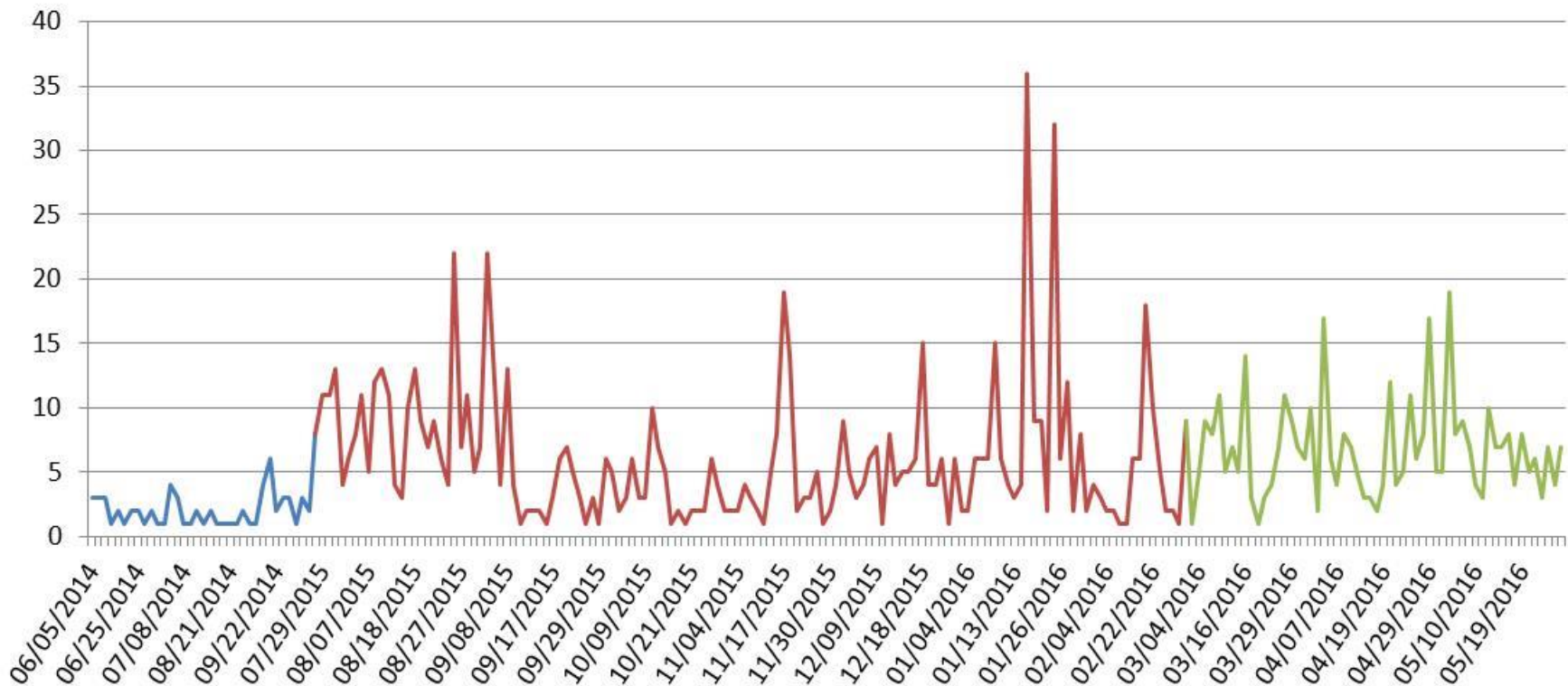
Conduct and evidence of irregularity

1. Trades do not occur by chance, but are part of a deliberate strategy
2. Artificiality is characterized by the cycle, demonstrating that the artificial order only existed to help execute the trade on the opposite side
3. The intention is demonstrated by the repetition of the cycles

The investor practiced 1,018 spoofing cycles:

Between June/2014 and February/2016 the investor, using DMA, executed **1,018** cycles obtaining the financial advantage of **BRL\$1,2 million**.

Cycles distribution in the period



Irregularity verified:

No prevention of the manipulator's spoofing.

Conduct and proof of irregularity

1. Trades do not occur by chance, but are part of a deliberate strategy
2. Artificiality characterized by the cycle, demonstrating that the artificial order only existed to help execute the trade on the opposite side
3. The intention is demonstrated by the repetition of the cycles
 - 1,018 spoofing cycles in 20 months
 - Benefit of BRL\$ 1.2 million

Disciplinary Administrative Proceeding 15/2016

Accusation: Failure in the surveillance of its clients' orders and trades that had spoofing characteristics, which contributed to the creation of artificial market conditions.

Conduct of the brokerage firm:

- Did not identify the spoofing strategy, as it did not have surveillance tools.
- In spite of the alert sent by BSM in October 2015, the brokerage firm did not prevent the irregularity from continuing

Conduct of the Market Relations Director:

- The MRD did not prevent continuation of the irregularity, even after the BSM alert
- A recommendation was made to only one client to avoid trades with characteristics similar to those exposed by BSM. No irregularities were identified in the other client's conduct.

End of the proceeding: Settlement

- Brokerage firm: BRL\$ 300,000.00 to BSM
- MRD: BRL\$ 150,000.00 to BSM

Enforcement measures in 2016 and 2017

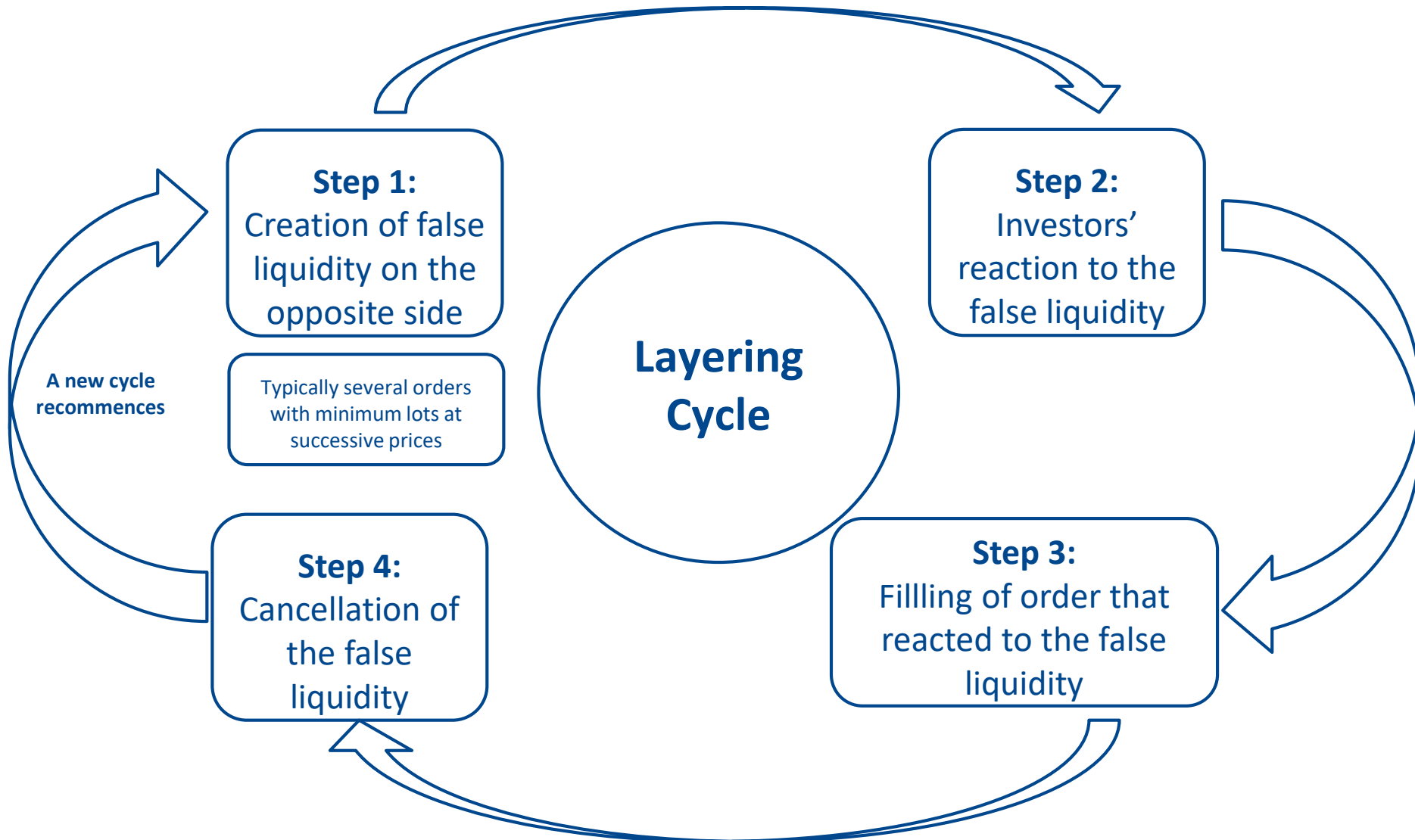
BSM			CVM	
Administrative Proceeding	Accused	Decision	Status	Decision
PAD-005/2016	Brokerage firm and Director	Settlement = BRL\$ 150,000.00: Brokerage firm BRL\$ 100,000.00 Director BRL\$ 50,000.00	Proceeding initiated	fine = BRL\$ 2,394,000.00 Paiiffer BRL\$ 1,710,000.00 Director BRL\$ 684,000.00
PAD-015/2016	Brokerage firm and Director	Settlement = BRL\$ 450,000.00: Brokerage firm BRL\$ 300,000.00 Director BRL\$ 150,000.00	Proceeding initiated	Settlement = BRL\$ 2,250,312.50
			Proceeding initiated	Settlement = BRL\$ 439,687.50
PAD-026/2016	Trader	fine = BRL\$ 108,000.00	N/A	
PAD-014/2017	Brokerage firm and Director	Settlement = BRL\$ 150,000.00: Brokerage firm BRL\$ 100,000.00 Director BRL\$ 50,000.00	Under assessment	
PAD-025/2017	Brokerage firm and Director	Settlement = BRL\$ 150,000.00: Brokerage firm BRL\$ 100,000.00 Director BRL\$ 50,000.00	Under assessment	

Definition of Layering

Layering as a cycle:

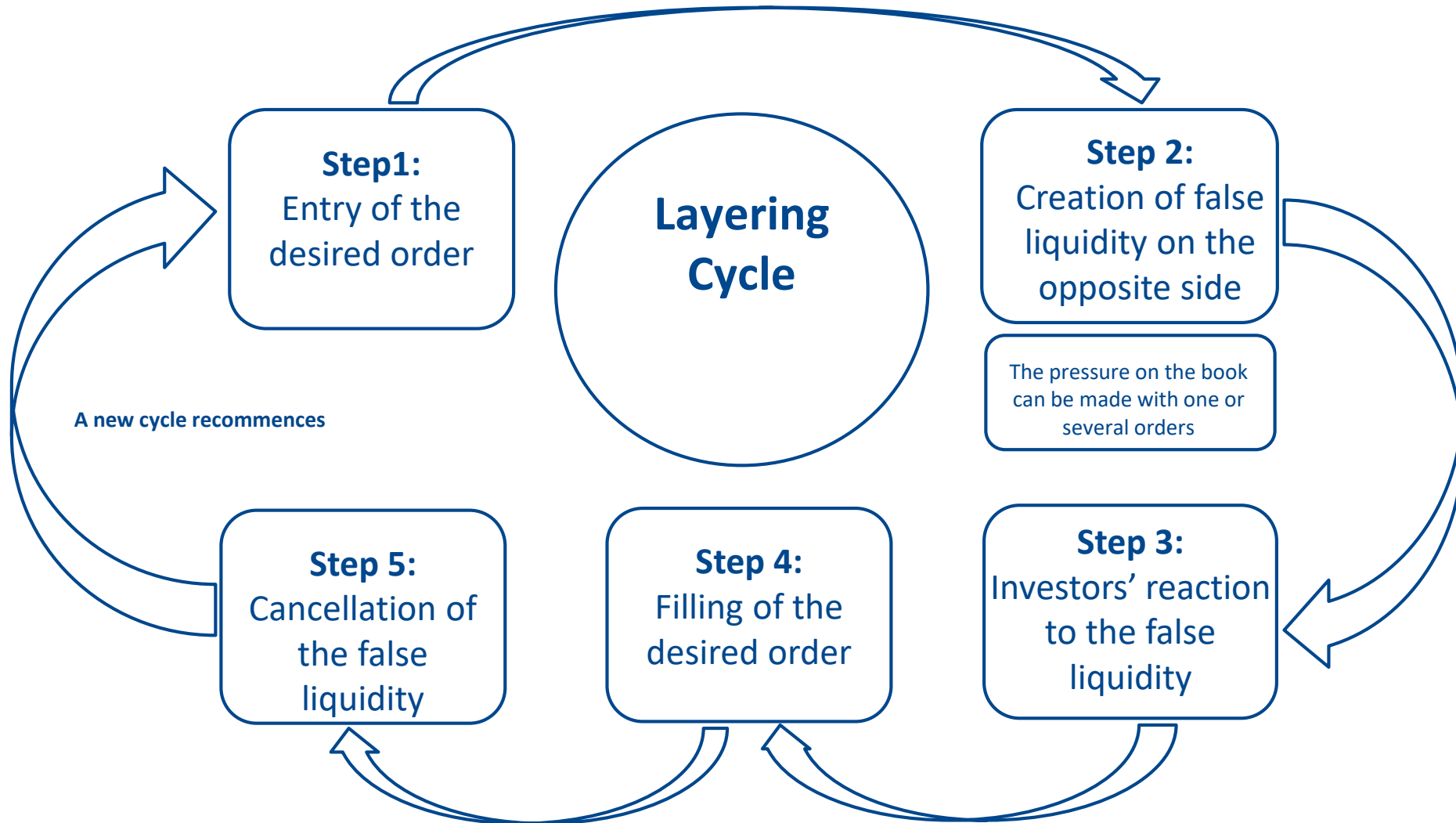
An abusive practice that creates artificial liquidity in the order book of the security through layers of orders at successive price levels, with the objective of influencing investors to surpass the barrier created by the layer and generate trades on the opposite side of the book. After the trade is executed, the artificial liquidity in the form of layerings is cancelled.

