

**M U N I**  
**E C O N**

# **Financial Institutions and Markets**

# Financial Market

- What: A market in which financial assets (securities) such as stocks and bonds can be purchased or sold.
- Why: Funds are transferred in financial markets when one party purchases financial assets and another obtains funds.

# Financial System as a part of Economic System

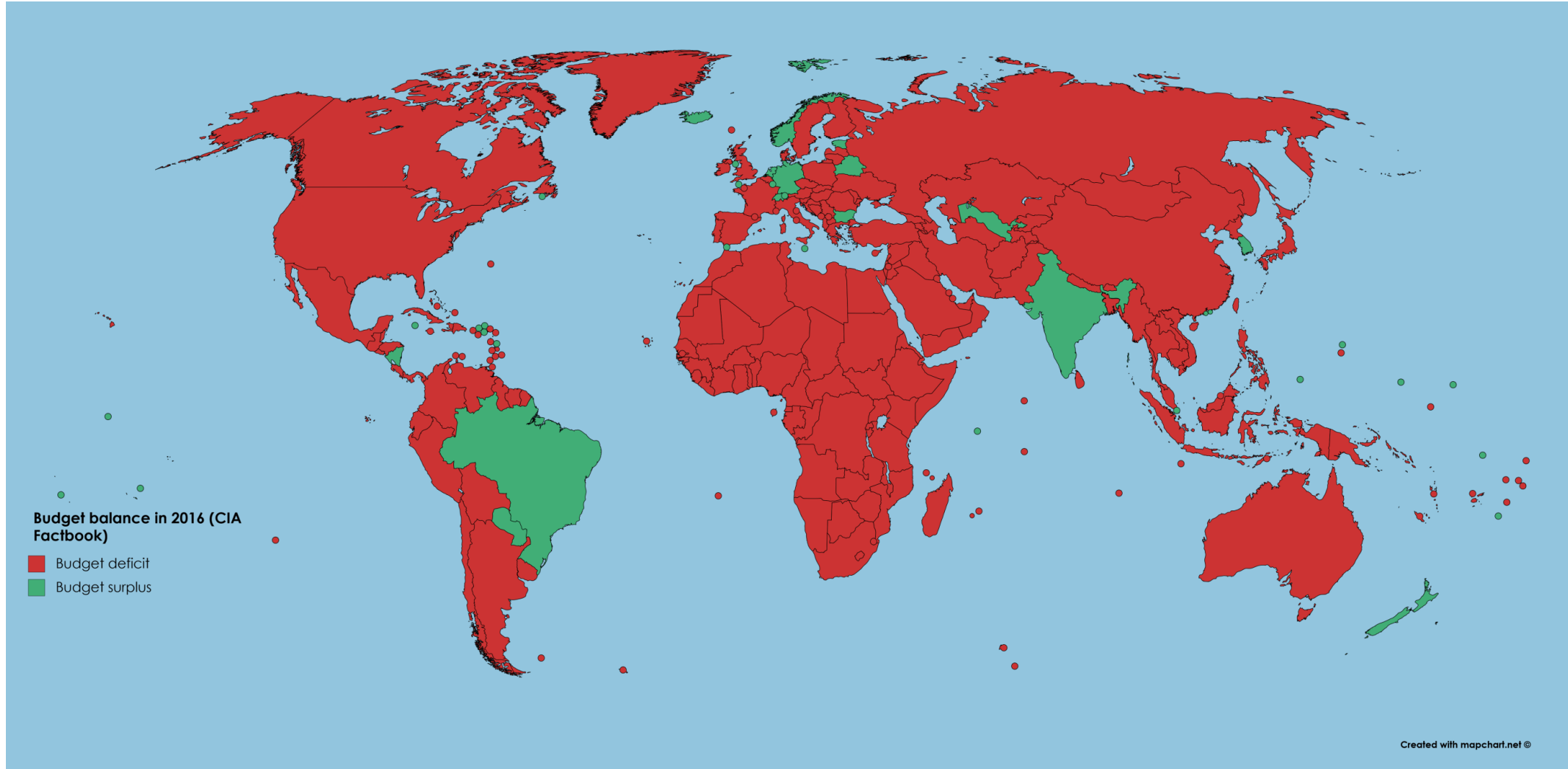
Financial markets transfer funds from those who have excess funds to those who need funds.

- **Surplus units:** participants who receive more money than they spend, such as investors.
- **Deficit units:** participants who spend more money than they receive, such as borrowers.
- **Securities:** documents, that represent a claim on the issuers
  - **Debt securities** - debt (also called credits or borrowed funds) incurred by the issuer.
  - **Equity securities** - (also called stocks) represent equity or ownership in the firm.

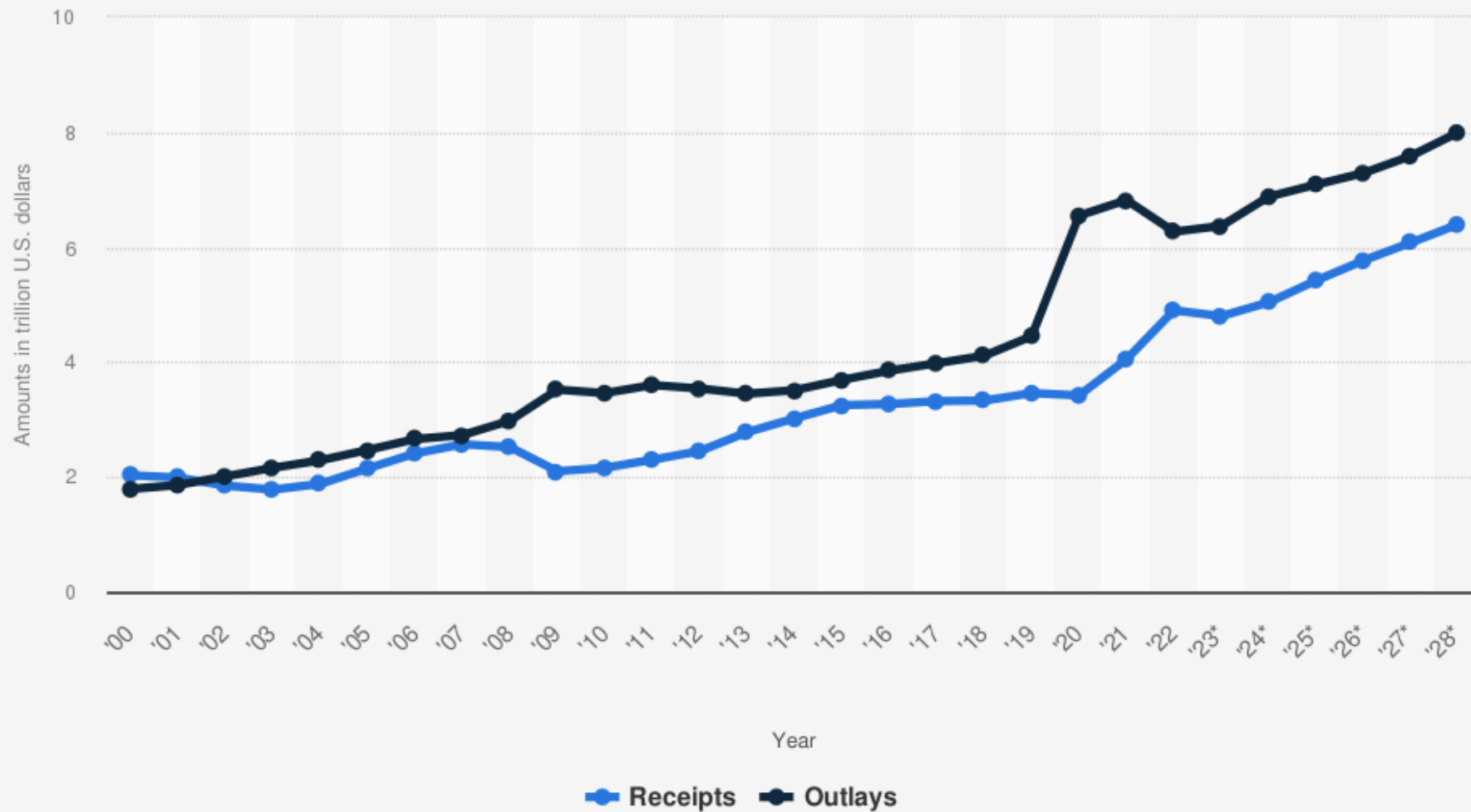
# The Players

- Demanders of capital – **Firms**
- Suppliers of capital – **Households**
- **Governments** – Can be both borrowers or lenders??

# Government: surplus or deficit unit?



## Total receipts and outlays of the U.S. federal budget from fiscal years 2000 to 2028 (in trillion U.S. dollars)



Source  
US Office of Management and Budget  
© Statista 2024

Additional Information:  
United States; US Office of Management and Budget; 2000 to 2022

# The Players, cont.

Financial Intermediaries: Pool and invest/deposit funds

- Banks, Credit Unions
- Investment Companies/ Firms (ETFs, Mutual Funds providers)
- Insurance companies, Pension Funds

