

Brainteaser

Problem:

- You have 2 pieces of string of different, unspecified length, and some matches.
- Each piece of string takes exactly an hour to burn, but the burn rate is not constant. This means that it could take 59 minutes to burn the first $\frac{1}{4}$, and 1 minute for the rest.
- The strings have different burn rates, and of course you don't know the rates anyway.

Using only the matches and the strings, is it possible to measure 45 minutes?

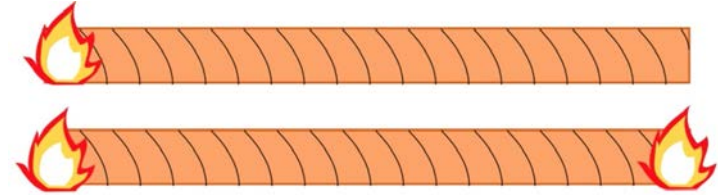
What about 50 minutes?



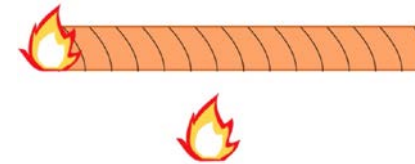
Brain teaser

Answer: How to Measure 45 Minutes

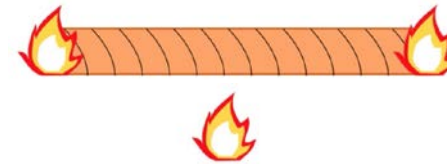
1. Light both ends of rope A, and one end of rope B (at the same time)



2. After 30 minutes, rope A will have finished burning



3. When this happens, light the unlit end of rope B



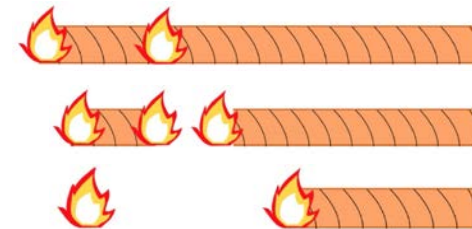
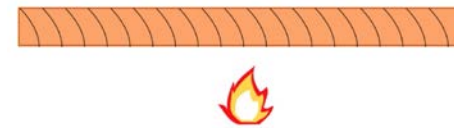
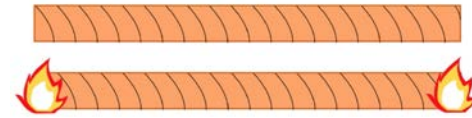
4. After 15 more minutes, rope B will have finished burning



Brainteaser

Answer: How to Measure 50 minutes

1. Light both ends of rope A,
2. After 30 minutes, rope A will have finished burning
3. When this happens, light one end of rope B, as well as a middle section of rope B. This results in 3 simultaneous flames, which is 20 minutes of burn time
4. If two of the flames meet (resulting in only one flame left), light rope B at another point in the middle [repeat as needed to always have 3 flames going]



All 3 of these are the same rope, just different snapshots in time



Introduction to Markets

Broad Overview of Markets and Various
Asset Classes

September 12, 2017

Expectations

Making the Most of QFS

1. Intellectual Honesty

Raise your hand if you don't know what's going on – it's okay!

2. Participation

The tangent conversations we have from your comments can be more valuable than our scripted content

3. Less Math / More Intuition

4. Call us out

We'll respect you more if you try to prove us wrong

5. Purposeful Approximation

6. Take Notes

You're going to forget



Update with Market Events (do we need this?)

Market Update

Market week in review

Event	Description
Hurricane Harvey & Irma	
Precious Metals	
Chinese Currency	
Euro	

Introduction to Markets

What are markets for?

