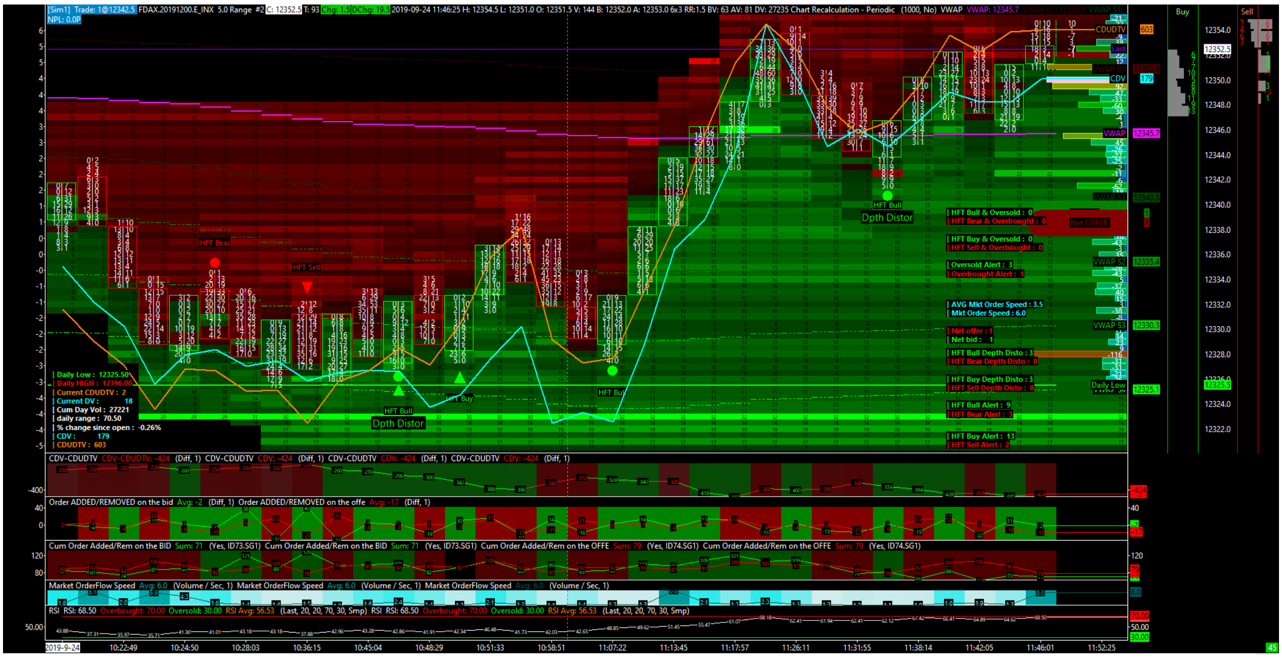
<u>Deeper explanation on the #HFT #Alert system detection and the logic behind</u>

In this paper, I will try to show you a trading setup that seems very interesting to me, and which just happened a few minutes ago on the future DAX contract of the eurex.