# Financial Markets and the Economy

## **The Informational Role**

Capital flows to companies with best prospects, market expectations

## **Consumption Timing**

Use securities to store wealth and transfer consumption to the future

## **Allocation of Risk**

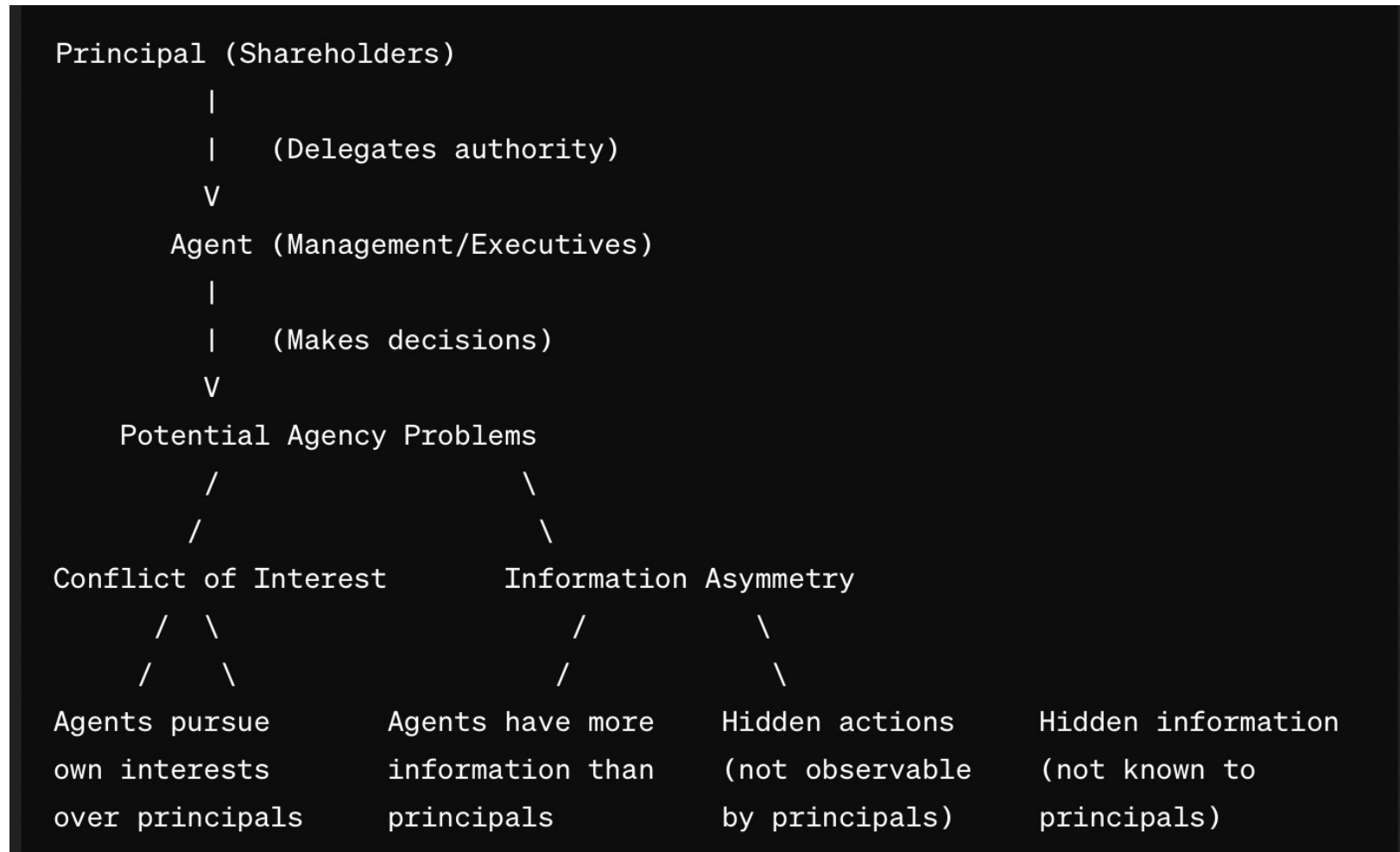
Investors can select securities consistent with their tastes for risk - diversification, insurance products, derivative products

## **Separation of Ownership and Management**

Agency problems arise when managers start pursuing their own interests instead of maximizing firm's value



# Scheme of Agency Problems



# Mechanisms to mitigate agency problems:

**Incentive Schemes:** Aligning the interests of the agents with those of the principals through performance-based compensation, stock options, etc.

**Monitoring and Reporting Requirements:** Implementing rigorous monitoring mechanisms and requiring agents to report their actions and decisions.

**Board of Directors:** Establishing a board that includes independent directors who can oversee management actions and protect shareholders' interests.

**Market Mechanisms:** Relying on market mechanisms such as takeover threats, which can discipline management.

## International Business Machines Corp.

ADD TO WATCHLIST CREATE IBM ALERT

AFTER HOURS  
**\$136.40**  
 0.00 0.00%

After Hours Volume: 59.26K

Last Updated: Feb 15, 2023 7:58 p.m. EST  
Delayed quote

CLOSE	CHG	CHG %
\$136.40	0.39	0.29%

VOLUME: 2.51M	↓ 65 DAY AVG: 4.56M	135.07	DAY RANGE	136.45	115.55	52 WEEK RANGE	153.21
55% VS AVG							

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OVERVIEW PROFILE CHARTS FINANCIALS HISTORICAL QUOTES ANALYST ESTIMATES OPTIONS

### KEY DATA

OPEN	DAY RANGE
\$135.20	135.07 - 136.45

52 WEEK RANGE	MARKET CAP
115.55 - 153.21	\$122.97B

SHARES OUTSTANDING	PUBLIC FLOAT
904.13M	903.14M

BETA	REV. PER EMPLOYEE
0.84	\$196.78K

P/E RATIO	EPS
77.52	\$1.76

YIELD	DIVIDEND
4.84%	\$1.65

EX-DIVIDEND DATE	SHORT INTEREST
Feb 9, 2023	28.62M 01/31/23

% OF FLOAT SHORTED	AVERAGE VOLUME
3.17%	4.56M

### PERFORMANCE

5 Day	1.98%
1 Month	-3.00%
3 Month	-6.63%
YTD	-3.19%
1 Year	9.15%

### RECENT NEWS

MARKETWATCH DOW JONES

**More than 105,000 tech-sector employees have lost their jobs since the start of 2023**  
 Feb. 15, 2023 at 5:44 p.m. ET by James Rogers

**International Business Machines Corp. stock rises Wednesday, outperforms market**  
 Feb. 15, 2023 at 5:00 p.m. ET by MarketWatch Automation

**International Business Machines Corp. stock underperforms Tuesday when compared to competitors**  
 Feb. 14, 2023 at 5:00 p.m. ET by MarketWatch Automation

**International Business Machines Corp. stock underperforms Monday when compared to competitors despite daily gains**  
 Feb. 13, 2023 at 5:00 p.m. ET by MarketWatch Automation

Advertisement  
**The latest trends on responsible investing**  
 MarketViews dianomi

**Twilio joins growing list of tech companies announcing layoffs**  
 Feb. 13, 2023 at 1:47 p.m. ET by James Rogers

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## Ownership Summary

Institutional Ownership	59.87%
Total Shares Outstanding (millions)	904
Total Value of Holdings (millions)	\$73,837

## Active Positions

ACTIVE POSITIONS	HOLDERS	SHARES
Increased Positions	1,201	41,119,573
Decreased Positions	1,013	16,439,799
Held Positions	316	483,768,912
Total Institutional Shares	2,530	541,328,284

## New and Sold Out Positions

ACTIVE POSITIONS	HOLDERS	SHARES
New Positions	250	2,981,467
Sold Out Positions	95	1,597,742

Total New Increased Decreased Activity Sold Out

2,530 Institutional Holders

541,328,284 Total Shares Held

OWNER NAME	DATE	SHARES HELD	CHANGE (SHARES)	CHANGE (%)	VALUE (IN 1,000S) ▼
VANGUARD GROUP INC	12/31/2022	80,144,196	1,065,131	1.347%	\$10,931,668
BLACKROCK INC.	12/31/2022	72,340,106	2,429,128	3.475%	\$9,867,190
STATE STREET CORP	12/31/2022	53,447,207	263,719	0.496%	\$7,290,199
CHARLES SCHWAB INVESTMENT MANAGEMENT INC	12/31/2022	18,701,925	270,201	1.466%	\$2,550,943
MORGAN STANLEY	12/31/2022	16,592,094	3,084,458	22.835%	\$2,263,162
GEODE CAPITAL MANAGEMENT, LLC	12/31/2022	15,974,179	334,758	2.14%	\$2,178,878
JPMORGAN CHASE & CO	12/31/2022	13,854,516	2,835,119	25.728%	\$1,889,756
MONETA GROUP INVESTMENT ADVISORS LLC	12/31/2022	11,029,001	11,017,849	98797.068%	\$1,504,356
NORTHERN TRUST CORP	12/31/2022	10,383,305	-237,277	-2.234%	\$1,416,283
BANK OF AMERICA CORP /DE/	12/31/2022	9,773,081	508,020	5.483%	\$1,333,048
BANK OF NEW YORK MELLON CORP	12/31/2022	8,352,060	221,252	2.721%	\$1,139,221

# Tesla Inc.

ADD TO WATCHLIST

CREATE TSLA ALERT

AFTER HOURS  
**\$215.93**  
 ▲ 1.69 0.79%  
 After Hours Volume: 3.58M  
 Last Updated: Feb 15, 2023 7:59 p.m. EST  
 - Delayed quote



CLOSE CHG CHG %  
**\$214.24** **4.99** **2.38%**

VOLUME: 182.11M ↓ 65 DAY AVG: 156.49M  
 116% VS AVG

206.11 DAY RANGE 214.66 101.81 52 WEEK RANGE 384.29

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OVERVIEW PROFILE CHARTS FINANCIALS HISTORICAL QUOTES ANALYST ESTIMATES OPTIONS

## KEY DATA

OPEN <b>\$211.76</b>	DAY RANGE <b>206.11 - 214.66</b>
52 WEEK RANGE <b>101.81 - 384.29</b>	MARKET CAP <b>\$662.09B</b>
SHARES OUTSTANDING <b>3.16B</b>	PUBLIC FLOAT <b>2.69B</b>
BETA <b>1.49</b>	REV. PER EMPLOYEE <b>\$637.14K</b>
P/E RATIO <b>59.07</b>	EPS <b>\$3.63</b>
YIELD <b>N/A</b>	DIVIDEND <b>N/A</b>
EX-DIVIDEND DATE <b>N/A</b>	SHORT INTEREST <b>90.31M</b> 01/31/23
% OF FLOAT SHORTED <b>3.36%</b>	AVERAGE VOLUME <b>156.49M</b>

## PERFORMANCE

5 Day	3.34%
1 Month	68.47%
3 Month	16.96%
YTD	73.92%
1 Year	-26.66%

## RECENT NEWS

MARKETWATCH DOW JONES

- Tesla Inc. stock rises Wednesday, outperforms market**  
Feb. 15, 2023 at 4:32 p.m. ET by MarketWatch Automation
- Biden team says Tesla will open network to competitors, part of pledge for 500K EV chargers made 'as easy as filling with gas'**  
Feb. 15, 2023 at 1:10 p.m. ET by Rachel Koning Beals
- Elon Musk discloses Tesla stock gift to charity worth about \$2 billion. Last year, his donations all went to his own foundation.**  
Feb. 15, 2023 at 11:50 a.m. ET by Steve Goldstein
- AUTOS Ford Can't Catch Tesla on Costs. That's Why the CEO Reimagined the Company.**  
Feb. 15, 2023 at 11:36 a.m. ET by Barron's
- Advertisement  
**The latest trends on responsible investing**  
MarketViews **dianomi**
- AUTOS Buy Calls on Tesla Stock Keep Piling Up. The Cybertruck Is Key.**  
Feb. 15, 2023 at 11:08 a.m. ET by Barron's