Introduction to Markets

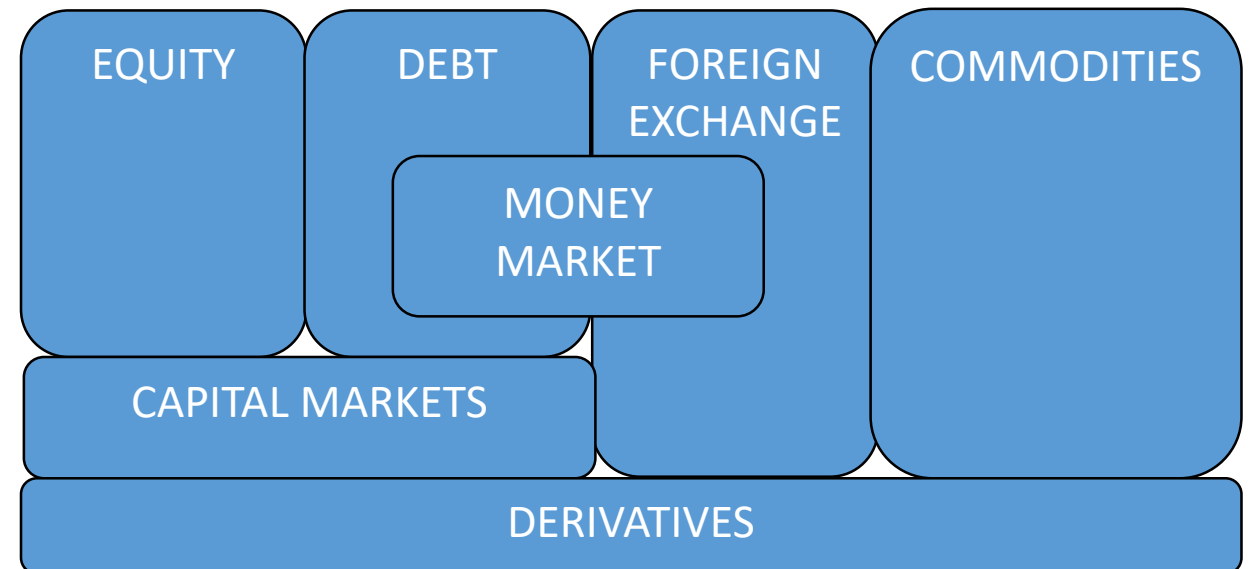
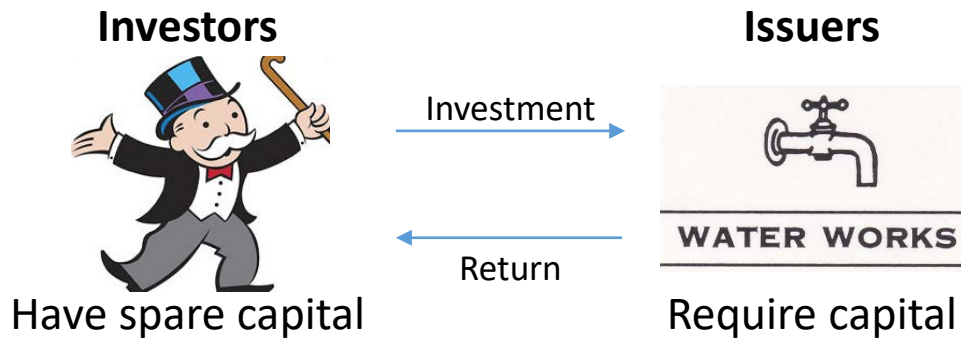
What are markets for?

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Introduction to Markets

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- A market is a mechanism where goods are transferred from people who have them, to people who need them, for a price.
- The capital markets are where capital (money) is transferred from people who have it (investors) to people who need it (issuers).



Players of the Market

Navigating the Finance Industry

How does Goldman Sachs make money?

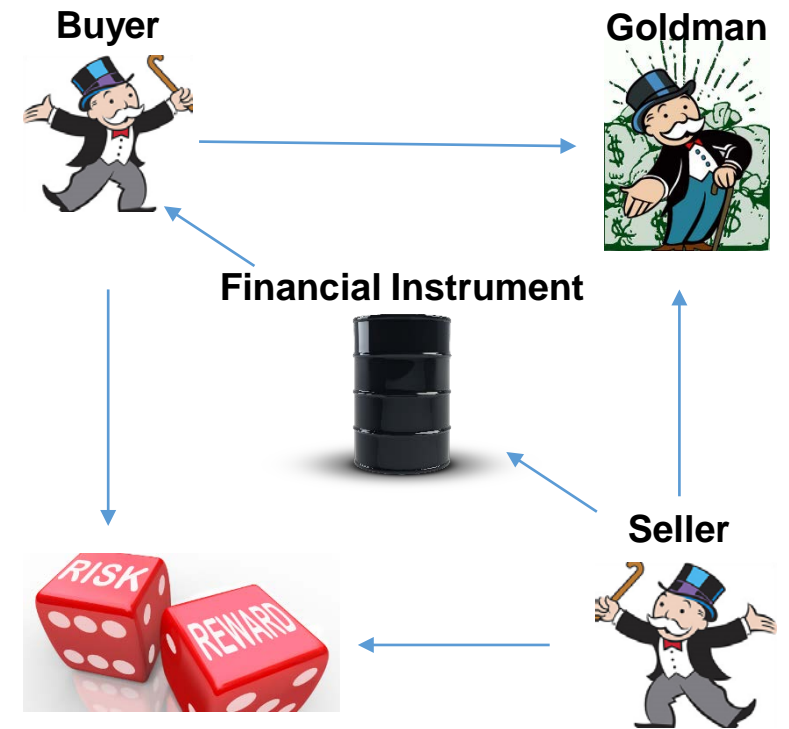
Players of the Market

Navigating the Finance Industry

How does Goldman Sachs make money?

