



# The History and Future of Stock Markets

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# Presenter - Ted Opderbeck



- Teacher at Waldwick High School 1996 - Present
- Social Studies/Economics:
  - » AP Economics
  - » Honors Economics I and II
  - » Introduction to Economics and Personal Finance
  - » U.S. History I and II
  - » Introduction to Law
  - » Criminal Procedure
- Coach varsity tennis and volleyball
- Graduated from Gordon College in Wenham MA
- Masters' Degree in Teaching Montclair State University
- Attended Seton Hall Law School
- Enjoy photography, hiking, travelling, spending time with wife and two teenage and grown children.

# Agenda

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- Discuss the historical development of stock markets in general.
- Examine key events leading to the creation of the New York Stock Exchange and explore its rich history.
- Analyze some important modern changes in the structure and function of stock markets especially in light of recent technological developments and artificial intelligence
- Predict some future trends in stock markets moving forward
- Model lesson plan ideas and online games to enrich student learning.



# Objectives

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- To trace the historical development of stock markets with a special emphasis on the New York Stock Exchange (NYSE)
- To explore some modern developments and possible future trends in stock markets.
- To model lesson plans and learning activities to enrich student learning.
- To examine online games to use as formative assessment tools.
- To discuss learning extensions and other resources related to stock markets and the NYSE.



# CEE National Standards

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- **Personal Finance Education Content Standard 11-11:** Many investors buy and sell financial assets through discount brokerage firms that provide inexpensive investment services and advice using financial technology
- **Personal Finance Education Content Standard 11-12:** Federal regulation of financial markets is designed to ensure that investors have access to accurate information about potential investments and are protected from fraud.

# N.Y. State Standards

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- **12. E2 INDIVIDUALS AND BUSINESSES IN THE PRODUCT AND FACTOR MARKETS:**  
Free enterprise is a pillar of the United States economy and is based on the principle that individuals and businesses are free to make their own economic choices as they participate in these markets. Individuals buy the goods and services that they desire from businesses in the product markets, and they contribute to producing these goods and services by supplying the resources that they own to businesses in the factor markets.
- **12.E2a:** Given that the resources of individuals (and societies) are limited, decisions as to what goods and services will be produced and to whom to sell one's resources are driven by numerous factors, including a desire to derive the maximum benefit from and thus the most efficient allocation of those resources.



# Question of the Day Activity



The NYSE is the largest stock market in the world measured by market capitalization (#of shares x value per share = \$26 Trillion)  
Which stock market is the second largest?

- A. EuroNext
- B. Shanghai Stock Exchange
- C. Tokyo Stock Exchange
- D. Nasdaq





# Sources for Questions of Day



- Economics History Questions:
  - <https://www.history.com/this-day-in-history>
  - <https://www.historynet.com/today-in-history/february-22/>
  - <https://jasonzweig.com/this-day-in-financial-history/>
  - <https://archive.nytimes.com/learning.blogs.nytimes.com/on-this-day/>
- Current Events Questions:
  - <https://www.cnbc.com/economy/>
  - <https://www.npr.org/sections/economy/>
  - <https://www.msn.com/en-us/money>
- Bizarre, Wacky Holidays:
  - <https://www.holidayinsights.com/moreholidays/index.htm>

# Current Issues Questions



Idea: start class with a current article (possibly relevant to the topic at hand) and have the students answer a simple question or two.

Example:

<https://www.nytimes.com/2023/05/19/business/stock-markets-debt-ceiling-risks-default-bonds.html>

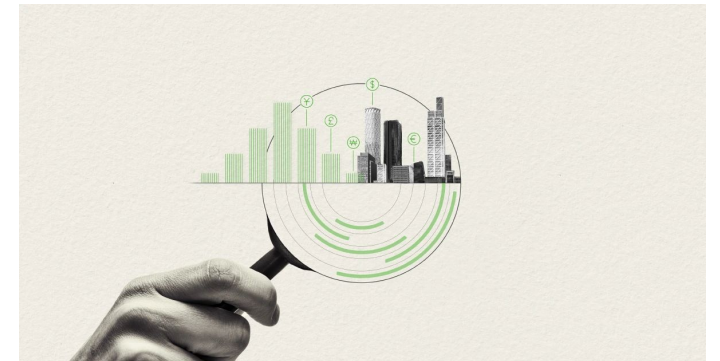
Format:

- Think-Pair-Share
- Google Classroom
- Poll Everywhere
- Collaborative Google Doc
- Various Learning Platforms

Sources: <https://www.wsj.com/newsletters?sub=197>

<https://www.nytimes.com/series/us-morning-briefing>

<https://www.nytimes.com/>



# Stock Markets: The Beginnings



- Businesses in the earliest civilizations combined resources in joint ventures as a form of “investing.”



# Stock Markets: The Beginnings



- Middle Ages: merchants would meet in the centers of towns to exchange goods from other parts of the world and established money exchanges





