Propex Education Series

TRADING with DEPTH OF MARKET

Guy Bower

How to spot trading patterns using the DOM ladder

Contents

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Propex Derivatives Pty Ltd Level 4, 299 Elizabeth Street. Sydney 2000.

1. Depth Trading Basics

Neo: "Why do my eyes hurt?"
Morpheus: "You've never used them before."

Understanding the display

Depth trading is a new field and it is good to see most software packages these days have some sort of "Depth Of Market" display. Some call it DOM, others DOME and others Market Depth or the "ladder". Whatever it is called, understanding depth is one of the significant factors in trading high frequency.

In many ways it is what differentiates a professional trader from someone that has simply been to a seminar and read a couple of books on technical analysis.

A depth style display allows you to see the bids and offers for a market. It's not just the best bid and the best offer (called the "inside market") that is important, but the size of the bids and offers either side of those prices.

Consider the following two statements:
a) The last traded price for the SPI was 4496.
b) For the SPI there are currently buyers at 4497 and sellers at 4498.

Which of the two statements offer you more information? It's b) of course. Also, option a) tells you where the market was in the past, not where you can transact now. The bid/ask shows where you can transact right now.

Taking this one step further we add depth. Here is a typical depth display:

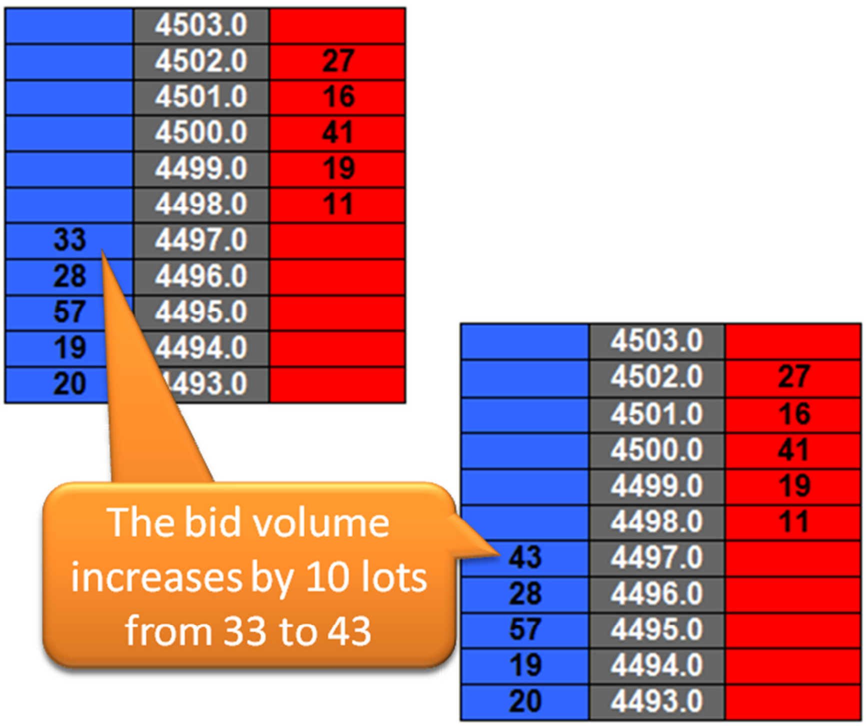
	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	19
	4498.0	11
33	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

The middle column shows the market prices. The left column shows the total volume people are willing to buy at the best 5 prices. The right column shows the total volume people are willing to sell at their corresponding prices.

This is market depth. Here you can see how much people want to buy and how much people want to sell. Do you think understanding this type of display and how it moves could be helpful in active trading? Absolutely!

This eBook is all about understanding how to use market depth. For this section, let's just look at how market depth changes. It's actually pretty simple.

In the current market above, let's say I jump online and place an order to buy 10 contracts at 4497. This is how the display changes.



	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	19
	4498.0	11
33	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	19
	4498.0	11
43	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

Now let's say I also place an order to buy 5 at 4498. Since the best offer is 4498, this order is transacted immediately and the offer size moved from 11 to 6.

