

# Brainteaser

## Problem:

- 5 pirates (p5, p4, ... p1) are dividing up 100 gold coins.
- The pirates have a total-order hierarchy, i.e. pirate p5 is the head pirate, p4 is a rank lower in the order, p3 lower still, ...
- The process works like this: The most senior pirate proposes how he would like to divide the treasure. Then all living pirates (including him) vote on the proposal. If at least half of the pirates alive vote for the proposal, then it is accepted, otherwise the pirate who made the proposal is killed and the process is repeated. The pirates are perfect logicians, and each pirate's priorities are, in this order: survival, wealth, and bloodthirstiness (seeing as many pirates killed as possible).
- In other words a pirate will always choose an outcome in which he lives over one in which he dies. Given two outcomes in which he lives, he will choose the one where he gets more coins. And given two outcomes in which he lives and gets the same number of coins he will choose the one in which the highest number of other pirates die.
- How will the gold coins be divided?
- What is the generalized form of the solution?

# Brainteaser

## Answer:

- P5 will propose that P1 gets 1 coin, P3 gets 1 coin, and P5 gets 98 coins. This proposal will receive 3 of the 5 votes (P5, P3, P1)
- For any  $2n + 1$  pirates (where  $n < 100$ ), the most senior pirate will offer pirates 1, 3, ... and  $2n - 1$  each one coin, and keep the rest for himself
- What about for  $n > 100$ ?

# Famous and Infamous Trades

How to get rich quick (\$\$\$) (or die trying)

Should we add a slide for  
GS Engineering event?

# Goldman Sachs Panel

Join BAC and QFS to hear panelists from Goldman Sachs Consumer Lending, Strats and Market Risk share their experience.