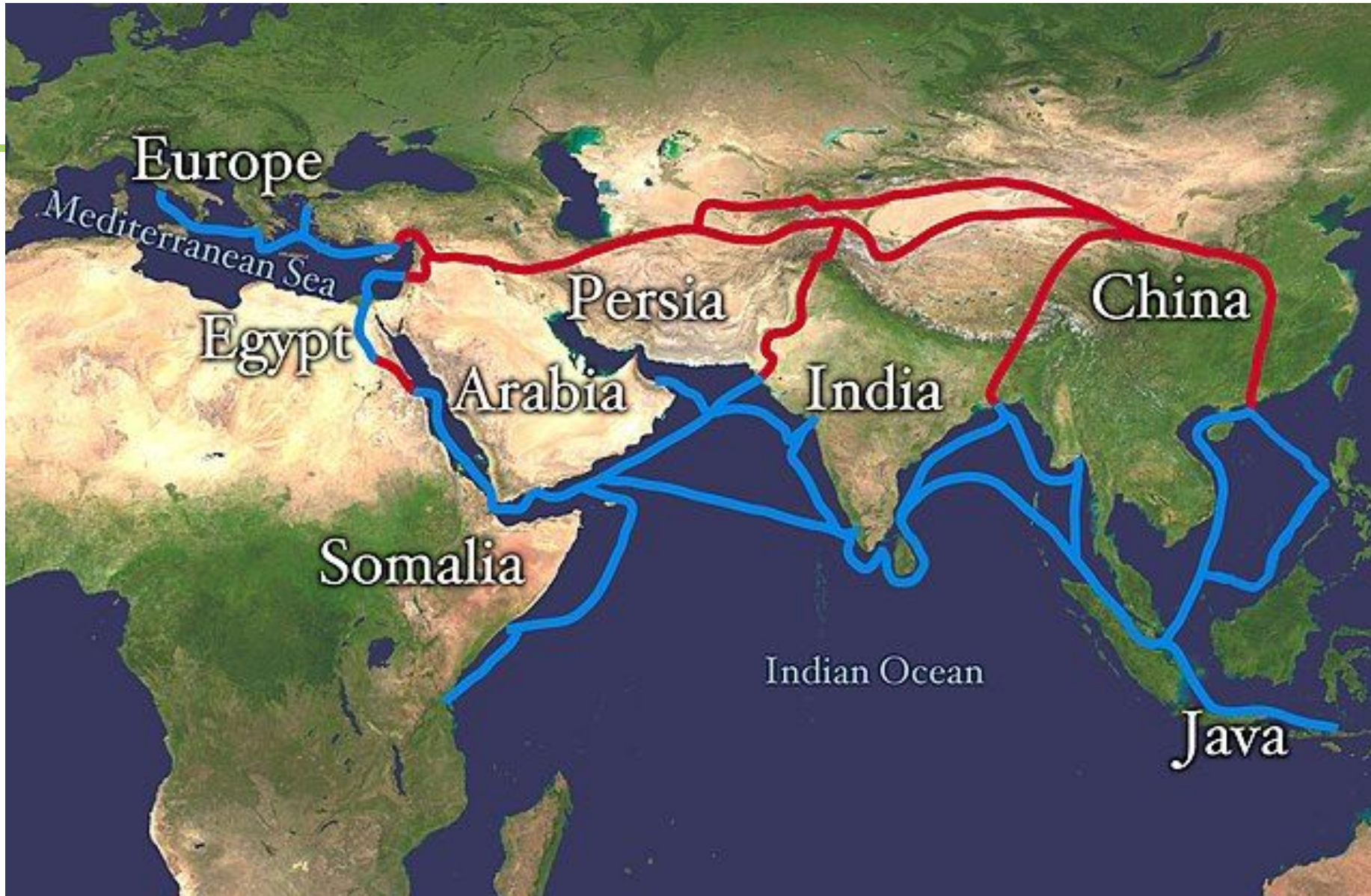
# Stock Markets: The Beginnings

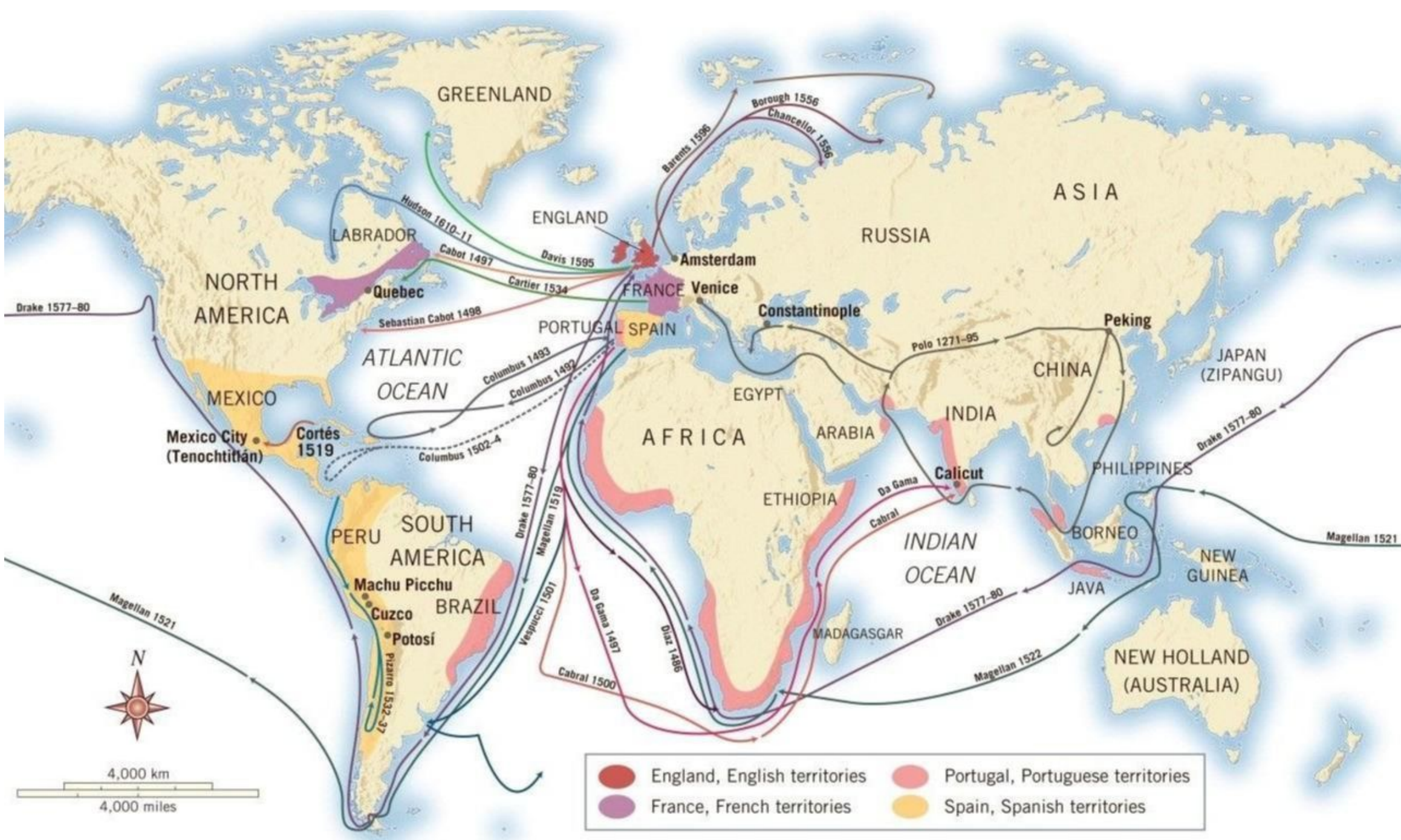


- Renaissance: Joint Stock Companies - business owned by investors. The businesses were engaged in expensive endeavors (ex: voyages of exploration)