Irregularity is comprised of several layers

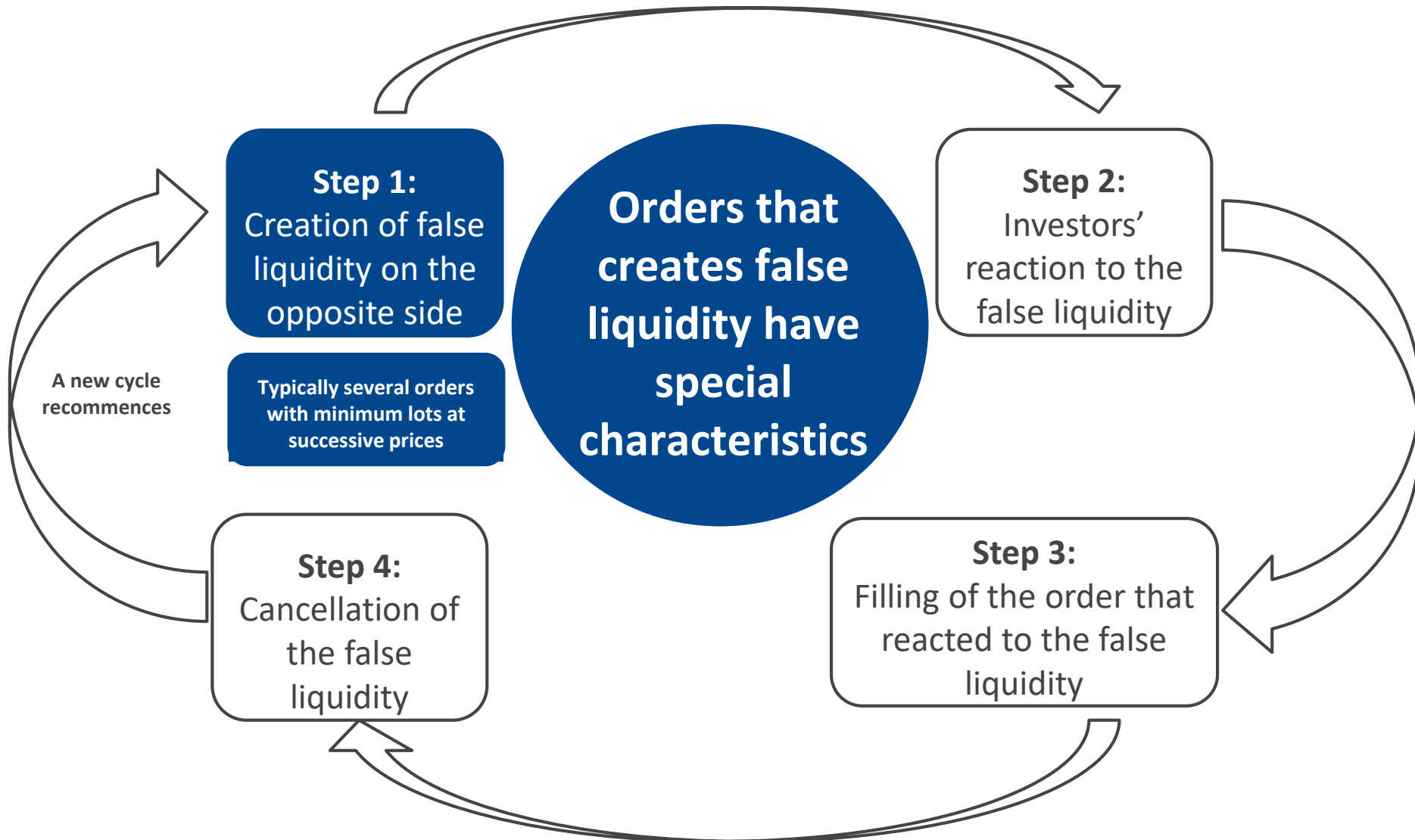


Variation of the irregularity

This is one variation example, there are other possible variations:



Characteristics for detecting irregularity



Characteristics of orders that create the false liquidity layer (key for detecting the irregularity)

- i. **Layer containing at least four orders on the same side of the book at different prices**

We use as necessary a minimum of four orders (tick size) for spread manipulation. To obtain an economic advantage the manipulation has to generate a benefit higher than the trading cost.

- ii. **Execution of a trade on the opposite side of the four orders**

We use the concept of a cycle, so there needs to be a layer on one side and trades on the other.

- iii. **Cancellation of all manipulative orders after the trade**

Cancellation is important. To treat B3's several order books we programmed an alert on a cancellation in the ten minutes following trade execution, but in practice cancellation occurs much faster.

The characteristics that we consider in the filter:

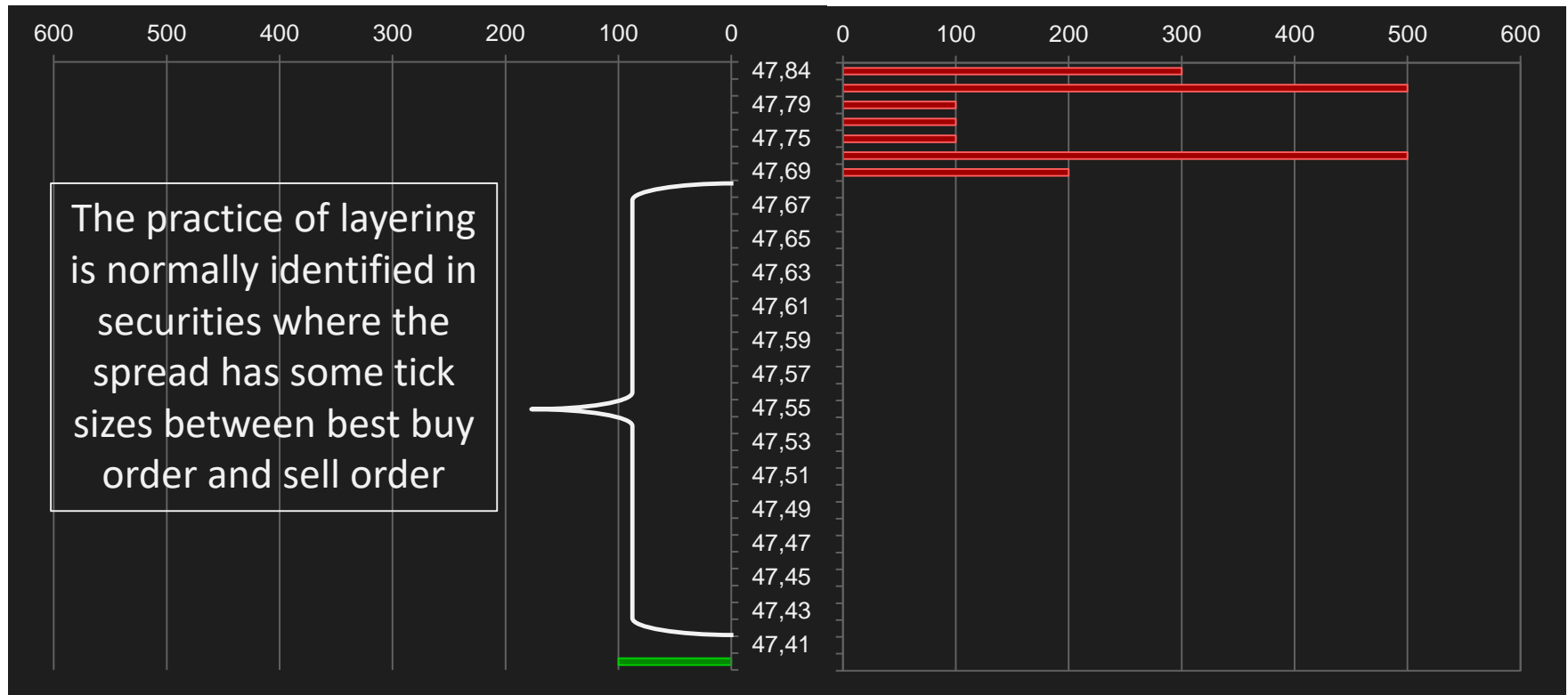
We filter the cycle in the system. All elements need to be present to generate the alert, recurrence is also a necessary condition, at least eight events in the BSM analysis period (15 days).

There is therefore no irregularity in isolated elements:

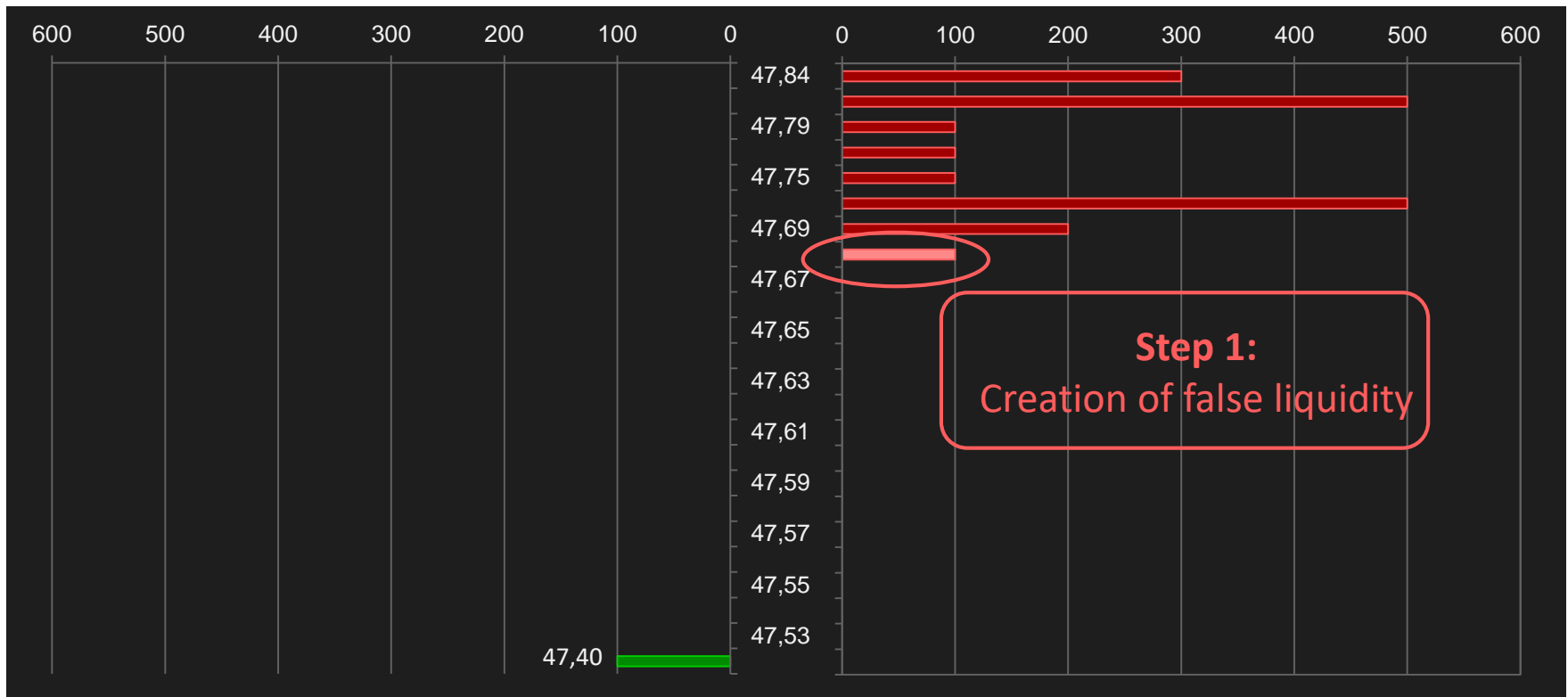
1. Speed: the speed with which an investor executes decisions and trades is not relevant to detecting the irregularity;
2. Orders on both sides of the book: if the investor really wishes to trade and to try to capture the spread there is no irregularity;
3. Multiple orders: there is no irregularity in maintaining several orders with distinct prices in the book, even orders on both sides;
4. Order cancellation: is part of the dynamic of an exchange's book and is not considered irregular.

