



WHAT IS MARKET MAKING?



LEARNING OBJECTIVES

- Build an intuitive approach to trading
- Explain where IMC exists in the financial markets
- Learn trading and market making dynamics
- Know what makes a trade good/bad
- Able to make markets yourself
- Ask questions!



ABOUT ME

1. Name: Anne Olmstead
2. Role: University Events & Relations Specialist
3. Background: University of Illinois, 2017. Joined IMC in 2019!
4. Hobbies: Hanging out with my dog, trying new workout classes, reading and traveling



ABOUT ME

1. Name: Burke Moser
2. Role: Floor Trader, Trainer
3. Background: Class of '17: University of Chicago (BA in Econ)
2017-2018: Outsourced Execution Trader (Fillmore Advisors)
2018 – Present: SPX Floor Trader (IMC)
4. Hobbies: Golf, Yoga, Basketball, Live Concerts, Travel



INTRODUCTION TO FINANCIAL MARKETS

Market Participants

- IMC trades **financial instruments** across the globe against a variety of market participants:
- **Institutional**
 - Market Makers
 - Banks
 - Mutual Funds
 - Pension Funds
 - Hedge Funds
 - Retailers (10-20%)



Morgan Stanley



BRIDGEWATER



Robinhood 



INTRODUCTION TO FINANCIAL MARKETS

- **Market Participants: Retail**

- RobinHood
- Reddit – Wall Street Bets?!
- Bloomberg News reported in October 2018 that Robinhood had received almost half of its revenue from ‘payment for order flow’. The company later confirmed this on its corporate website when asked by CNBC.
- ~10 million customers
- ~over \$20B in accounts
- Why would firms want to pay for order flow?
- Which types of customers would be ideal to trade against?
- Why?



INTRODUCTION TO FINANCIAL MARKETS

Instruments to Trade

- IMC trades **listed contracts**:
 - Equity (e.g. stocks, **ETFs**)
 - Debt (**fixed income**, e.g. bonds)
 - Derivatives
 - Currency Pairs
 - Commodities



There are a lot of non-listed (OTC) contracts / exotic derivatives

INTRODUCTION TO FINANCIAL MARKETS

Why do parties trade options?

- Funds: **protecting** / **enriching** portfolio
- Options can act as an insurance mechanism
- Delta 1 **speculative** trades
- (Statistical) Arbitrage Strategies:
 - Convertible bond strategies
 - Structured Product Trading
- **Volatility Trading**
 - Market Making
 - Volatility Position Taking
 - Statistical Vol Arbitrage (Dispersion, dual listings, Vol Spreads)



All this enables market makers to make money on opposing opinions

INTRODUCTION TO FINANCIAL MARKETS

THE WALL STREET JOURNAL.

◆ WSJ NEWS EXCLUSIVE | MARKETS

Bridgewater Makes \$1.5 Billion Options Bet on Falling Market

World's largest hedge fund takes on a big bearish trade; founder Dalio says firm's overall position on market isn't negative



Bridgewater Associates, a hedge fund founded by Ray Dalio, is betting on a stock-market downturn.

<https://www.wsj.com/articles/bridgewater-bets-big-on-market-drop-11574418601>

HOW THE MARKET WORKS

- Financial markets are continuous two-sided auctions
- You cannot trade if no one is willing to buy at the price you want to sell (or willing to sell at the price you want to buy)
- Higher buy prices have priority over lower buy prices
- Lower sell prices have priority over higher sell prices



ORDERS

- A “bid” is an order to buy
- An “offer” (sometimes “ask”) is an order to sell
- When buy and sell orders meet at the same price there is a trade (sometimes we refer to a trade as a “last done”)

RELIANCE SEP FUT						0.42 %	2317.50
Buyers	Qty	BPrice	SPrice	Qty	Sellers		
2	32320	2317.00	2317.50	505	1		
1	505	2316.80	2317.65	505	1		
1	505	2316.75	2317.90	1010	2		
1	505	2316.65	2317.95	505	1		
1	505	2316.45	2318.00	505	1		
						view 20 depth	
O	2,301	H 2,338.75	VOL 1,02,45,440	TBQ 6,21,150			
L	2,287.05	C 2,307.8	ATP 2,313.69	TSQ 9,61,520			

MARKET DEPTH

- The market “depth” displays the untraded orders in a product
- The higher the order in the depth, the better priority it has
- Buy orders (bids) are displayed on the left side and sell orders (asks/offers) on the right side