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TSLA > TSLA INSTITUTIONAL HOLDINGS

# TSLA Institutional Holdings

## Ownership Summary

Institutional Ownership	50.01%
Total Shares Outstanding (millions)	3,164
Total Value of Holdings (millions)	\$339,030

## Active Positions

ACTIVE POSITIONS	HOLDERS	SHARES
Increased Positions	1,343	324,087,312
Decreased Positions	1,409	130,840,726
Held Positions	231	1,127,549,482
Total Institutional Shares	2,983	1,582,477,520

## New and Sold Out Positions

ACTIVE POSITIONS	HOLDERS	SHARES
New Positions	264	18,731,658
Sold Out Positions	475	6,798,118

Total New Increased Decreased Activity Sold Out

2,983 Institutional Holders  
 1,582,477,520 Total Shares Held

OWNER NAME	DATE	SHARES HELD	CHANGE (SHARES)	CHANGE (%)	VALUE (IN 1,000S) ▼
VANGUARD GROUP INC	12/31/2022	217,857,401	4,832,884	2.269%	\$46,673,770
NATIXIS	12/31/2022	189,784,078	171,004,466	910.586%	\$40,659,341
BLACKROCK INC.	12/31/2022	177,731,918	5,870,959	3.416%	\$38,077,286
STATE STREET CORP	12/31/2022	98,998,366	-648,873	-0.651%	\$21,209,410
GEODE CAPITAL MANAGEMENT, LLC	12/31/2022	49,109,751	1,614,023	3.398%	\$10,521,273
CAPITAL WORLD INVESTORS	12/31/2022	48,431,324	-41,730,452	-46.284%	\$10,375,927
FMR LLC	12/31/2022	32,082,159	-6,346,743	-16.516%	\$6,873,282
NORGES BANK	12/31/2022	28,085,245	5,605,246	24.934%	\$6,016,983

# Real Assets vs. Financial Assets

## Real Assets

Examples: Land, buildings, machines, knowledge used to produce goods and services

## Financial Assets

Examples: Stocks, bonds

**Orange juice, Gold??**

# Financial Assets

- **Cash and Cash equivalents**

- **Debt instruments**

  - *Promise either a fixed stream of income or a stream of income determined by a specified formula*

- **Common stock or equity**

  - *Represent an ownership share in the corporation*

- **Derivative securities**

  - *Provide payoffs that are determined by the prices of other assets*

**Traditional  
Assets**

- **Alternative Assets** *(REITs, ETFs, Index Certificates, Asset Backed Securities: CDO, MBS, etc.)*

BITCOIN MONEY

**Morgan Stanley says Bitcoin is a new type of**

**asset**

<https://thenextweb.com/hardfork/2018/11/01/morgan-stanley-bitcoin-asset/>

# Types of markets

Transfer of funds

**Primary market vs. Secondary market**

Maturity of instruments

**Money market vs. Capital market**

Types of assets

**Securities market, Currency market, Derivatives market, Commodities market**

Organization

**Organized versus Over-the-Counter Markets**

# Primary versus Secondary Markets

- **Bank-based or Market based systems**
- **Primary markets** - facilitate the issuance of new securities
- **Secondary markets** - facilitate the trading of existing securities, which allows for a change in the ownership of the securities
  - **Liquidity** is the degree to which securities can easily be liquidated (sold) without a loss of value.
  - **Pricing**, if a security is illiquid, investors may not be able to find a willing buyer for it in the secondary market and may have to sell the security at a large discount just to attract a buyer.



# WCAP

		World Market Cap			
	Current		1 Month	YTD	Pct Of
1) World	(Mil USD)		% Change	% Change	World
5) World	70484313	02/20	+3.73%	+5.45%	100.00%
2) Americas					
6) United States	26472831	02/20	+3.91%	+5.03%	37.56%
7) Canada	2119520	02/20	+4.88%	+6.94%	3.01%
8) Brazil	838832	02/20	+9.63%	+18.04%	1.19%
9) Mexico	325577	02/20	+10.70%	+5.23%	.46%
10) Chile	227042	02/20	+4.83%	+9.30%	.32%
3) Europe/Africa/ME					
11) United Kingdom	3234446	02/20	+2.96%	+4.46%	4.59%
12) France	1976742	02/20	-.17%	+1.44%	2.80%
13) Germany	1940395	02/20	+1.23%	+3.81%	2.75%
14) Switzerland	1536484	02/20	+2.73%	+4.91%	2.18%
15) Spain	659183	02/20	+.68%	+1.86%	.94%
4) Asia/Pacific					
16) Japan	5341649	02/20	+2.62%	+5.06%	7.58%
17) China	6709203	02/20	+4.61%	+3.43%	9.52%
18) Hong Kong	4332264	02/20	+3.82%	+7.91%	6.15%
19) India	1738605	02/20	+6.14%	+11.15%	2.47%
20) Australia	1280252	02/20	+4.15%	+9.63%	1.82%

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

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 SN 163608 CET GMT+1:00 G384-1998-1 21-Feb-2017 11:47:14

1) Fed Funds   FOMC »		Fed O/N Repo		US T-Bill				EURO\$DEP		Rev Repo (Bid/Ask)				
FDFD	1.5800 1.6100	SOFR	1.57	4W	1.56 -0.02	1.58	1.54	ON	1.5700 1.6100	O/N	1.63 1.59			
OBFR01	1.58	TGCR	1.55	2M	1.58 +0.00	1.57	1.55	1W	1.5800 1.6200	1W	1.65 1.62			
Comm Paper		BGCR	1.55	3M	1.56 -0.01	1.55	1.53	2W	1.5800 1.6700	2W	1.65 1.62			
30D	1.590			6M	1.53 -0.01	1.52	1.50	1M	1.5700 1.6600	1M	1.65 1.62			
90D	1.630			1Y	1.45 -0.02	1.44	1.41							
Dow Jones		S&P 500 E-Mini Future		NASDAQ Composite Index				CRB Commodity Index						
DJIA	29398.08 -25.23	SPX Fut	3367.50 -13.50	CCMP 9731.18 +19.21				CRB 172.95 +0.68						
2) US Bonds   FIT »				SOFR Future		90D EUR\$ FUT		Funds Future		3) LIBOR Fix				
T 1 <sup>3</sup> / <sub>8</sub>	01/31/22	1.395	99-30 <sup>5</sup> / <sub>8</sub>	99-30 <sup>3</sup> / <sub>4</sub>	+ 02		SFR1	98.435	MAR	98.3425	FEB	98.418	O/N	1.57613
T 1 <sup>3</sup> / <sub>8</sub>	02/15/23	1.359	100-01 <sup>1</sup> / <sub>4</sub>	100-01+	+ 03+		SFR2	98.485	JUN	98.4600	MAR	98.430	1W	1.58325
T 1 <sup>3</sup> / <sub>8</sub>	01/31/25	1.377	99-31+	99-31 <sup>3</sup> / <sub>4</sub>	+ 06		SFR3	98.595	SEP	98.5550	APR	98.435	1M	1.65825
T 1 <sup>1</sup> / <sub>2</sub>	01/31/27	1.464	100-06+	100-07+	+ 09		SFR4	98.710	DEC	98.6050	MAY	98.490	2M	1.66250
T 1 <sup>1</sup> / <sub>2</sub>	02/15/30	1.544	99-18+	99-19	+ 12		SFR5	98.825	MAR	98.7050	JUN	98.535	3M	1.69175
T 2	02/15/50	1.990	100-06	100-07	+1-03		SFR6	98.870	JUN	98.7300	JUL	98.560	6M	1.71000
													1Y	1.79838
4) Spot FX   FXC »		Key Rates		Swaps		10Y Note Future		5) 30Y MBS   BBTM »						
JPY	109.7100	Prime	4.75	3Y	1.3800		CBT	131-10+	+ 11		GNMA II 4 103-29 103-30 + 08			
EUR	1.0834	BLR	3.50	5Y	1.3722		Commodities				GOLD 4 104-29 104-30 + 00			
GBP	1.3039	FDTR	1.75	10Y	1.4922		NYM WTI				51.29 -0.76			
CHF	0.9808	Discount	2.25	30Y	1.6662		GOLD				1587.51 +6.38			
CAD	1.3256										FNMA 4 104-19 104-20 + 00			

Economic Releases | ECO »

	Date	Time	C	A	M	R	Event	Period	Surv(M)	Actual	Prior	Revised
31)	02/18	16:30	US				Empire Manufacturing	Feb	5.0	--	4.8	--
32)	02/18	18:00	US				NAHB Housing Market Index	Feb	75	--	75	--
33)	02/19	00:00	US				Net Long-term TIC Flows	Dec	--	--	\$22.9b	--