Real example of layering

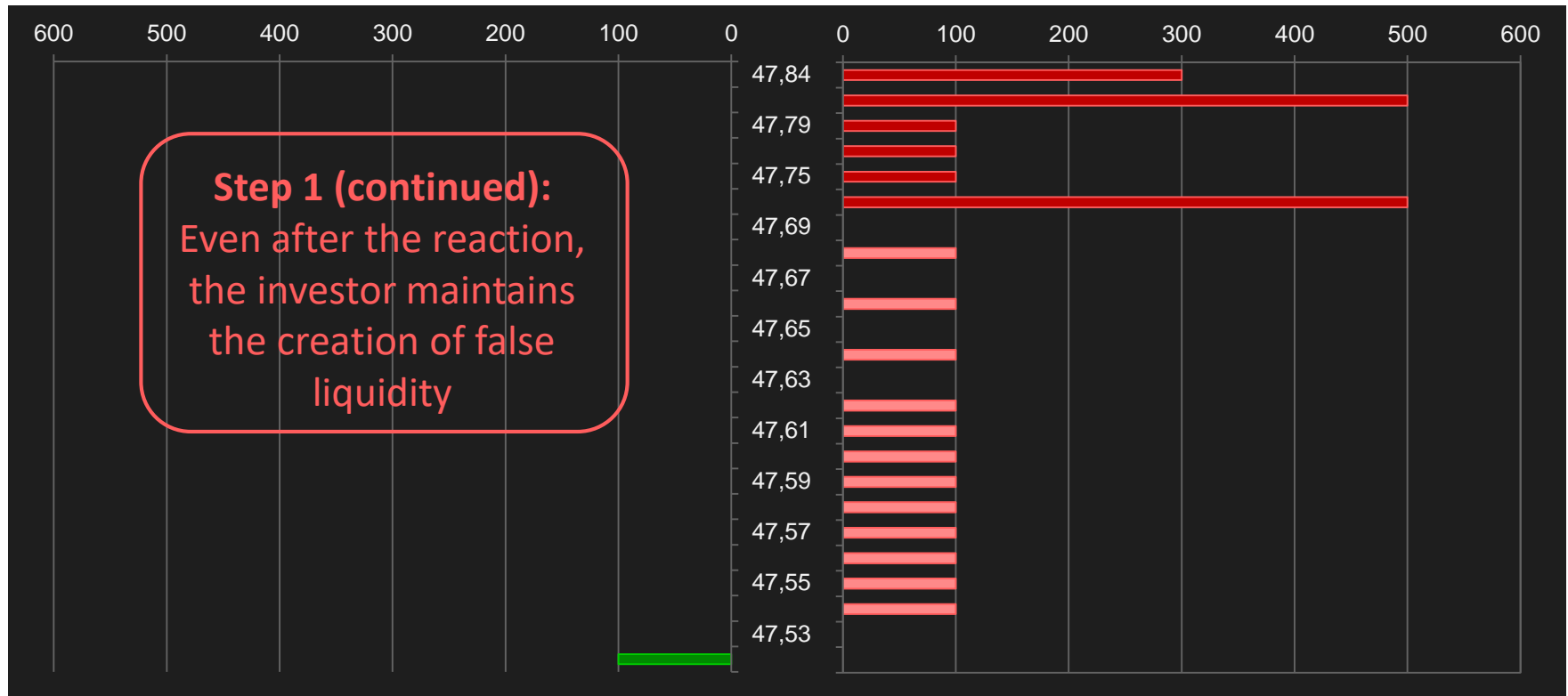
Here we see the moment before the irregularity, which in this case will begin with the creation of false liquidity, manipulating the spread of the security.



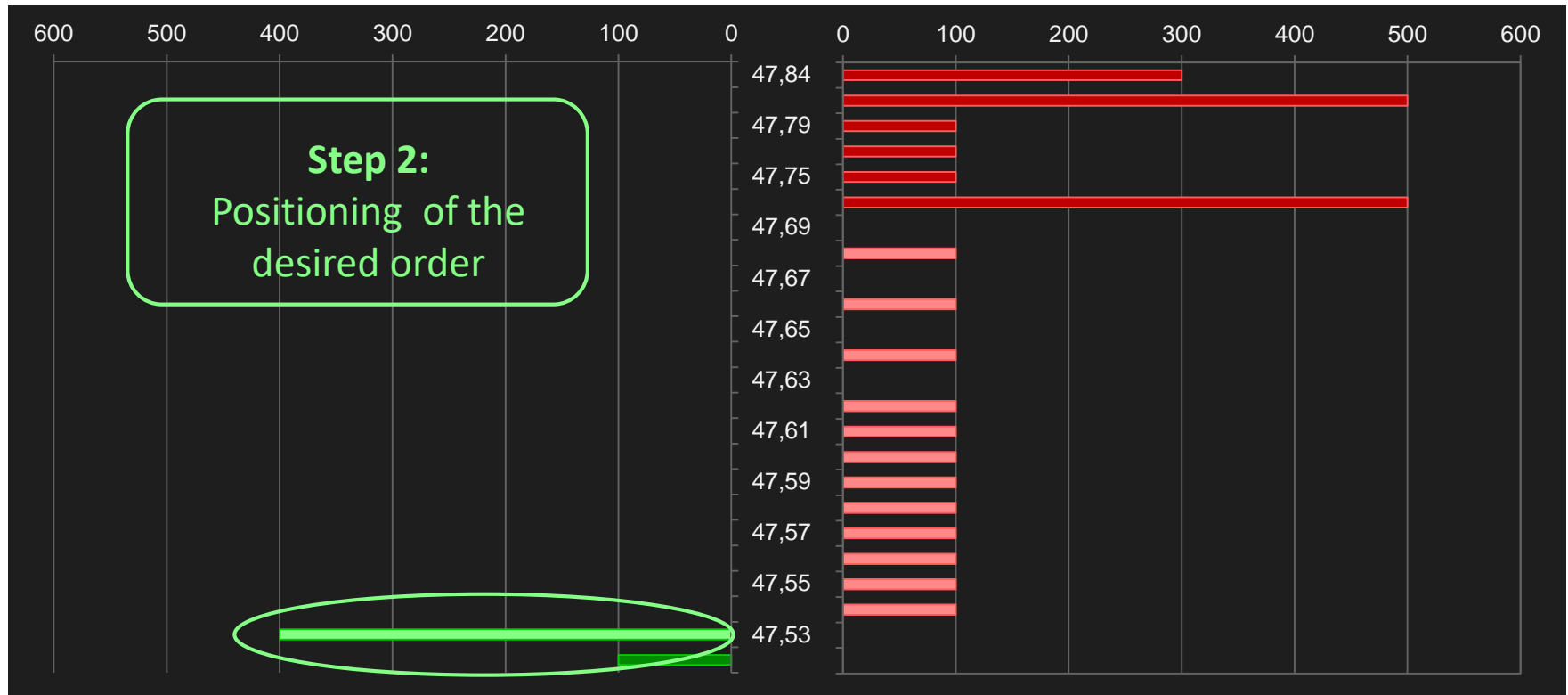
Usually, the layering lots are smaller than the spoofing lots. In this case, to obtain financial advantage it is necessary to manipulate the spread with greater intensity, which is possible with more open books.



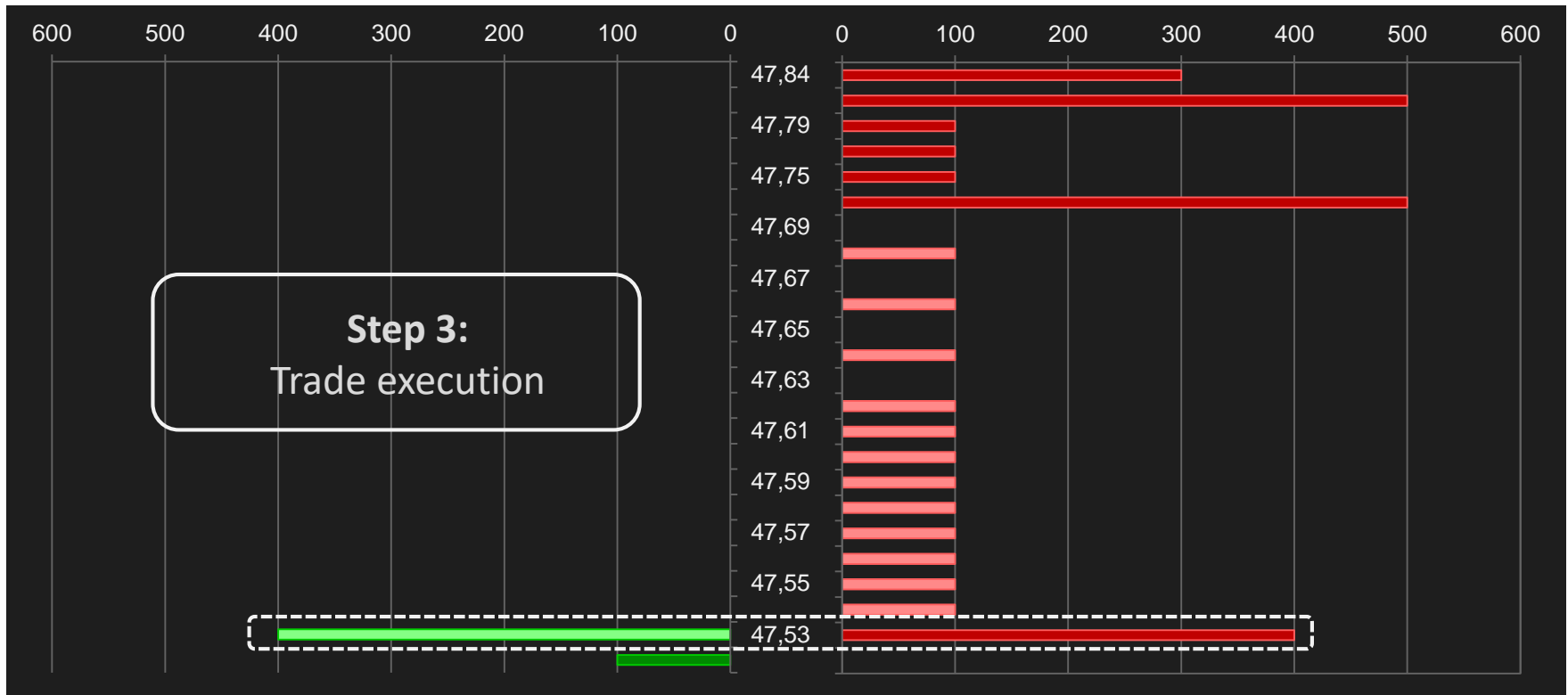
The manipulator starts to create the layer of sell orders. Here, different from the two examples of spoofing that we have seen, the manipulator will insert a series of orders, even with market interferences.