 Thursday 10/20

 12:30 pm - 1:45 pm

 T-201



# Market Update

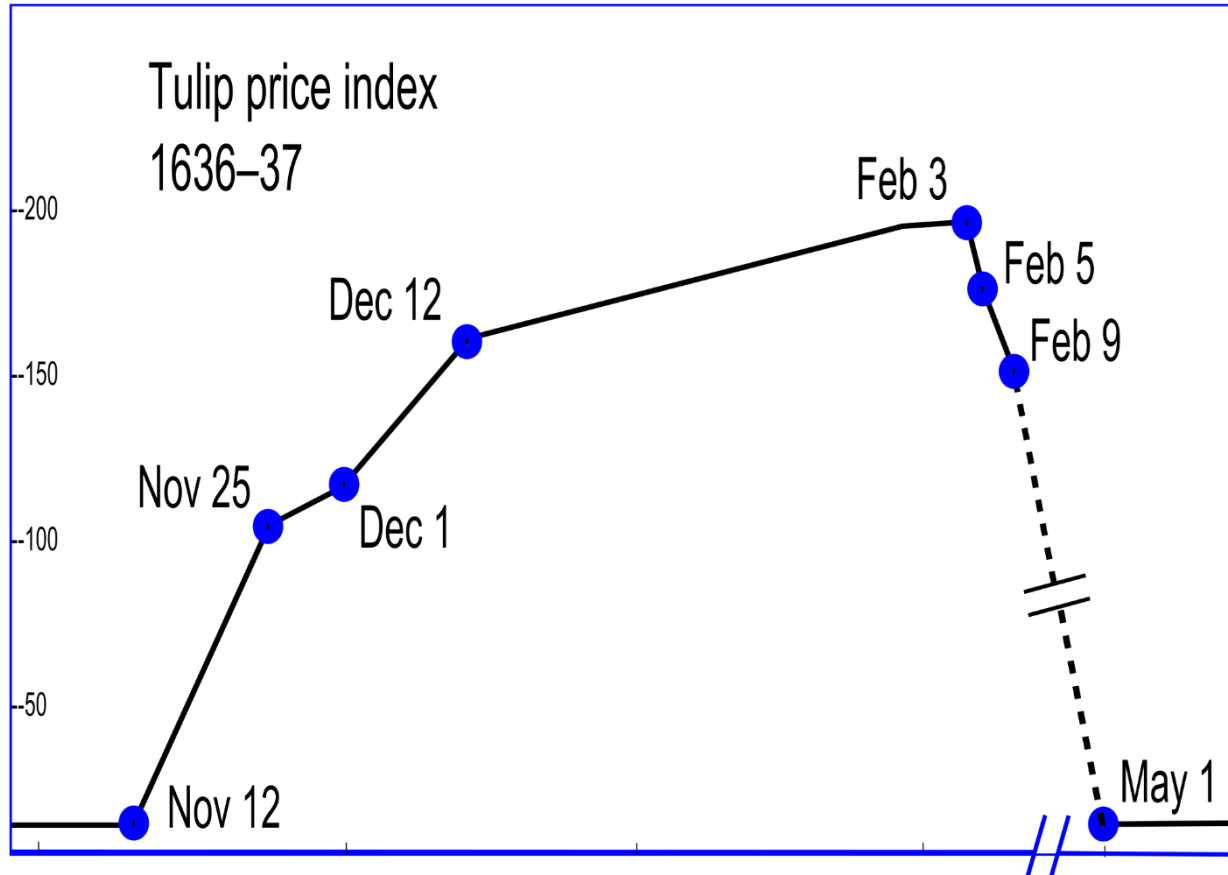
## Market Week in Review

- Weak Chinese Data – Exports fell 10%, Imports fell 2%
  - Chinese PPI came in positive
- Death of Thai King – effect on Thai politics and Baht
- Yellen spoke and markets moved again, December rate hike at 66%
- Pound volatility concerning, inflation expectations skyrocketing, gilts
- Strong earnings from financials so far
- Goldman/Libya case ruled in favor of screwing over clients and getting away with it