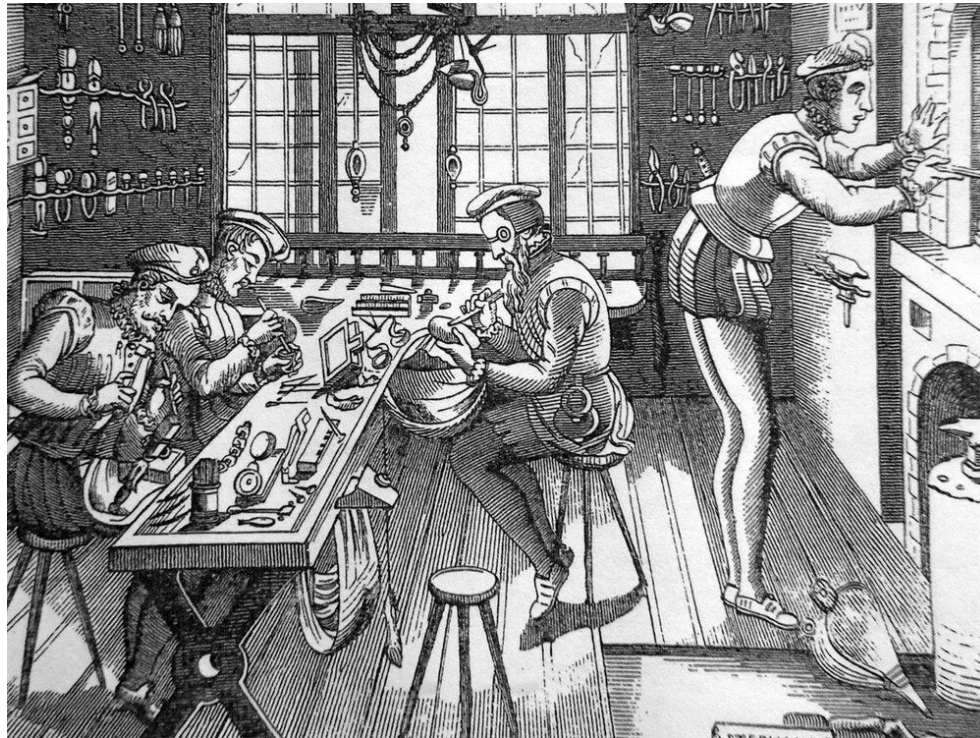




# Stock Markets: The Beginnings



- Late 1400's - northern Europe becomes the center of international trade as merchants invest in goods anticipating a rise in value.

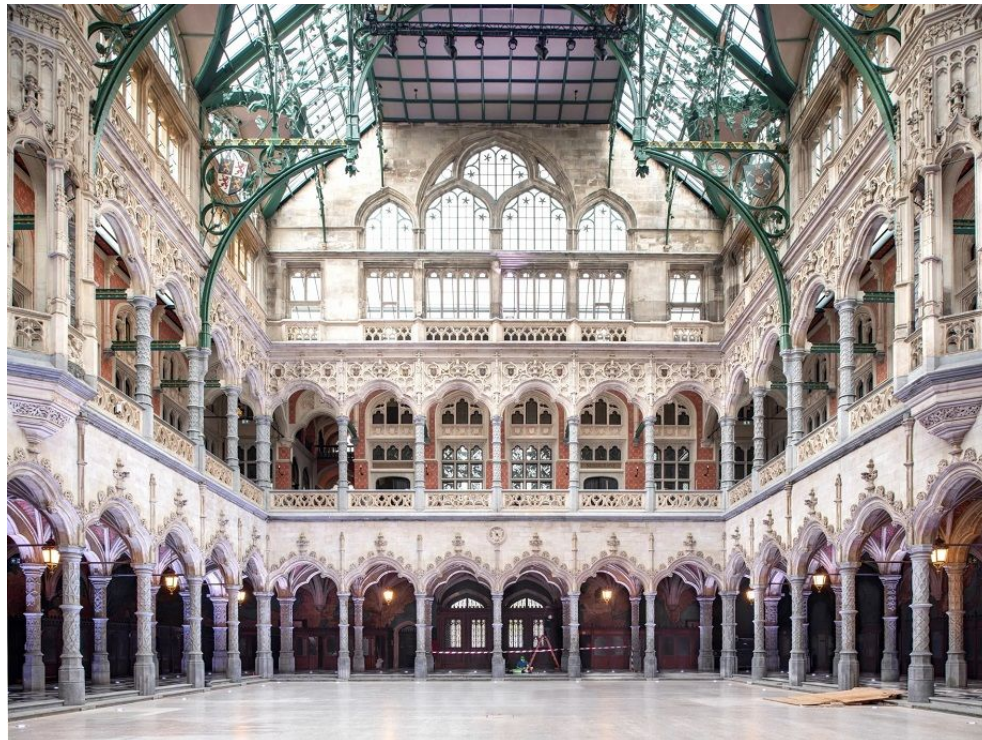




# Stock Markets: The Beginnings



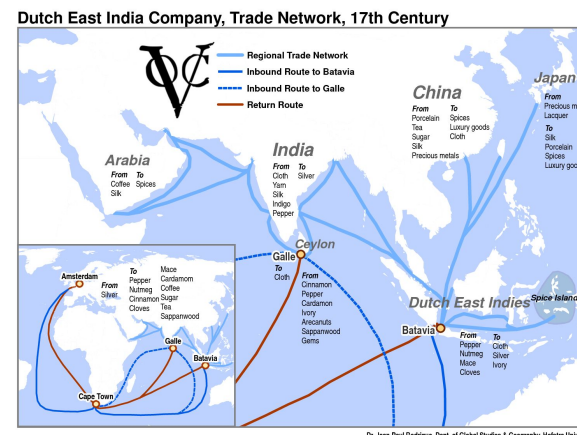
- 1531: An informal “stock” exchange starts in Antwerp, Belgium. It mostly trades shares of business and government debts issues/ bonds.





# Stock Markets: The Beginnings

- 1611: The Dutch East India Company is created. It is the first publicly traded company issuing ownership shares to the public
  - Shares that were issued on paper were hard to track down so the need for an organized market/exchange arose. Before a stock market, most deals were executed in coffee shops!
  - The Amsterdam Stock Exchange is established. Initially, The Dutch East India company is the only traded company on the exchange.