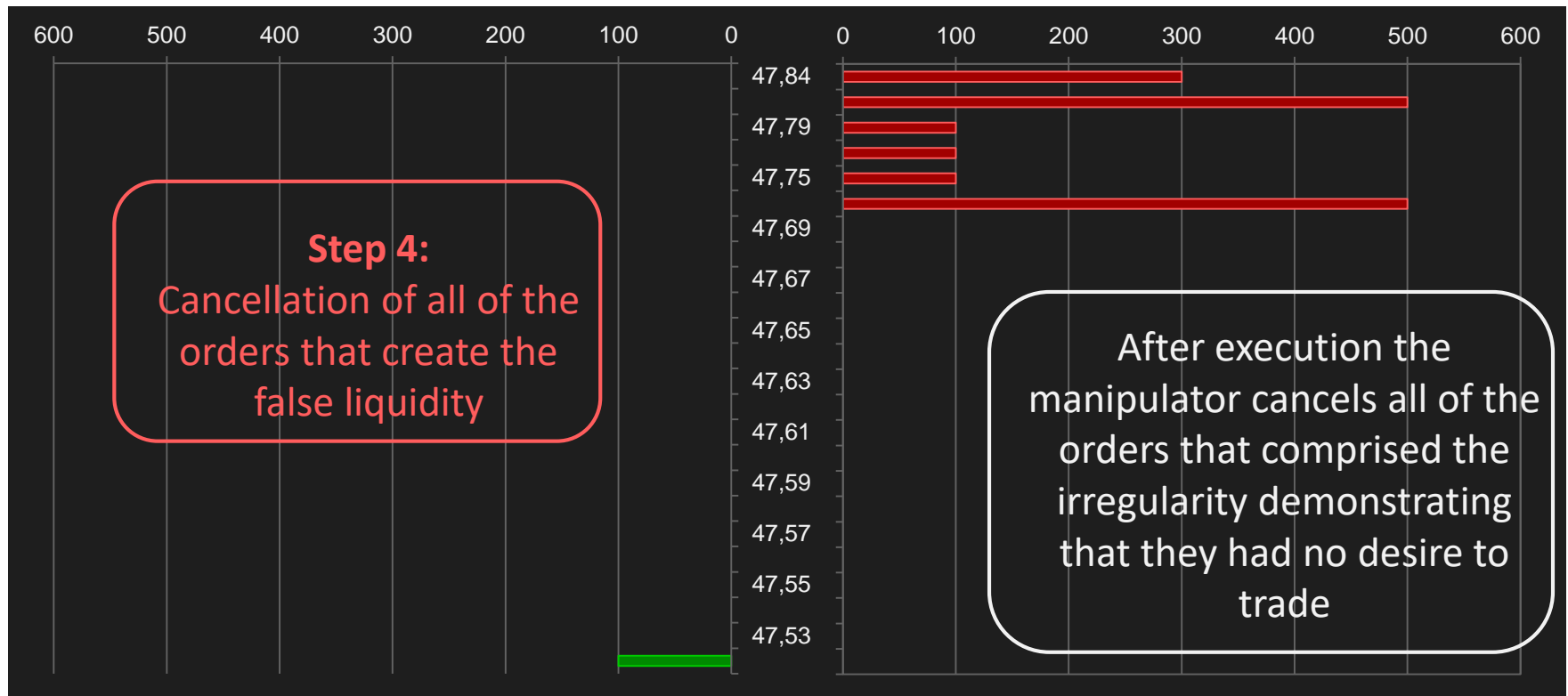
At the end, the manipulator will have reduced the spread from R\$ 0.29 to R\$ 0.13, in a period of less than five seconds. The objective is to create a layer of false liquidity to induce investors to surpass it with orders at better prices.



At the moment the manipulator reaches a price that it understands as being favorable for buying, it inserts the buy order and “closes the order book”, leaving no tick size between its best sell order (last of the layer).

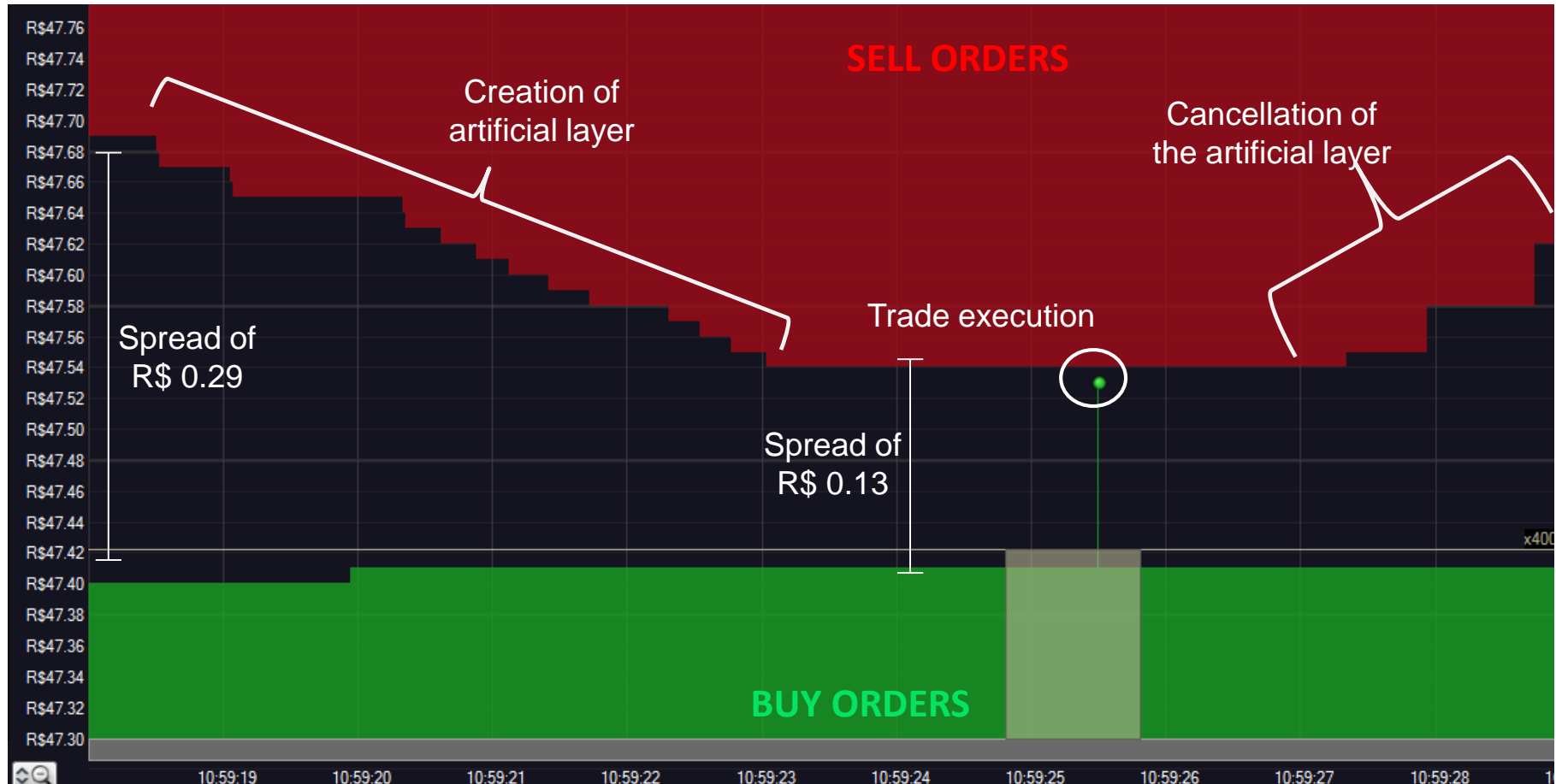


The market reacts and fills the order that the manipulator wanted to execute.



In this example, cancellation is slow. As the objective is to execute the day trade, he bought under the effect of the manipulation. Should a sell order be executed he would still have an economic advantage. It is therefore not a problem. Why cancel, then? To build a layer on the opposite side and obtain a more expensive sale.

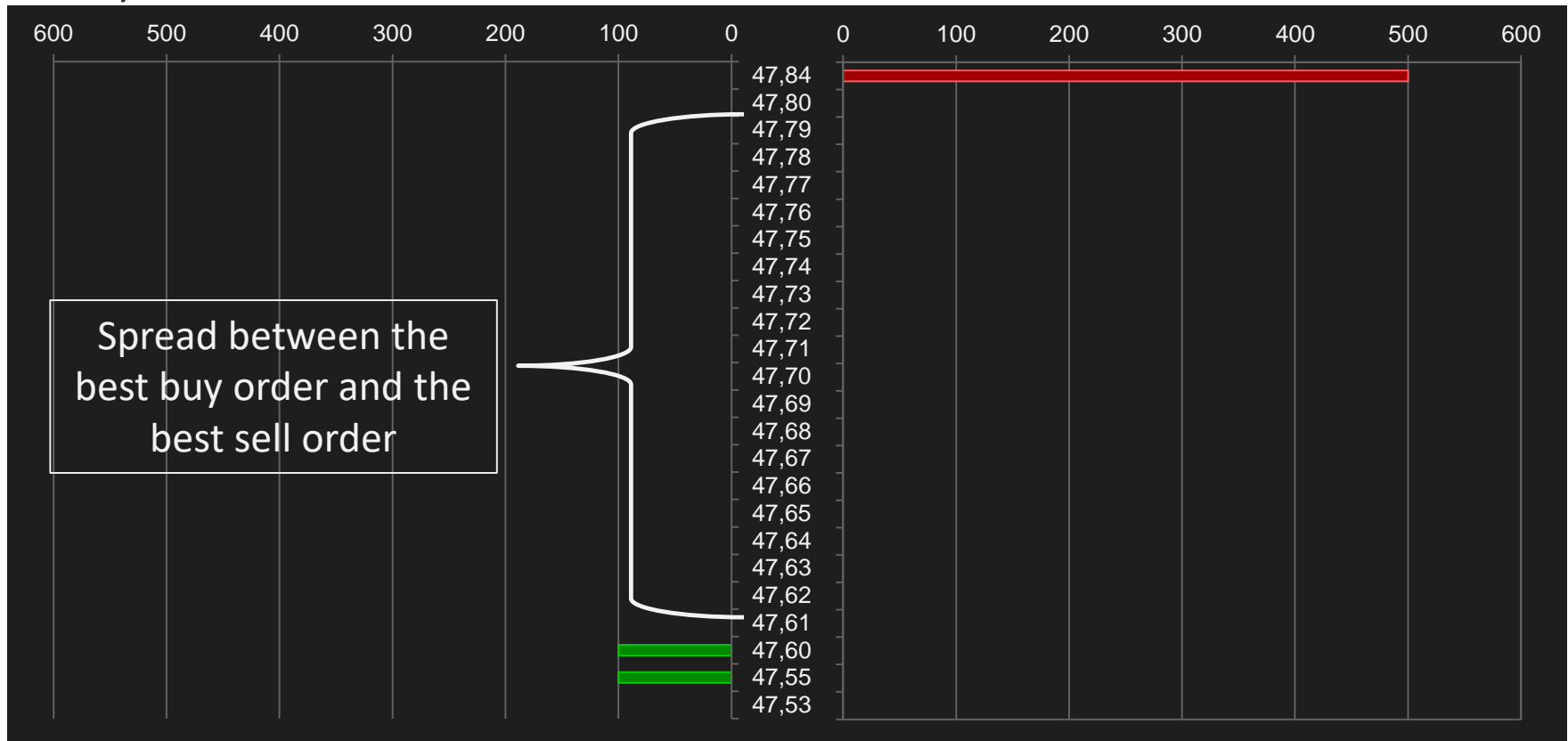
In this case the practice lasted **00:00:22:238 (22 seconds)**. In this period, the manipulator made the market change with his artificial signals.



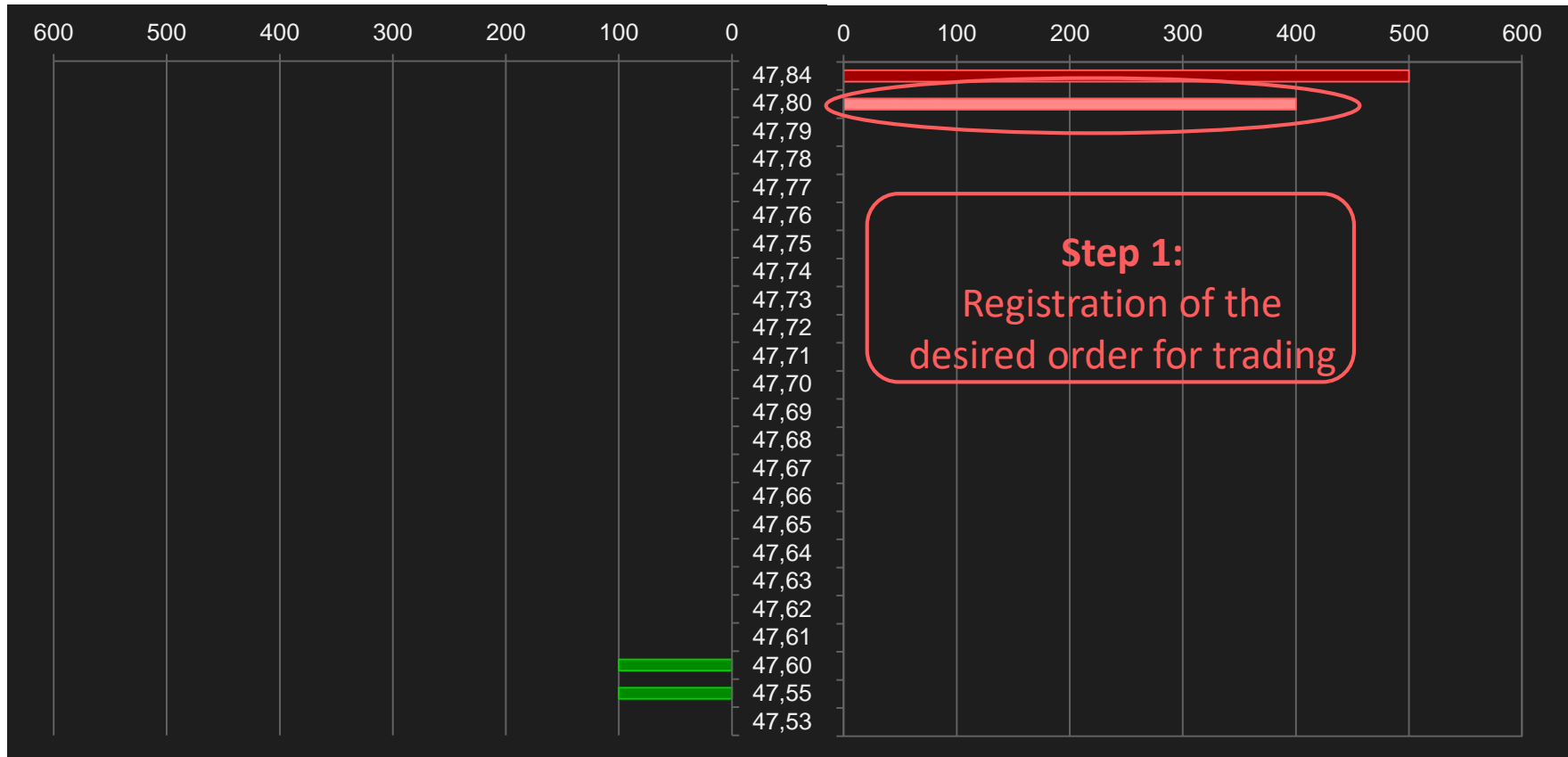
By closing the spread entering sell orders, the manipulator manages to execute the purchase at a more advantageous price.