## 93 <G0> to Save Germany as Default View

Germany		Browse		14:22:42		Treasury & Money Markets								
<b>1) Money Rates</b>		<b>Interbank</b>		<b>EURIBOR Fix</b>		<b>EUR LIBOR</b>		<b>Euro Swaps</b>			<b>OBL/BUNDS</b>			
O/N DEPO	-0.500	O/N	-0.48000	1M	-0.4800	1M	-0.52100	1Y	-0.3859	-0.3784	1Y	-0.60	+0.00	
O/N LEND	0.250	T/N	-0.47000	3M	-0.4130	2M	-0.45457	2Y	-0.3899	-0.3869	2Y	-0.65	+0.00	
1 Week	0.000	1M	-0.44500	6M	-0.3530	3M	-0.43557	3Y	-0.3751	-0.3711	3Y	-0.67	+0.00	
3M Repo	0.000	3M	-0.42250	1Y	-0.2940	6M	-0.39614	4Y	-0.3469	-0.3431	4Y	-0.66	-0.01	
<b>2) Govt Bonds</b>		6M	-0.37250			1Y	-0.31657	5Y	-0.3150	-0.3090	5Y	-0.63	-0.01	
2Y	-0.651	9M	-0.34750	<b>Effective O/N</b>				6Y	-0.2750	-0.2690	6Y	-0.61	-0.01	
5Y	-0.626	1Y	-0.31250	<b>Euro FRAs</b>				7Y	-0.2305	-0.2245	7Y	-0.58	-0.01	
10Y	-0.420			EONIA	-0.4530	+0.0020			8Y	-0.1795	-0.1761	8Y	-0.54	-0.02
30Y	0.093	1x4	-0.4150	EURONIA	-0.5637	-0.0118			9Y	-0.1275	-0.1236	9Y	-0.49	-0.02
<b>Spot FOREX</b>		3x6	-0.4300	€STR	-0.5410	+0.0000			10Y	-0.0720	-0.0720	10Y	-0.42	-0.02
€/GBP	0.8309	6x9	-0.4550	<b>Futures</b>				20Y	0.2925	0.2955	20Y	-0.14	-0.02	
€/USD	1.0834	9x12	-0.4630	BUND EUX	174.72	+0.27			30Y	0.3233	0.3277	30Y	0.09	-0.02
€/JPY	118.8575	1x7	-0.3620	BUXL EUX	209.54	+0.92			<b>Stock Indices</b>					
<b>BuBills</b>		3x9	-0.3780	BOBL EUX	134.78	+0.03			DAX		13689.25	-94.64		
1st	-0.566	-0.019	6x12	SCHATZ EUX	112.04	+0.00			HDAX		7643.78	-47.63		
2nd	-0.586	+0.000	12x18	EURIBOR	100.42	+0.00			DAX FUT		13686.00	-94.50		
			18x24	3M EUX	100.44	+0.00								

### Economic Releases | ECO »

	Date	Time	C	A	M	R	Event	Period	Surv(M)	Actual	Prior	Revised
31)	02/18	13:00	GE	🔔	🔔	📊	ZEW Survey Expectations	Feb	21.5	8.7	26.7	--
32)	02/18	13:00	GE	🔔	🔔	📊	ZEW Survey Current Situation	Feb	-10.0	-15.7	-9.5	--
33)	02/20	10:00	GE	🔔	🔔	📊	GfK Consumer Confidence	Mar	9.8	--	9.9	--
34)	02/20	10:00	GE	🔔	🔔	📊	PPI MoM	Jan	0.1%	--	0.1%	--
35)	02/20	10:00	GE	🔔	🔔	📊	PPI YoY	Jan	-0.4%	--	-0.2%	--

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 Japan 81 3 4565 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2020 Bloomberg Finance L.P.  
 SN 757294 AST GMT+3:00 H438-882-0 18-Feb-2020 14:22:42

# Types of Financial Institutions in Financial Markets

## 1. Role of Depository Institutions

- Commercial Banks
- Savings Institutions
- Credit Unions

## 2. Role of Nondepository Financial Institutions

- Finance Companies
- Mutual Funds
- Securities Firms
- Insurance Companies
- Pension Funds

# Balance Sheet

As of December 31, 2016 (000s)

<b>Assets</b>		<b>Liabilities</b>	
Cash	481	Accounts Payable	625
Marketable Securities	1,346	Current Portion L-T Debt	1,021
Accounts Receivable	1,677	Taxes Payable	36
Inventory	2,936	Accrued Expenses	<u>157</u>
Prepaid Expenses	172	Total Current Liabilities	1,839
Other Current Assets	<u>58</u>		
Total Current Assets	6,670	Long-term Debt	<u>2,332</u>
		<b>Total Liabilities</b>	<b>4,171</b>
Gross Value of Property, Plant & Equipment	2,019	<b>Owner's Equity</b>	
Accumulated Depreciation	<u>(664)</u>	Common Stock and Paid-in Cap	194
Net Property, Plant, Equipment	1,355	Retained Earnings	<u>4,009</u>
		Total Shareholders' Equity	4,203
Note Receivable	<u>349</u>		
<b>Total Assets</b>	<b>8,374</b>	<b>Total Liabilities and Equity</b>	<b>8,374</b>

**What the Company Owns** (points to Assets)

**What the Company Owes** (points to Liabilities)

**Shareholders' Equity** (points to Owner's Equity)

# Type of Financial Markets

## Primary

versus

## Secondary Markets

- ❑ New Issue of Securities
- ❑ Exchange of Funds for Financial Claim
- ❑ Funds for Borrower; an IOU (I owe you) for Lender

- ❑ Trading Previously Issued Securities
- ❑ No New Funds for Issuer
- ❑ Provides Liquidity for Seller (market makers, electronic networks, etc.)

# Money market versus Capital Market Securities Markets

## Money

- ❑ Short-Term, < 1 Year
- ❑ High Quality Issuers
- ❑ Debt Only
- ❑ Primary Market Focus
- ❑ Liquidity Market--Low Returns

versus

## Capital Markets

- ❑ Long-Term, >1Yr
- ❑ Range of Issuer Quality
- ❑ Debt and Equity
- ❑ Secondary Market Focus
- ❑ Financing Investment--Higher Returns

# Capital Market Securities

Facilitate the sale of long-term securities by deficit units to surplus units.

- **Bonds** - long-term debt securities issued by the Treasury, government agencies, and corporations to finance their operations.
- **Stocks** - represent partial ownership in the corporations that issued them.
- **Alternative asset classes**



5 1/4% REPAYABLE 15TH NOVEMBER, 1987

COMMONWEALTH OF AUSTRALIA  
Treasury Bond

TRANSFERABLE BY  
DELIVERY

ISSUED UNDER THE COMMONWEALTH  
INSCRIBED STOCK ACT 1911-1963.

\$20

5 1/4% DEF 001067 \$20

*This Bond entitles the Bearer to the payment at the Reserve Bank of Australia at Canberra, Sydney, Melbourne, Brisbane, Adelaide, Perth, Hobart or Launceston of*  
**— TWENTY DOLLARS —**  
*together with interest thereon at the rate of FIVE AND ONE QUARTER per centum per annum in accordance with attached coupons, and such sums are secured on the Consolidated Revenue of the Commonwealth of Australia. Principal is repayable on the FIFTEENTH DAY OF NOVEMBER, ONE THOUSAND NINE HUNDRED AND EIGHTY SEVEN.*

*Dated this 14th day of February, 1966.*

*Roland Wilson*  
SECRETARY TO THE TREASURY.

1987

PRINTED BY THE AUTHORITY OF THE GOVERNMENT OF THE COMMONWEALTH OF AUSTRALIA

COMMONWEALTH OF AUSTRALIA TREASURY BOND  
INTEREST COUPON

5 1/4% DEF 001067 41

INTEREST FOR SIX MONTHS ON \$20 REPAYABLE 1987

15TH MAY, 1986 \$0.52

COMMONWEALTH OF AUSTRALIA TREASURY BOND  
INTEREST COUPON

5 1/4% DEF 001067 42

INTEREST FOR SIX MONTHS ON \$20 REPAYABLE 1987

15TH NOV., 1986 \$0.53

COMMONWEALTH OF AUSTRALIA TREASURY BOND  
INTEREST COUPON

5 1/4% DEF 001067 43

INTEREST FOR SIX MONTHS ON \$20 REPAYABLE 1987

15TH MAY, 1987 \$0.52

COMMONWEALTH OF AUSTRALIA TREASURY BOND  
INTEREST COUPON

5 1/4% DEF 001067 44

INTEREST FOR SIX MONTHS ON \$20 REPAYABLE 1987

15TH NOV., 1987 \$0.53

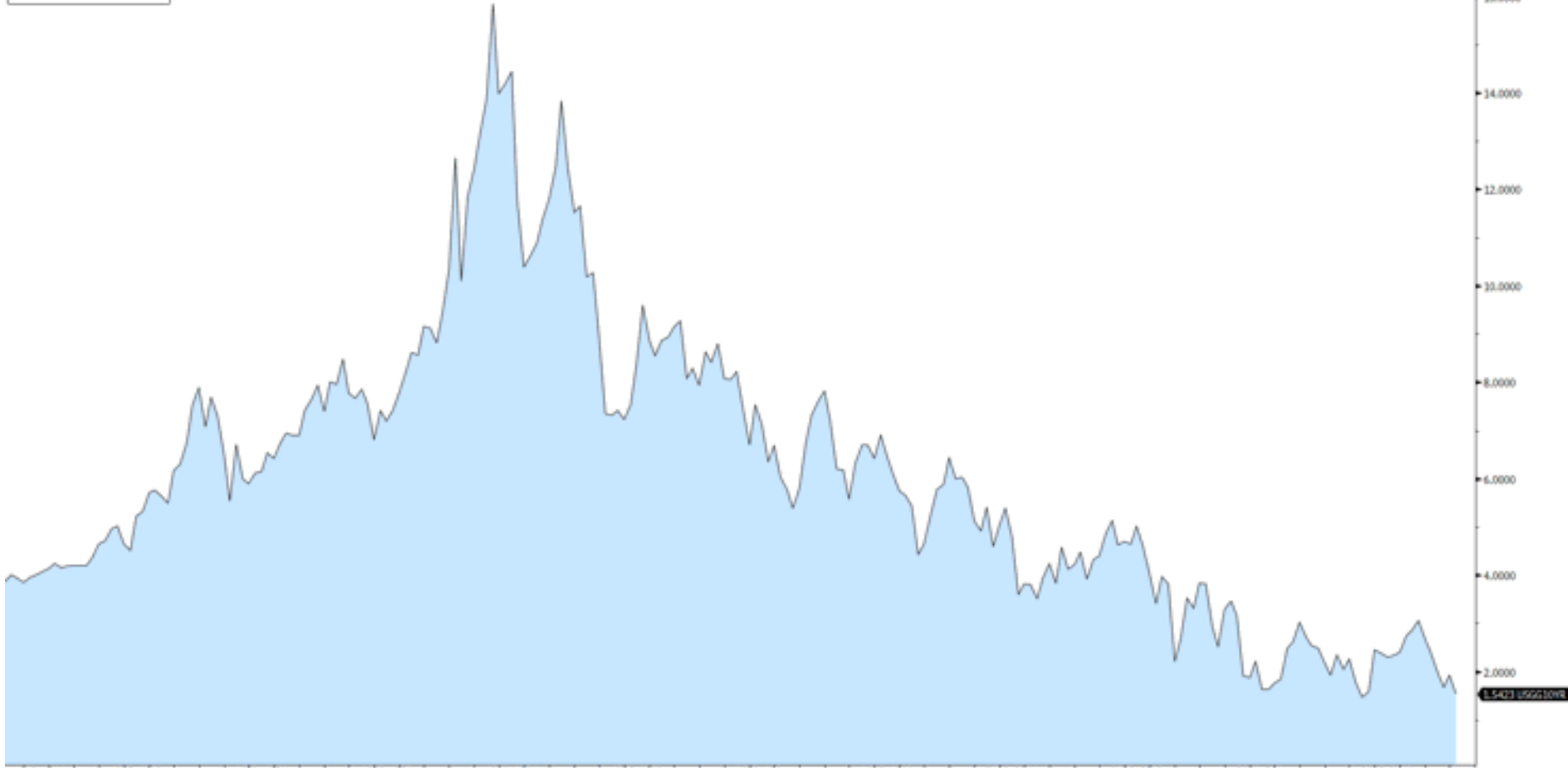
USGG10YR ↑ **1.5423** -.0425 1.5440 / 1.5423  
 At 14:37 Op 1.5763 Hi 1.5780 Lo 1.5356 Prev 1.5848