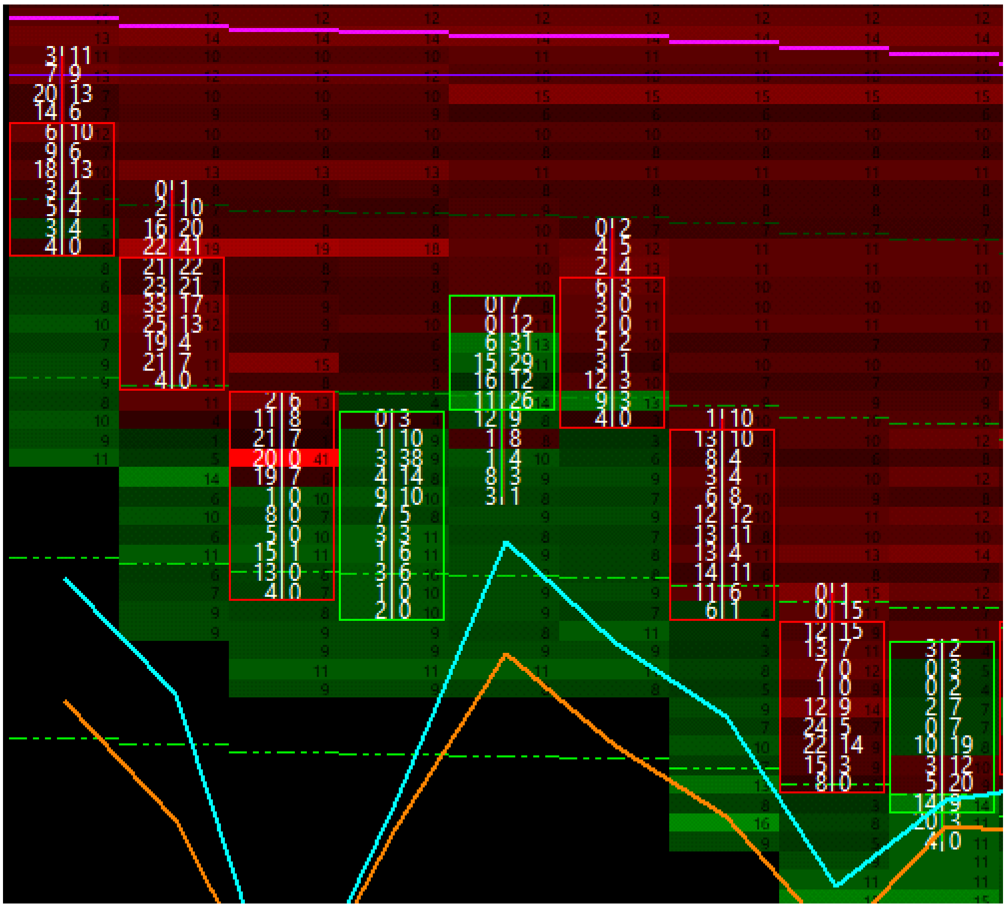
The case we are going to look at today in detail is this one:

#FDAX (from #EUREX / #CTS data feed) 24th september 2019 ; 10 tick range bar



Now let's look at what happened on the FDAX contract on this last low point printed on 12325 around 10:30 AM this morning, step by step.

<u>1) From 10H14 to 10H24 :</u>



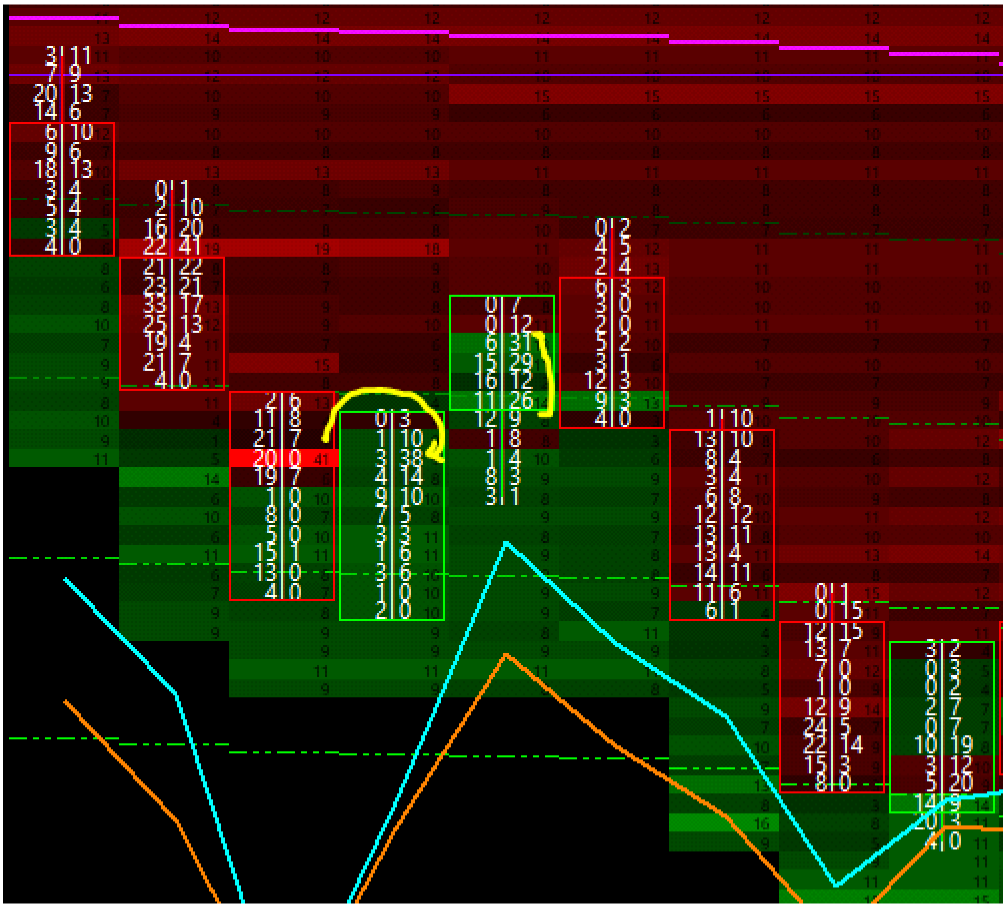
We can see here:

