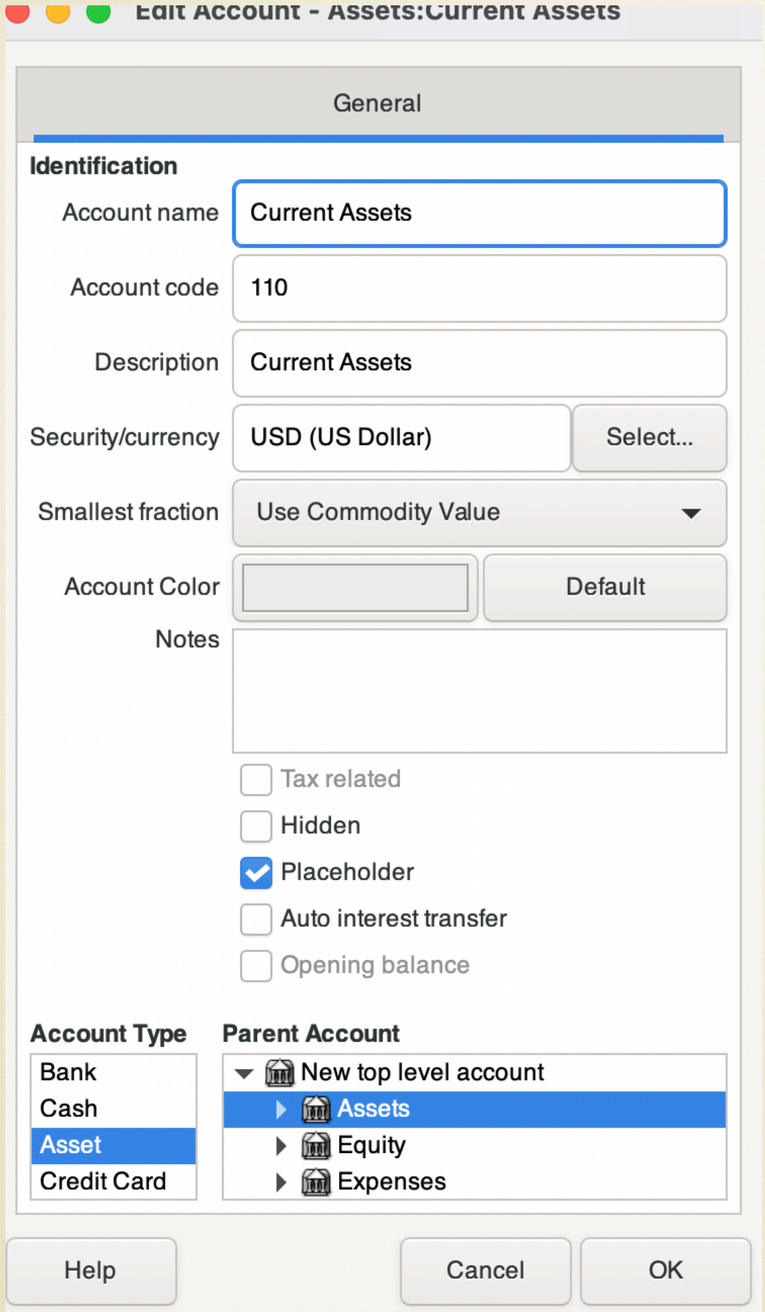
MBUS 3755

Lecture 21 Review for Midterm II

Gnucash and Accounting Questions
8-10 questions.

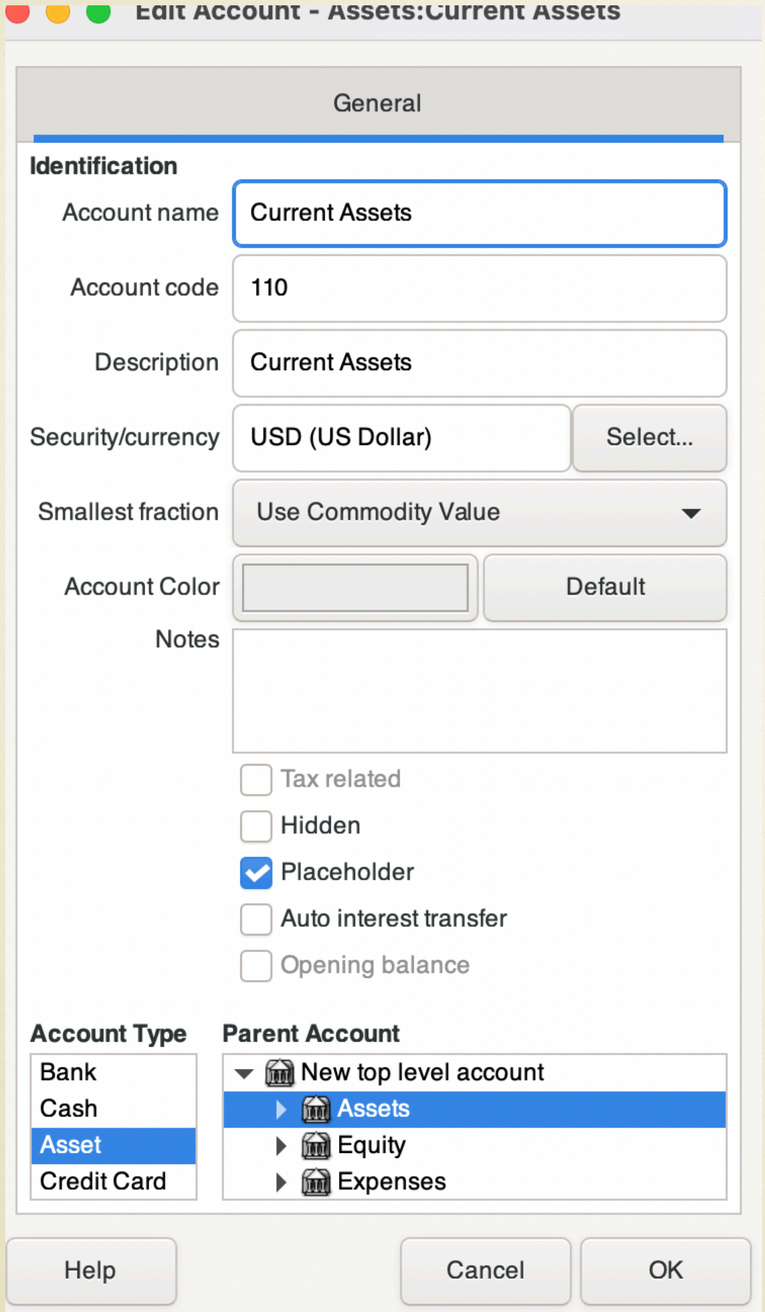


What type of account is current assets?

Asset.

For our test we only care about
Income, Expense, Assets, Liabilities and Equity

Gnucash has other specialty accounts that
add additional features.
Like “Bank” but really that’s really an asset account



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Know how much you have approximately in various account categories?

Example.
How much do you have in long term liabilities?
What are your approximate recording expenses?

Know how much you have approximately in various account categories?

Example.
How much do you have in long term liabilities?
What are your approximate recording expenses?

Hypotheticals

If General Ortiz started selling Patreon subscriptions and wanted to track the REVENUE

what type of account would they create?
Liability?
Expense?
Income?
Equity?

Hypotheticals

If general ortiz started selling Patreon subscriptions and wanted to track the REVENUE

what type of account would they create?
Liability?
Expense?
Income?
Equity?
Recording Expense?

Hypotheticals

If general ortiz started selling Patreon subscriptions and wanted to track the REVENUE

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Liability?
Expense?
Income?
Equity?
Recording Expense?

Hypotheticals on “nesting” accounts

The band needs to track expenses associate with vehicle repairs?
The most logical parent account?
Fixed Assets?
Current Liabilities?
Recording Expenses?
Touring Expenses?

Hypotheticals on “nesting” accounts

The band needs to track expenses associate with vehicle repairs?
The most logical parent account?
Fixed Assets?
Current Liabilities?
Recording Expenses?
Touring Expenses?

Example

The bands agency receives a show deposit.

Which two accounts do you use to record the transaction?

Fixed Assets and Long Term Liabilities?

Recording Fees and Show Deposits?

Show Deposits and Retained Profits?

Agency Escrow and Show Deposits?

Current Assets and Current Liabilities?

In agency escrow **add "Echoplex Deposit"** Transfer account should be "**Show Deposits**". Increase of **$250**. In the same account add **"Fronterizo Fest Deposit" $500.** Transfer account should be "**Show Deposits**" increase of **$500**

What if I asked account types?

Fundamental Accounting Equation

effects on the affairs of the business entity.

Basic Elements of Financial Position: The Accounting Equation

The financial condition or position of a business enterprise is represented by the relationship of assets to liabilities and capital:

Assets. Properties used in business that are owned and have monetary value, for instance, cash, inventory, buildings, and equipment.

Liabilities. Amounts owed to creditors, including all payable accounts. Liabilities may also include certain deferred items.

Owner's Equity. The interest of the owners in an enterprise.