ES*0		Toggle Views			
Name	E-Mini S&P 500 Sep 13	Volume	1,002,675	Open	1635.00
Last	1652.00	Bid x Size	1652.00 x 343	High	1654.25
Change	+15.50 (0.95%)	Ask x Size	1652.25 x 555	Low	1631.50
	343	1652.00	1652.25	555	
	1203	1651.75	1652.50	1653	
	1300	1651.50	1652.75	1644	
	1113	1651.25	1653.00	1634	
	1326	1651.00	1653.25	1364	
	1403	1650.75	1653.50	1188	
	1203	1650.50	1653.75	1443	
	1098	1650.25	1654.00	1692	
	1368	1650.00	1654.25	1267	
	1195	1649.75	1654.50	1350	

CONSOLIDATED MARKET DEPTH

ABC CONSOLIDATED DEPTH

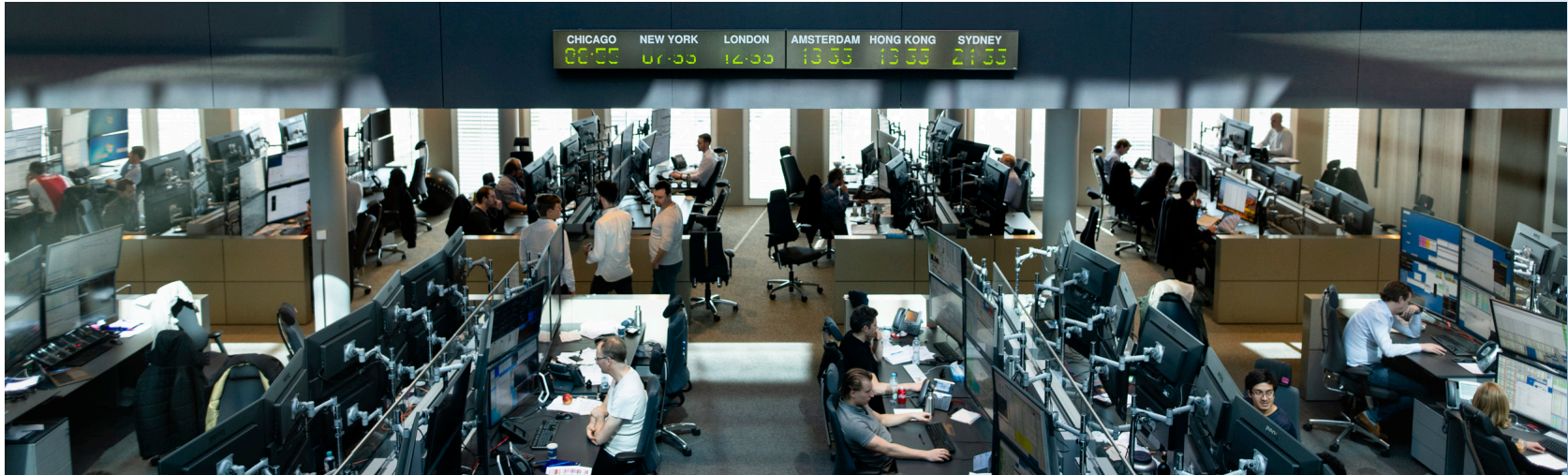
Bid Volume	Bid Price	Ask Price	Ask Volume
2356	23	25	3789
2154	22	27	235
8063	21	28	10000
15000	20	29	4500
1456	17	30	3236

If I want to buy 100 shares of ABC right now, what price can I trade?

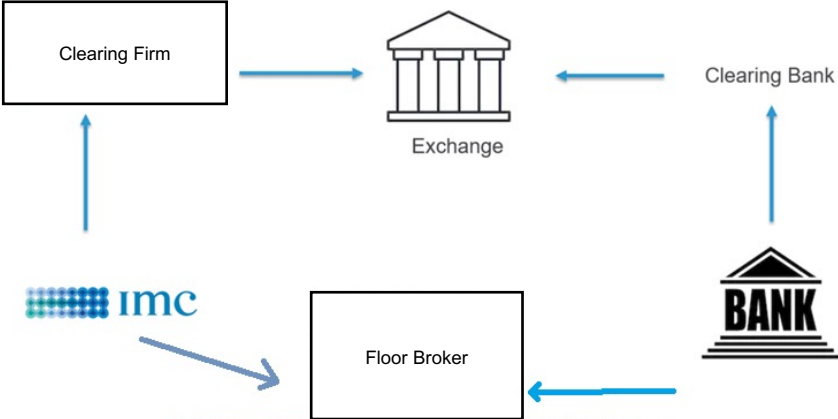
Sell?