# What is a Bubble?



# Tulip Mania



# Dot Com Boom

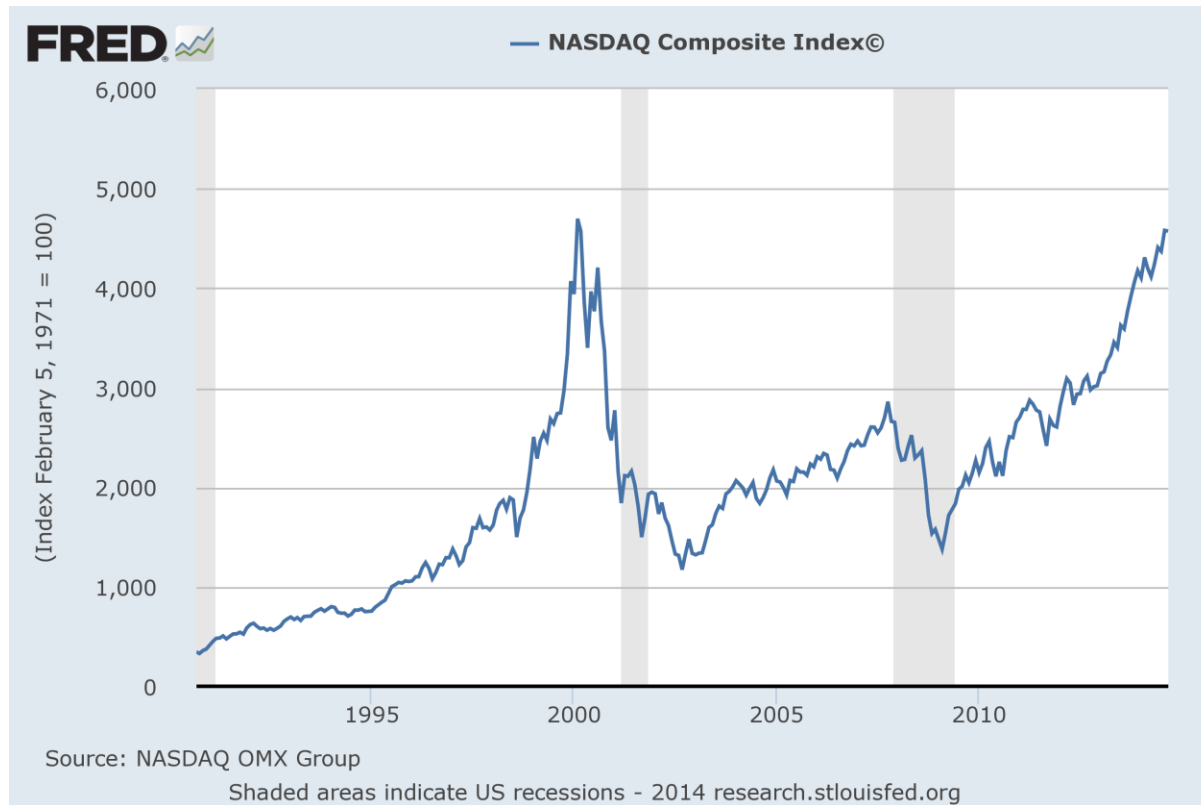
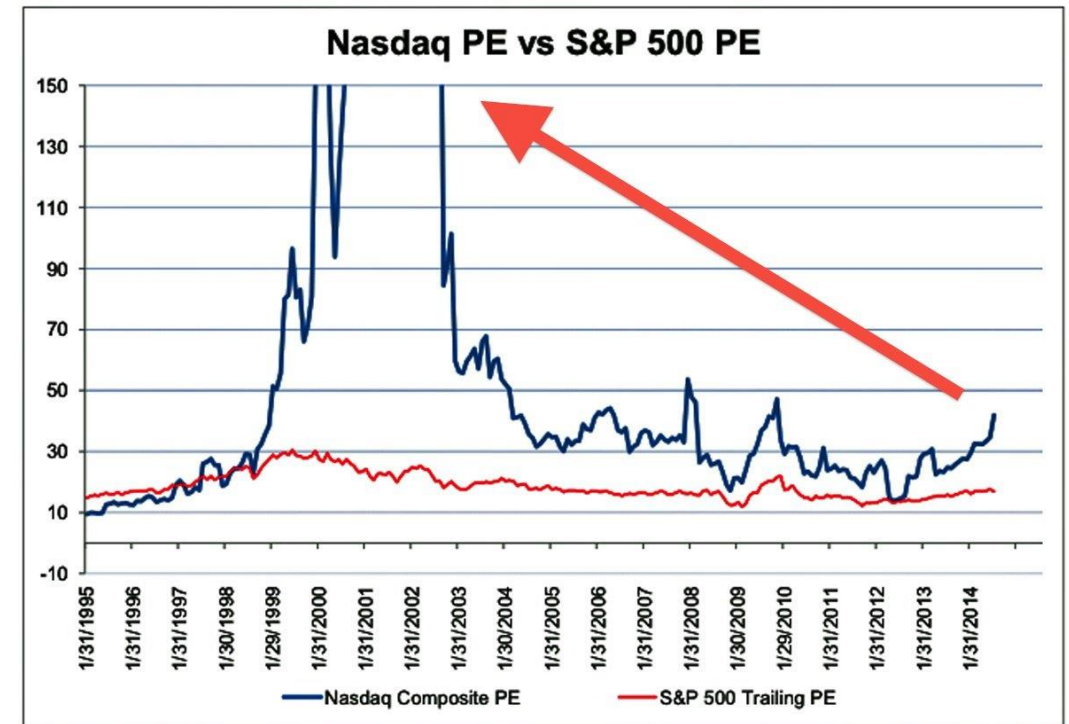


Figure 1. Nasdaq PE vs S&P 500 PE



Source: Bloomberg, Thomson Reuters, Haver Analytics, and Citi Research – US Equity Strategy



# George Soros vs. The Bank of England

## The Man who Broke the Bank

### European Exchange Rate Mechanism

- Fixed Exchange Rate of GBP to German Mark
- First Attempt at Unifying Europe
- British Inflation Way in Excess of Germans

### Soros Notices Deflationary Pressures Counteracting BOE

- Sells Short 10B GBP when the currency was at the lower end of the range to counteract BOE rate hikes and market purchases
- Made 1B basically overnight when the BOE removed England from the ERM



# George Soros vs. Asia

## Breaking Some More Banks

- Asian Financial Crisis – Shorted THB and MYR into the crash to force lifts on the peg
- Hot Money outflows driven by short-sellers forced Asian Financial Crisis
- Soros banned from Malaysia, public enemy #1



Fig.2. How Soros gained \$790 Million and destabilized Thailand's and Asian economies in 1997 – 1998.