---> a falling price share (indicating a downward trend)

---> the price that is under the VWAP (indicating that the price is under the right value)

---> a CDUDTV line (orange) which is located below the blue line (CDV) (indicating that the execution of market orders by the market maker is done with downward manipulation).

2) From 10H20.17 AM to 10H20.38 AM :



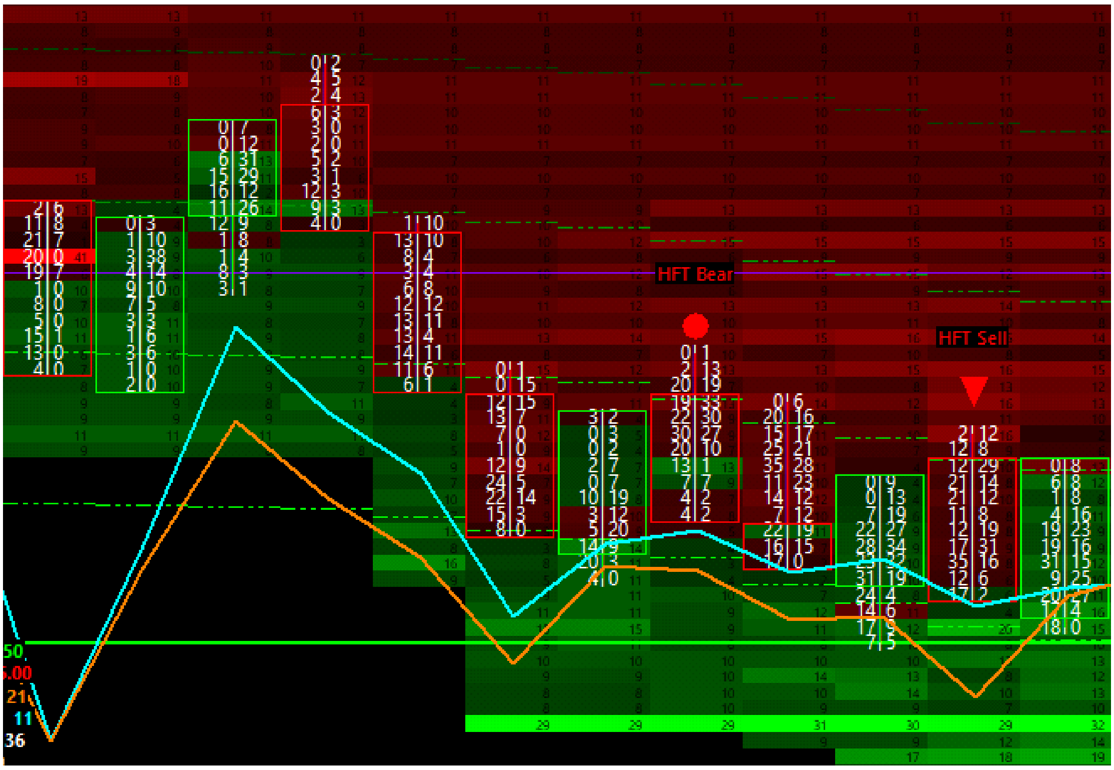
We can see here that:

---> a large limit order of 41 has been added to the offer, and has been executed, almost in full, for 38 buyer-market contracts that have just been purchased at the markets here.