These three basic elements are connected by a fundamental relationship called the accounting equation. This equation expresses the equality of the assets on one side with the claims of the creditors and owners on the other side:

Assets = Liabilities + Owner's Equity

Classified Assets and Liabilities

Assets

Current

Fixed

Other

Liabilities

Current

Long Term

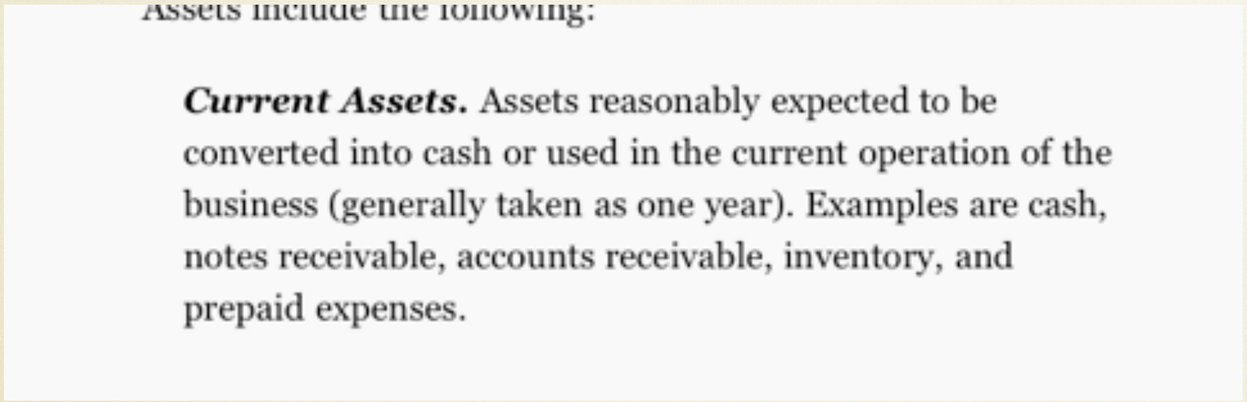
Contingent

Equity

partners equity/capital

Profit/Retained Profit

Classified Assets and Liabilities



Assets include the following:

Current Assets. Assets reasonably expected to be converted into cash or used in the current operation of the business (generally taken as one year). Examples are cash, notes receivable, accounts receivable, inventory, and prepaid expenses.

Cash
Checking
PayPal Account

Inventory
T-shirts
CDs

Classified Assets and Liabilities

Fixed Assets or Plant Assets. Long-lived assets used in the production of goods or services. These assets are used in the operation of the business rather than being held for sale, as are inventory items.

music equipment
the van
recording equipment
real estate (if you're doing really well!)

Classified Assets and Liabilities

Other assets
(sometimes other long term assets)
essentially just a misc category

outside investment
intangible assets
“Goodwill”

Classified Assets and Liabilities

fixed assets, or assets to which specific captions are given. For instance, the caption Investments would be used if significant sums were invested. Often companies show a caption for intangible assets such as patents or goodwill. In other cases, there may be a separate caption for deferred charges. If, however, the amounts are not large in relation to total assets, the various items may be grouped under one caption, Other Assets.

Liabilities may be current, long-term, or contingent.

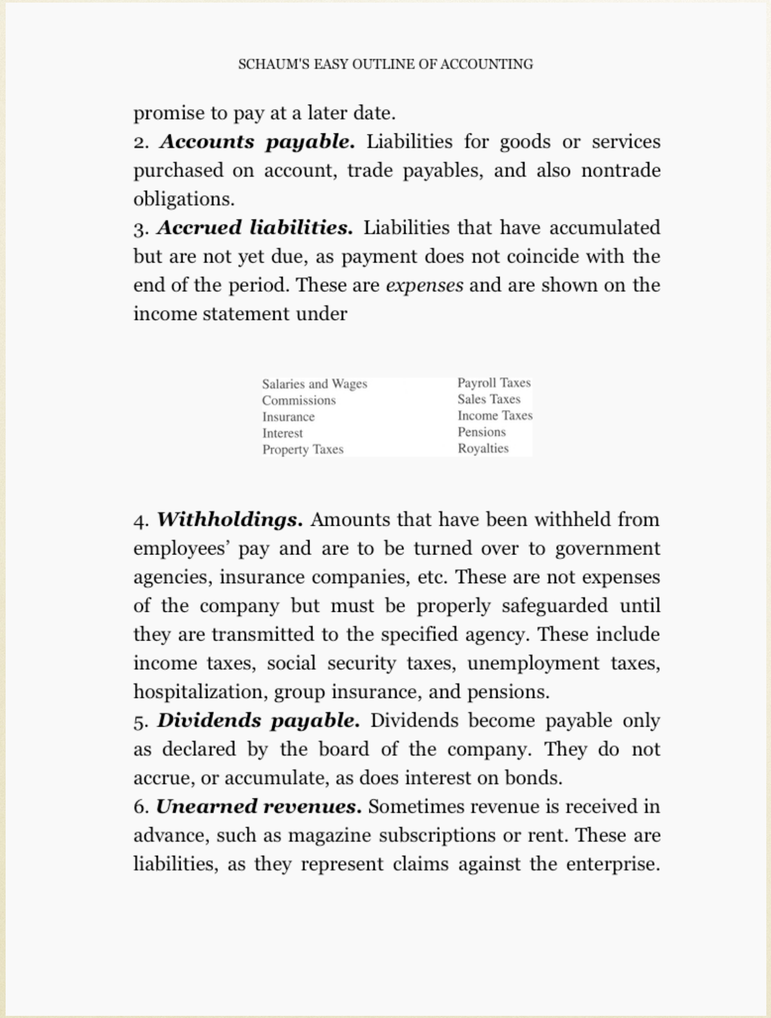
Current Liabilities. These are liabilities that are due for payment within the operating cycle or one year, whichever is longer. The settlement of a current liability usually requires the use of current assets. The ration of current assets to current liabilities, or current ratio, is a useful index of a company's debt-paying capacity.

Following are the seven principal types of current liabilities:

1. ***Notes payable.*** Liabilities evidenced by a written

short term debt
credit cards

Classified Assets and Liabilities



SCHAUM'S EASY OUTLINE OF ACCOUNTING

promise to pay at a later date.

2. ***Accounts payable.*** Liabilities for goods or services purchased on account, trade payables, and also nontrade obligations.

3. ***Accrued liabilities.*** Liabilities that have accumulated but are not yet due, as payment does not coincide with the end of the period. These are *expenses* and are shown on the income statement under

Salaries and Wages	Payroll Taxes
Commissions	Sales Taxes
Insurance	Income Taxes
Interest	Pensions
Property Taxes	Royalties

4. ***Withholdings.*** Amounts that have been withheld from employees' pay and are to be turned over to government agencies, insurance companies, etc. These are not expenses of the company but must be properly safeguarded until they are transmitted to the specified agency. These include income taxes, social security taxes, unemployment taxes, hospitalization, group insurance, and pensions.

5. ***Dividends payable.*** Dividends become payable only as declared by the board of the company. They do not accrue, or accumulate, as does interest on bonds.

6. ***Unearned revenues.*** Sometimes revenue is received in advance, such as magazine subscriptions or rent. These are liabilities, as they represent claims against the enterprise.

Accounts payable

Posters

T-shirts

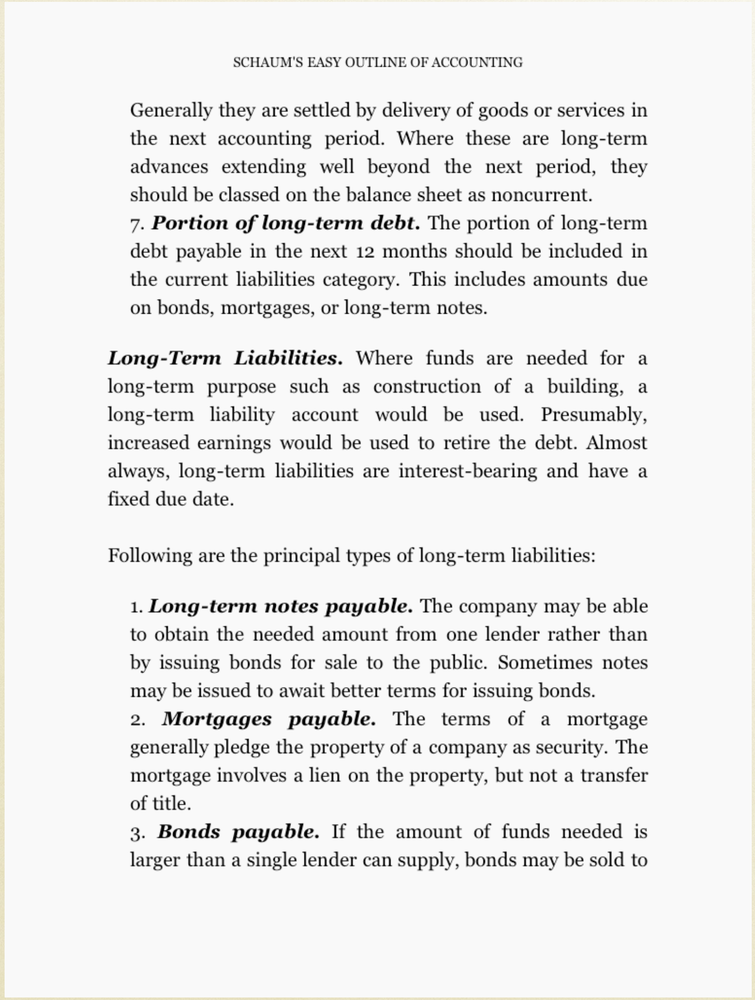
Office supplies

Other merchant accounts

Accrued salaries

Utilities

Classified Assets and Liabilities



SCHAUM'S EASY OUTLINE OF ACCOUNTING

Generally they are settled by delivery of goods or services in the next accounting period. Where these are long-term advances extending well beyond the next period, they should be classed on the balance sheet as noncurrent.