USGG10YR Index [95\) Compare](#) [96\) Actions](#) [97\) Edit](#) Line Chart

01/01/1961 - 02/18/2020 Last Px Local CCY  Mov Avgs  Key Events

1D 3D 1M 6M YTD 1Y 5Y Max Quarterly        Table  Chart Content

■ Last Price	1.5423
↑ High on 09/30/81	15.8420
+ Average	6.0268
↓ Low on 06/30/16	1.4697



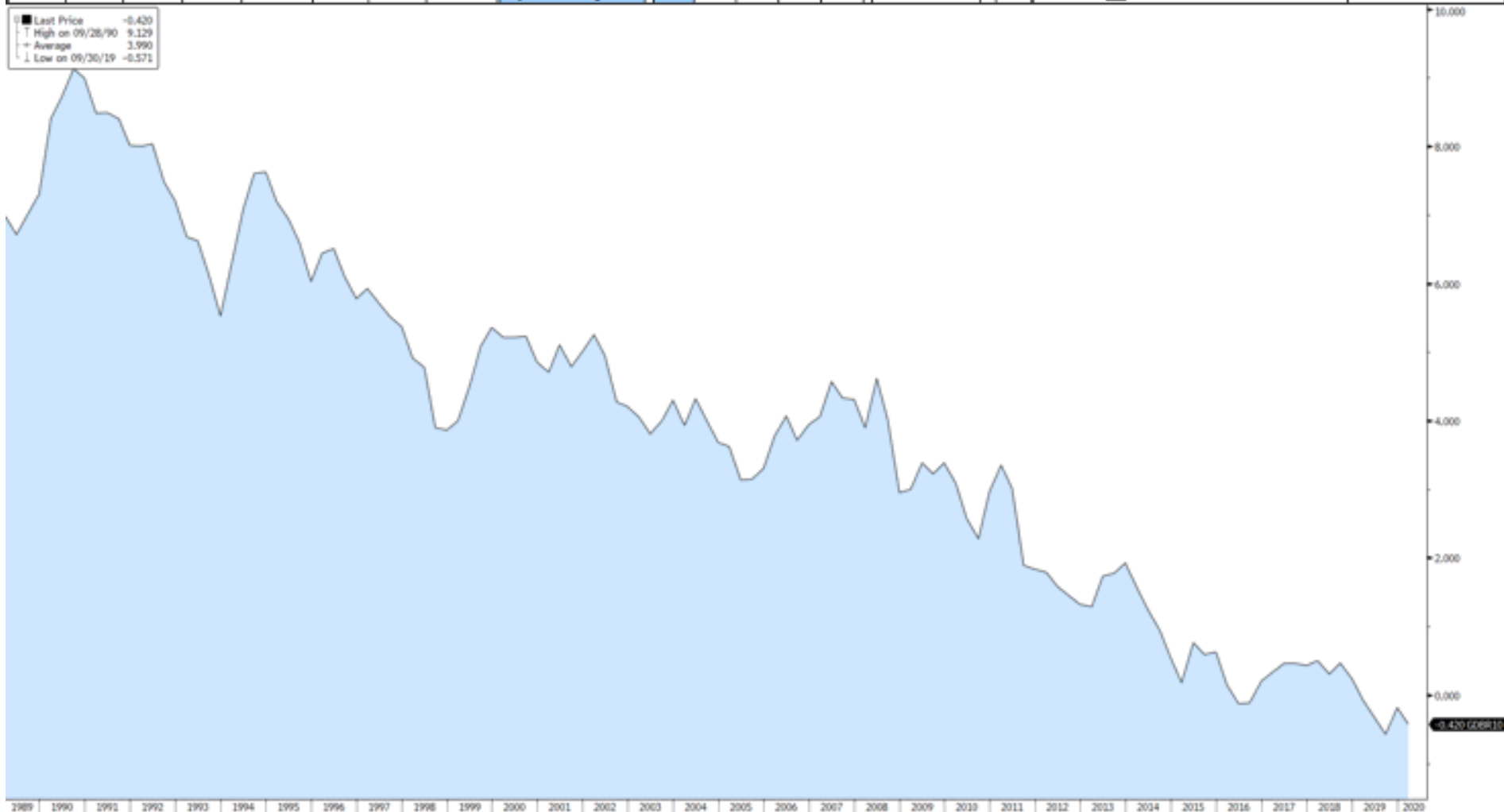
Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000  
 Japan 81 3 4565 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000  
 Copyright 2020 Bloomberg Finance L.P.  
 SN 757294 AST GMT+3:00 H438-882-0 18-Feb-2020 14:37:31

GDBR10 ↑ -0.420    -.019    -0.420 / -0.423  
 At 14:36    Op -0.415    Hi -0.415    Lo -0.432    Prev -0.401

GDBR10 Index    95 Compare    96 Actions ▾    97 Edit ▾    Line Chart

01/01/1988 ▢ - 02/18/2020 ▢    Last Px    Local CCY ▾     Mov Avgs     Key Events

1D    3D    1M    6M    YTD    1Y    5Y    Max    Quarterly ▾       Table    <<    Chart Content   



Australia 61 2 9777 8600    Brazil 5511 2395 9000    Europe 44 20 7330 7500    Germany 49 69 9204 1210    Hong Kong 852 2977 6000  
 Japan 81 3 4565 8900    Singapore 65 6212 1000    U.S. 1 212 318 2000

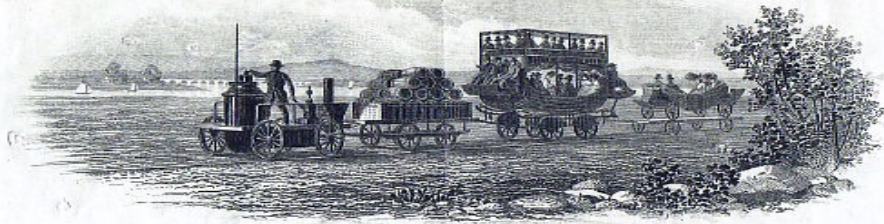
Copyright 2020 Bloomberg Finance L.P.  
 SN 757294 AST    GMT+3:00 H438-882-0 18-Feb-2020 14:36:41

DEC 30 1903

COMMON STOCK

NUMBER  
D34422

SHARES  
10



# The Baltimore and Ohio Railroad Company

Incorporated by the State of Maryland, February 28, 1827.

This Certifies that *Goldsmith, Wolf & Co.*

**TEN**

the owner of \_\_\_\_\_ shares of the par value of One Hundred Dollars each, full paid and non-assessable, of the Common Capital Stock of The Baltimore and Ohio Railroad Company, transferable only on the books of the Company at its transfer office by the holder hereof in person or by duly authorized attorney upon the surrender of this certificate. The holder of Preferred Capital Stock to the amount of Sixty Million Dollars (\$60,000,000) now issued and such additional amounts as may be lawfully issued from time to time by the President and Directors of the Company pursuant to the resolutions of the stockholders duly adopted (April 11, 1899) are entitled to receive in each year out of the surplus net profits of the Company for the current year such yearly dividend (non-cumulative) as the Board of Directors of said Railroad Company may declare up to but not exceeding four per centum, before any dividends shall be set apart or paid upon the Common Stock. In Witness Whereof, the said Company has caused this certificate to be signed by its duly authorized officers this

OCT 29 1903

JULY 20 1903

THE MERCANTILE TRUST COMPANY  
SECRETARY

DESIGNED  
AND REPRODUCED  
BY THE  
MERCANTILE TRUST COMPANY

Secretary

*J. M. W.*

*E. McBeveroux*  
TRANSFER AGENT

*J. J. Lee*  
VICE PRESIDENT  
*W. H. Black*  
ASST. SECRETARY

SHARES \$100 EACH

FEB 5 1904  
THE M. T. CO.