---> an area of high market buyer volume, which accumulates in quantities above average, and this over 4 consecutive price levels (with 26, 29 and 31 contracts purchased here at the top of the bar at the market); this may be an area of potential absorption, particularly to print a lower one afterwards.

---> The price continues to fall after this small pullback (potentially trapped short-term buyers who will be stopped at the next lowest daily price.

3) From 10H20 to 10H39.57 AM :



---> a HFT bear is triggered, and the price then marks a new daily low on 12 3255

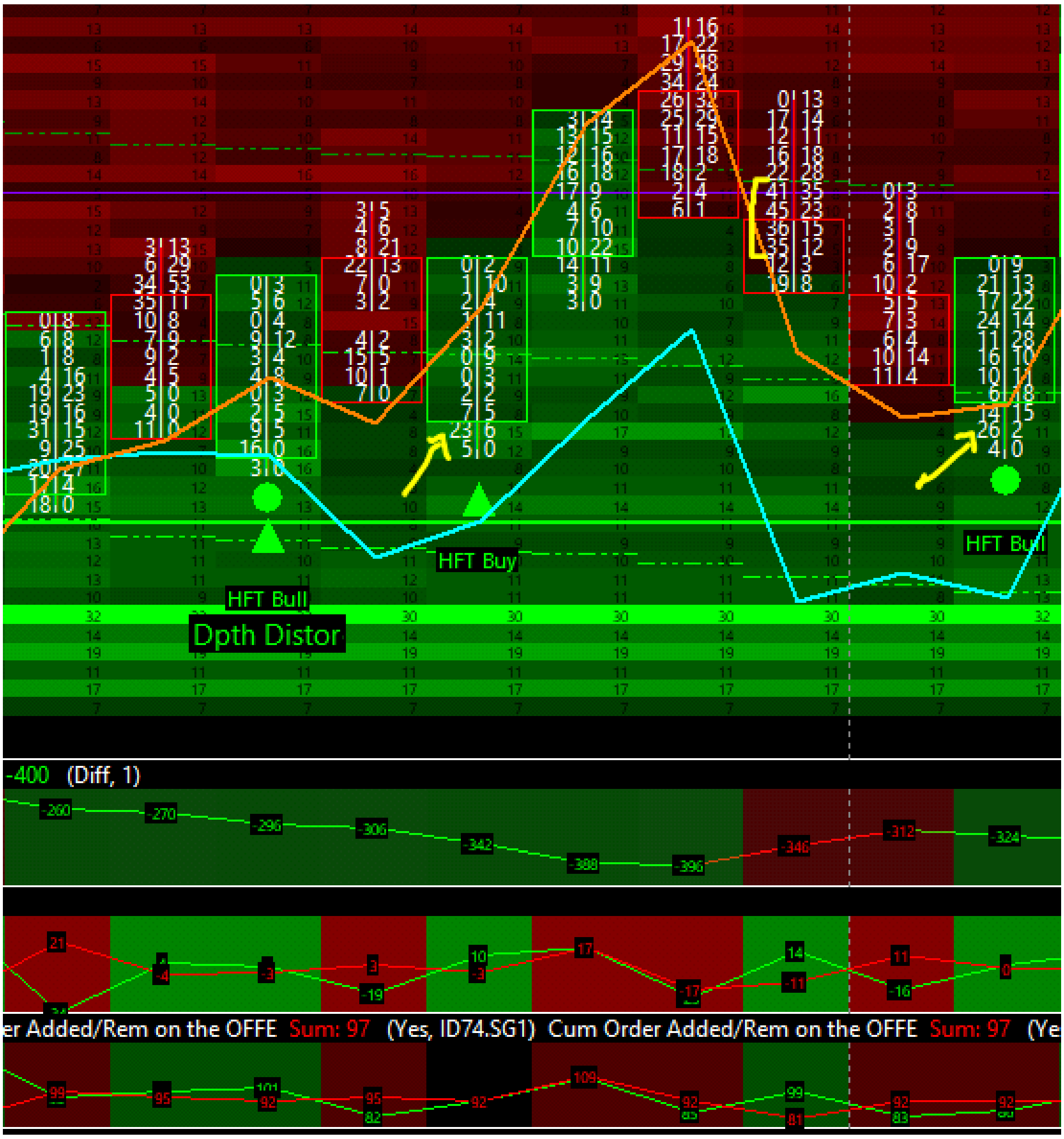
---> a large BID order is 5 tick down for 29/31 limit orders available in the order book.