7. ***Portion of long-term debt.*** The portion of long-term debt payable in the next 12 months should be included in the current liabilities category. This includes amounts due on bonds, mortgages, or long-term notes.

Long-Term Liabilities. Where funds are needed for a long-term purpose such as construction of a building, a long-term liability account would be used. Presumably, increased earnings would be used to retire the debt. Almost always, long-term liabilities are interest-bearing and have a fixed due date.

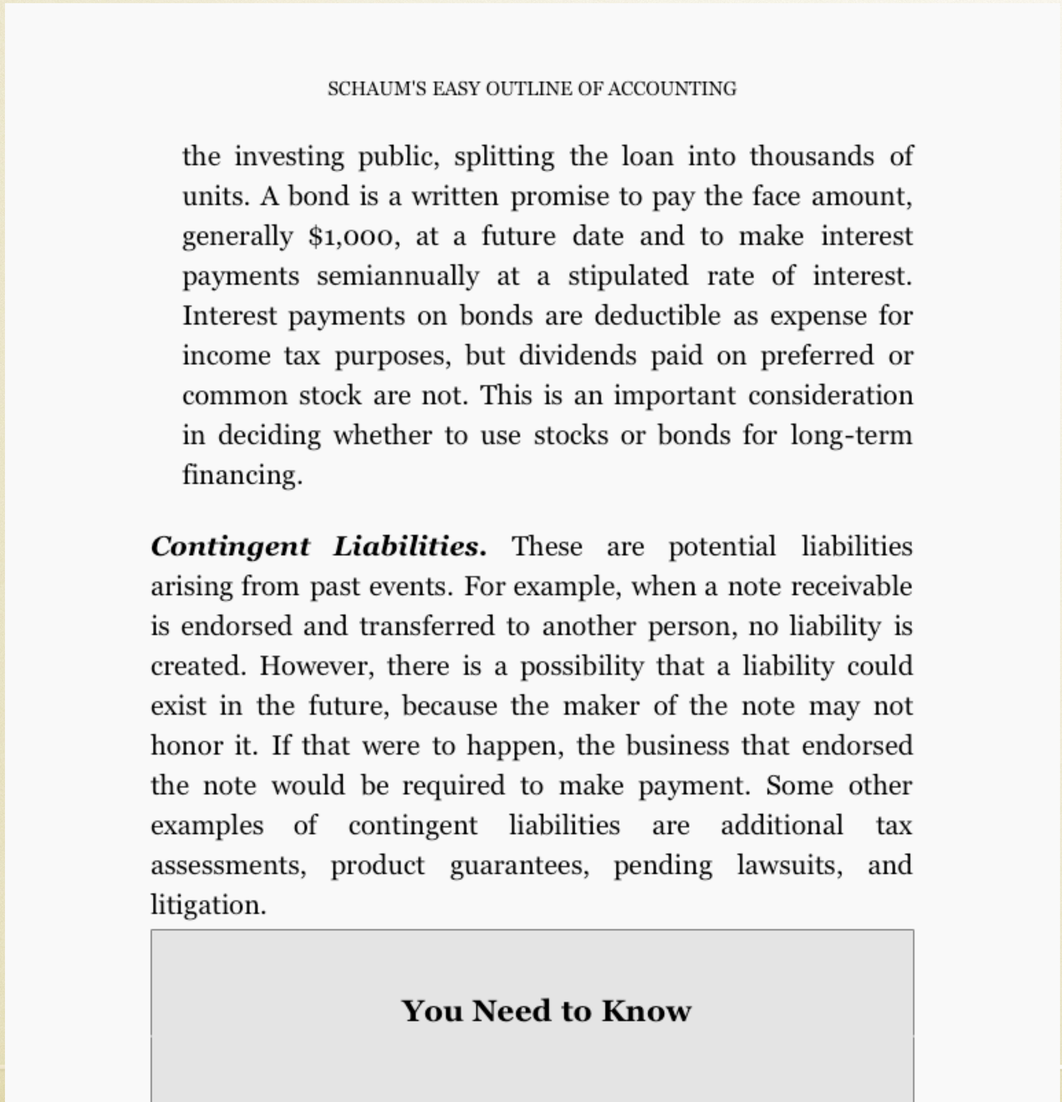
Following are the principal types of long-term liabilities:

1. ***Long-term notes payable.*** The company may be able to obtain the needed amount from one lender rather than by issuing bonds for sale to the public. Sometimes notes may be issued to await better terms for issuing bonds.
2. ***Mortgages payable.*** The terms of a mortgage generally pledge the property of a company as security. The mortgage involves a lien on the property, but not a transfer of title.
3. ***Bonds payable.*** If the amount of funds needed is larger than a single lender can supply, bonds may be sold to

In order to look at health of business you might want to distinguish between what's due this year and what's due over a longer period.

Long term loans: more than a year
Example 5 year car loan

Classified Assets and Liabilities



SCHAUM'S EASY OUTLINE OF ACCOUNTING

the investing public, splitting the loan into thousands of units. A bond is a written promise to pay the face amount, generally $1,000, at a future date and to make interest payments semiannually at a stipulated rate of interest. Interest payments on bonds are deductible as expense for income tax purposes, but dividends paid on preferred or common stock are not. This is an important consideration in deciding whether to use stocks or bonds for long-term financing.

Contingent Liabilities. These are potential liabilities arising from past events. For example, when a note receivable is endorsed and transferred to another person, no liability is created. However, there is a possibility that a liability could exist in the future, because the maker of the note may not honor it. If that were to happen, the business that endorsed the note would be required to make payment. Some other examples of contingent liabilities are additional tax assessments, product guarantees, pending lawsuits, and litigation.

You Need to Know

A bonus contingent on something happening.

Example: artists receives additional $50,000 for top 10 chart position

Contingent liabilities difficult to carry on books

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Lecture 13
Midterm Postgame
Risk and Reward, Interest rates, elements of a record deal

Risk and Reward

When risk increases reward should increase

(When risk decreases reward should decrease)

Rule of Economics or human nature?

On a loan the “reward” for the lender is in the interest rate

More risk = higher interest

What about inflation?

That is also included in the interest rate

Higher inflation = higher interest

As risk increases interest rates increase

As risk decreases interest rates decrease

But interest rates also increase with inflation

Reward

US 10 year treasury interest 2.08%

Date	1 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
10/01/15	0.00	0.00	0.08	0.31	0.64	0.92	1.37	1.75	2.05	2.49	2.85
10/02/15	0.00	0.00	0.06	0.25	0.58	0.85	1.29	1.67	1.99	2.44	2.82
10/05/15	0.00	0.01	0.06	0.26	0.61	0.89	1.35	1.74	2.07	2.52	2.90
10/06/15	0.00	0.00	0.07	0.26	0.61	0.90	1.34	1.72	2.05	2.50	2.88
10/07/15	0.00	0.00	0.08	0.27	0.65	0.92	1.37	1.75	2.08		2.89

Wednesday Oct 7, 2015

Venezuela Markets	Last	Previous	Highest	Lowest	Unit	
Currency	6.35	6.35	6.35	0.05		[+]
Stock Market	11726.47	12101.16	15580.47	0.76	Index points	[+]
Government Bond 10y	10.31	10.31	19.19	2.40	percent	[+]

+

As risk increases interest rates increase
As risk decreases interest rates decrease

The two principal elements of a recording deal

Example

Artist royalty 15% wholesale (“15 points”)
Artist advance $100,000

100% - Artist Royalty %

“Implied interest rate*”

Artist royalty 15% wholesale
Artist advance $100,000

Reward for label:
85% of wholesale revenues to label
Reflects record label assessment of RISK!!

$100,000 advance reflects record label assessment of Risk

*Yes i know this is not really the true interest rate, but that calculation is complicated. We do it this way to illustrate the point and not have your eyes glaze over.