# The Rise and Fall of Long-Term Capital Management

- John Meriweather – Hotshot bond trader from the 1980s out of Salomon Brothers, where he was vice-chair of fixed income trading
  - Started his own fund (LTCM) after the Salomon Brothers fixed income division scandal – Board included Robert Merton and Myron Scholes... sound familiar?
- One man's (Soros') treasure is another man's trash? – Asian Financial Crisis set off a ripple effect of deleveraging / fear from global investors
  - LTCM returned \$2B of capital without reducing any position sizes, thus increasing total leverage significantly
- Positioning was short Treasury Bonds.. Which is what people started buying when Russia defaulted in 1998
  - Fund was down \$2B, competitors exits from their strategies destroyed value even more, and by 2000, the fund had lost \$4B and wound down
- Meriweather tried hedge fund work again, and again... and then 2008 happened

# John Paulson

## How to get an Auditorium Named After You

### Shorting the Economy and Housing

- Synthetically Shorted subprime mortgages using credit default swaps
- Began shorting the institutions that backed those assets (i.e. Bear Stearns)

### Returns

- Made 15 billion for his fund in 1 year
- Pocketed 4 billion of that



# Nick Leeson and Barings Bank

## How to Bring Down UK's Oldest Merchant Bank Overnight

### Unauthorized Trading in Singapore Futures Market

- Sent to Singapore to trade future for Barings in 1992
- Made unauthorized risky trades and at first, made great returns
- When he began losing money, he hid his losses in an error account

### Downfall

- Jan 16, 1995, placed a highly levered short straddle position in the Singapore and Tokyo market, betting it wouldn't move
- The Kobe Earthquake hit the next day, sending Asian markets crashing down
- Losses reached £827 million (US\$1.4 billion), twice the bank's available trading capital
- Left a note reading "I'm Sorry" and fled
- Found and arrested in Germany later that year



# The London Whale

## Don't be dumb, and don't take big risks pt. 2

- Bruno Iskil taking big short positions in CDX IG for a fundamental view on credit spreads
- Some smart funds noticed the huge index moves...took opposite positions
- Initial losses turned into a \$2B gain for the opposite side.. And a \$2B loss for JP Morgan
- Winners included Saba Capital, Hutchin Hill, Blue Mountain, and... JP Morgan