	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	19
	4498.0	11
43	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

The offer volume drops by 5 lots from 11 to 6

	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	19
	4498.0	6
43	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

Now let's say, someone else comes in and buys 15 "at market" – meaning at the best possible offer price. 6 lots will be traded at 4498 and the remaining 9 will trade at 4499.

	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	10
	4498.0	
43	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

Note the 4498 offer disappears as those have been transacted and the 19 on offer at 4499 drops to 10.

Now throughout any minute in any active market, these bids and offers change given:

- Some go from being bids and offers to transacted trades.
- Some change their bid or offer price(s).
- Some will change their volume size.
- Some will cancel orders.

When you first see all of this in action, it can be a little confusing. It actually looks like a big mess with numbers flying all over the place, but a little time and focus will change that. You'll pretty quickly start seeing things. That is what a good part of this course is about – learn to see the market from this point of view and trading accordingly.

What Depth Gives You

Depth is used by our traders to measure things such as:

- Strength of individual or combined bids and offers.
- Possible support, resistance or sticking points.
- Overall short term momentum of the market.

We are talking about getting a feel for very short term movement here. Using Depth of Market gives you the basis for trading the short term ebb and flow of the market – and that is essentially the role of a high frequency or active trader.

2. Depth Trading Setups

Perspective

The term 'Setup' refers to entry and exit signals. The mistake many new traders make when seeing the word setup is thinking it is some type of magical signal which if they only follow to the letter, they can make a killing.

The reality - and this is the same with all types of signals or systems - is sometimes they work and sometimes they don't. The way to use a setup is as a starting point.

Understanding these (and others you will come up with) gives you a framework for looking at the markets. We all know about identify levels on a chart. In the olden days, the break of a contract high was seen as a significant occurrence and quite a bullish signal. These days we have false breaks as well. This simply says a break of a contract high is sometimes bullish and sometimes bearish. However we still look at highs and lows on charts as it works as a starting point for analysis. There may be other factor we take into account when deciding to go with the break or fade the break.

It's the same with these DOM setups. Understanding a few basics setups will be a starting point for your development as a depth trader. It will also help you understand how depth works.

It should also be pointed out each market has its own personality. That means each will have its own setups – and some will work better at different times of the day or around data releases and so on. These are the things you need to think about when seeing a set up played out in real time.

Setup: The Free Trade

Now that you understand how to read a ladder, consider the following scenario. You see the market depth looking like this with the market recently trading 97 or below:

	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	19
	4498.0	11
33	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

It happens to be a relatively active day and the bid/ask spread is rarely deviating from one point. You are looking to get long just one contract, but unsure of entry price. Then someone buys 10 at 98, leaving one on the offer. The ladder looks like this:

	4503.0	
	4502.0	27
	4501.0	16
	4500.0	41
	4499.0	19
	4498.0	1
33	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

To get long you could jump in the queue at 97 (behind 33 other lots) or go to market at 98.