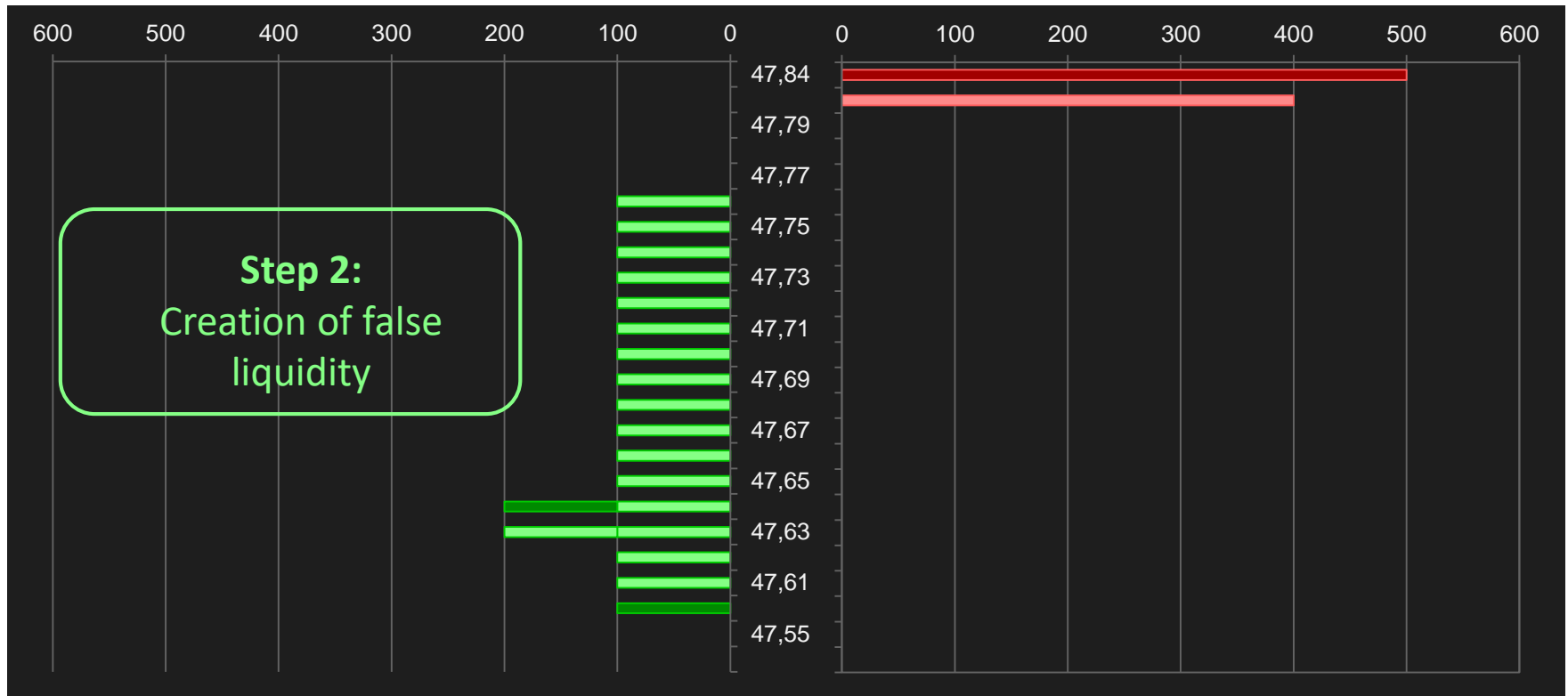


The moment before the irregularity, which in this case will begin with the entering of the sell order and subsequent creation of false liquidity, manipulating the spread of the security.

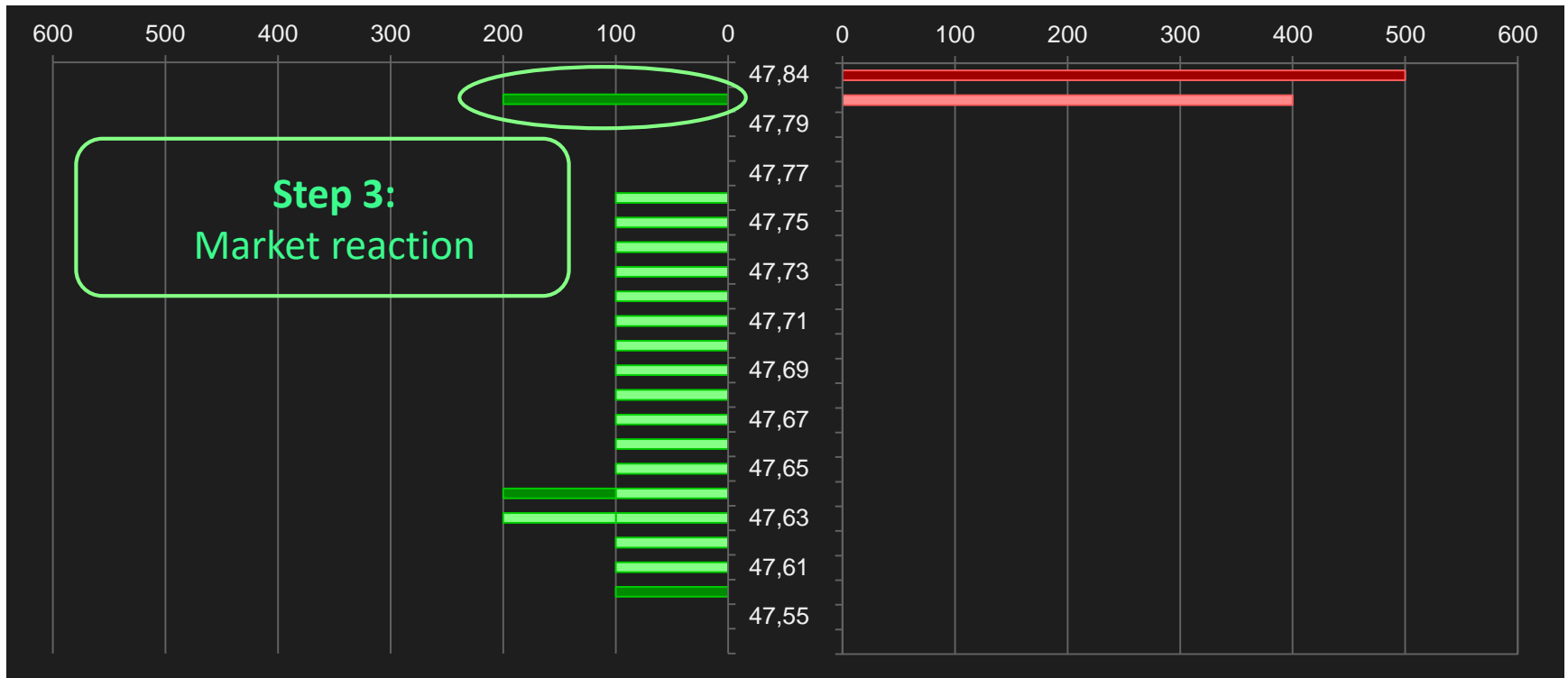


One minute after execution of the purchase, the manipulator registers the sell order that he wishes to execute.