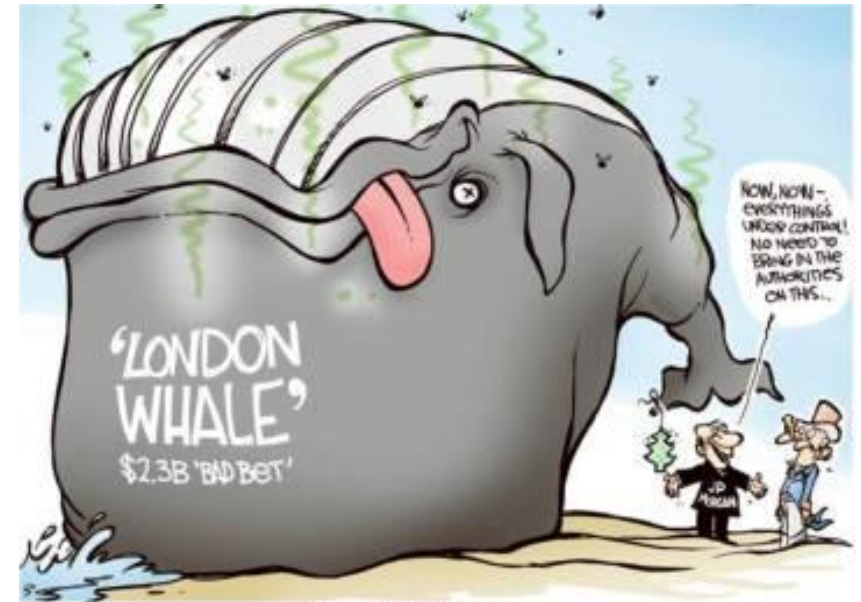


Image from Google

# Bill Browder

## Investing in Russia



### Background Before Hermitage Capital

- Went to Stanford Business School, had no idea what he wanted to do after. Berlin Wall fell after he graduated and came from family of Communists, so wanted to be a “capitalist in Eastern Europe”.
- Working for BCG in London, first project was working with bus factory in Ukrainian border
- Talks to interpreter one day, and finds out government is privatizing businesses that had market capitalizations equal to half of the previous year’s earnings.
- Had \$4,000 in savings and makes first investment. Makes 10x in twelve months.



# Bill Browder

## Investing in Russia cont.



### Salomon Brothers

- Figured out Russia was a great investment. On advisory project with fishing company. Fishing fleet – 2B worth of ships (1B at market value) - 51% of fleet being sold for 2.5m.
- Just the tip of the iceberg. Entire country is being given away for free. Best way to do it is through Voucher of Privatization Program, given to every Russian over 18. Gives access to 30% of all share capital of Russian companies.
- Vouchers cost \$20 x 150m population = \$3b of property. If this is 30% of all capital in Russia, then the entire market cap of Russia, the country, was \$10b in 1993.
- He says fuck investment banking advisory work, just invest as principals in these privatizations – quits to start Hermitage Capital.



# Bill Browder

## Investing in Russia cont.



### Hermitage Capital

- Starts with \$100m. First month up 40%, second month up 35%, first year up 175%, second year up 228%.
- By 1997, had 1b AUM. Up 800% in two years. Then Asian markets had trouble and in 1998, Russia defaulted. Lost 900m.
- Even worse, oligarchs of Russia started misbehaving after Wall Street stopped investing in Russia. Started asset stripping, transfer pricing, dilutions, embezzlements, and basically anything and everything to steal money.
- Goes to war against stealing.

# Bill Browder

## Investing in Russia cont.



### Gazprom

- Gazprom trading at 99.7% discount to Exxon, per barrel of hydrocarbon reserve. Market concluded that everything was stolen from the company.
- Research team to perform “stealing analysis”. Figured out Russia keeps every bit of information in some ministry. Finds out about Gazprom.
- An oil company the size of Exxon only represented 9.65% of Gazprom’s reserves. More than 90% was still there when the market was pricing it as if 99.7% wasn’t.
- Made 100x on Gazprom (30% of portfolio): that 100m → 4.5b

# Bill Browder

## Things get really bad in Russia

### Browder gets Raided

- 25 officers from Moscow Interior Ministry raids his office on June 4, 2007.
- Raided his company to get certificate stamps, seals, and articles of association of his fund. Three months later, police transferred his company to Victor Markelov, some Russian convicted of murder and released from jail a year earlier.
- Browder hires 7 lawyers in response, including Sergei Magnitsky. Sergei digs deeper and finds that documents seized were used to fraudulently create billions of dollars of fake contracts that company owed to three newly formed shell companies.
- Shell companies sued. The guys who stole his company hired lawyers to plead guilty – court awarded a billion dollars of judgements to three holdings companies.
- Filed criminal complaints, Browder + 6 lawyers go to London to figure stuff out, Sergei declines and didn't want to leave.
- Sergei Magnitsky innocently arrested, tortured, kept him sleep deprived. They wanted him to testify against Browder.
- “Withdraw your testimony, sign the following confession saying that you committed a number of tax crimes, that Bill Browder committed these tax crimes, and that you guys stole \$230 million from Russia”.
- Sergei dies from pancreatitis because Russia fails to treat him in jail.

# What about you guys?

## Any Fun Stories? Moments of Glory? Moments of Not Glory?



# General Announcements

- QFS Feedback form [bit.ly](https://bit.ly)
- PTeam Apps
- GS engineering next Wednesday evening TechTalks
- CS S&T mixer/networking event for select juniors – send us your resume