# Fun Trivia!



The first coffee shop in America (circa 1696) is believed to have been located at:

- A. Faneuil Hall, Boston
- B. Zuccotti Park (Liberty Plaza), New York City
- C. Market Street, Philadelphia
- D. South Street Seaport, New York City



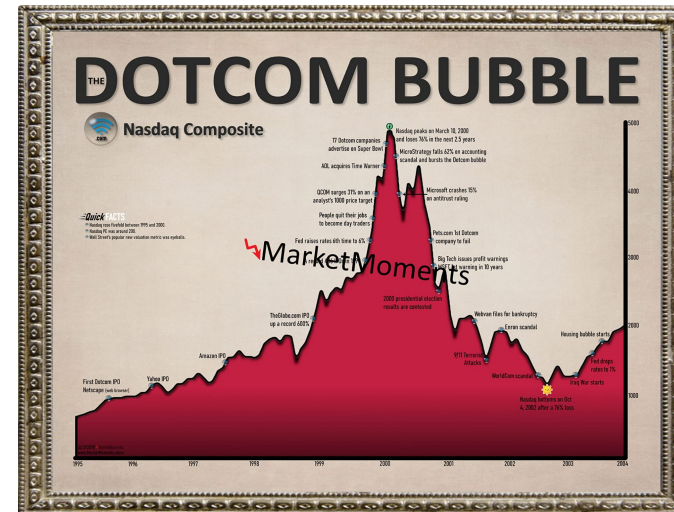




# Stock Markets: The Beginnings



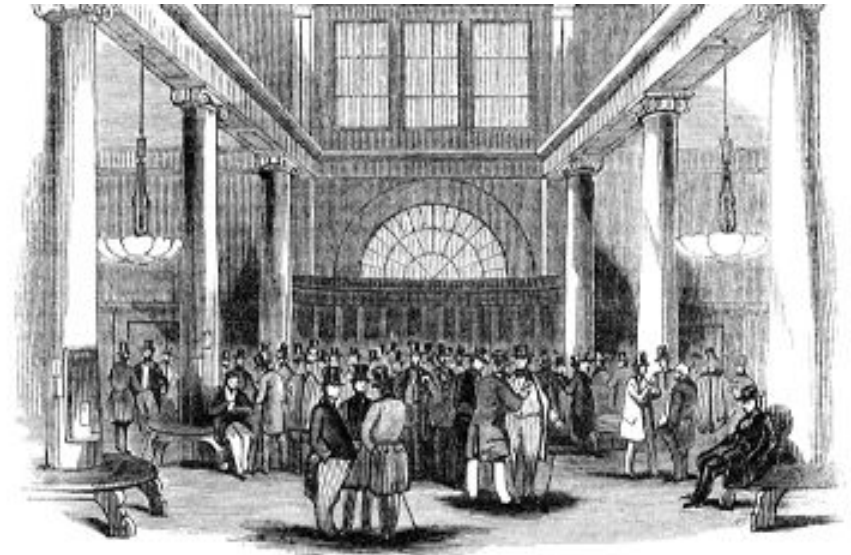
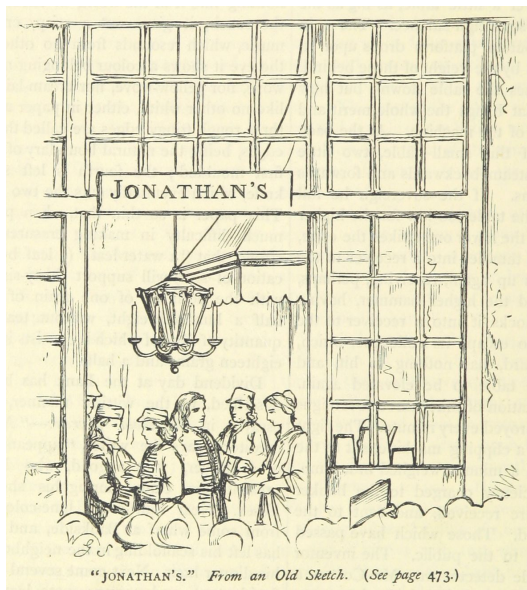
- 1600's: large speculative bubbles arise where businesses sell stock for risky and sometimes non-existent firms.
  - The first stock bubble is born!
  - One firm sold shares with the promise of disclosing what they were producing in the future. The firm never produced anything and investors lost tons of money!



# Stock Markets: The Beginnings



- British Stock Exchange: unofficially began in 1698 when London brokers would post prices of shares of stocks and commodities at Jonathan's Coffee House
- 1773: The London Stock Exchange was formally organized.
  - Strict rules and regulations with membership fees.



# Stock Markets History: U.S.



- Philadelphia Stock Exchange - first organized stock market in the colonies - 1790
  - Located on Walnut Street
  - Originally the “Philadelphia Exchange (PHLX), It is now known as the “Nasdaq OMX PHLX”
  - 1970’s - one of the first stock exchanges to embrace electronic trading (PACE - Philadelphia Automated Communication and Execution System)
  - It is currently the third largest options market in the U.S. and also specializes in currency and index commodity options. It does not offer stock trading.



# Stock Markets History: U.S.



- 1792 - the New York Stock Exchange (NYSE) is born!
  - 24 individual investors met on Wall Street under a Buttonwood Tree
  - They signed the “Buttonwood Agreement” establishing a stock exchange
  - Started with just five individual stocks
  - Now it’s the largest stock exchange in the world. (Daily average 2-6 billion shares traded!)





<https://www.thewallstreetexperience.com/blog/21-facts-about-wall-street-nyc-thats-will-surprise-you/>



# Self Guided Walking Tours NYC Downtown



- <https://www.gpsmycity.com/tours/best-of-lower-manhattan-walking-tour-1334.html>
- <https://archive.nytimes.com/www.nytimes.com/ref/travel/TOUR-LM.html>
- <https://practicalwanderlust.com/self-guided-walking-tour-of-lower-manhattan/>





# Stock Markets History: U.S.



- Evolution of the NYSE
  - Early years - informal stock trading - in coffee houses around lower Manhattan!
  - Trading grew to point where a more formal organization was needed
  - 1817 - a formal constitution was adopted creating the New York Stock and Exchange Board
  - The new stock exchange rented a room at 40 Wall Street
  - Regulations were put in place to organize trading and sanction unscrupulous brokers
  - Initially, the President of the Board called out individual stocks (30 at the time) and brokers would shout out bids to buy and sell
  - As the country grew, more and more business firms and governments issued stocks and bonds which were bought and sold
  - By the Civil War over 300 stocks were traded
  - 1865 - the Exchange moved to its permanent home on 11 Wall Street.

# Stock Markets History: U.S.



- Innovations in the NYSE
  - Creation of a continuous market - instead of one stock traded at a time, “desks” were created where brokers could roam around the floor buying and selling
  - 1867 - the stock ticker - allowed for quick communication around the nation and increased transmission of market information
  - 1878 - the telephone is first used in the NYSE
  - Dec. 15, 1886 - traded market shares topped 1 million for the first time
  - 1870's - a Chinese style gong was used to insure order on the trading floor
  - 1903 - the gong was replaced by a brass bell which is used today to ring the opening and closing of the market each day.