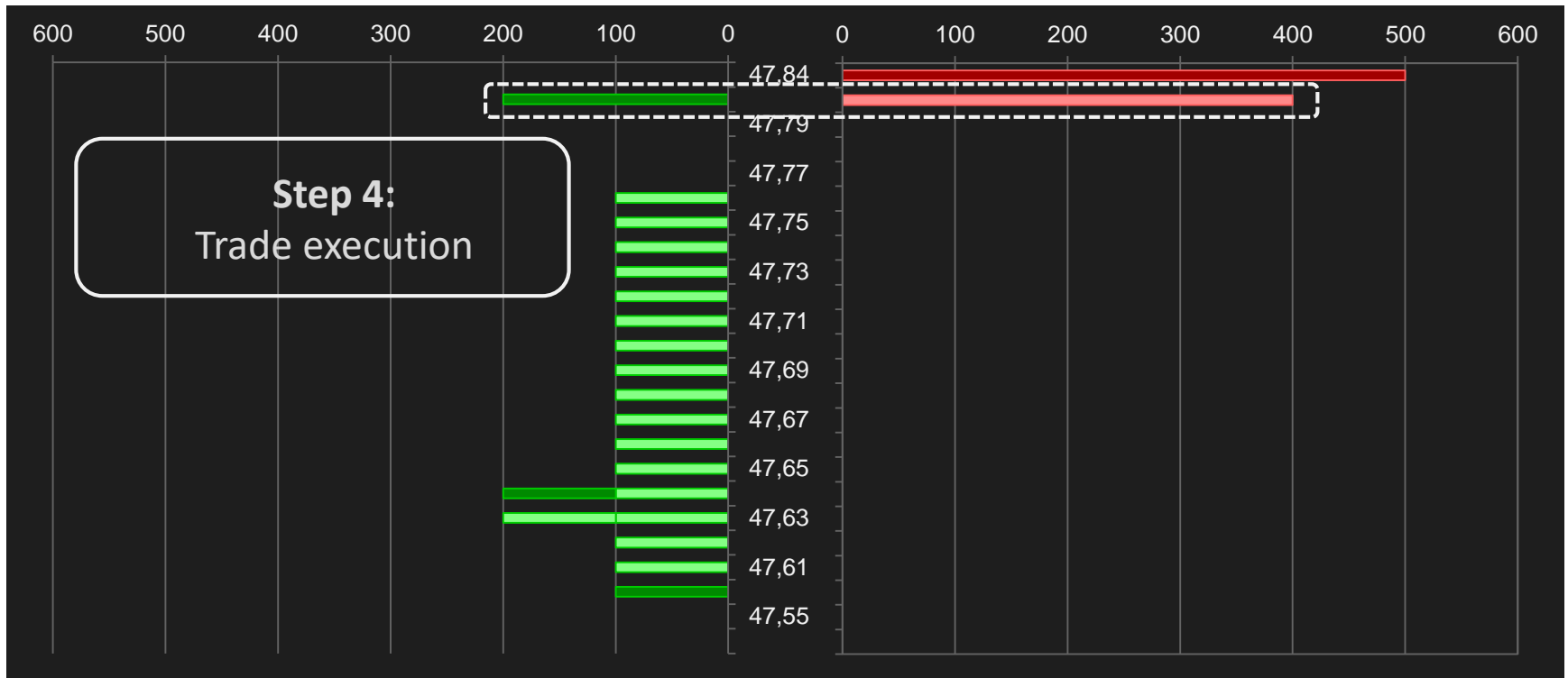




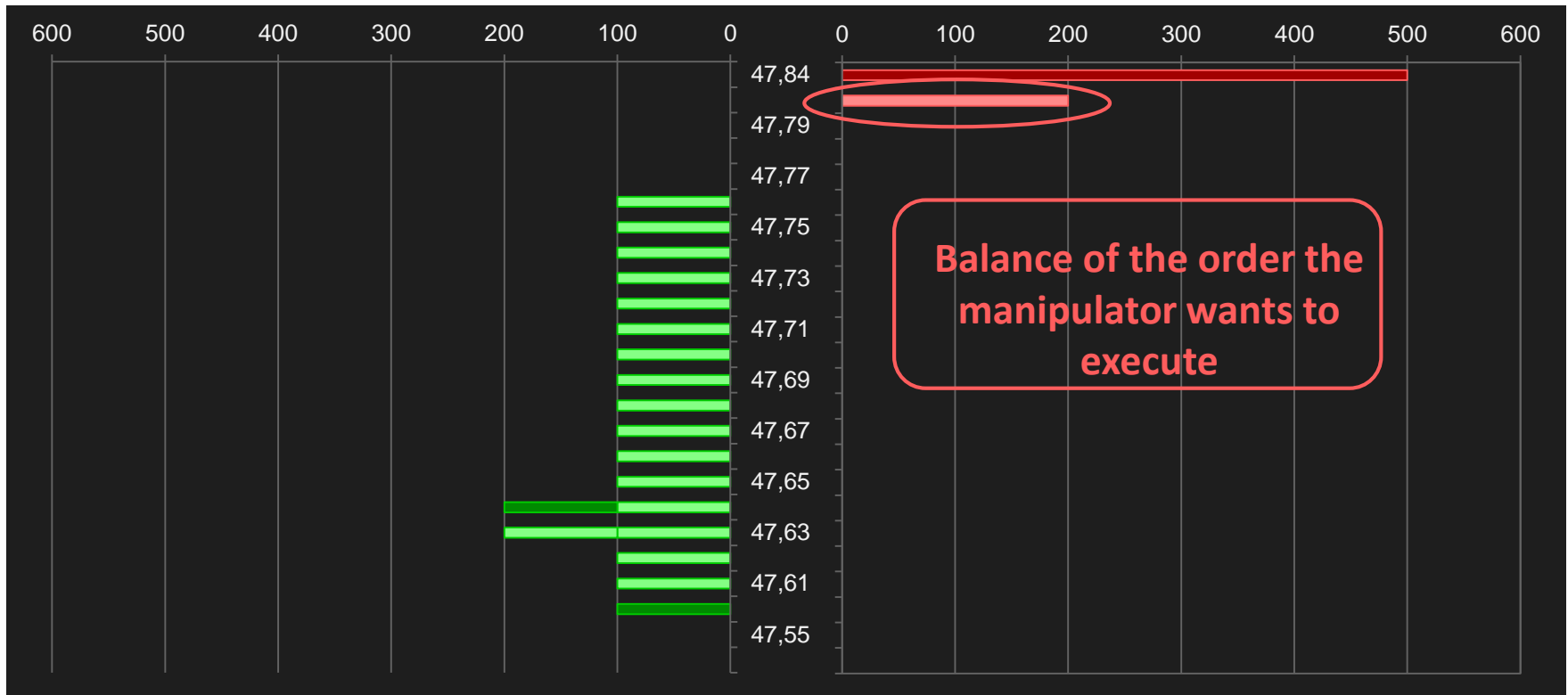
The manipulator starts to create a layer of buy orders. At the end, the manipulator will have reduced the spread from R\$ 0.24 to R\$ 0.04, in a period of under four seconds. The objective is to create a layer of false liquidity to induce investors to surpass it with orders at better prices.



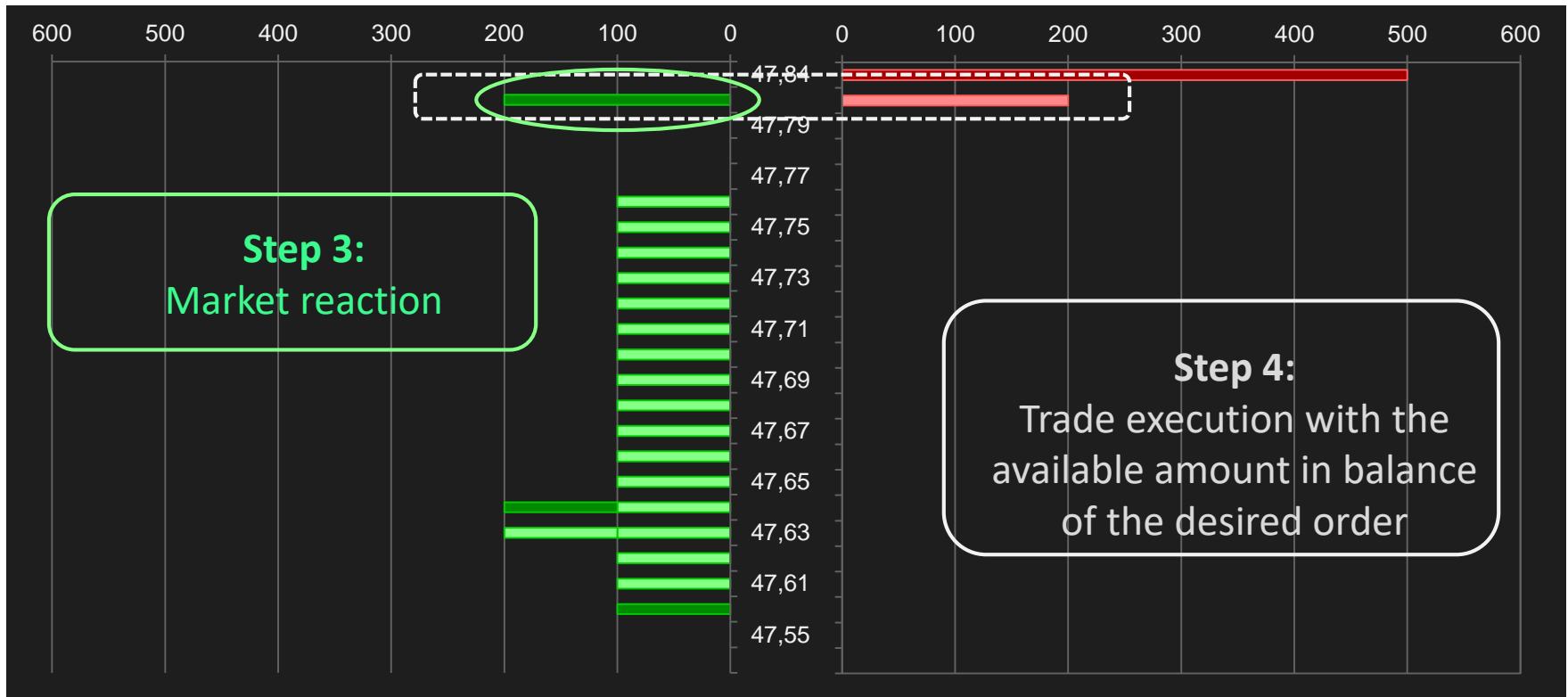
The market reacts and fills the manipulator's order. In this case, the same layering cycle generated two trades under the effect of a single cycle.



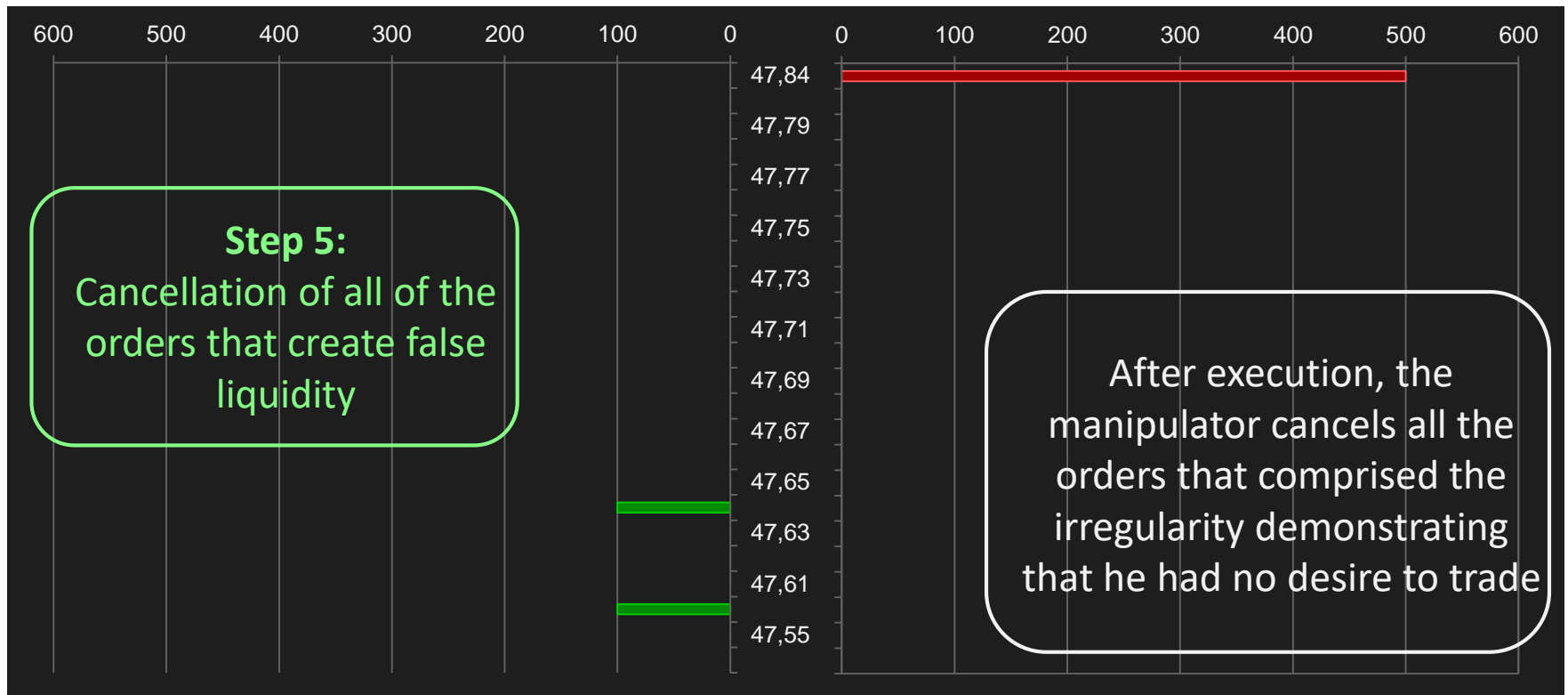
The market reacts and fills the manipulator's order, which **partially executes** the sell order



The investor maintains the layer and the order he wanted to execute in the book, waiting for a new reaction from the market.

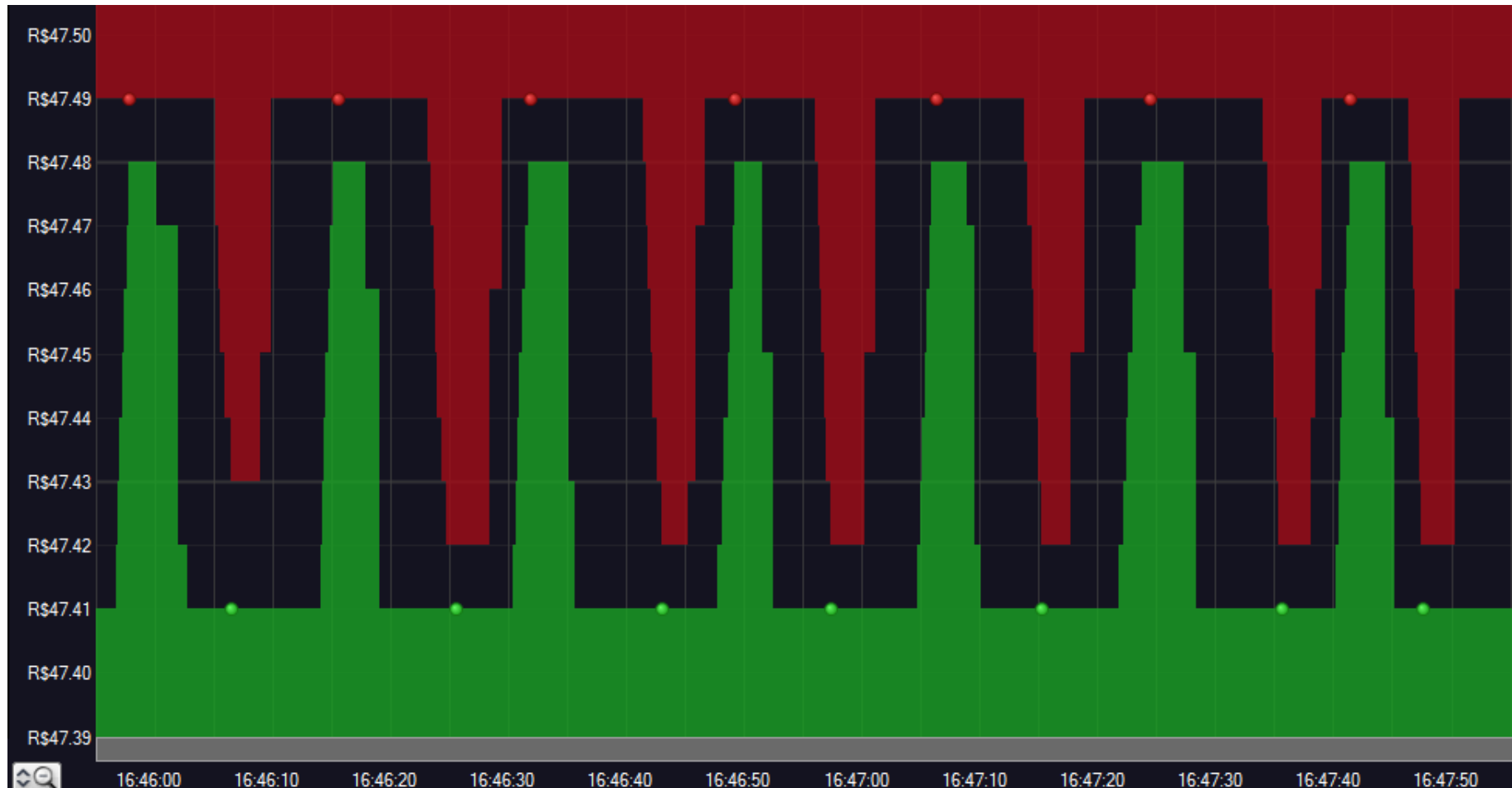


The market reacts again and executes the remainder of the order that the manipulator wished to execute.