---> Many icebergs are identified at the BID on the low point bar, with market sales that are executed in quantities, almost every time higher than the quantities initially offered to the BID. That means it absorbs discreetly in icebergs at the BID. That said, we can see that it comes out very quickly, usually a tick above to take the profit to OFFER it. We are here on an attempt to take control by the market maker, who is testing the forces in the presence of the market, and the capacity that the market maker has, to drive the prices of this market.

---> we go back to near the lowest daily price in the following price bar which shows us a HFT Sell! The next price bar comes back pil hair tick one tick above the last lowest daily price, which still seems to be protected by the proposed 32 limit orders big BID.

We can conclude that this lower, probably was not done very naturally, but was artificially forced, in particular via manipulation at execution that we will detail just after.

4) From 10H39.57 to 11H07 AM :



Here we probably have the most interesting and crispy part that will tell us a relatively large amount of relevant information! And this before the price goes up in a straightforward way!

---> First of all, we note that the large BID orders of 32 limit orders are still well in place, it has not moved a price, it has not been tested, and it seems stable in terms of quantity. We're on to something disuasive apparently.

---> we then have a triplet that is triggered at the HFT alert level with, in a single price bar, a set of three alerts that are triggered at the same time:

- HFT Bull triggered indicating that:

a) the delta volume of the bar is negative (i.e. there are more market orders for sale than market orders for purchase in this price bar)

b) the delta uptick volume - downtick volume is positive (i. e. we have here some seller market orders that have caused prices to be upticked)

(c) that the price action still falls on this price bar (with a new lower, lower than the old lower)

- HFT Buy triggered indicating that:

a) market making is becoming more and more important when buying! That is to say, we have a market making momentum that is being set up, with a CDV-CDUDTV that will last over time, and that in the same way! This tells us that the market maker is acting against flow! And that means that this manipulation is lasting in time and space! (a minimum of three consecutive price bars to trigger this alert)

It's very important to understand what it means, when I say that market making is becoming more clear at the time of purchase!

This means that:

b) whatever the flow of market orders that arrives (buyers or sellers market); when the market maker has decided to take the market in hand, he will have everything that happens in the flow of market orders upticked! Whether it's buy market orders, whether it's sell market orders, he'll always execute them above!

c) and he will succeed in doing so by a very simple process: he will simply, in this case, withdraw (cancel) his best offer available in the booklet, and he will replace this price with a new better BID! Thus, the new best OFFER will be a tick above, and the new best BID will also be raised, a tick above! Therefore, even a seller market order that arrives will raise prices! Simply because the structure of the notebook has to change, at a speed that exceeds comprehension. (i.e. AFTER the market order has made the decision to sell, but always BEFORE the same seller market order is actually executed...) It is here that the subtlety of the concept is important to understand.

d) what I mean by this is that when the market maker has decided to take control of the flow of market orders, he will PAY money, to force market sales to be executed above, (so he will buy more expensive than the price he could have bought); but he will do it for a very specific purpose! The goal is to reach a stop zone and break it up! That is to say: pay a little at the beginning to manipulate the price and make it go to a zone, then wait for the market order flow to take over, when it finally sees the trend in prices taking shape, then finally, come back to the charge (from a market making point of view) when the price arrives near the zone to stop, in order to pick it up, test it, and burst it if possible ! This will allow the market maker to resell more expensive, which he had already bought (voluntarily) a little too expensive just below (for manipulation purposes).