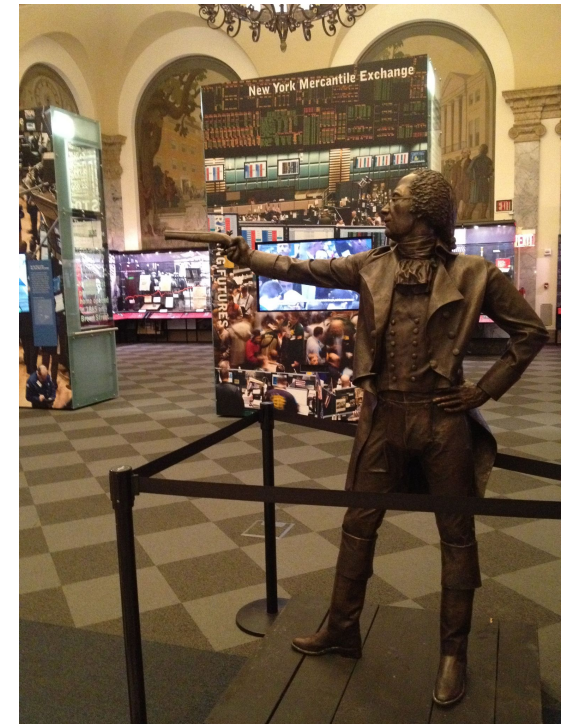
How has financial technology revolutionized stock trading in recent years?

Where do you see this going in the future?

**Museum of American Finance:** <https://www.moaf.org/>



# MU\$EUM OF AMERICAN FINANCE



# Stock Markets History: U.S.



- The Great Crash 1929
  - “Black Monday” - 10/28 - Dow Jones dropped 13 percent
  - “Black Tuesday” - 10/29 - Dow drops another 12 percent - a record 16,000,000 shares were traded.
    - By early 1932, the Dow had lost 89 percent of its value
    - It would take until 1954 to return to its pre-crash level.
  - The Crash focused attention on needed reforms and securities industry regulation
  - In 1934 the Securities and Exchange Commission (SEC) was established





The Milwaukee Leader HOME EDITION  
"Unwieldy by Inflation and Unhindered by Cash"  
No. 48—No. 27. MONDAY EVENING, OCTOBER 26, 1929. PRICE THREE CENTS

# BILLIONS LOST IN NEW STOCK CRASH

PRINCIPALS IN COAST CASE  
TRUNK PLANT FIRE DAMAGE IS \$75,000  
MAY PUNISH SENATOR FOR AIDING TARIFF LOBBYISTS  
BANKERS' AID FAILS TO END SELLING WAVE  
BENJAMIN SAYS IT'S FRAME-UP, IS CRITICISED

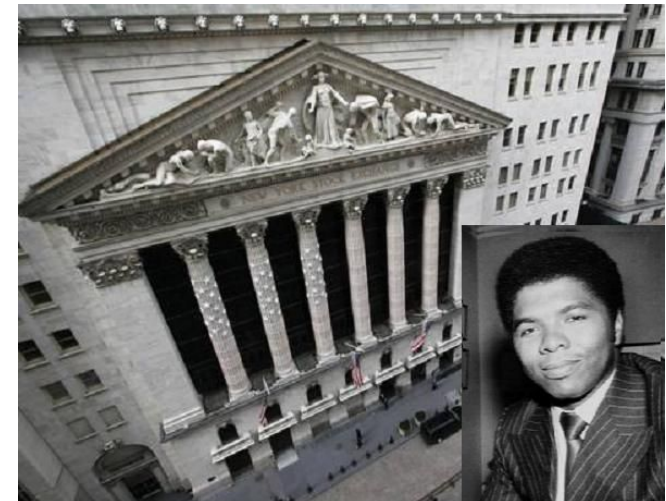


PANTAGES IS Newsies Call

# Stock Markets History: U.S.



- World War II and aftermath
  - Due to a shortage of men, women were allowed to work on the NYSE trading floor for first time in history.
  - Post WWII prosperity: “Your Share of American Business”
  - Stock ownership broadened across “Main Street” America
  - 1960’s - first computers (IBM) were installed at the NYSE
  - 1970’s - “SuperDot” system allowed for electronic orders directly from Stock Broker’s office to the floor of NYSE
  - 1967 - first permanent female member, Muriel Sibert, was inaugurated.
  - 1970 - first black member, Joseph L. Searles III
  - 1980 - NYSE market capitalization topped \$1 Trillion



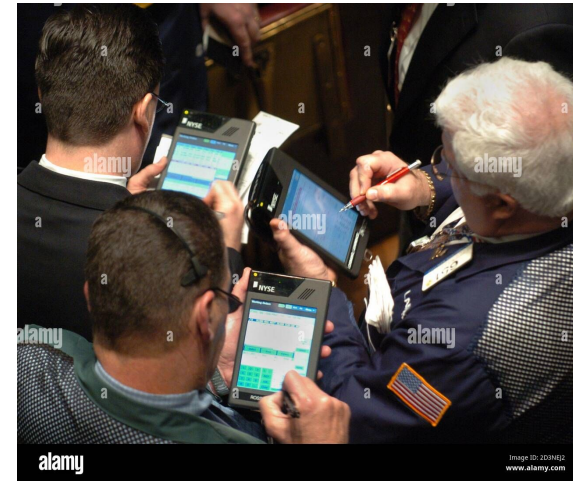




# Stock Markets History: U.S.



- 80's, 90's, 2000's
  - 10/19/87 - "Black Monday" - Dow Jones lost 22% of its value in a single day of trading, a record loss.
  - 1992 - first handheld trading devices used
  - 1995 - flat panel data displays on the floor
  - 1996 - wireless data system introduced
  - 2005 - NYSE Hybrid Market - combined floor based trading and electronic online trading
  - 2011 - new e-Broker systems used at trading desks
  - 2000 teens - establishment of off site data cloud based facilities.