Reflects risk and reward?

implied interest rate
100%-10%= 90%

High Risk new artist
10% Artist Royalty Rate
$70,000 Advance

Risk increases

implied interest rate goes up

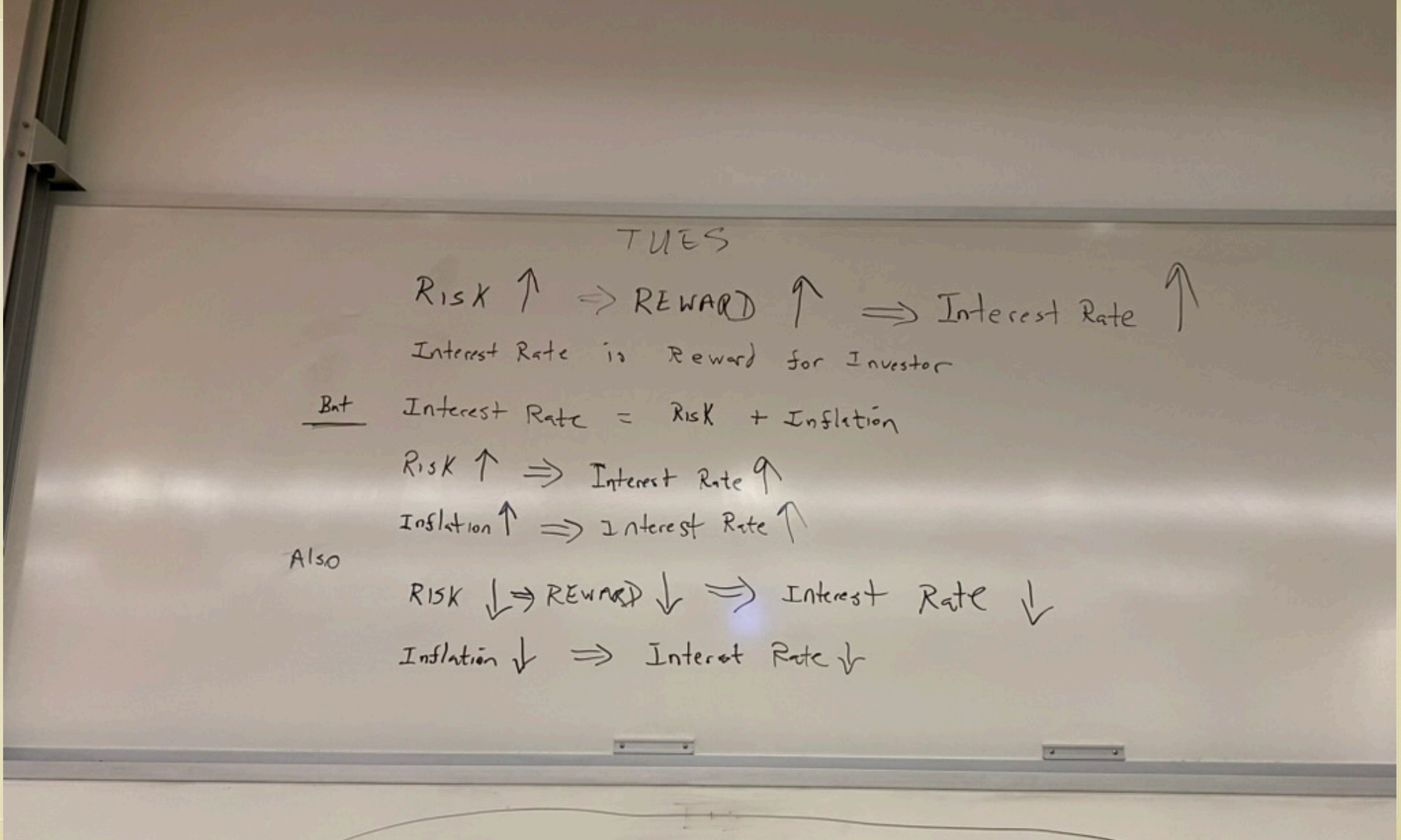
implied interest rate
100%-20%= 80%

Lower risk established artist
20% Artist Royalty Rate
$250,000 Advance

Reward increases

Are the royalty rates backwards?

- As risk increases reward increases
- As risk decreases reward decreases
- Interest rates = (inflation +) Reward
- As risk increases interest rates increase
- As risk increases artists royalty rate decreases
- As risk increases the implied interest rate increases
- As risk decreases interest rates decrease
- As risk decreases artists royalty rate increases
- As risk decreases the implied interest rate decreases


TUES
Risk ↑ ⇒ REWARD ↑ ⇒ Interest Rate ↑
Interest Rate is Reward for Investor
But Interest Rate = Risk + Inflation
Risk ↑ ⇒ Interest Rate ↑
Inflation ↑ ⇒ Interest Rate ↑
Also
RISK ↓ ⇒ REWARD ↓ ⇒ Interest Rate ↓
Inflation ↓ ⇒ Interest Rate ↓

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Lecture 14

Gnucash 3 Risk v Value

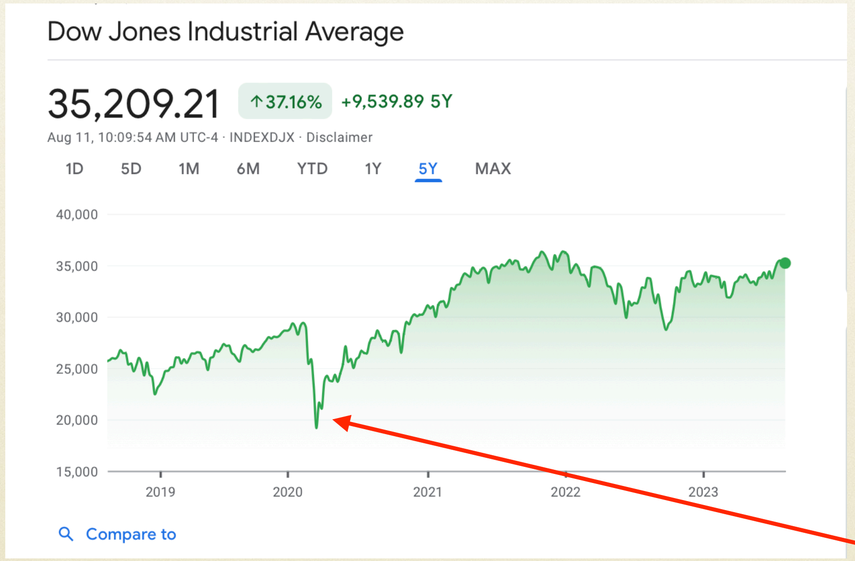
Value

As risk increases the value of the asset goes down

As risk decreases the value of the asset goes up

Value

Stock market at start of COVID-19 Pandemic



Stocks were suddenly seen as more risky thus value went down

lower risk
higher value

Yet-to-be-released album by established successful artist

Yet-to-be-released album by unknown artist

higher risk
lower value

What if you were to buy one of these catalogs?

Quarter	Songwriter 1	Songwriter 2
Q1 2011	$4,212.00	$965.00
Q2 2011	$4,134.00	$1,256.00
Q3 2011	$2,291.00	$10,023.00
Q4 2011	$2,784.00	$1,301.00
Q1 2012	$2,989.00	$866.00
Q2 2012	$2,377.00	$897.00
Q3 2012	$4,450.00	$1,007.00
Q4 2012	$3,112.00	$787.00
Q1 2013	$3,249.00	$983.00
Q2 2013	$3,004.00	$1,012.00
Q3 2013	$3,677.00	$687.00
Q4 2013	$2,614.00	$23,756.00
Q1 2014	$3,286.00	$14,321.00
Q2 2014	$3,255.00	$5,534.00
Q3 2014	$3,784.00	$2,312.00
Q4 2014	$4,221.00	$1,478.00
Q1 2015	$2,956.00	$787.00
Q2 2015	$3,429.00	$686.00
Q3 2015	$3,965.00	$954.00
Q4 2015	$3,467.00	$1,168.00
Q1 2016	$3,013.00	$1,201.00
Q2 2016	$2,317.00	$656.00
Total	$72,586.00	$72,637.00
average	$3,299.36	$3,301.68
STDEV	$623.75	$5,573.14

Which is more valuable?