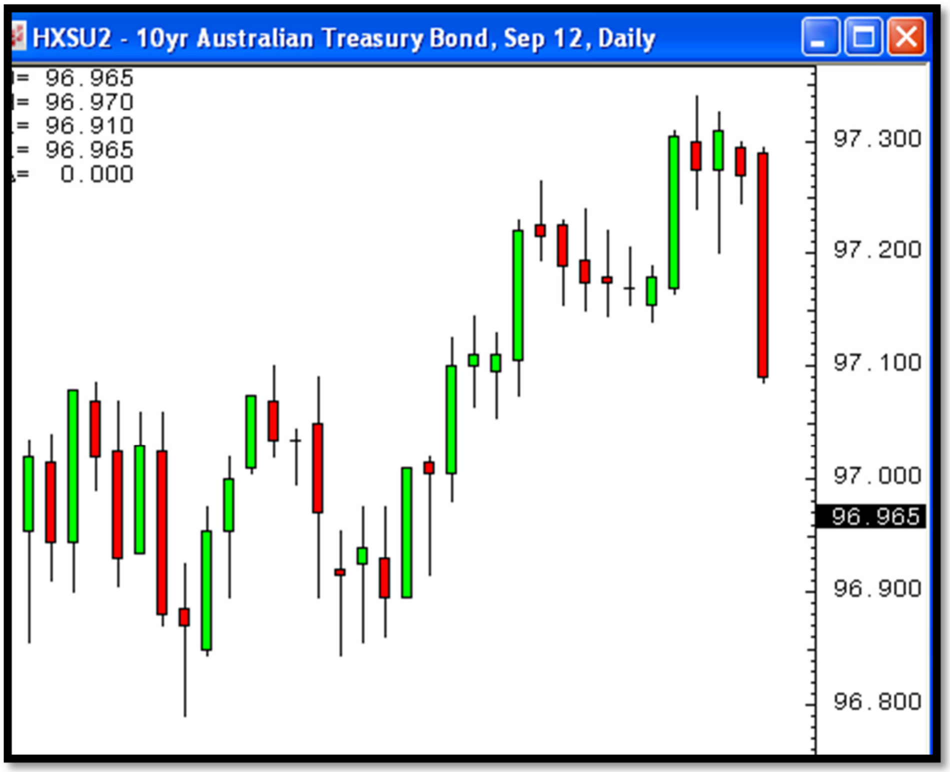
Of course, you'd rather get in at one point lower, but if you pay 98 for one that takes away the last of the offers at 98, it may send a bullish signal to others that are watching the same screen. What you can then see is the market going bid 98 and if nothing else, you could exit the trade at breakeven. That's a free trade.

By itself this should not really be seen as a strong bullish (or bearish) signal. Instead you would tend to use this method of entry based on your existing bullish (or bearish) view.

The key to differentiating a good signal from a bad one is to spend a lot of time just following the ladder and watching how a market behaves.

Setup: Open Your Eyes

OK, here is another scenario. Below is an daily chart showing the Australian 10yr bond futures. The question is, if you are watching this move unfold, would you be going long at this level? Hopefully your answer is no.



Pretty much all trading methods out there are looking for momentum – either increasing or decreasing.

One trading rule that should be tattooed to all trader's brains is:

Do not argue with strong momentum

Another way to put this is:

Do not step in front of a runaway train.

As I keep saying, each market has its own personality. Therefore each market has its own definition of momentum – a 5pt move, a 200pt move, etc. It's up to the trader to work out what defines a runaway market and that comes with observation and practice.

Getting back to the "open your eyes" concept, a trader simply has to be ready for the runaway market when it happens. If you are ready, it's free money. If you are not ready, you'd tend to sit there and say "wow, look at it move" but be too shy to jump on board or worse, too late.

The "open your eyes" concept sounds like a logical type of trade setup. In a way, it's almost too simple to discuss here. However, without being conscious of what to do in these situations, it's amazingly easy to miss the move.

As for going against a strong move, sometimes that can work for sure, but when it doesn't work, it's horrible. Below are a couple of examples in the AUD and EUR futures. Going long into a move like this is stop loss suicide and well into the realm of coin toss gambling.

The three above examples are shown with charts not the ladder. This is because it's hard to show a still picture of this happening on the ladder. On the ladder these moves will typically show:

- A fast market (obviously).
- Bids being pulled as new offers coming in lower and lower.
- A temporary widening of the bid/ask spread.

These three points make it quite difficult to enter the market in the direction of the move, particularly if you are setting limit orders. The fact is, sometimes you'll be able to get set at a price, other time you'll miss it. It's just a part of trading.

Setup: The Up 'n' Down

Suppose you see the following market (below). The market has just been bid up from the low 90s and is trading 97/98. You also see the offers lighten up. That means you seen are seeing fewer contracts on the offer than the bid. It all looks rather strong.

	4503.0	
	4502.0	27
	4501.0	16
	4500.0	12
	4499.0	8
	4498.0	1
33	4497.0	
28	4496.0	
57	4495.0	
19	4494.0	
20	4493.0	

Suppose then someone comes in and sweeps the bids up to 4501 and a few new bids come in beneath it:

	4503.0	21
	4502.0	27
	4501.0	16
55	4500.0	
35	4499.0	
25	4498.0	
33	4497.0	
28	4496.0	
	4495.0	
	4494.0	
	4493.0	

How would you then interpret a large sell order coming in at 4500 and 4499? That is a large order, say for 150 lots, hits the 00s and 99s.