# Stock Markets History: U.S.

## American Stock Exchange (AMEX)

- AMEX (American Stock Exchange): 1800's brokers would meet outside ("Curbstone Brokers")
- AMEX brokers favored smaller, emerging firms and fueled entrepreneurial growth.
- AMEX brokers favored riskier speculative ventures (ex: California Gold Rush mining companies)
- 1890's - outdoor Curbstone Brokers moved to an indoor facility on Broad Street, Exchange Place, NYC
- 1930's/40's - The Curb Exchange became the leading trader of international stocks and moved to Trinity Place.
  - A constitution was established with regulations
- 1950's - name changed to American Stock Exchange. Radio AMEX is launched broadcasting share prices
- 1971 - AMEX is incorporated as a non profit corporation
- 1998 - AMEX merges with Nasdaq
- 2008 - AMEX joins the NYSE group of exchanges



# Stock Markets History: U.S.



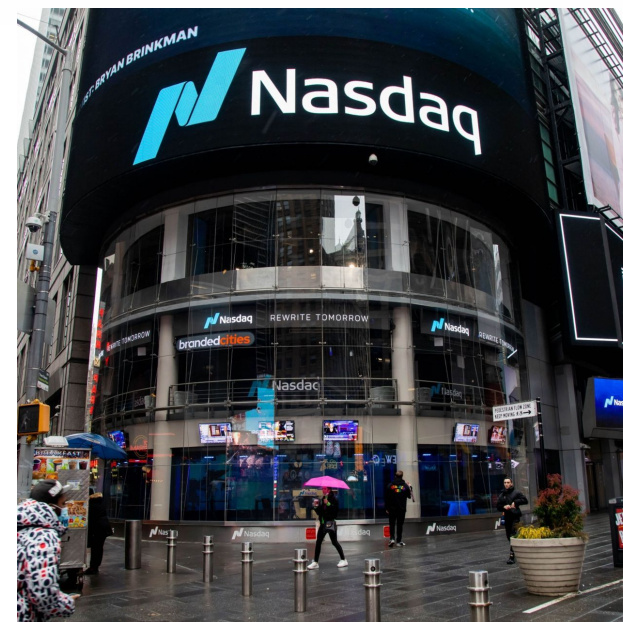
## **Nasdaq (National Association of Securities Dealers Automated Quotations)**

- Established in 1971 - based in NYC
- World's first all electronic stock exchange and assumed the majority of OTC (Over the Counter) trades
- Nasdaq introduced more authentic real time trading - spread across the nation
- 1970/80's - Nasdaq attracted new tech companies to be listed on their exchange - ex: Intel, Apple, Microsoft
- 1992 - Nasdaq joined with London Stock Exchange to create the first intercontinental linked market
- 1998 - Nasdaq became the first market to use online trading: "The stock market for the next hundred years."
- 1998 - Nasdaq merges with AMEX
- Late 1990's/2001 - Nasdaq was the major player in the "Dot Com Bubble/Burst"
- Nasdaq is currently located in Times Square, NYC but is not a traditional "trading floor"



Courtesy of the Museum of American Finance

Source: Nasdaq





<https://www.mapsofworld.com/usa/thematic-maps/stock-exchange-usa.html>

# Stock Markets Around the World



- Currently there are over 130 stock markets/exchanges in the world

- Examples:

- Shanghai Stock Exchange, China
- Euronext, Europe
- Japan Exchange Group
- Hong Kong Exchanges
- National Stock Exchange of India
- London Stock Exchange
- Saudi Stock Exchange
- Korea Exchange
- Australian Securities Exchange
- SIX Swiss Exchange



**London**  
Stock Exchange



**JPX**  
JAPAN EXCHANGE  
GROUP



# The Future of Stock Markets



- Technology to support high frequency trading
- Increased cybersecurity to defend against attacks
- Evolving digital ecosystem: blockchain, big data analytics, improved cloud based computing
- Increasing use of artificial intelligence



# The Future of Stock Markets



## Artificial Intelligence (AI) and Stock Markets

Note: Stock trading has used bots and AI for years. As AI evolves, so will its use in stock market trading.

- Automating manual tasks - replacing jobs?
- Quick analysis of data to find patterns, trends, and anomalies which might be missed by humans
- Faster acting on information to make investment decisions
- Identification of risks and opportunities faster than humans
- More thorough analysis of market forces
- AI might be able to efficiently manage portfolios



# The Future of Stock Markets



## Limitations of AI in the Stock Market

- Stock market volatility and difficulty in predictions/forecasts
- Decreasing accuracy in long term prognosis - too many variables
- High level of competition among AI models - which to use for best outcomes?
- “Overfitting” of data - too much historical data can create rigidity and prevent creativity and flexibility



# The Future of Stock Markets



## Themes Moving Forward:

- Improved technology and automation
- Increased efficiency and velocity of trading
- Higher degree of democratization and access to markets

\*These themes have been evolving since the 1500's!



# Digital Formative Assessment Tools



Gimkit: <https://www.gimkit.com/>

Blooket: <https://www.blooket.com/>

Socrative: <https://www.socrative.com/>

Quizlet Live: <https://quizlet.com/live>



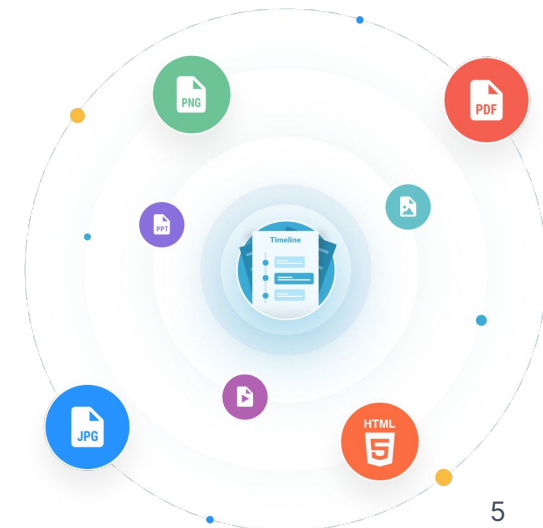
# Learning Activities



## Digital Timeline Tools -

- Sutori - <https://www.sutori.com/en/>
- Read Write Think Timeline - <https://www.readwritethink.org/classroom-resources/student-interactive/s/timeline>
- Canva - <https://www.canva.com>

Use one of the above timeline tools. Have students choose ten big developments in the history of stock markets or the NYSE in particular. The students will then create an interactive multimedia timeline with original text, images, video clips, etc.



# Learning Activities



## **Graded Discussion/ Socratic Seminar - Future of Stock Markets**

- Provide students with articles and other sources related to the role of Artificial Intelligence in the future of stock markets.
- Have students answer guided questions and conduct either a circle discussion or a socratic seminar evaluating how AI might change the nature and function of stock markets.