EXCHANGES

- Buyers and sellers can place their orders on exchanges or trade directly
- Some products primarily trade on exchanges, others are primarily traded directly
 - Exchange traded: stocks, futures, options
 - Bilaterally traded: bonds, currencies, swaps
- IMC primarily trades on exchanges – our specialty is market making exchange-traded derivatives



LIFECYCLE OF A TRADE: FLOOR TRADING



LIFECYCLE OF A TRADE: FLOOR TRADING

Floor trading

- Better for liquidity on complex, large risk orders
- Floor brokers accountable for execution, take responsibility for errors
- Liquidity during extreme market conditions

LIFECYCLE OF A TRADE: FLOOR TRADING

	OPEN OUTCRY	ELECTRONIC
Cost		
• Real estate		✓
• Personnel		✓
Miscommunication		✓
Transparency	✓	
Impartiality		✓
Complex orders	✓	



CATEGORIES OF TRADERS...

Speculative

- You have an opinion about the value of the product you are buying (you think it's too cheap and you think its price will rise) or selling (you think it's too expensive and its price will fall)
- You probably did research
- You are taking a risk
- Most participants fall into this category



CATEGORIES OF TRADERS...

Market Making

- You are agnostic about the direction of the price of the product you are trading – don't care if it goes up or down
- You are always willing to buy or sell
- You are facilitating the transfer of risk
- You may do other trades to reduce your overall risk
- Requires significant investment in technology



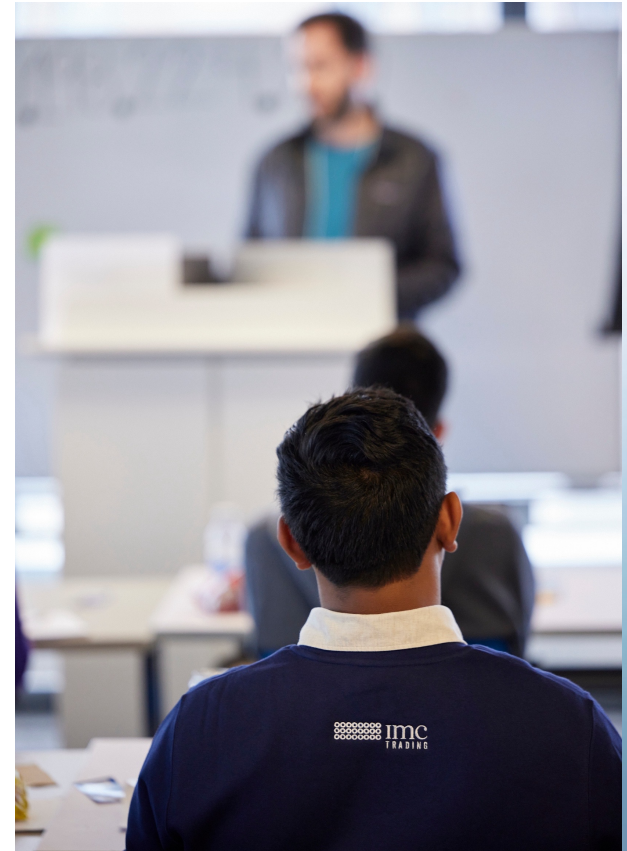
THE IMC TRADING MODEL – MARKET MAKING

- In order to continuously place orders to buy and sell, you need to know what that financial product is worth at all points in time
- We use the defined mathematical relationships between different observable quantities to come up with a “theoretical price” for all the financial products we trade



THE IMC TRADING MODEL – MARKET MAKING

- We place bids and offers around our theoretical price
- The amount of “credit” we get is the difference between our order and our theoretical price
- The credit we require offsets the risk we will take when we do a trade and the possible imperfection of the mathematical models that we used to calculate our theoretical price