Recording advance as estimated value of the prospective recoding

High Risk new artist
10% Artist Royalty Rate
$70,000 Advance

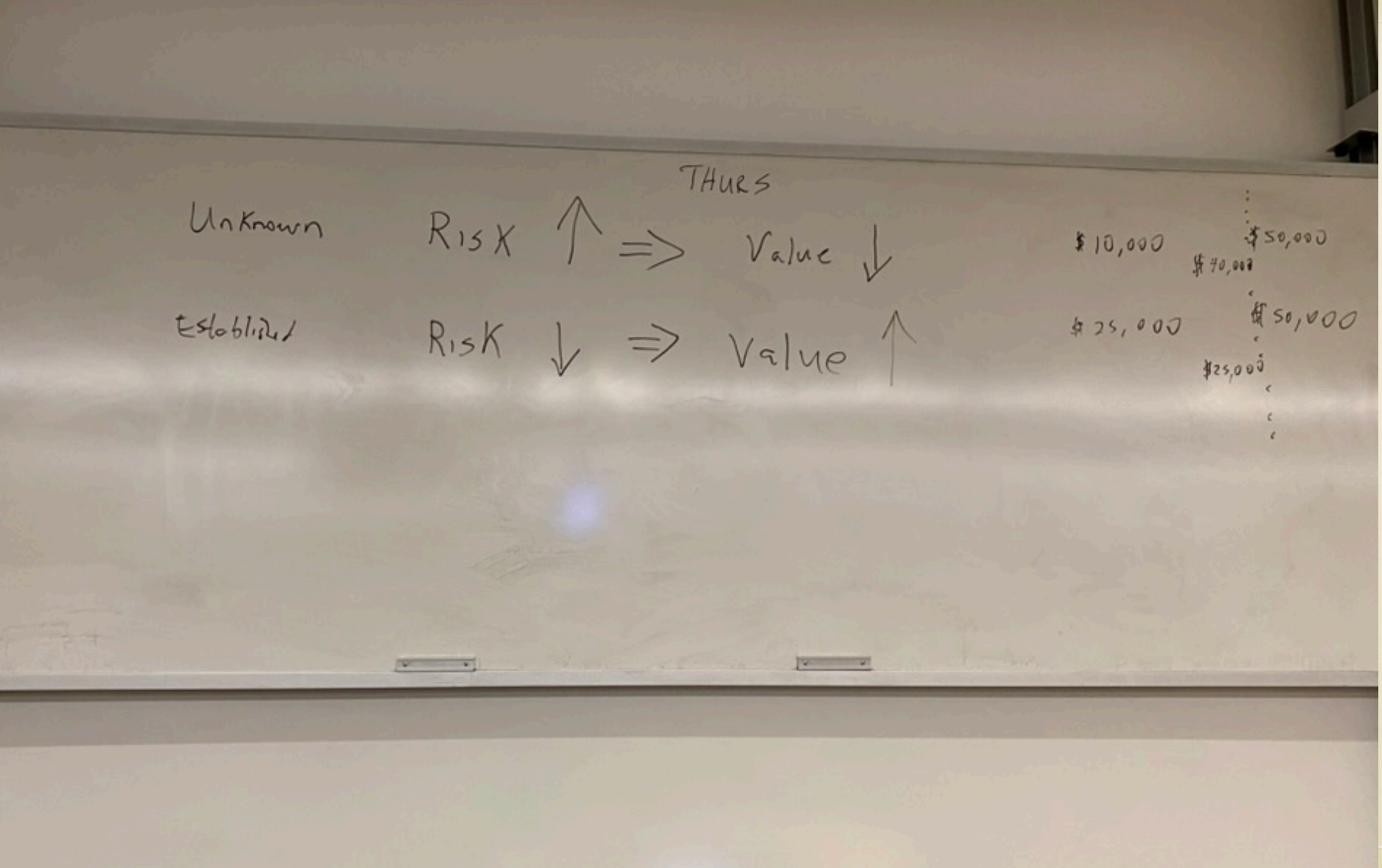
90% implicit interest rate
higher reward for label
higher risk

A sort of estimate of the value of this
stream of revenue
higher risk lower value

Lower risk established artist
20% Artist Royalty Rate
$250,000 Advance

80% implicit interest rate
lower reward for label
lower risk

A sort of estimate of the value of this
stream of revenue
lower risk higher value


THURS
Unknown
Risk ↑ ⇒ Value ↓
$10,000
$50,000
$40,000
Established
Risk ↓ ⇒ Value ↑
$25,000
$50,000
$25,000

Summary/Cheat Sheet Lectures 13 and 14

- As risk increases reward increases
- As risk decreases reward decreases
- Interest rates = (inflation +) Reward
- As risk increases interest rates increase — Implied interest rate increases — Artist royalty decreases
- As risk decreases interest rates decrease — Implied interest rate decreases — Artist royalty increases
- (As inflation increases interest rates increase)
- (As inflation decreases interest rates increase)
- As risk increases value decreases — Record advance decreases
- As risk decreases value increases — Record advance increases

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Lecture 15

What does the Math Say About Risk, Reward and Value

Future Value, Present Value, Interest Rates and Risk

Loan Calculator

Summary

Principal borrowed:	$50,000.00	**Annual Payments:**	4
Regular Payment amount:	$6,606.66	**Total Payments:**	8 (2.00 years)
Final Balloon Payment:	$0.00	**Annual interest rate:**	5.00%
Interest-only payment:	$625.00	**Periodic interest rate:**	1.2500%
***Total Repaid:**	$52,853.28	**Debt Service Constant:**	52.8533%
***Total Interest Paid:**	$2,853.28	***Total interest paid as a percentage of Principal:**	5.707%

**These results are estimates which do not account for accumulated error of payments being rounded to the nearest cent. See the amortization schedule for more accurate values.*

"Future Value"
of 50k
calculated quarterly
at 5% interest annual interest
2 years from now
Using Loan Calculator

<more examples in browser>

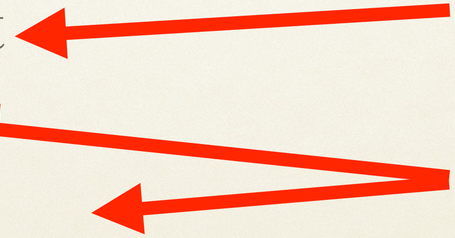
Previous slide

You can think of FV this way:

return of the loan amount

reward for the lender

adjustment for inflation



$50,000

+

$2853.28

V = future value
PV = Present value
i = interst rate for the specified period.
n = number of time periods

For the first 4 use this formula:

$$FV = PV \cdot (1+i)^n$$

1. Calculate the future value of a sum of $1800. Interest rate is 7% a year. The time period is one year. (The interest rate is only calculated once.)

FV = 1800*(1+.07)
FV = 1926

2. Calculate the future value of a sum of $4000. Interest rate is 4.5% a year. The time period is one year. (The interest rate is only calculated once.)

FV = 4000*(1+.045)
FV = 4180

Example 3

Interest rate of 5% each year. $1000 dollars loan principal. Time period 5 years. The interest is calculated or Compounded once every year.

Never mind how I get this formula.

$$FV = PV \cdot (1+i)^n$$

$FV = 1000*(1+.05)^5$

$FV = 1000*(1.05)^5$

$FV = 1000*1.2762815625 = \$1,276.28$

V = future value
PV = Present value
i = interst rate for the specified period.
n = number of time periods

For the first 4 use this formula:

$$FV = PV \cdot (1+i)^n$$

The FV of $2000, 5 years from now, 6% annual interest calculated quarterly:

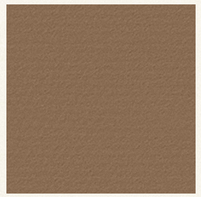
- $FV = 2000 \times (1 + .15)^{5}$
- $FV = 2000 \times (1 + .015)^{60}$
- ✓ $FV = 2000 \times (1 + .015)^{20}$
- $FV = 2000 \times (1 + .15)^{20}$

FV increases when interest rates increase
FV decreases when interest decrease

which loosely implies

FV increases when risk increases
FV decreases when risk decreases

obeys “risk and reward”



Present Value
and
Recording Advances

Remember this equation
$FV = PV*(1+i)^n$

This implies
$PV = FV/(1+i)^n$

As usual

PV is present value
FV is Future value
i is the interest rate per period
and n is the number of periods.

Key difference

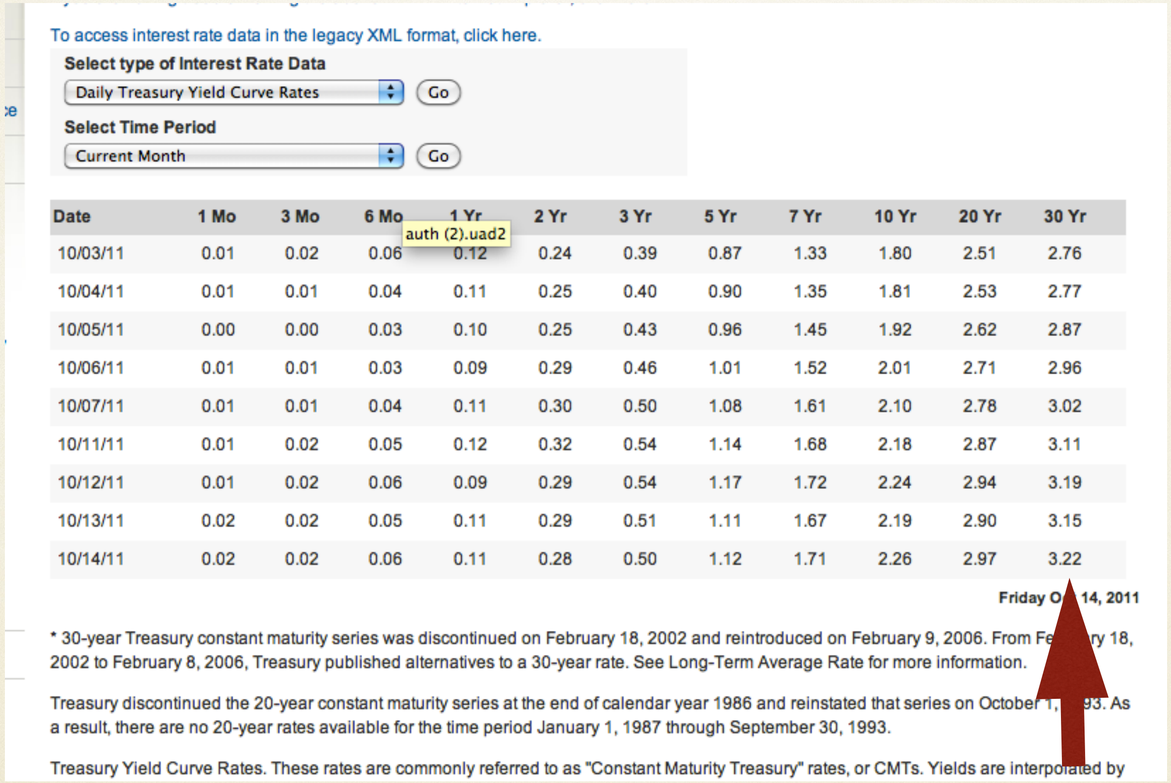
Unlike future value
we have to decide what interest rate to use.