	4503.0	21
	4502.0	27
	4501.0	16
	4500.0	13
	4499.0	60
25	4498.0	
33	4497.0	
28	4496.0	
11	4495.0	
24	4494.0	
	4493.0	

The guy with the 150 lot hits the 90 (55+35) on bid, leaving a balance of 60 offered at 99. At this stage you think the 60 lot is a real order (not there to fool you) and who knows, maybe he has more to sell.

In fact it could have been him buying up the market to 01s in a hope everyone else would think it's a break out and start bidding. That way he could get a better price for his larger sell order.

Would this strategy work? Maybe, but that's not important. What's important is that this scenario offers you a quick and risk friendly trade. The trade to make would be to jump in front of his offer, that is, hit the best bid.

You see as soon as that low volume move up loses steam, a few others will be seeing it as a potential top and pulling their bids. Others will be looking to get short.

Hitting the bid is a good short trade since you'll know pretty quickly, as in seconds, if you are right. If the market starts bidding up again, even just a couple of ticks, you are wrong. Get out. Otherwise, this type of set up could be good for a few points.

It's good to see this pattern around technical levels or round numbers (as above) as this can make it more valid and the subsequent move lower could be worth a few more ticks.

The Down 'n' up?

So does this pattern work with a down-move followed by an up-move? It can, but for some reason, it's just more common seeing the up move followed by the down move, particularly in indices and bonds. Keep an eye out for it though. Remember these setups are not trading 'rules', these are ideas. You may find ones of your own that work.

Setup: Ahead of the Game

Suppose you see a support level forming over the course of a few minutes or over the course of the day. It's a level, say 4483, that has been tested and bid up each time it trades there. It seems to be providing some kind of support.

Now, after the last test, the market bounced into the 90s, then reversed and now you see the market heading back towards this 83 level. For the technical analysts, this pattern may look like an ascending triangle on the charts – although that's not essential.

Traditional technical analysis will tell you to buy just above, anticipating some support, or sell a break below, anticipating a sell off. In fact here is an image I grabbed from a website on technical analysis. Note the text says "Traders will enter into a short position on a break below support".