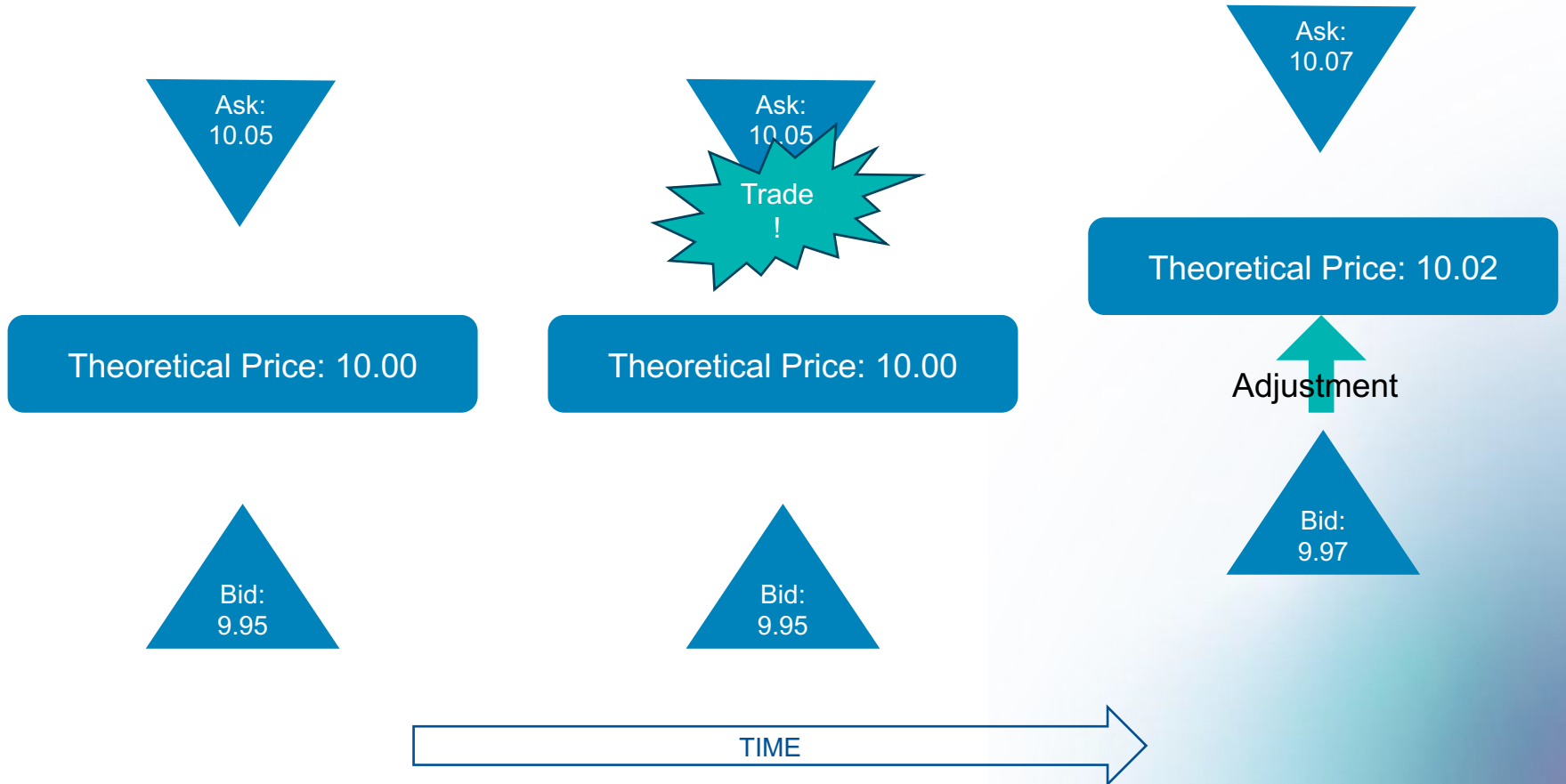


THE IMC TRADING MODEL – MARKET MAKING

- When we do a trade and accumulate a position we adjust our theoretical price *against* our trade
- This makes us less likely to continue to expand our position and more likely to reduce our position



TRADE AND ADJUST



THE IMC TRADING MODEL – MARKET MAKING

- We try to do many trades around our theoretical price
- We capture a small amount of credit on every trade in exchange for the risk we are taking on that trade
- Even if the theoretical price moves up or down, if we do enough buy and sell trades we will a) maintain an acceptable level of risk and b) earn a profit



**THANK YOU FOR
YOUR ATTENTION**