Methods	Details
1. Customer Facilitation	<ul style="list-style-type: none">Facilitate the buying and selling of businesses (Investment Banking)Make markets for clients (Sales & Trading)
2. Manage Risk	<ul style="list-style-type: none">Invest wealthy individual client money (Private Banking / Private Wealth Management)Invest institutional money / pensions (Asset Management)Lending and Borrowing Money (Commercial Bank)
3. Gather Market Intelligence	<ul style="list-style-type: none">Create market research and trade ideas (Equity, Credit, and Macro Research)

At the end of the day, Goldman Sachs is just a very good middleman....



Players of the Market

Outside of banks like Goldman Sachs, what players are in the finance industry?

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Participants	Description
Buy-side Investors	<ul style="list-style-type: none">Hedgefunds (all types), Private Equity, VC, Sovereign Wealth Funds
Customers, Clients, and Counterparties	<ul style="list-style-type: none">Governments, corporations, high-net worth individuals, 'the general public'
Central Banks	<ul style="list-style-type: none">Which are the most important central banks in the world?
Regulators	<ul style="list-style-type: none">What are some key measures which they have put in place?

What are the roles of each of the participants in the broader markets?

Different Asset Classes

Introduction of various asset classes

Asset	Description
Equity	<ul style="list-style-type: none">• Global Equities: stocks from companies based all over the world• ETFs (exchange traded funds): something that tracks an index<ul style="list-style-type: none">• Access to different products not normally available to general public
Fixed Income	<ul style="list-style-type: none">• Government issued debt• Corporate issued debt
Commodities	<ul style="list-style-type: none">• Metals, energy, agriculture, power
Currencies	<ul style="list-style-type: none">• Any country's currency, which has to be paired (i.e. exchanging dollars for euros)
Derivatives	<ul style="list-style-type: none">• An asset that <i>derives</i> its value from the performance of an underlying entity• Ownership of derivative \neq ownership of asset• Options and futures are the most common derivative• Other derivatives include tranches, credit default swaps, exotic options, etc.

We will also go over each asset in greater detail in later general meetings and additional workshops as well.

Equities

Introduction to Equities

- A piece of pie of the company at a certain price
- Can long (buy) or short (sell) the company, which is generally harder?

Bottom-Up Investing	Top-Down Investing
<ul style="list-style-type: none">• Screen for potentially cheap companies or identify special situations that create opportunity.• Read annual reports, company transcripts, and research reports to understand the business and its drivers.• Identify what one is willing to pay for the business given the nature of the business and its risks.	<ul style="list-style-type: none">• Identify macro developments that affect the equity market or certain industries in the equity market.• Instead of buying 1 company, buy a basket of companies to express the view.• ETFs are an alternative to play broader industries.

Fixed Income

Introduction to Fixed Income

- Generally relates to credit (debt) of a company or of a country
- Debt functions similar to an IOU (Give me \$100 now and I will pay you back the \$100 + extra compensation (generally coupons))
- Called fixed income because coupons pay a fixed amount of income.



"My fixed income broke again."

Commodities

Introduction to Commodities



Agricultural

- Grains: Corn, Soybean, Wheat,
- Softs: Cocoa, Coffee, Sugar, Frozen Concentrated Orange Juice
- Livestock: Cattle, Hogs



Metals

- Industrial: Copper, Aluminum, Iron, Nickel, Zinc
- Precious: Gold, Silver



Energy

- Oil: WTI, Brent
- Distillates (Refined Products): Heating Oil, Gasoline
- Ethanol, Natural Gas

Currencies

Introduction to Currencies

- Generally traded as a currency pair, buying one currency and selling another currency
- Long dollar doesn't mean anything – have to be more specific and say long dollar against euros
- Driven by many different factors, but broadly speaking currencies are influenced by economic well-being, interest rates, and investor flows of money.



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Derivatives

Introduction to Derivatives

- Futures: The obligation to sell or buy the underlying at a certain price at a certain time period.
- Options: The right but not the obligation to purchase or sell the underlying at a certain price, with this right lasting a certain time period before it expires.
- Swaps: Entering an agreement with a counterparty to swap one set of cash flows for another
- Credit Default Swap: Similar to insurance – if a company or country defaults, receive a payout

The benefit of derivatives over other products is 1) leverage (you can buy larger exposure with same notional investment) and 2) expression of various types of risk other than directional risk (volatility, correlation, etc.)

General Announcements

- Portfolio Team Open House - Thursday @ 6:30pm
- Portfolio Team Applications have been released!
 - 2 page (max) response
 - Deadline is 6:00pm on 9/20
 - Please do not wait until the night before

- Next Week: Intro to Investing & Trading

- Please be sure to swipe in
- Email us if you are not receiving our emails