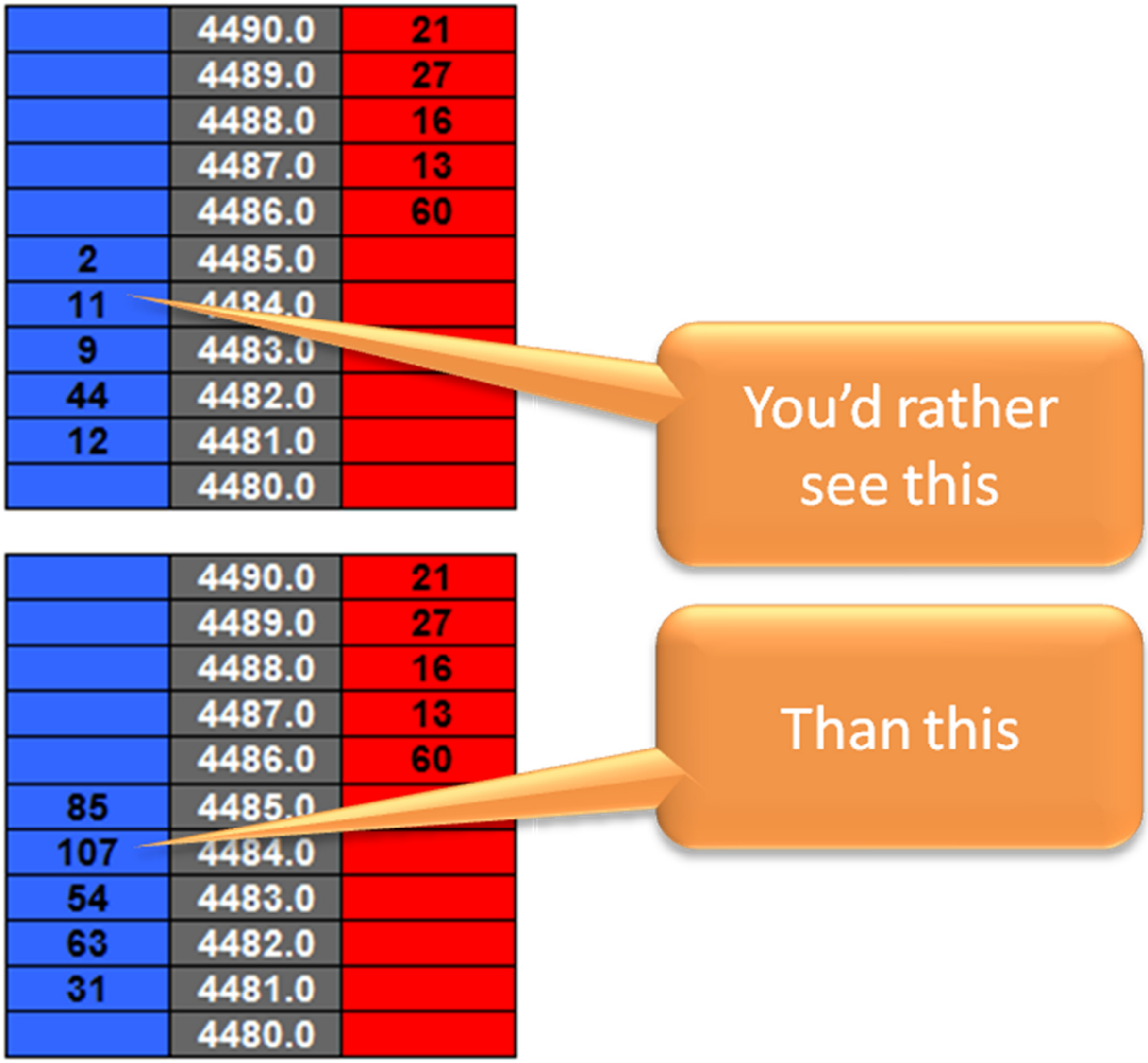
I love this. That's what traders will do is it? Well I hope they do, but just not our guys. As active day traders, we must be a bit faster than this. We must anticipate and be ahead of the game.

The problem with selling on a break is that there may not be enough sellers to push the market lower once the break occurs. There you have your classic false break – something that seems to happen more often than not these days.

Let's back track a touch to before the break. If you are watching this unfold, you know there is a level there that is likely to get tested. Also, after a few previous attempts there is a chance someone will try to push it through the level to see if it goes further.

So what on earth are you doing sitting on your hands without a trade while this is happening? The "ahead of the game" trade is to get short before that test and break and if you are feeling cocky enough, put in your bids below that support line. Essentially what you've created is a trade that will make money on both a solid break and a false break.

The key to this trade is following the depth of market in the lead up to the re-test or break. What you want to see is less size on the bids as the market ticks lower. That's the signal to get short.



A lot of bid size suggests the market may not even retest that level, so you have to go easy or not trade at all when there is size. But if the bids are weak heading towards that level, then you can pretty much bet there will be a test. So get short a few points above.

The alternative, once short, is to hold for an even bigger move – a proper break, not a false one. There you want to see good size on the offers as the market breaks. If you don't see size, cover your shorts.

As for putting your bids below the level before the break, you do this to get a better place in the queue. If the move is a false break, then chances are not every bid below the level will be sold into and if you put your bid in after the break then you will not get filled. You'll miss your profit target by not being ahead of the game.

As for risk, this type of trade allows you to set your stops pretty tight; 2-3 ticks. Be quick to get out as you can always get short again if the market turns lower.

Setup: Playing the Game

OK, suppose you missed the above move. You were too slow on the ladder or you were out feeding the dog. On your screen you see the market has broken that level. As mentioned above, traditional technical analysis says you should be getting short on this break and perhaps taking a measured move and raking in the cash.

In actuality, this type of trade has a bigger risk than getting in before the break. Generally after a break of say the descending triangle shown above, volatility will increase. No matter what your position, you'd more likely run wider stops because of this. There's the bigger risk.