What interest rate do we use?

Interest rate represents the market expectation of inflation + risk.

We have to estimate:
Guesses
Gut instinct
Scientific estimates
What do markets say?

Governments and large corps use markets to determine interest rates



To access interest rate data in the legacy XML format, click here.

Select type of Interest Rate Data

Daily Treasury Yield Curve Rates — Go

Select Time Period

Current Month — Go

Date	1 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
10/03/11	0.01	0.02	0.06	0.12	0.24	0.39	0.87	1.33	1.80	2.51	2.76
10/04/11	0.01	0.01	0.04	0.11	0.25	0.40	0.90	1.35	1.81	2.53	2.77
10/05/11	0.00	0.00	0.03	0.10	0.25	0.43	0.96	1.45	1.92	2.62	2.87
10/06/11	0.01	0.01	0.03	0.09	0.29	0.46	1.01	1.52	2.01	2.71	2.96
10/07/11	0.01	0.01	0.04	0.11	0.30	0.50	1.08	1.61	2.10	2.78	3.02
10/11/11	0.01	0.02	0.05	0.12	0.32	0.54	1.14	1.68	2.18	2.87	3.11
10/12/11	0.01	0.02	0.06	0.09	0.29	0.54	1.17	1.72	2.24	2.94	3.19
10/13/11	0.02	0.02	0.05	0.11	0.29	0.51	1.11	1.67	2.19	2.90	3.15
10/14/11	0.02	0.02	0.06	0.11	0.28	0.50	1.12	1.71	2.26	2.97	3.22

auth (2).uad2

Friday O 14, 2011

* 30-year Treasury constant maturity series was discontinued on February 18, 2002 and reintroduced on February 9, 2006. From Fe ry 18, 2002 to February 8, 2006, Treasury published alternatives to a 30-year rate. See Long-Term Average Rate for more information.

Treasury discontinued the 20-year constant maturity series at the end of calendar year 1986 and reinstated that series on October 1, 93. As a result, there are no 20-year rates available for the time period January 1, 1987 through September 30, 1993.

Treasury Yield Curve Rates. These rates are commonly referred to as "Constant Maturity Treasury" rates, or CMTs. Yields are interpolated by

$100,000 due 30 years from US Government.
we always calculate interest annually
when we are calculating a lump sum!!

treasury 30 year yield is 3.22% (per year)

$$PV = 100{,}000/(1+.0322)^{30} = 38644.20$$

Government Debt
Markets price this debt/risk/interest

France vs Greece (2013)

More risk results in those countries paying a lot higher interest rate than the expected rate based on inflation. There is more risk.

$10,000 from the government of Greece due 10 years from now.
compare that to
$10,000 from the government of France due 10 years from now.

Greece 10 year yield = 26.9%
French 10 year yield =3.017%

$$PV = 10,000/(1+.269)^{10} = 923.38$$

$$PV = 10,000/(1+.0317)^{10} = 7319.23$$

No market exist to price risk or set interest rates for individuals.
Someone somewhere guesses at the rate/risk It could be a highly educated guess. It could be a wild guess.

David Barbe reliable debtor. Known to pay debts.
PV of $100,000 3 years from now. Your supervisor tells you to use and interest rate of 7%

$$PV = 100,000/(1+.07)^3 = 81,629$$

David Lowery is not a reliable debtor. Known to sometimes not pay his debts.
PV of $100,000 3 years from now. Your supervisor tells you to use an interest rate of 23%

$$PV = 100,000/(1+.23)^3 = 53,738$$

note: as risk increases PV decreases!

Math, markets, “real world” observations and common sense concur

As the interest rate increases PV decreases
As the interest rate decreases PV increases

As the risk increases PV decreases
As the risk decreases PV increases

FROM THE ARCHIVES

EMI to Drop Mariah Carey, Sources Say
January 23, 2002

Virgin Records Bets Big on Carey's $80-Million Deal
April 4, 2001

MORE STORIES ABOUT

Music Industry -- Contracts

Recording Industry -- Contracts

Mariah Carey

Virgin Records

Carey Reportedly Signs 4-Album, $80-Million Virgin Records Deal

April 03, 2001 | JEFF LEEDS | TIMES STAFF WRITER

Company Town

Pop diva Mariah Carey has signed a four-album contract with Virgin Records worth an estimated $80 million, a mega-deal that ranks among the biggest ever awarded to an entertainer, said sources close to the negotiations.

The New York native, who turned 31 last week, has been the target of a fierce industry bidding war since she began approaching the end of her Sony contract, which was set to expire with the release of a soundtrack album this year. Speculation about her exit had mounted since her marriage to Sony Music chief Thomas Mottola broke up in 1997.

Record Label Pays Dearly To Dismiss Mariah Carey

By ALEX KUCZYNSKI WITH LAURA M. HOLSON JAN. 24, 2002

In one of the most spectacular and swift reversals of fortune in the entertainment industry, EMI Records said yesterday that it had ended its agreement with Mariah Carey, who has had more No. 1 songs than any musical artist except Elvis Presley and the Beatles.

EMI signed Ms. Carey only last April to one of the music industry's most lucrative contracts, guaranteeing a reported $80 million for five albums.

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Lecture 16

The Math: Expected Value. Simulated Music Business

Normal and Wild Variation

Expected Value

How to calculate expected value.

Suppose random variable X can take value x1 with probability p1, value x2 with probability p2, and so on, up to value xk with probability pk. Then the expectation of this random variable X is defined as

$$\mathrm{E}[X] = x_1 p_1 + x_2 p_2 + \ldots + x_k p_k \ .$$

Example 1.

You have 1 in 10 chance of winning $100. The other 9 chances you win zero.

$$E[X] = \$100 \cdot \frac{1}{10} + \$0 \cdot \frac{9}{10} = \$10 + \$0 = \$10$$

Example 2.

Roll one dice. You win $1 for a 1. $2 for a 2 etc etc.
Probability for each event is 1 in 6 or 1/6.

$$E[X] = \$1 \cdot \frac{1}{6} + \$2 \cdot \frac{1}{6} + \$3 \cdot \frac{1}{6} + \$4 \cdot \frac{1}{6} + \$5 \cdot \frac{1}{6} + \$6 \cdot \frac{1}{6}$$

E [x] = 3.5

Expected Value

- Flipping a coin
- $1 “heads”
- $0 “tails”
- How much would you pay to play this game?

Expected Value

What if odds were more complex?
what is maximum amount you would pay to play this game?

Draw a card from a deck.
You get
$1 for Hearts
$ 0 for Spades, Clubs, Diamonds
Except you get $10 for any Ace

What is expected value?

Expected Value

52 cards in deck
13 hearts minus the ace of hearts
12 hearts worth $1 (except the ace)
1 Ace of Hearts worth $10
Similarly …
12 spades worth $0
1 ace of spades worth $10
12 clubs worth $0
1 ace of clubs worth $10
12 diamonds worth $0
1 ace of diamonds worth $10

The Probability of drawing an ace? 4/52
The Probability of drawing a heart? 12/52
The Probability of drawing anything else? 36/52

<Whiteboard>

heart that is not an Ace

$$\$10 \times \frac{4}{52} + \$1 \times \frac{12}{52} + \$0 \times \frac{36}{52} = \$1$$

Simulated music business casino game

<White board>

1 in 10 chance of a hit
hit = $1,000,000
non-hit= $0

On average each album worth $100,000

If you are casino you want to charge more than the EV to customer

(charge > $100,000)

If you are record label you want to buy artist for less than the EV of each prospective album

(buy for <$100,000)

Significance of normal v wild variation

MBUS 3000 Lecture 15

"Throw ten records against the wall and see what sticks"

Often incorrectly attributed to Ahmet Ertegün
founder of Atlantic Records

Unpredictable which albums become hits

Why did the albumThriller sell 50-100 million more copies than Off the Wall?

Unpredictable size of hit

Closer to real world:

An artist has a 1 in 10 chance of having a hit

A hit might generate

$75,000
$400,000
$1,000,000
$10,000,000
$100,000,000
?

How much should you pay for each album?