### Possible sources:

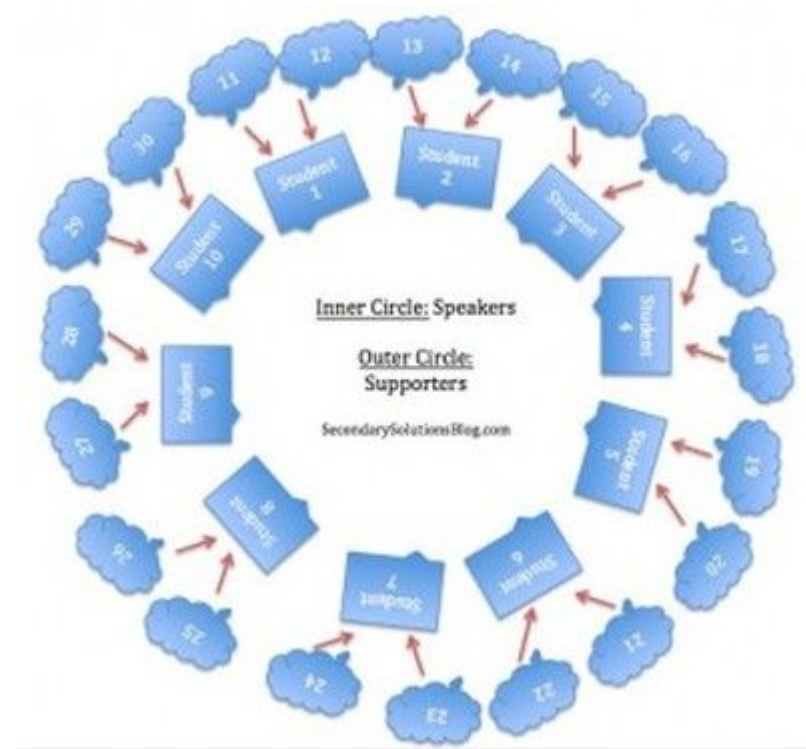
- <https://markets.businessinsider.com/news/funds/wall-street-traders-ai-chatgpt-markets-artificial-intelligence-machine-learning-2023-2>
- <https://www.tradersmagazine.com/departments/equities/why-artificial-intelligence-will-never-beat-the-stock-market/>
- <https://www.marketwatch.com/story/ai-will-change-stock-market-trading-but-it-cant-wipe-out-the-role-of-people-2018-05-15>
- <https://www.entrepreneur.com/en-in/technology/how-ai-algorithms-are-changing-trading-forever/377985>

# Learning Activities

How to structure effective Socratic Seminars:

<https://ncte.org/blog/2017/12/crafting-conducting-successful-socratic-seminar/>

<https://www.readwritethink.org/professional-development/strategy-guides/socratic-seminars>



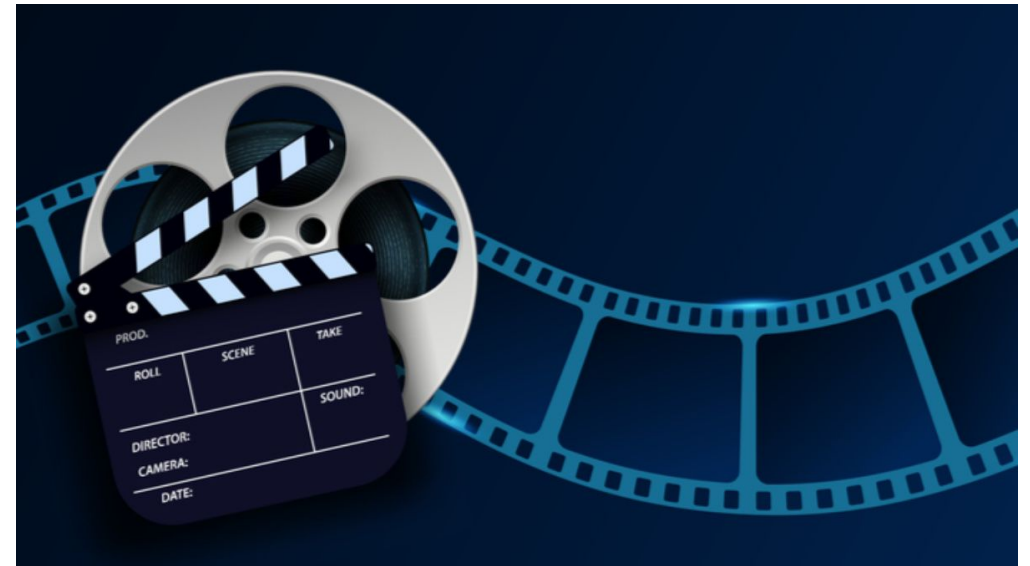


# Learning Activities



## **Group Research Assignment: Documentary Film or Podcast**

- Groups of students research the history of various global stock exchanges.
- Students create a documentary short film or a podcast with an original script on the historical development and current structure/functioning of that stock market.
- Possible tools:
  - iMovie
  - MovieMaker
  - GarageBand

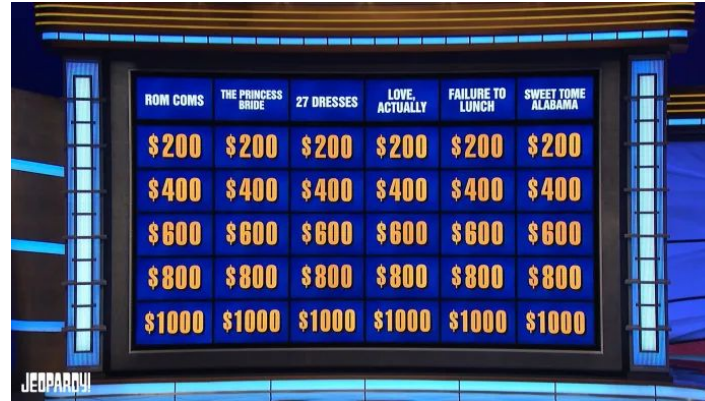


# Learning Activities



## “Old School” Review Games:

- Pictionary
- Password
- Bingo
- Lottery Game
- Scattergories
- Jeopardy
- Wheel of Fortune
- Puzzlemaker.com