The key to getting short however is what the ladder is telling you, not the chart. The chart will not tell you if more and more offers are coming into the market, but seeing this on the ladder will show you that this break may not be a false one at all. Hopefully you are quick enough to get in before people start hitting the bids and other bids start being pulled.

	4487.0	
	4486.0	
	4485.0	16
	4484.0	45
	4483.0	60
	4482.0	85
	4481.0	56
9	4480.0	
44	4479.0	
22	4478.0	
6	4477.0	

You'd rather see this

	4487.0	
	4486.0	
	4485.0	19
	4484.0	13
	4483.0	11
	4482.0	16
	4481.0	6
9	4480.0	
44	4479.0	
22	4478.0	
6	4477.0	

Than this

The idea of 'playing the game' is like following the herd, but there are times that can be profitable. Spend lots of time in front of the ladder and you'll see the patterns.

Setup: Wake up Jeff!

OK, here is another scenario. Suppose you are watching a very quiet market. In many markets, this can often be around lunch time or a bit after. The market is trading up a little, down a little, up a little and so on.

Let’s say you have a large order to sell, perhaps 100 lots. If you were a broker or a trader, would you:
a) Drip feed the order into the market with small lots on the offer?
b) Place the whole lot on the offer?
c) Slam the best bid, leaving the remainder on offer at that bid price in a move to get filled ASAP?

Answers a and b are credible, but c would be rare. If all you had to do was 100 lots, it would make far more sense to work that order over a few minutes or longer. Hitting the bid with a large lot suggests there might be more behind it and that being the case, there is a shorting opportunity good for a couple of ticks.

What could it be? Who knows? It could be someone pushing the market around for a tick or two or it could be something bigger. It might be that this trade is the one that wakes the market up from its tight range. That being the case you want to be short also. Either at that offer price or a tick in front.

Is this a higher probably trade by itself? Probably not, but chances are you’ll know if you are right pretty quickly and there would be no need to risk any more than a few ticks with a stop.

Setup: Catching the Train

The last thing you ever want to do is argue with momentum. We pretty much covered that idea in the ‘open your eyes’ setup. This one, however, is a spin on that.

Let’s say the market has been pushing higher and higher and seems to get to a level where it momentarily stops. The market looks like this:

	4490.0	21
	4489.0	27
	4488.0	16
	4487.0	13
	4486.0	60
85	4485.0	
60	4484.0	
54	4483.0	
63	4482.0	
31	4481.0	
	4480.0	

You're probably wondering if this is a shorting opportunity. After all, the market has made a decent move higher, markets always snap back at some stage and here the momentum seems to have stopped suggesting a pullback is about to happen.

Here you are ready to get short and you see a few trades at 85 (the bid); then the rest of the 85 bids pull; then 85 goes offered; then 84 bids are pulled also. Hmm, perfect set up for a sell?

Probably not. In fact, that could be a good little fake move where it was just one or maybe two guys pulling their bids at 85 and maybe the same guy/s at 84. What they are doing is letting the market think the run is over and trigger some selling, then those bids will just come straight back in at a few ticks lower and proceed to drive the market back up.

Meanwhile those new shorts (those other guys that thought this was a good sell) realize they got it wrong and start covering, pushing the market back up again.

The trade to make in this instance would have been to get long as the market was pulling back. The key signal here would be the speed of the initial advance. A strong market should rarely be argued with and that quick pullback was not strong enough to be considered a sell signal.

Keep in mind there will also be others trying to sell the absolute top or buy the absolute bottom. They are the ones that get stuck with these dud trades. It's easy to be smarter than that, but you have to be quick.

Setup: The Fake

Picture yourself sitting at a poker table with five others. Each of them has their own way of playing, betting and bluffing. You are doing your best to size up the others (as they are sizing up you). You are watching all sorts of things including how they bet, where they are looking, if they are fidgeting and so on. It's all to get an understanding on what they might have behind them and if they are strong, weak or clumsy.