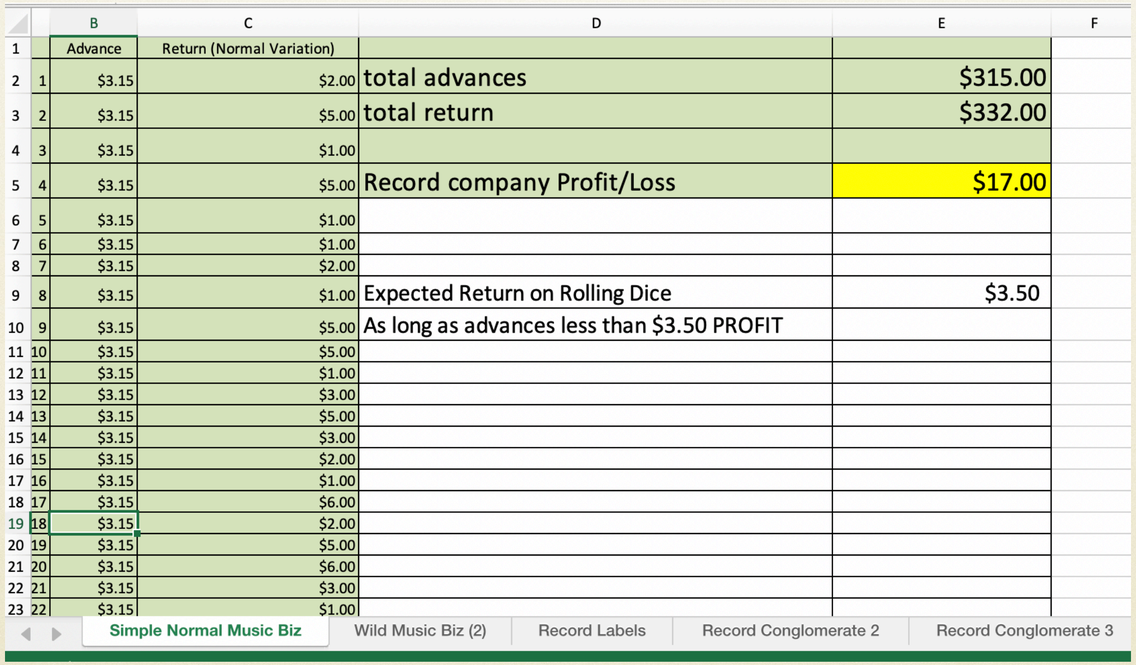
No reliable expected value calculation!

Two broad categories of variation

Normal Variation
Gaussian Variation
The Bell Curve
Statistical tools reliable
Financial tools reliable
Expected value calculations reliable
Example domains
Adult male height
Sports stats
Games of chance
Physical world

Wild Variation
Non-Gaussian Variation
Fat tail distributions
Statistical tools unreliable
Financial tools unreliable
Expected value calculations unreliable
Example domains
Information
Website traffic
Book sales
Stock derivative price changes
Streams/revenue per songs
Virtual world

Simulated with Excel spread sheet <normal variation demo>



	B	C	D	E	F
1	Advance	Return (Normal Variation)			
2	1 $3.15	$2.00	total advances	$315.00	
3	2 $3.15	$5.00	total return	$332.00	
4	3 $3.15	$1.00			
5	4 $3.15	$5.00	Record company Profit/Loss	$17.00	
6	5 $3.15	$1.00			
7	6 $3.15	$1.00			
8	7 $3.15	$2.00			
9	8 $3.15	$1.00	Expected Return on Rolling Dice	$3.50	
10	9 $3.15	$5.00	As long as advances less than $3.50 PROFIT		
11	10 $3.15	$5.00			
12	11 $3.15	$1.00			
13	12 $3.15	$3.00			
14	13 $3.15	$5.00			
15	14 $3.15	$3.00			
16	15 $3.15	$2.00			
17	16 $3.15	$1.00			
18	17 $3.15	$6.00			
19	18 $3.15	$2.00			
20	19 $3.15	$5.00			
21	20 $3.15	$6.00			
22	21 $3.15	$3.00			
23	22 $3.15	$1.00			

Simple Normal Music Biz | Wild Music Biz (2) | Record Labels | Record Conglomerate 2 | Record Conglomerate 3

Important: Because variation is gaussian expected value calculation is useful

If music revenues exhibited Gaussian variation things would be easier for labels.

Wild variation means for the recorded music business

- Gaussian statistics not reliable tool
- Expected value calculations not reliable
- Most financial equations not reliable
- “Gut instinct” may be better guide to value

Regardless, performers and songwriters tend to undervalue their songs and recordings and this benefits labels and publishers.
“Buy low, sell high”

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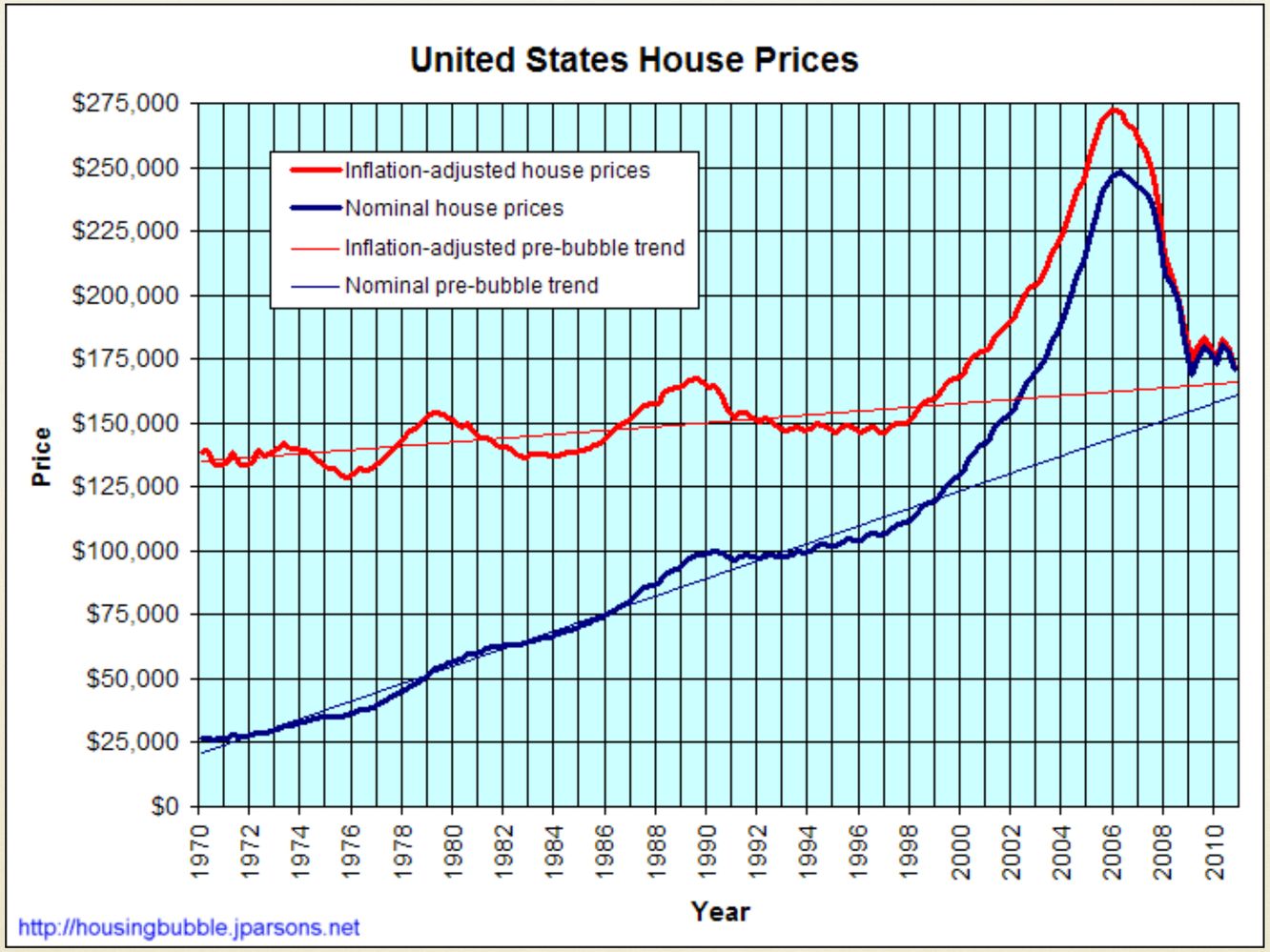
Financial bubble and interest rates
The Three I s
The grunge Bubble in 1990s



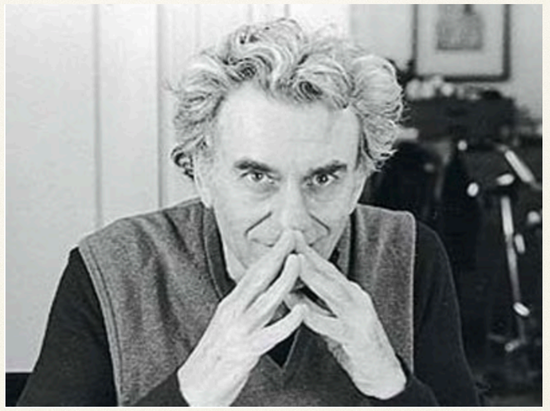
Housing Market Bubble 2005-2008

What Is a Bubble?- Investopedia

A bubble is an economic cycle that is characterized by the rapid escalation of market value, particularly in the price of assets. This fast inflation is followed by a quick decrease in value, or a contraction, that is sometimes referred to as a "crash" or a "bubble burst."

Typically, a bubble is created by a surge in asset prices that is driven by exuberant market behavior. During a bubble, assets typically trade at a price, or within a price range, that greatly exceeds the asset's intrinsic value (the price does not align with the fundamentals of the asset).

The cause of bubbles is disputed by economists; some economists even disagree that bubbles occur at all (on the basis that asset prices frequently deviate from their intrinsic value). However, bubbles are usually only identified and studied in retrospect, after a massive drop in prices occurs.