- Depth distortion indicating that:

a) we have here a limit order addition process that is carried out at the BID level of the order book

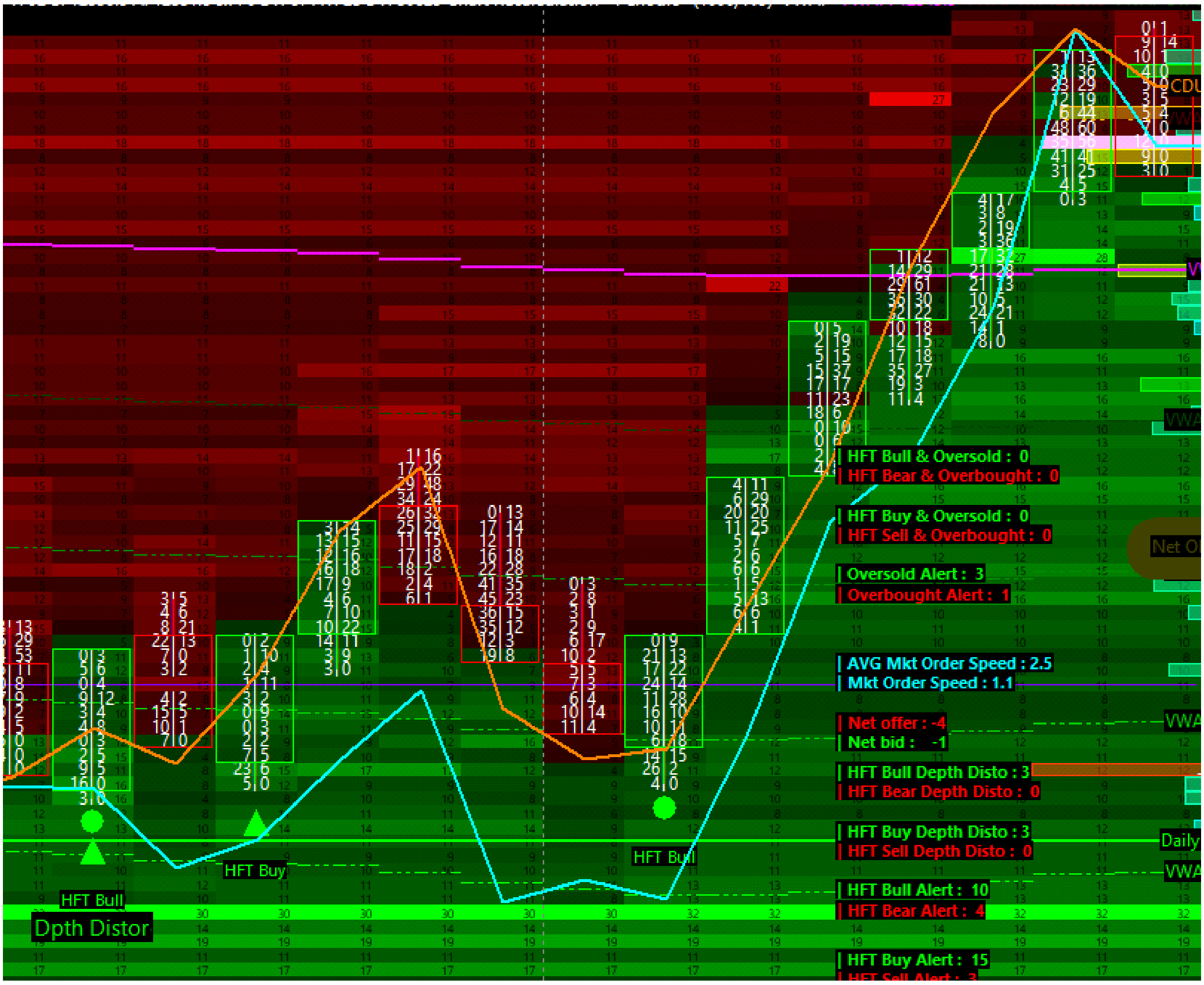
b) and at the same time, (in parallel) a process of limit order cancellations which is carried out at the OFFER of the order book

c) This actually shows us the true state of the structure of the order book structure, and this from a dynamic, not a static, point of view. The goal here is to know if it removes more or if it adds more, and in what sense.