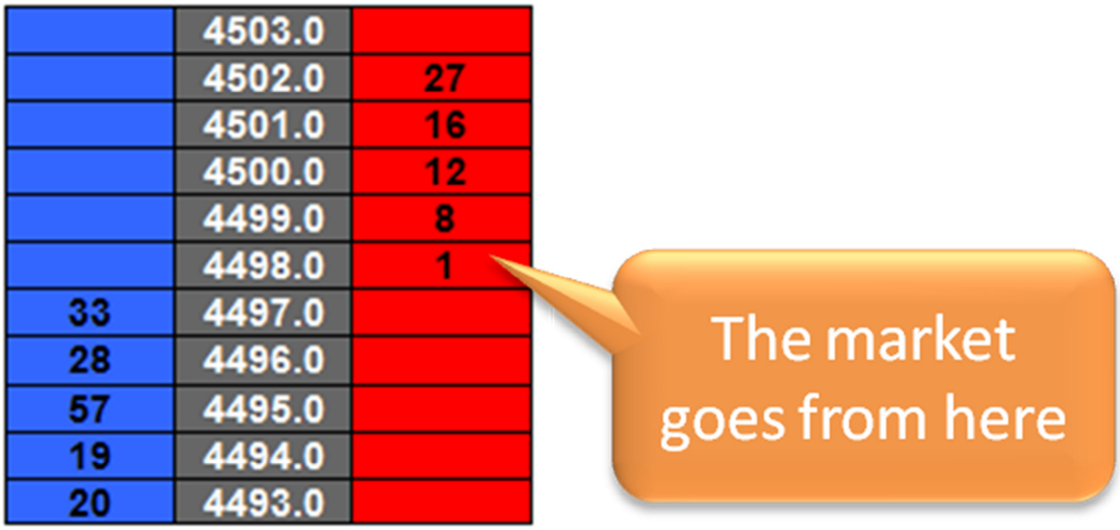
In a way, reading the depth of market is a lot like reading poker players. In trading, you are at a table of more than 5 players and they are anonymous, but with practice you can still spot individual behavior and see possible patterns from the market as a whole. That's essentially what this whole eBook is about – reading the patterns.

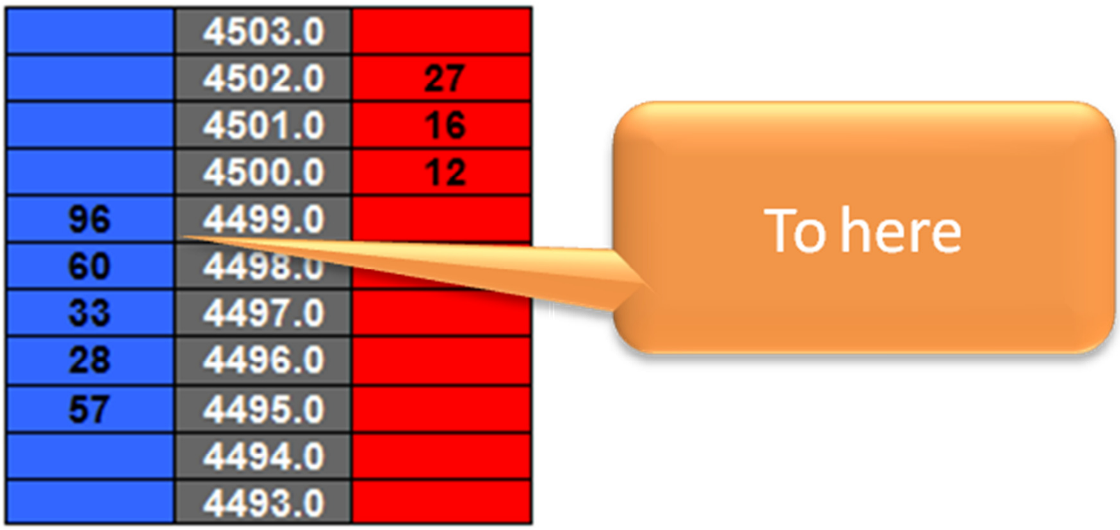
Like bets on a poker table, not all bids and offers on the ladder are there with strong conviction. Some are and some aren't. Now we are not going to get into the legality of placing orders and pulling them – as in some circumstances it's a no-no.

All we can say is that it happens. That is, some traders will bluff the market into thinking something is about to happen.