The layering cycle lasted **00:00:08:398** (eight seconds).

Two minute view of the LINX3 book on May 14, 2014 with layering



20 minute view of the LINX3 book on May 14, 2014 without layering



The book changes completely without the manipulation, presenting a more contained spread with a lower number of trades.

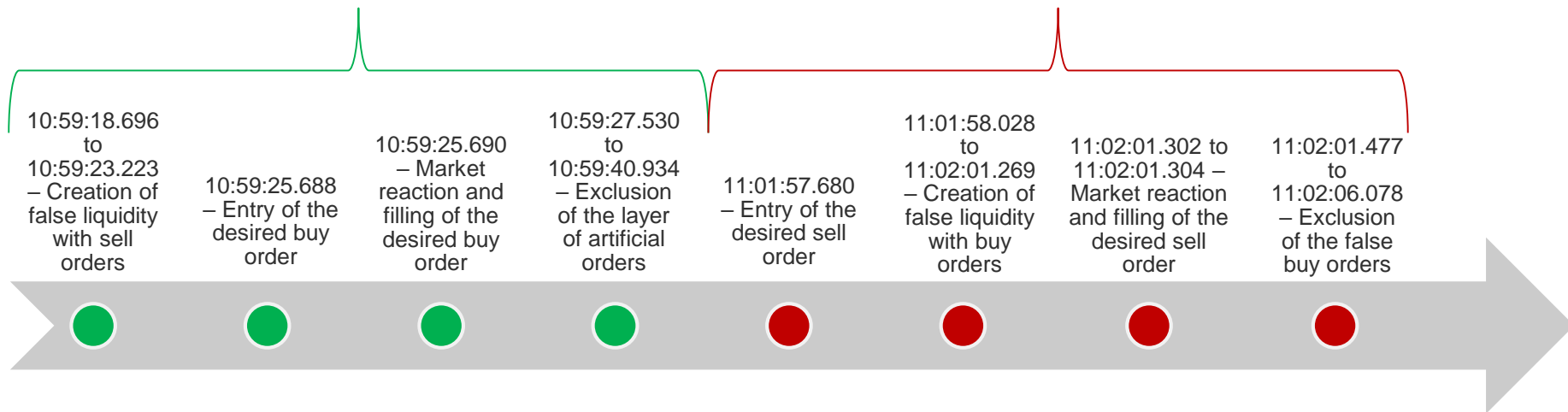
Financial benefit from irregular layering practice

LINX3 on May 14, 2014 → 10:59:18.696 to 11:02:06.078

We consider only trades executed with layering, with a full cycle, we do not presume that all of the investor's trades are irregular.

Buy Cycle – financial
benefit BRL\$ 100.00

Sell Cycle – financial benefit
BRL\$ 80.00



We quantify the financial benefit of each trade with layering. This calculation verifies the benefit in each unit of the irregularity, even if an investor executes only buy or sell transactions.

The day trade result is not the result of the irregularity, in fact, there may be situations in which there is no day trade result to calculate.

Each layering cycle is demonstrated in a document attached to the case report (attachment of the examples):

LINX3 – May 14, 2014 – Buy – Strategy 10

Occurrence	Buy/Sell	Time	Time of Cancellation	Price (BRL)	Quantity	Sell		Buy		Financial Benefit (BRL)
						Broker	Customer	Broker	Customer	
Amend	Sell	10:56:59.100	10:59:56.508	47.79	100	3	3466557			
Registration	Sell	10:57:01.027	10:59:48.364	47.77	100	3	3466557			
Registration	Sell	10:58:25.553	10:59:47.629	47.75	100	3	3466557			
Registration	Sell	10:59:18.696	10:59:40.934	47.68	100	3	3466557			
Registration	Sell	10:59:19.244	10:59:39.877	47.66	100	3	3466557			
Registration	Sell	10:59:20.526	10:59:29.339	47.64	100	3	3466557			
Registration	Sell	10:59:20.808	10:59:36.797	47.62	100	3	3466557			
Registration	Sell	10:59:21.072	10:59:28.363	47.61	100	3	3466557			
Registration	Sell	10:59:21.318	10:59:28.557	47.60	100	3	3466557			
Registration	Sell	10:59:21.611	10:59:28.757	47.59	100	3	3466557			
Registration	Sell	10:59:21.912	10:59:28.931	47.58	100	3	3466557			
Registration	Sell	10:59:22.506	10:59:27.720	47.57	100	3	3466557			
Registration	Sell	10:59:22.736	10:59:27.896	47.56	100	3	3466557			
Registration	Sell	10:59:22.965	10:59:28.131	47.55	100	3	3466557			
Registration	Sell	10:59:23.223	10:59:27.530	47.54	100	3	3466557			
Registration	Buy	10:59:25.688		47.53	400			3	3466557	
Trade	Buy	10:59:25.690		47.53	400	8	-	3	3466557	100.00

The financial benefit is the result obtained from the irregularity, calculated by multiplication of the number of contracts traded, the size/quotation of the contracts and the difference in spread identified before registration of the layer of orders.

LINX3 – May 14, 2014 – Sell – Strategy 14

Occurrence	Buy/Sell	Time	Time of Cancellation	Price (BRL)	Quantity	Sell		Buy		Financial Benefit (BRL)
						Broker	Customer	Broker	Customer	
Registration	Sell	11:01:57.680		47.80	400	3	3466557			
Registration	Buy	11:01:58.028	11:02:04.917	47.61	100			3	3466557	
Registration	Buy	11:01:58.256	11:02:05.041	47.62	100			3	3466557	
Registration	Buy	11:01:58.670	11:02:05.184	47.63	100			3	3466557	
Registration	Buy	11:01:58.837	11:02:05.522	47.63	100			3	3466557	
Registration	Buy	11:01:58.989	11:02:06.078	47.64	100			3	3466557	
Registration	Buy	11:01:59.157	11:02:04.320	47.65	100			3	3466557	
Registration	Buy	11:01:59.340	11:02:04.437	47.66	100			3	3466557	
Registration	Buy	11:01:59.516	11:02:04.561	47.67	100			3	3466557	
Registration	Buy	11:01:59.718	11:02:04.688	47.68	100			3	3466557	
Registration	Buy	11:01:59.898	11:02:04.801	47.69	100			3	3466557	
Registration	Buy	11:02:00.138	11:02:03.776	47.70	100			3	3466557	
Registration	Buy	11:02:00.281	11:02:03.877	47.71	100			3	3466557	
Registration	Buy	11:02:00.479	11:02:03.989	47.72	100			3	3466557	
Registration	Buy	11:02:00.661	11:02:04.116	47.73	100			3	3466557	
Registration	Buy	11:02:00.899	11:02:04.205	47.74	100			3	3466557	
Registration	Buy	11:02:01.081	11:02:03.057	47.75	100			3	3466557	
Registration	Buy	11:02:01.269	11:02:03.567	47.76	100			3	3466557	
Trade	Sell	11:02:01.302		47.80	200	3	3466557	8	-	40.00
Trade	Sell	11:02:01.304		47.80	200	3	3466557	8	-	40.00

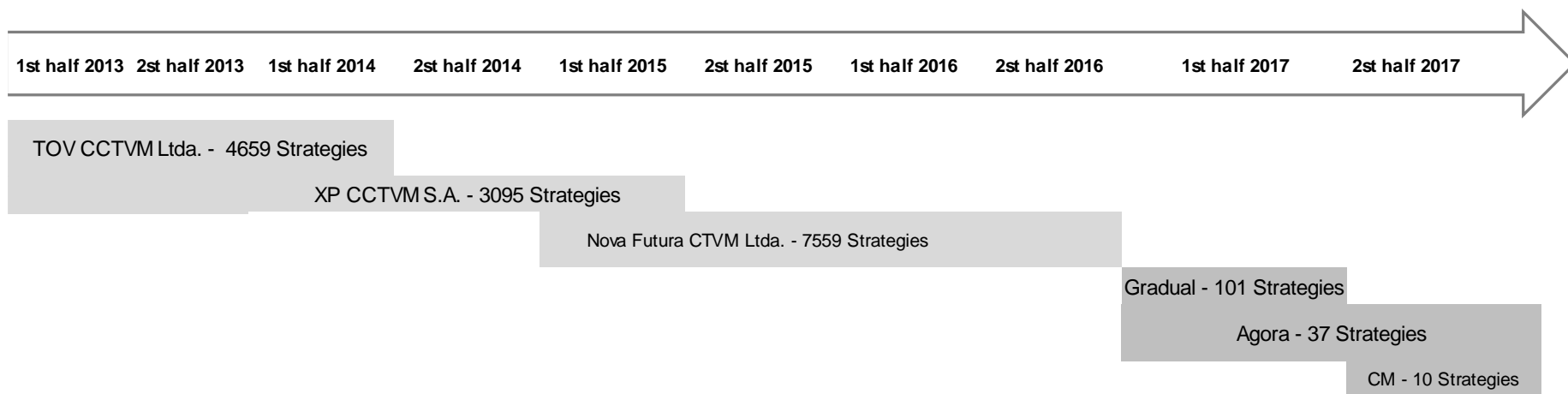
The practice of layering generated a financial benefit of R\$ 1.4 million for the investor.

Accusation of the layering example

The investor practiced 15,461 cycles of layering:

Between January/2013 and August/2017, using a six-participant DMA tool, the investor executed 15,461 cycles obtaining a financial value of R\$ 1.4 million.

Distribution of the cycles in the period



Verified irregularity:

Inducing a book reaction (existing orders and new orders) through the placement of artificial orders on the opposite side and cancellation or modification of such artificial orders.