DES IBM Equity

IBM US \$ C 130.15 -2.54 N130.11/130.12N 374x4  
 On 14 Feb d Vol 5,345,289 O 132.59N H 132.65N L 129.07P Val 695.42M

IBM US Equity 98) Report Page 1/5 Security Description: Equity

Profile Issue Info Ratios Revenue & EPS ESG

**INTL BUSINESS MACHINES CORP** FIGI BBG000BLNNH6  
 6) BI Research Primer | BICO » Classification IT Services

International Business Machines Corporation (IBM) provides computer solutions. The Company offers application, technology consulting and support, process design and operations, cloud, digital workplace, and network services, as well as business resiliency, strategy, and design solutions. IBM serves clients worldwide. ... More

8) Price Chart | GP »

9) Estimates | EE »

Date Aft-mkt (C)	04/19/22
P/E	14.45
Est P/E 12/22	13.06
T12M EPS (USD)	9.01
Est EPS	9.97
Est PEG	0.97

13) Corporate Info

14) www.ibm.com
Armonk, NY, US
Empls 352,600 (12/31/20)
15) Management   MGMT »
16) Arvind Krishna Chairman/CEO
17) Gary David Cohn Vice Chairman
18) Kathryn Guarini Chief Information Officer
12M Tot Ret 18.40%
Beta vs SPX 0.95
21) Depository Receipts
Active Receipts 7

12) Dividend | DVD »

Ind Gross Yield	5.04%
5Y Net Growth	3.22%
Cash 02/10/22	1.64

Px/Chg 1D (USD)	130.15/-1.91%
52 Wk H (06/10/21)	145.9873
52 Wk L (02/19/21)	113.0723
YTD Change/%	-3.51/-2.63%
Mkt Cap (USD)	116,718.6M
Shrs Out/Float	896.8M/895.4M
SI/% of Float	25.7M/2.86%
Days to Cover	3.2

Suggested Functions GPC Spot price trends in a candle chart EQRV See who's trading rich or cheap

IBM US \$ C 130.15 -2.54 N130.11 / 130.12N 374x4  
Vol 5,345,289 O 132.59N H 132.65N L 129.07P Val 695.42M

Profile Issue Info Ratios Revenue & EPS ESG

6) Public Offerings | CACS »  
 Follow-on Offering 12/01/1968, Common Stock IPO 11/11/1915  
 Shares Off/Split Adj 50.00k/800.00k  
 Share Price/Split Adj \$ 328.50/19.61  
 Lead Manager Merrill Lynch & Co

8) Inst Holdings | OWN »  
 # of Inst. Owners 3,137  
 Shares Owned 563.85M  
 Shares Out/Float 62.9%/63%  
 # of Buyers/Sellers 1.151k/1.1...  
 Shares Bought 56.21M

9) Issue Information | RELS »  
 Sec Type Common Stock  
 Pri Exch New York PAR USD 0.2  
 Pri MIC XNYS  
 Incorp UNITED STATES (NY)  
 SIC Code 3570 (COMPUTR/OFFICE)  
 FIGI BBG000BLNNH6  
 ISIN US4592001014  
 CUSIP 459200101  
 SEDOL1 2005973 US NAICS 541512  
 Common 009703799 WPK # 851399  
 Sicovam 012964

10) Eq Wgts | WGT »  
 21) SPX N.A.  
 22) INDU 2.482%  
 23) RLV N.A.  
 24) S5INFT N.A.  
 25) RAY N.A.  
 26) RIY N.A.  
 27) SVX N.A.  
 28) OEX N.A.  
 29) SPR N.A.  
 30) XSP N.A.  
 13) Option | OMON »  
 Opt/LEAPs/Marginab...

11) Insider Holdings | OWN »  
 % Held by Insiders 0.14%  
 Net Change Last 6M 10.56%  
 12) Top Holders | HDS »  
 as of 02/14/2022  
 VANGUARD GROUP INC 8.36%  
 BLACKROCK 7.30%  
 STATE STREET CORP 5.73%  
 CHARLES SCHWAB CORP... 1.69%  
 GEODE CAPITAL MANAGE... 1.67%  
 MORGAN STANLEY 1.26%  
 NORTHERN TRUST CORP... 1.19%

IBM US \$ C 130.15 -2.54 N130.11/130.12N 374x4  
 On 14 Feb d Vol 5,345,289 O 132.59N H 132.65N L 129.07P Val 695.42M

IBM US Equity Weighted Average Cost of Capital

International Business Machines Corp Period MR 2021Q4  
 Cost of Capital - Current Market Value Capital Structure (Millions of USD)

	Weight	Cost	W x C
3) Equity	68.5%	9.3%	6.4%
4) Debt Cost (A-T)	31.5%	2.3%	0.7%
5) Preferred Equity	0.0%	0.0%	0.0%
<b>WACC</b>			<b>7.1%</b>



History



Economic Value Added (Millions of USD)

7) Net Operating Profit	9148,00
8) Cash Operating Taxes NOPAT	4716,38 4431,62
9) Total Investment Capital Capital Charge	91352,00 6490,23
<b>Economic Value Added</b>	<b>-2058,60</b>
<b>ROIC</b>	<b>4.85%</b>
<b>EVA Spread</b>	<b>-2.25%</b>

CAST IBM Equity

IBM US \$ C 130.15 -2.54 N130.11/130.12N 374x4  
 On 14 Feb d Vol 5,345,289 O 132.59N H 132.65N L 129.07P Val 695.42M

IBM US Equity Edit Columns Export

Consolidate Current issuer

Security Detail View Pricing Info | SRCH » View Ratings Info | SRCH » View Identifiers | SRCH »

View Security Detail Show Legacy Companies Curr USD

Security Description	Currency	Debt	Gtd	Price	Spread	Yield	Cpn	Business Struct	Maturity
> Sr Unsecured Loans (2 Issues)			--						
> Sr Unsecured Bonds (46 Issues)		53,966.13MM	--						
Total Debt Outstanding		53,966.13MM	--						
Market Cap		116,718.57MM	--						

Suggested Functions

**FSRC** Find funds based on screening criteria

**CRV** Construct a custom fixed income curve



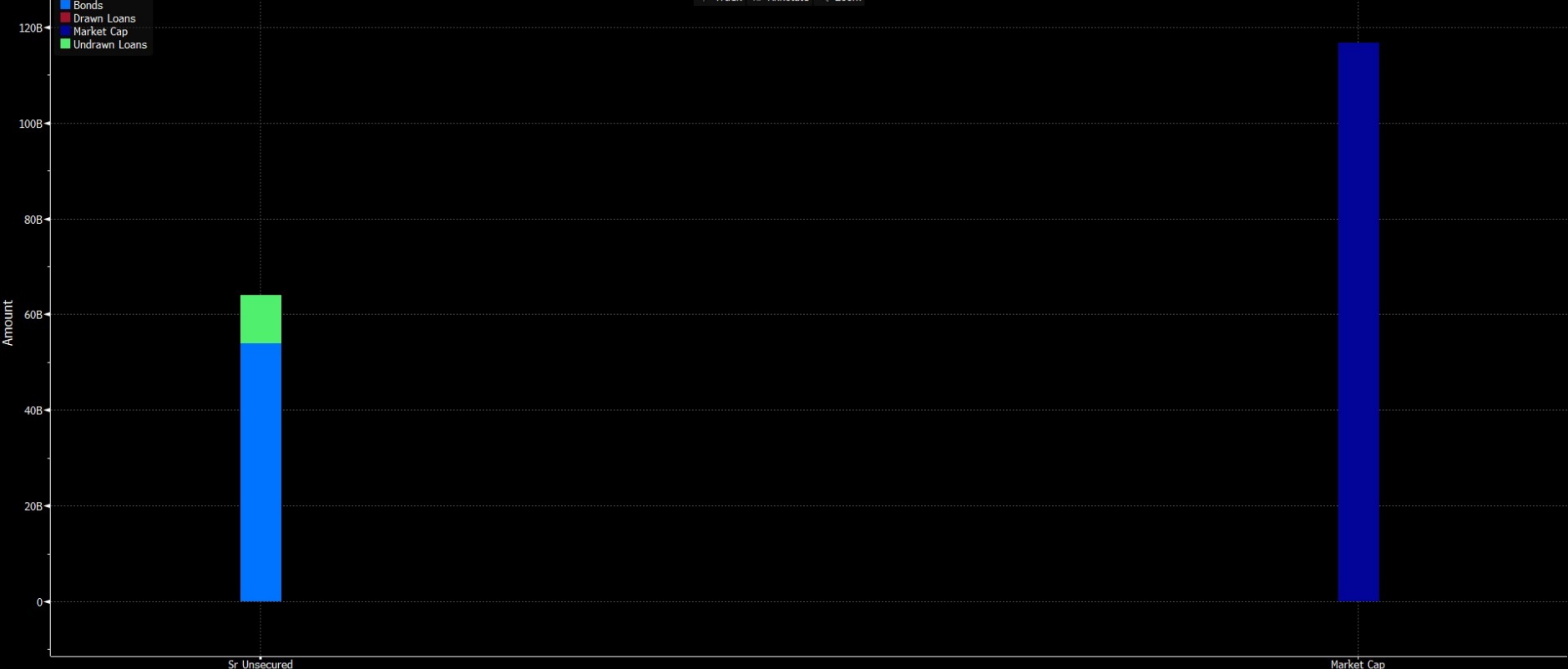
IBM US \$ C 130.15 -2.54 N130.11/130.12N 374x4  
On 14 Feb d Vol 5,345,289 O 132.59N H 132.65N L 129.07P Val 695.42M

IBM US Equity Edit Columns Export Capital Structure

Consolidate Current issuer View Security Detail Show Legacy Companies Curr USD

Security Detail View Pricing Info | SRCH » View Ratings Info | SRCH » View Identifiers | SRCH »