Take a look at the ladder below. Suppose you see someone hit both offers at 99 and 98 and strong bids come in at 99 and 98. There is a chance most of that came from one trader.

You see this and immediately think this is bullish. Someone is buying the offers and coming in with even more bids.





This may well be a broker with a large buy order. Alternatively, it may be a trader who is buying a little and placing more bids in an effect to bring in more buyers in front of him. He creates an illusion of a bullish market where his real intention is to sell.

Once a few others jump in with bids in front of him, he turns around and sells into them, **then of course, pulls his other bids**. He ends up making a little on his bought position and gets set on an even larger sell order.

This happens. Sure it takes big money to do this, but keep in mind, there is a lot of big money out there. This pattern is a little similar to the up 'n' down described above. The difference here is the bids (the one designed to tell the market there is strong buying interest) will be pulled. The trick is to watch for this.

Can you always tell when this is about to happen? Unfortunately, no. It's just a matter of practice and getting a feel for how your market behaves.

Setup: The Magnet

OK, here is an interesting little pattern. Like all patterns, sometimes it works, other times it doesn't. However it can set you up with a good risk:reward trade worth a few ticks.

The pattern has to do with larger than normal bids or offers. Essentially these can act like magnets as the market is pushed towards the level just to see what happens.

What will often happen with a level like this is the market will not only gravitate towards that level and test it, it will break that level by a couple of ticks. If the offers are thin enough just below this price, traders will push the market there just to see if once that offer disappears, more buying will come into the market, taking the market higher still.

Now the trade to make if you see this one unfolding will be to buy a few ticks below the level, anticipating a small break above. As soon as you get set on the buy side, get your offers in there for an exit.

In the SPI example below, we had 300 lots sitting on offer at 4331. The chart below shows the market hovering around the high 20's. At this point, those watching depth knew of the big order sitting at 4331. On a chart you could not see it, but it was there in the depth display.

The first test of this level came at point A. The high there was 4330. The market was bid 4330 and offered 4331. A few cheeky traders were selling the 4330 bid with the view 4331 would hold. They were right for a few minutes. The market pulled back only a couple of ticks, but that large offer stayed there.

Shortly after the market was pushed higher and tested 4331 once more (point B). The market traded just a few lots there, but buyers just didn't emerge and the market pulled back a couple of ticks. This was as good a signal as any to get in long. That is, the market kept testing the higher level and when it retraced, it was not by much. That offer was about to get eaten…

The next test of 4331 was more aggressive. Larger lots started trading and the size at 4331 was dropping. Before 300 lots had a chance to go through, the remaining offers were pulled and the market shot through 4331 with ease.

The market then traded a few points higher to 4335 and found some balance. At this point the trade was over. Those long ahead of 4331 should have been out by now.

When you see levels like this on the depth display, think of how others are looking at it. A lot of people would be seeing this level as significant. This is the advantage of trading with depth. You can see these levels before they even trade and build a low risk strategy to trade it.

Your Own Setups

There are no hard and fast rules to recognizing setups. Markets behave differently at different times of the day, month, quarter or overall cycle. It is our job as traders to read the market with an open mind and recognize how it is behaving.

As mentioned in a previous lesson, it is in our nature to look for patterns in pretty much everything. I'm sure a lot of academics have written a lot of papers about this.

Sometimes we see things that are not there, but there are other times where patterns are present and valid. It's is only through time and focus that these things start to become clear.

Remember those 3-D pictures that were popular years ago? These were the one you had to stare at for a while then all of a sudden you see the giraffe or plane or whatever.

Trading with the ladder is just like that. The first time you see it, and particularly if the market is busy, it will look chaotic. The more time you spend in front of the screen, the more things will unfold. In an upcoming lesson, we will look at various trading drills that require a simulator with a ladder. There are essentially a couple of weeks of drills there that will be extremely useful in developing your depth of market pattern recognition skills.

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Contact details:

Guy Bower

Head of Training and Development

Guy.Bower@Propex.net.au

Online Training: www.PropexTraining.com

In-house Trading: www.Propex.net.au

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Propex Derivatives Pty Ltd Level 4, 299 Elizabeth Street. Sydney 2000.