- We can also note the presence of many iceberg orders that are triggered at the BID of the order book with quantities of selling market orders that have been executed, and accumulated at the BID, by iceberg limit orders, discreetly added in the book.

- There is also a significant absorption of market sales, with quantities sold to the market in particular, which far exceed the average size of the number of contracts in the market that it generally takes to move by a price level.

5) The result at the price level was then irrevocable!



Here we have:

---> 6 bullish price bars that are printed consecutively; the famous trend that all retails traders will wait to start buying; while the market maker will already be reselling for profit at that time, what he had bought aggressively lower, where the HFT signals are triggered.

---> So we have a market maker who finally works in the other direction of the open position of the market order flow.

---> we see the price that joins the VWAP quite easily and quickly (the right value)

---> a big order of 28 is added to the best BID near the VWAP, probably to break it up and start triggering the stop loss of the sellers in position.

What I want to show in this paper, and through this example, is that:

---> When the famous price trend starts to be clearly seen by most operators, it probably means that it is too late to follow it!

---> Indeed, if everyone sees it, and if everyone follows it, and if everyone starts buying this trend at the same time; who will sell it?

---> It will be the market maker, who will sell on the one hand to take out an inventory of long positions initially opened for profit (distribution of liquidity to take out the inventory in gain), and on the other hand, who will sell to initiate a new inventory of positions this time for sale, and this because everyone buys at the market...

This is usually the typical and classic case.

It should be noted, however, that it is also quite possible to have, for example:

---> a flow of market orders, for example, with strong buyers

---> and a market maker who is also highly aggressive to buy at this very moment

---> and will let the flow of buyer market orders pass, with an impact of volume on prices that will be very low at that time.

---> Simply because the market maker may not (yet) have any interest in selling at that time.

So it is possible that we may have, for example:

---> a flow of market orders, mainly buyer, with a CDV that is positive for example at +800

and

---> a market maker behaviour that is also aggressive when buying, with a CDUDTV that is (in value) above the CDV; for example at +1200

In that case, what does that mean?

This means that, on the one hand, we have the nature of the market order flow that is buying (by nature), and on the other hand, we have execution that is also bullish (with manipulation at execution of some market seller contracts, which have been executed above the best available BID price).

<u>6) Finally and to summarize the main concepts we will use:</u>

- Facts :

--> 90% of the retails trader will loose
--> 90% of their trading account in less than
--> 90 days of trading without any strong knowledge.
--> 90% of them will use the main concept (trend is your friend)
--> 90% of them will set their stop loss on the same area (because their broker has teached that to them)
--> 90% of them are using the main same indicator and same technical way of work (usually the "technical analysis with trend following strategy or breakout strategy)

- Market technical reality :

--> each buy market orders will find a counter part with a sell limit orders on the OFFER of the DOM
--> each sell market orders will find a counter part with a buy limit orders on the BID of the DOM
--> if there are not limit orders on the DOM, there are no market orders filled.
--> if there are not market orders flow, there are no transaction, so no limit orders filled.

Market structure :

--> market maker are now all working with HFT system ; no human on these activities.
--> market maker are distributing/collecting more than 90% of the total liquidity by them self.
--> market making is one the biggest valuable/profitable activities for a institutionnal bank.
--> market maker are not "market neutral" as written on the theorical book.
--> market maker manipulate the price very often, just because they can do it, and because it makes a lot of money for them to conduct the price where they want to set it.
--> market maker will be feeded by the market orders flow (the market orders and also by the stop market orders ; stop loss orders). Indeed, each time a market maker get a stop loss, it will be a good trading opportunity to buy a low, or to sell a high. It's a all the time stop loss fishing game.
--> market maker does not make money only on the bid/ask spread.
--> market maker has some disproportional advantage on the market rules.