# Final Questions?

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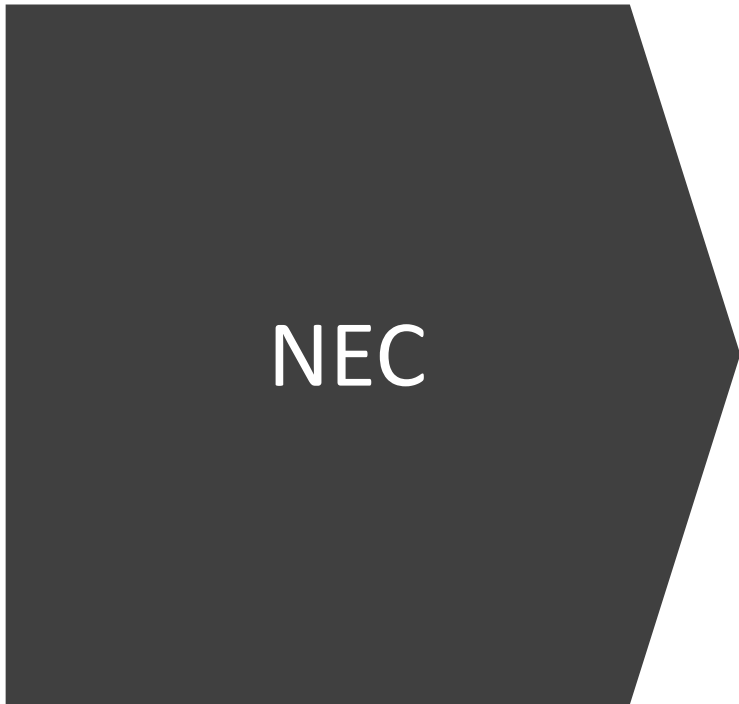


Or visit [investgirls.org/students](https://investgirls.org/students)

Questions? Email Cristina Medina at [cmedina@investgirls.org](mailto:cmedina@investgirls.org)

**DO YOU LOVE ECON?**

You may have what it takes to compete in the Nation's only high school economics competition!



The **National Economics Challenge (NEC)** is the country's only economics competition of its kind for high school students. It tests micro and macroeconomic principles as well as knowledge of the world economy.

This motivating and fun team learning experience begins with competitions at the state level. The winning team from each state moves on to the National Semi-Finals. The top teams in the semi-finals will advance and receive an **all-expense paid trip (excluding travel) to compete in the National Finals in New York City** this spring.

**Why Play?**

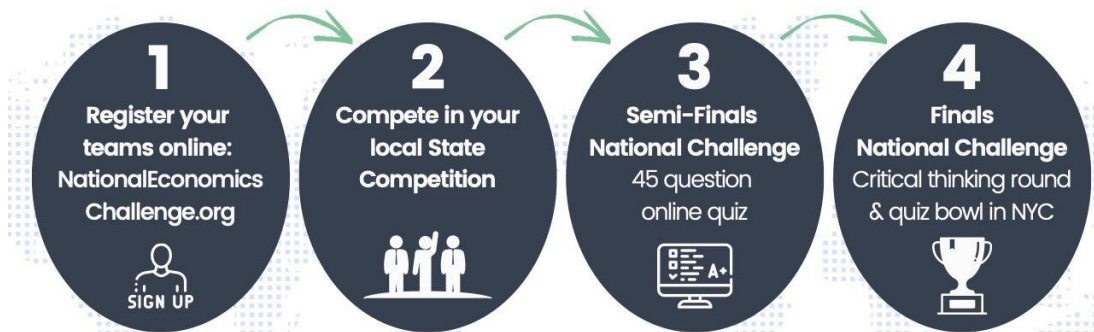
- Fun team learning experience
- Great for your college application
- No other challenge like this!

**CASH PRIZES**



For each team member in National Finals:  
1st place: \$1,000  
2nd place: \$500  
3rd place: \$250  
4th place: \$125

**HOW IT WORKS: STEP-BY-STEP**



**TWO DIVISIONS BASED ON EXPERIENCE LEVEL**

**David Ricardo Division:** For first-time competitors who have taken no more than one economics course.

**Adam Smith Division:** For returning competitors, AP, International Baccalaureate, and honors students.

**REGISTER TODAY FOR YOUR LOCAL COMPETITION!**  
NationalEconomicsChallenge.org

## THE NATION'S PREMIER HIGH SCHOOL COMPETITION



The National Personal Finance Challenge is a competition that provides high school students with an exciting and motivating opportunity to build, apply, and demonstrate their knowledge of money management.

Through online exams and a personal finance simulation, teams showcase their expertise in **earning income, buying goods and services, saving, using credit, investing, as well as protecting and insuring.**

Teams of 3-4 students, with one teacher/coach, can qualify to represent their state at the National Personal Finance Challenge by winning their local competition.

## HOW IT WORKS: STEP-BY-STEP



### CASH PRIZES

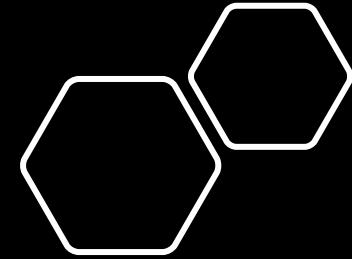
Top teams in National Finals receive a cash prize for each student team member and an all expense paid trip (excluding travel) to Cleveland, Ohio.

1st place: \$2,000 | 2nd place: \$1,000 | 3rd place: \$500 | 4th place: \$250

**REGISTER TODAY FOR YOUR LOCAL COMPETITION!**

[personalfinancechallenge.org](http://personalfinancechallenge.org)

The National Personal Finance Challenge is sponsored by:



# NPFC



FinEd50 is a coalition of non-profit organizations, researchers, corporate partners, and professional organizations that believes that personal finance education is a crucial tool to helping people better navigate their financial lives, make informed decisions regarding their life choices, and take more control over their own futures.

### **FinEd50: Financial Education for American**

Currently, only 24 states require personal finance education courses in the United States. Research indicates that a quality financial education leads to improved future credit scores, declines in payday lending, student loan payment increases, student borrowing shifting to lower cost options, and overall financial well-being!

Recognizing that education is the realm of state and local leadership, FinEd50 is dedicated to achieving:

**State Level Action:** State-level action that guarantees equitable access for every student to a robust, high-quality personal finance course;

**National Standards:** Courses and educational materials that address the content outlined in National Standards for Personal Financial Education and are culturally relevant and respectful to students' lived experiences;

**Innovative Funding:** Innovative funding mechanisms and professional development opportunities to support and develop a corps of high-quality teachers with access to professional development opportunities to teach personal finance;

**Measurement:** A mechanism for measuring access to courses on personal finance and equitable reach of state requirements.

**Learn more about FinEd50:**

Advocacy

## CEE Affiliates



### **A network of 200 nationwide affiliates**

Provide professional development for K-12 teachers, advocate for including economics and personal finance in K-12 schools, conduct research, and forge partnerships.

<https://www.councilforeconed.org/resources/local-affiliates/>

Include your local affiliate page



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