Hyman Minsky 1919- 1996

Minsky made a pretty good attempt at defining bubbles. He noted that when the “hedge borrowers, speculative borrowers and ponzi borrowers” begin accumulating a lot of debt you have a bubble underway. Without going into this in too much detail that is what happened in our recent financial crisis.

The "hedge borrower" can make debt payments (covering interest and principal) from current cash flows from investments. For the "speculative borrower", the cash flow from investments can service the debt, i.e., cover the interest due, but the borrower must regularly roll over, or re-borrow, the principal. The "Ponzi borrower" (named for Charles Ponzi, see also Ponzi scheme) borrows based on the belief that the appreciation of the value of the asset will be sufficient to refinance the debt but could not make sufficient payments on interest or principal with the cash flow from investments; only the appreciating asset value can keep the Ponzi borrower afloat. Because of the unlikelihoodof most investments' capital gains being enough to pay interest and principal, much of this type of finance is fraudulent. from investments can service the debt, i.e., cover the interest due, but the borrower must regularly roll over, or re-borrow, the principal. The "Ponzi borrower" (named for Charles Ponzi, see also Ponzi scheme) borrows based on the belief that the appreciation of the value of the asset will be sufficient to refinance the debt but could not make sufficient payments on interest or principal with the cash flow from investments; only the appreciating asset value can keep the Ponzi borrower afloat. Because of the unlikelihoodof most investments' capital gains being enough to pay interest and principal, much of this type of finance is fraudulent.

Hedge Borrower
Speculative Borrower
Ponzi Borrower

Prime mortgage = Payment is principal plus interest
Interest only subprime mortgage = Payment is only interest no principal
Negative amortization mortgage = Payment doesn't cover interest, principal grows

Is this the same as “the three I s”

Innovators
Imitators
Idiots

Subjectively appears to be equivalent
We will use this as a more generalized a subjective version of the Hedge, speculator and ponzi test.

Warren Buffet on the three I s

“Should wise people have known better?” Of course, they should have, Buffett replied, but there’s a “natural progression” to how good new ideas go wrong. He called this progression the “three I’s.” First come the innovators, who see opportunities that others don’t. Then come the imitators, who copy what the innovators have done. And then come the idiots, whose avarice undoes the very innovations they are trying to use to get rich.

Subjective methods for testing for bubble

our 1st method

One way of predicting bubbles when we can't see the underlying borrowing terms

1) Have innovators and imitators already been buying the asset?
2)Are idiots now buying the asset?

If yes to both questions likely a bubble

Example: Buying GameStop now

(Same for Hedge, Speculative,Ponzi)

Without going into the math
Minsky's theory can be translated into
subjective analysis of interest rates

Often there are loans associated with these assets.

our 2nd method

Formal loans and margin interest. Or informal loans like
in music business things like "advances"
and recording budgets

When the difference between interest rates
for risky borrowers and safe borrowers seems too narrow
you have a bubble.

(Also when PVs for risky and safe are too narrow)

Examples

Housing bubble
Prime mortgage borrower 5.5%
Subprime mortgage borrower 6.5%

EU debt crisis
German debt 3.0%
Italian debt 3.3%

The grunge bubble
New artist 18 points $750,000
Established artist 18 points $750,000

This may represent a bubble

Example

New artist 1999
18 points
$750,000 advance

Established artist 1999
18 points
$750,000 advance

Is there a financial bubble in new artists?

Or are established artists undervalued?

“The Grunge Bubble”
Label/Investors
Innovators
Imitators
Idiots

Nirvana

Pearl Jam

Stone Temple Pilots

Candlebox

Bush

(who's the weird old guy in feather boa?)

Teeny bopper entry
Silverchair

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Lecture 19 epistemology
Logical Fallacies Part I

Epistemology

In these debates and others, epistemology aims to answer questions such as "What do we know?", "What does it mean to say that we know something?", "What makes justified beliefs justified?", and "How do we know that we know?"

“success has many fathers, failure is an orphan” - arab proverb

gersh |gərsh|

verb 1990’s
to subtly or inconspicuously move away from an artist or project one once championed. often involves passing responsibility for artist or project to a subordinate. Or conversely claim credit for success of artist or project that was ultimately responsibility of subordinate. see also “Full Gersh.”
DERIVATIVES
gershed |ˈgərshed| past tense

gershing |gərshing| noun, event or

meeting that reveals an artist has been gershed.
ORIGIN: early 1990’s .: (unfairly) attributed to long time A&R superstar Gary Gersh.

Gershing is bi directional
move away from failures
move toward successes

“Full Gersh” involves moving away from failure
but reclaiming when it becomes successful

Or the opposite

The Survivorship Bias

The stock market Dow Jones Average myth.
When a company goes bankrupt it is thrown out of the index.
The historical rate of return on the dow jones average only measures the survivors.

An executive might explain all of the things that they did to "make" their successful artists successful. They omit from their narrative that they did all these same things for their unsuccessful artists.

Absence of failures from evidence
leads us to draw lessons from
non-representative pool of data

False lessons
mistaken causality

the survivorship bias

successful A&R

15 magazine mentions, 4 books, 3 documentary films

unsuccessful A&R

who?

They both used exactly same A&R strategy!
Strategy irrelevant/unreliable if second guy failed!
Absence of evidence leads to false conclusion about strategy

Example the pseudo scientific Survivorship Bias

why?

Author Jay Frank says the way people consume music in the digital [illegible]has changed what makes a hit. In his book Future Hit.DNA he argues that people are discovering music online and not always via radio, so song intros need to be shorter. He recently used Adele's Someone Like You as an example of how the theories in his book are correct. "The intro is five seconds long, it's at walking tempo (105bpm), contains repetition of many lyrics with a choral counter-chorus, has a very sly shift in the chord progression at the bridge, and contains many dynamic shifts throughout the song," he concludes.

This doesn't exactly tally with stats provided by Billboard, although Adele's hit is in a major key. So who's right? Maybe it makes more sense to look to songwriters who have had plenty of hits. BBC2's brilliant current series Secrets of the Pop Song is trying to shed light on the issue. In it, successful songwriters talk about the craft, and we see hit-maker Guy Chambers in action as he co-writes with a selection of artists.

<Venn Diagram>

Majority of songs share these characteristics

Even songs non-hits

But non-hit songs missing from survey

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Epistemology II

Logical Fallacies and The Matthew Effect

The Narrative Fallacy

The narrative fallacy addresses our limited ability to look at sequences of facts without weaving an explanation into them, or, equivalently, forcing a logical link, an arrow of relationship upon them. Explanations bind facts together. They make them all the more easily remembered; they help them make more sense. Where this propensity can go wrong is when it increases our impression of understanding.

—*Nassim Nicholas Taleb, The Black Swan*

The Narrative Fallacy

One of my platinum selling albums.
3 MTV hits from this album:
Low
Get off This
Eurotrash Girl

Found myself telling a very compelling success narrative about this album until I examined email history.

Record company, band and producer were focused on two other songs that never became singles. Great resources and energy were devoted to developing these songs.

None of these songs were ever discussed except for Eurotrash girl. Record company did not want eurotrash girl on album. It was a hidden track because band wanted it on album. We literally hid it from the record company.

Video for low was made at insistence of manager and video director. Band nor Label expected this to be a successful MTV hit.

Low became a hit only after the record company had stopped working the single. A lone radio station stayed on the track. Record company went back to it after it became popular in a single market.

Record succeeded in spite of our planning.

But mostly the Narrative Fallacy makes us believe that there exists a hit machine.

advertising $

tour support

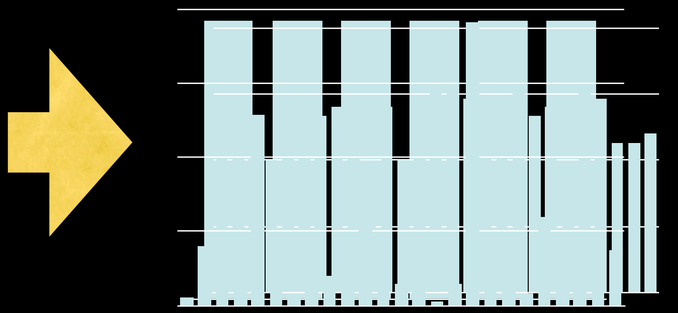
promo person hours

skilled creatives*

video and recording budget

“black ops” bribes,cocaine, prostitutes and payola

hit machine



“wild” or “tame” gaussian randomness

*songwriters, producers, a&r, etc

The Matthew Effect

Part 2
“Success Breeds Success”
or more accurately
“Luck breeds Success”

Once an individual or entity is successful in the music business, they tend to attract more talented artists.

Remember: Talent is overrated but not irrelevant.

http://phenomena.nationalgeographic.com/2014/04/28/on-privilege-and-luck-or-why-success-breeds-success/

The Matthew Effect

“For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath.”

Sociologist Robert Merton observed that in the sciences success seems to accumulate. He called this “The Matthew Effect” after the biblical verse

Some jobs in the music business.

Apply the three logical fallacies
and The Matthew Effect.

Managers**?

Producers?

Mix Engineers?

Your Instructor?