Descriptive Regulatory Summary Chart + Track Annotate Zoom



Sr Unsecured Normalized Payment Rank Market Cap

Security Description		Currency	Debt Gtd	Price	Spread	Yield	Cpn	Business Struct	Maturity
▶ Sr Unsecured Loans (2 Issues)			-- --						
▼ Sr Unsecured Bonds (46 Issues)			53,966.13MM						
IBM 0.3 11/02/26		JPY	362.41MM	N	98.61	51.502	0.600	0.300 Opco	11/02/2026
IBM 3.3 01/27/27		USD	500.00MM	N	103.83	72.630	2.473	3.300 Opco	01/27/2027
IBM 0.95 05/23/25		EUR	1,139.70MM	N	101.09	10.476	0.612	0.950 Opco	05/23/2025
IBM 1 1/2 05/23/29		EUR	1,139.70MM	N	101.88	47.058	1.228	1.500 Opco	05/23/2029
IBM 0 3/8 01/31/23		EUR	1,994.48MM	N	100.52	11.590	-0.166	0.375 Opco	01/31/2023
IBM 0 7/8 01/31/25		EUR	1,139.70MM	N	100.98	7.937	0.539	0.875 Opco	01/31/2025
IBM 1 1/4 01/29/27		EUR	1,139.70MM	N	101.51	28.556	0.936	1.250 Opco	01/29/2027
IBM 1 3/4 01/31/31		EUR	1,424.63MM	N	102.63	61.146	1.434	1.750 Opco	01/31/2031
IBM 1.7 05/15/27		USD	1,250.00MM	N	95.90	78.535	2.539	1.700 Opco	05/15/2027
IBM 1.95 05/15/30		USD	1,350.00MM	N	93.37	106.639	2.858	1.950 Opco	05/15/2030
IBM 2.85 05/15/40		USD	650.00MM	N	91.18	163.841	3.509	2.850 Opco	05/15/2040
IBM 2.95 05/15/50		USD	750.00MM	N	89.33	172.644	3.551	2.950 Opco	05/15/2050
IBM 0 7/8 02/09/30		EUR	1,139.70MM	N	96.60	53.461	1.326	0.875 Opco	02/09/2030
IBM 1 1/4 02/09/34		EUR	1,139.70MM	N	95.99	70.775	1.621	1.250 Opco	02/09/2034
IBM 2.2 02/09/27		USD	650.00MM	N	98.79	70.855	2.459	2.200 Opco	02/09/2027
IBM 2.72 02/09/32		USD	500.00MM	N	97.97	114.875	2.957	2.720 Opco	02/09/2032
IBM 3.43 02/09/52		USD	650.00MM	N	96.19	182.440	3.640	3.430 Opco	02/09/2052
IBM 7 10/30/25		USD	600.00MM	N	116.29	66.963	2.378	7.000 Opco	10/30/2025
IBM 7 10/30/45		USD	26.96MM	N	148.67	200.331	3.850	7.000 Opco	10/30/2045
IBM 7 3/8 12/01/2096		USD	316.39MM	N	166.07	263.836	4.213	7.125 Opco	12/01/2096
IBM 6.22 08/01/27		USD	468.57MM	N	118.11	88.589	2.633	6.220 Opco	08/01/2027
IBM 6 1/2 01/15/28		USD	313.19MM	N	121.14	86.169	2.615	6.500 Opco	01/15/2028
IBM 5 7/8 11/29/32		USD	600.00MM	N	124.68	134.726	3.157	5.875 Opco	11/29/2032
IBM 8 10/15/38		USD	82.97MM	N	148.27	215.303	4.002	8.000 Opco	10/15/2038
IBM 5.6 11/30/39		USD	745.10MM	N	125.84	175.734	3.617	5.600 Opco	11/30/2039
IBM 4 06/20/42		USD	1,107.31MM	N	105.22	177.004	3.635	4.000 Opco	06/20/2042
IBM 1 7/8 08/01/22		USD	1,000.00MM	N	100.44	26.272	0.895	1.875 Opco	08/01/2022
IBM 3 3/8 08/01/23		USD	1,500.00MM	N	102.48	28.644	1.645	3.375 Opco	08/01/2023
IBM 2 7/8 11/07/25		EUR	1,139.70MM	N	108.51	0.062	0.556	2.875 Opco	11/07/2025
IBM 3 5/8 02/12/24		USD	2,000.00MM	N	103.32	36.423	1.915	3.625 Opco	02/12/2024
IBM 1 1/4 05/26/23		EUR	1,139.70MM	N	101.60	11.120	-0.008	1.250 Opco	05/26/2023
IBM 3.45 02/19/26		USD	1,350.00MM	N	104.00	66.896	2.398	3.450 Opco	02/19/2026

Suggested Functions

GP Chart securities & technical studies

RATC Analyze sector/portfolio rating changes

VOW GR € ↓ 249.20 +8.80 I249.20/249.60I 21x58  
 At 11:14 d Vol 10,008 O 240.00S H 250.40Y L 239.60B Val 2.445M

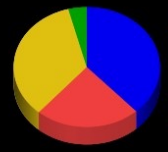
VOW GR Equity 1) Create Report 2) Output to Excel Weighted Average Cost of Capital

Volkswagen AG Period MR 2021Q3

Cost of Capital - Current Market Value

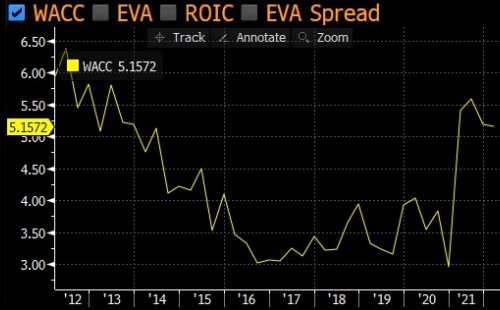
	Weight	Cost	W x C
3) Equity	38.2%	13.2%	5.0%
4) Debt Cost (A-T)	57.7%	0.2%	0.1%
5) Preferred Equity	4.1%	0.0%	0.0%
WACC			5.2%

Capital Structure (Millions of EUR)



Market Cap	135249,5	38.2%
ST Debt	81948,0	23.2%
LT Debt	122323,0	34.6%
Pref. Eqty	14345,0	4.1%
Total	353865,5	100.0%

6) History



Economic Value Added (Millions of EUR)

7) Net Operating Profit	22470,00
8) Cash Operating Taxes	5434,79
NOPAT	17035,21
9) Total Investment Capital	386914,00
Capital Charge	19954,01
Economic Value Added	-2918,80
ROIC	4.40%
EVA Spread	-0.75%



CAST VOLKSWAGEN AG Equity

VOLKSWAGEN AG Equity | CAST | Related Functions Menu

VOW GR € ↓ 251.40 +11.00 D251.20 / 251.80H 110x45  
 At 11:27 d Vol 14,944 O 240.00S H 251.80Y L 239.60B Val 3.674M

VOW GR Equity Edit Columns Export

Consolidate Current issuer View Security Detail Show Legacy Companies Curr EUR

Security Detail View Pricing Info | SRCH » View Ratings Info | SRCH » View Identifiers | SRCH »

Descriptive Regulatory Summary Chart

Security Description	Currency	Debt Gtd	Price	Spread	Yield	Cpn	Business Struct	Maturity
► Sr Unsecured Loans (2 Issues)		1,754.85MM	--					
Total Debt Outstanding		1,754.85MM	--					
Market Cap		111,457.30MM	--					

Suggested Functions GPC Spot price trends in a candle chart HDS Find the holders influencing price

# Advantages and Disadvantages: Debt vs. Equity in company financing process

## Debt Financing:

- Advantages:
  - Tax-deductible interest.
  - Maintains ownership and control of the company.
  - Fixed repayment schedule.
- Disadvantages:
  - Obligation to repay with interest regardless of business performance.
  - Can affect the company's credit rating.
  - Increased financial risk due to leverage.

## Equity Financing

- Advantages:
  - No obligation to repay investors.
  - Access to funds without incurring debt.
  - Investors often bring additional skills and resources.
- Disadvantages:
  - Dilution of ownership and control.
  - Potential for conflict with investors.
  - Sharing of profits.

# Derivative Securities

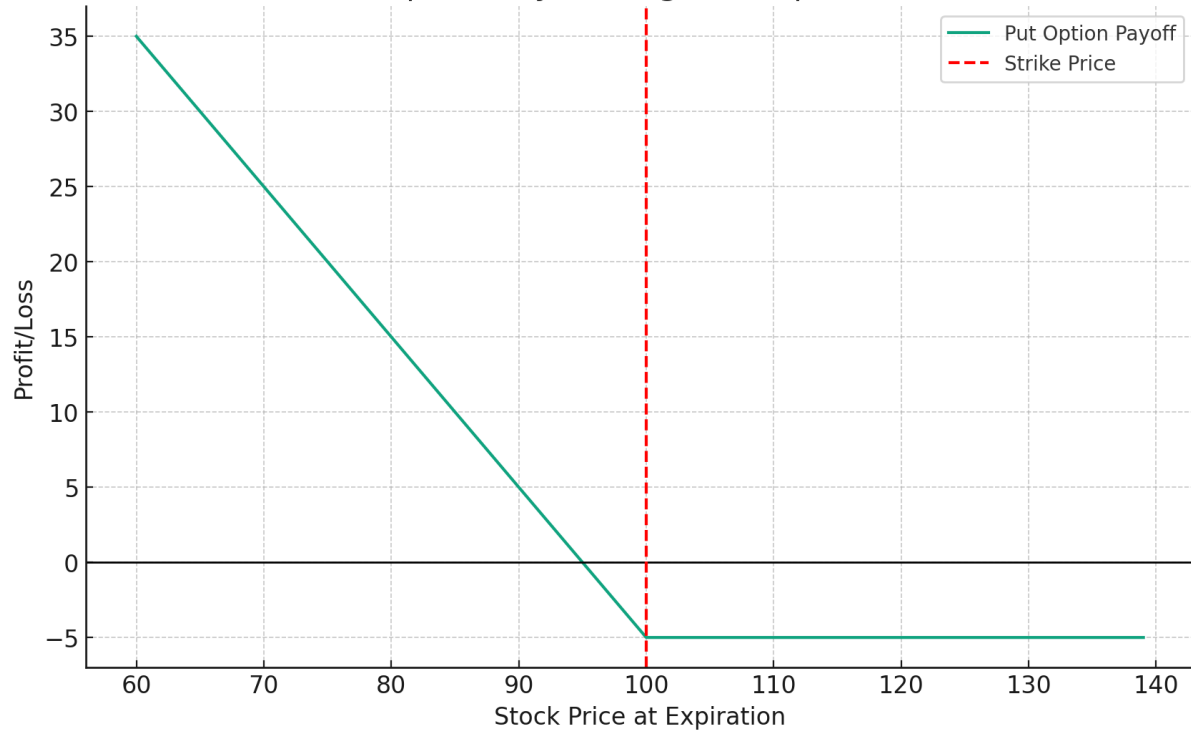
**Derivative Securities** - financial contracts whose values are derived from the values of underlying assets, traded in **derivative market**

Purpose:

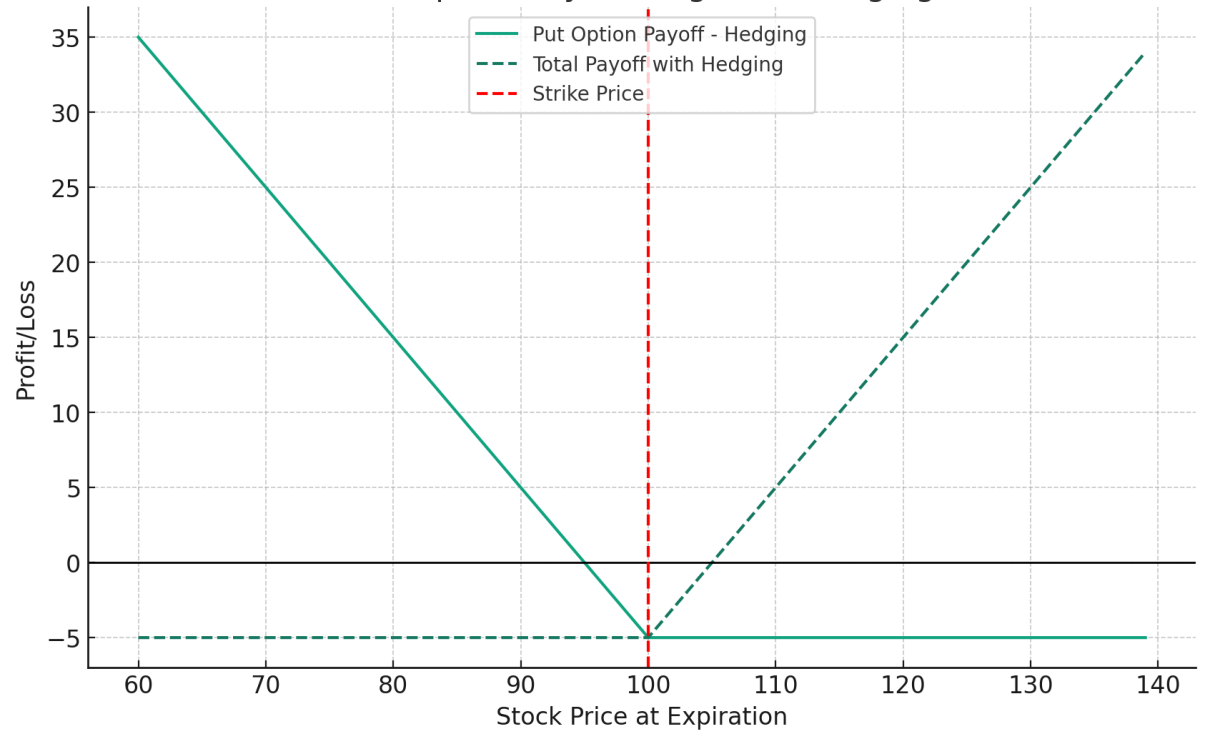
- **Risk management** - financial institutions and other firms can use derivative securities to adjust the risk of their existing investments in securities
- **Speculation** - allow an investor to speculate on movements in the value of the underlying assets without having to purchase those assets.

# Speculation and Hedging with an option

Put Option Payoff Diagram - Speculation



Put Option Payoff Diagram - Hedging

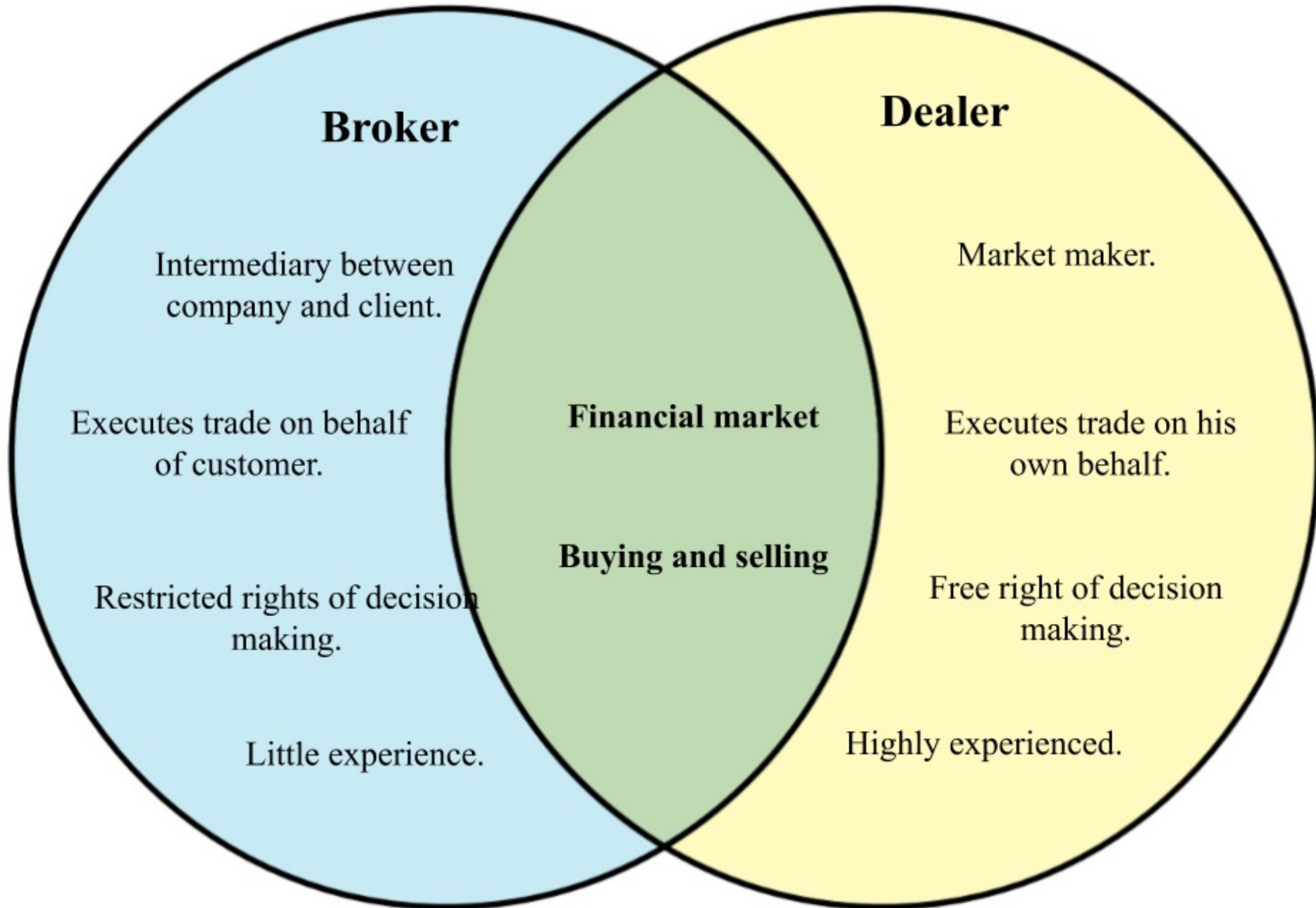




# Dealers and brokers roles in the secondary markets

Securities brokers and dealers are crucial to a well-functioning secondary market.

- Brokers
- Dealers



# Dealers

- **Market Making:** Dealers act as market makers by buying and selling securities from their own inventory. They provide liquidity to the market, which means they make it easier for investors to buy and sell securities by always standing ready to buy (bid) or sell (ask) at publicly quoted prices.
- **Setting Bid-Ask Spreads:** The difference between the price at which a dealer is willing to buy a security (bid price) and the price at which they are willing to sell it (ask price) is known as the bid-ask spread. This spread is a source of profit for dealers and compensates them for the risk of holding securities in their inventory.
- **Price Discovery:** Through their trading activities, dealers help in the price discovery process, contributing to more efficient markets by reflecting all available information in the prices of securities.

# Brokers

- **Acting as Intermediaries:** Unlike dealers, brokers do not buy or sell securities from their own accounts. Instead, they act as intermediaries between buyers and sellers, facilitating transactions without taking on the risk of holding the securities themselves.
- **Providing Access and Advice:** Brokers provide investors access to the secondary markets and often offer advice, research, and investment services to help their clients make informed decisions.
- **Executing Orders:** Brokers execute orders on behalf of their clients, striving to achieve the best possible execution prices. They may operate in various markets, including stock exchanges and electronic trading platforms.
- **Charging Commissions or Fees:** Brokers typically earn revenue by charging commissions or fees for the transactions they facilitate. These fees can be structured in various ways, depending on the services provided.

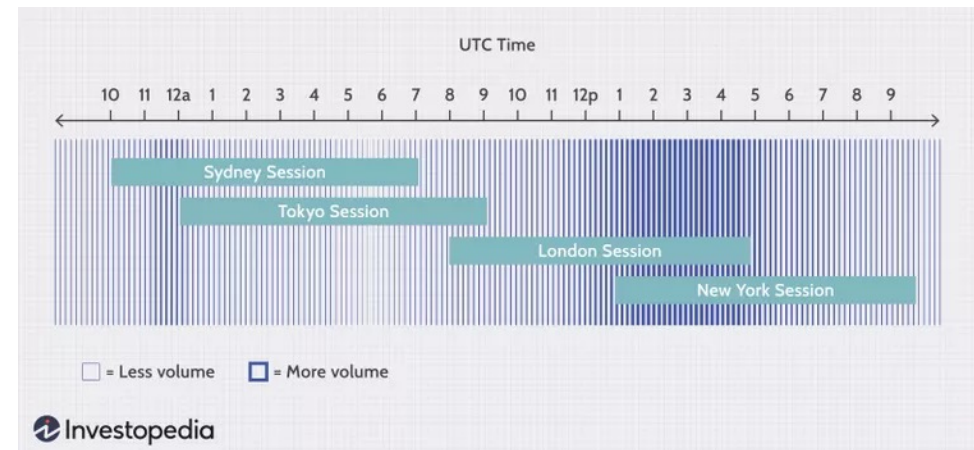
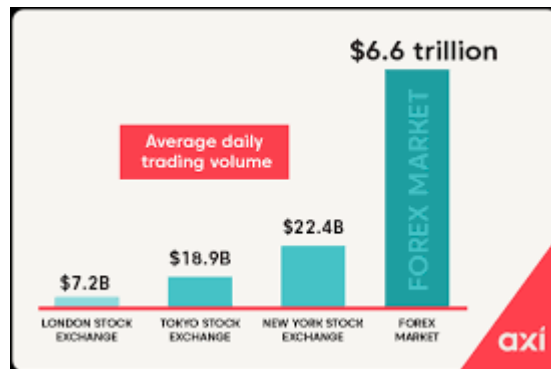
# Type of Financial Markets

- ❑ **Stock Exchange**
- ❑ Visible Marketplace
- ❑ Members Trade
- ❑ Securities Listed
- ❑ New York Stock Exchange
- ❑ NASDAQ (2006)
- ❑ **OTC**
- ❑ Wired Network of Dealers
- ❑ No Central, Physical Location
- ❑ All Securities Traded off the Exchanges
- ❑ Forex

Because over-the-counter dealers are in computer contact and know the prices set by one another, the OTC market is very competitive and not very different from a market with an organized exchange.

# 5 p.m. EST on Sunday until 5 p.m. EST on Friday

Normal Trading Hours of Major and Minor Forex Trading Centers



**M U N I**  
**E C O N**

**Thank you for your attention**