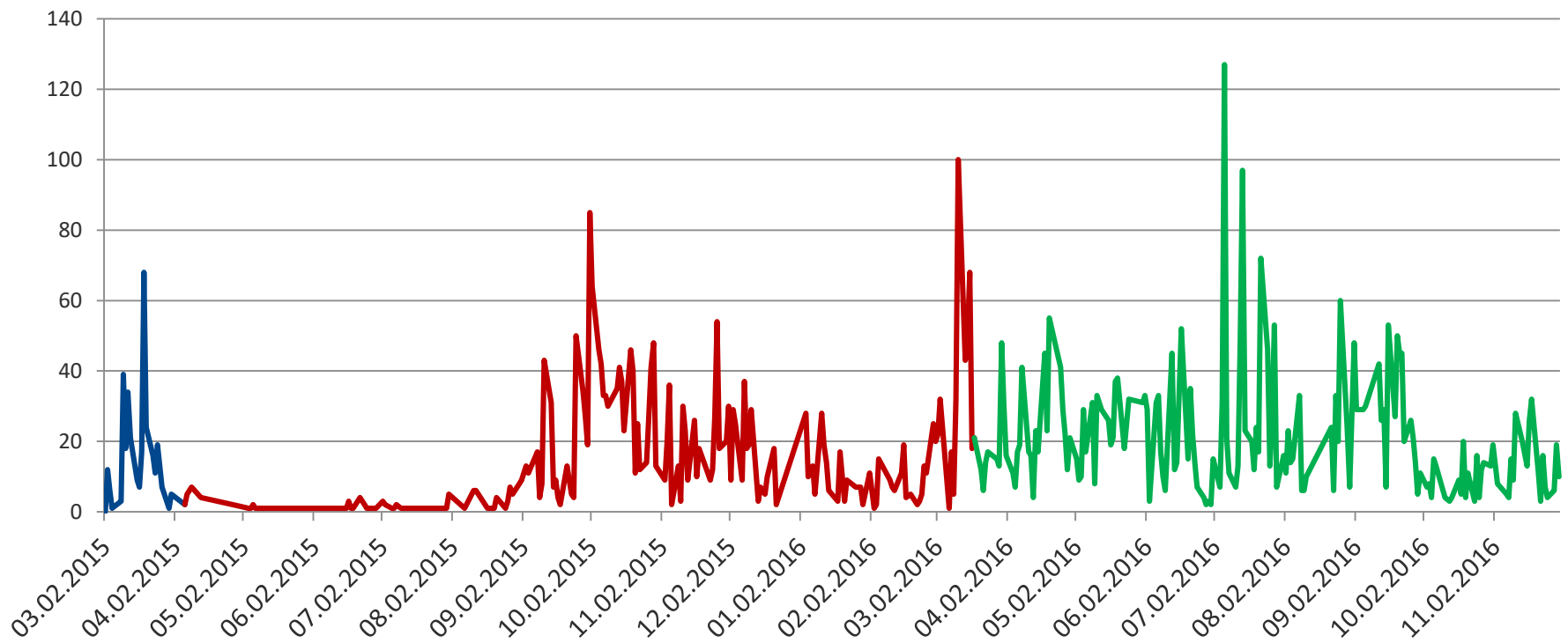
Conduct and evidence of irregularity

1. Trades do not occur by chance , but are part of a deliberate strategy
2. Artificiality is characterized with the cycle, demonstrating that the artificial orders only exist to help execute the trade on the opposite side
3. The intention is demonstrated by the repetition of the cycles

The investor practiced 7,559 cycles of layering:

Between March/2015 and December/2016, using a DMA tool, the investor executed 7,559 cycles obtaining a financial advantage of BRL\$ 748,000.

Distribution of the cycles in the period



Irregularity verified:

No prevention of the manipulator's layering practice.

Conduct and proof of the irregularity

1. Trades do not occur by chance, but are part of a deliberate strategy
2. Artificiality is characterized with the cycle, demonstrating that the artificial orders only existed to assist execution of the trade on the opposite side
3. The intention is demonstrated by repetition of the cycles
 - 7,559 layering cycles in 22 months
 - Benefit of BRL\$ 748,000

SAM Report 45/2015

- Before bringing the disciplinary administrative proceeding, BSM sent the Brokerage firm and Market Relations Director (MRD) the result of BSM's preliminary analyses, pointing out evidence of the irregularities identified during the investigation, for the parties to pronounce upon
- The brokerage firm and the MRD presented a proposal of settlement before bringing the disciplinary administrative proceeding

End of the case at BSM: Settlement

- Brokerage firm: BRL\$ 80,000.00 to BSM
- MRD: BRL\$ 40,000.00 to BSM

Enforcement Measures in 2016 and 2017

BSM			CVM
Administrative Proceeding	Accused	Decision	Status
PAD-024/2016	Brokerage firm and Director	Settlement = BRL\$ 350,000.00: Brokerage firm BRL\$ 200,000.00 Director BRL\$ 150,000.00	in discovery
			in discovery
			in discovery
			in discovery
PAD-032/2016	Brokerage firm and Director	Settlement = BRL\$ 150,000.00: Brokerage firm BRL\$ 100,000.00 Director BRL\$ 50,000.00	under assessment
			under assessment
PAD-038/2016	Brokerage firm and 2 Directors	Settlement = BRL\$ 150,000.00 Brokerage firm BRL\$ 100,000.00 Directors BRL\$ 50,000.00 (BRL\$ 25,000.00 each)	under assessment
PAD-043/2016	Brokerage firm and director	Settlement = BRL\$ 150,000.00 Brokerage firm BRL\$ 100,000.00 Director BRL\$ 50,000.00	under assessment
Settlement	Brokerage firm	Settlement = BRL\$ 120,000.00	in discovery

Defense Arguments

1. Absence of a financial benefit for the brokerage firm

- For purposes of apportioning responsibility, the amount of remuneration received by the brokerage firm or the absence of remuneration is irrelevant
- Insignificant financial benefit or no benefit obtained does not exempt the brokerage firm from the obligation of supervising the transactions and orders it intermediates, in order to identify and prevent abusive practices

2. Recent regulation regarding spoofing and layering

- Abusive practices, including spoofing and layering, are prohibited by the general rule of CVM Instruction 8/1979, in effect for almost 40 years
- The self-regulatory regulation (item 126 of market access regulation) only detailed the prohibition already foreseen in the general rules

3. Insignificant trading volume

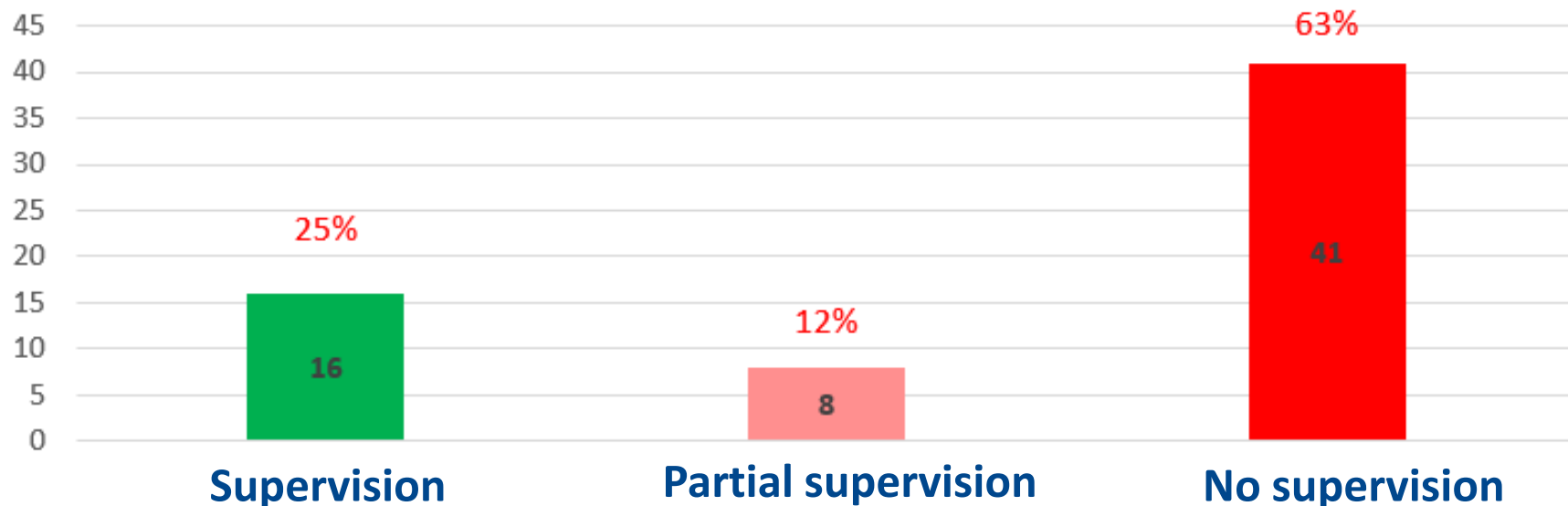
- Spoofing/Layering: practices characterized by the dynamic of the strategies executed by the investor, regardless of the volume of trades involved
- The regulation determines that the brokerage firms must monitor the totality of the trades they intermediate, without establishing cut-off points of any type, whether by the type or volume of trades or the type or size of clients

1. No strict liability on the part of the Directors

- Directors responsible for the compliance with CVM instructions or for the supervision of procedures and internal controls must take on their appointments fully engaged in and knowledgeable about compliance with their attributions
- Directors must certify that the brokerage firm has full and efficient rules and systems for the surveillance of abusive practices
- There is no responsibility for the Directors who demonstrate active surveillance, identification and prevention of abusive practices
- The apportioning of responsibility occurs when the Directors demonstrated equivocal understanding of the regulation or when their conduct demonstrates lack of diligence
- Therefore, there is no strict liability, but rather subjective liability, upon assessment of the Director's individual conduct on a case-by-case basis

Alerts sharing

Brokerage firms that supervised clients' offers in 2016 (Spoofing & Layering):

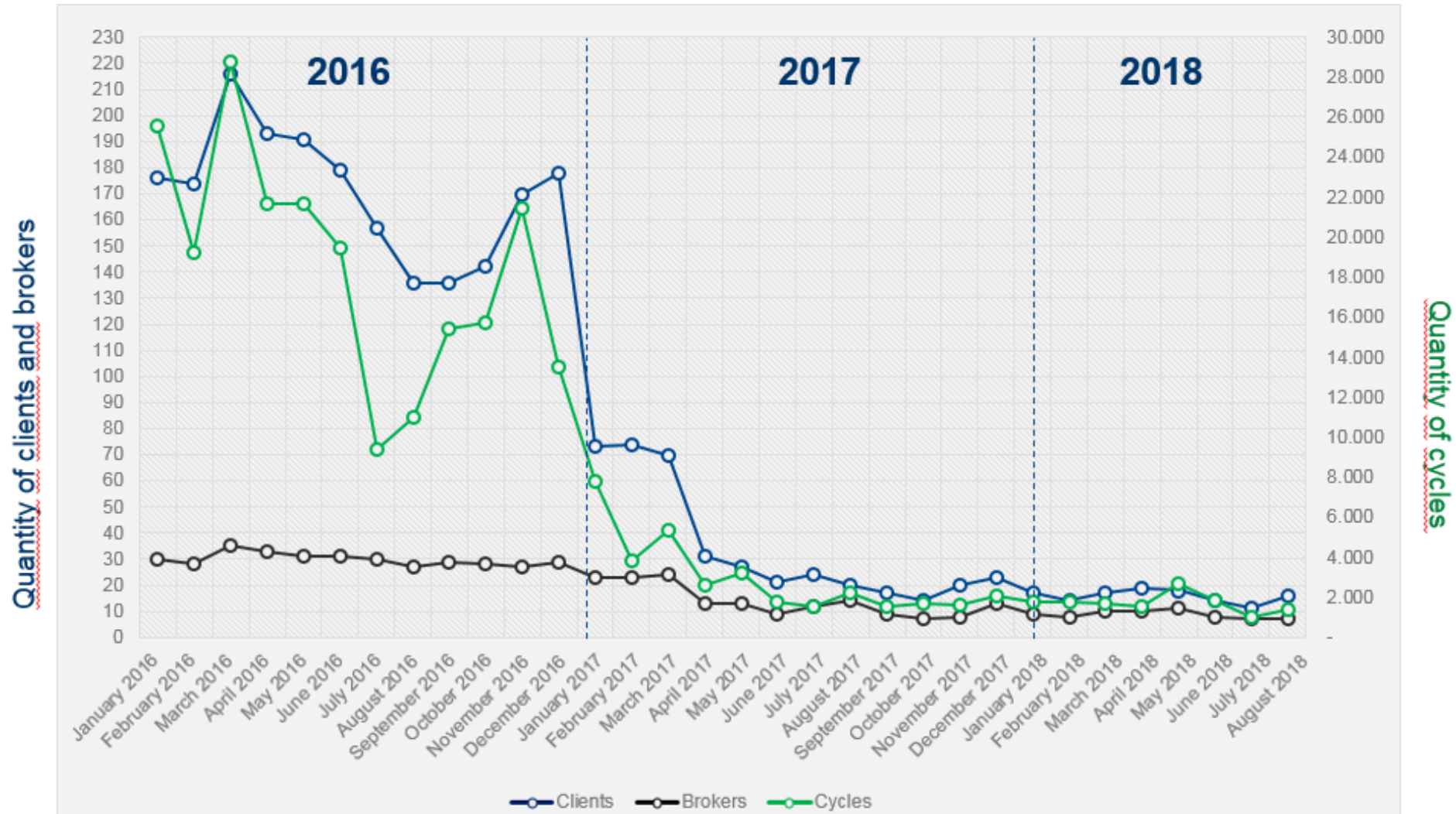


B3 regulation: “Participants must monitor all of the transactions and orders they intermediate with the purpose of identifying, assessing, recording, preventing and reporting, to at least the officer in charge, the situations defined as ‘abusive practices’ in the applicable regulation, examples of which are: the creation of artificial conditions of demand, supply or price; price manipulation; fraudulent transactions; unfair practices; Layering; Squeezing; Quote Stuffing; Spoofing”

75% were not compliant with market regulation → BSM decided to share its alerts on Layering and Spoofing

Results from the 'Alert Sharing' Policy

Practices of Layering and Spoofing detected by BSM





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