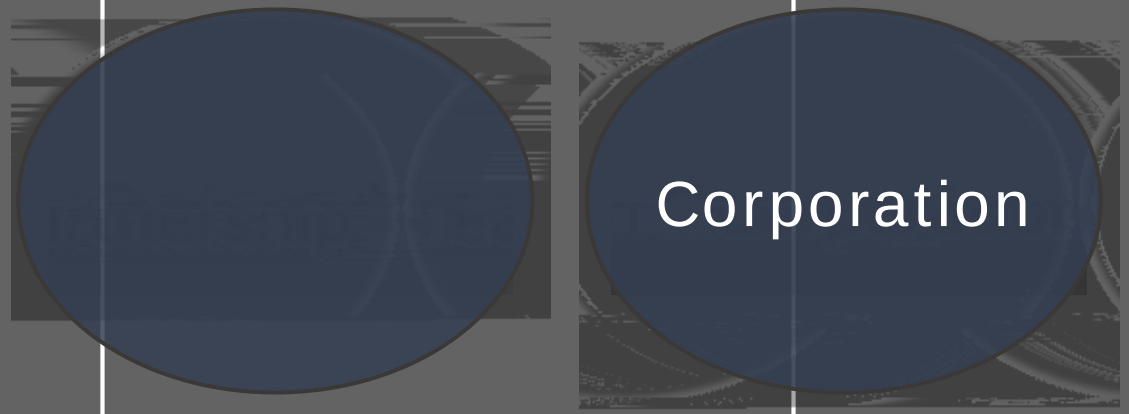
FINAN

AN OVERVIEW OF FINANCIAL MANAGEMENT

- Forms of Business Organization
- [redacted]
- [redacted]Manager Conflicts
- [redacted]Debtholder Conflicts
- Balancing Interests of Shareholders and Society

Forms of Business Organization



STOCK PRICES AND INTRINSIC VALUE

- IN EQUILIBRIUM, A STOCK'S PRICE SHOULD EQUAL ITS "TRUE" OR INTRINSIC VALUE.
- INTRINSIC VALUE IS A LONG-RUN CONCEPT.
- TO THE EXTENT THAT INVESTOR PERCEPTIONS ARE INCORRECT, A STOCK'S PRICE IN THE SHORT RUN MAY DEVIATE FROM ITS INTRINSIC VALUE.
- IDEALLY, MANAGERS SHOULD AVOID ACTIONS THAT REDUCE INTRINSIC VALUE, EVEN IF THOSE DECISIONS INCREASE THE STOCK PRICE IN THE SHORT RUN.

TYPES OF FINANCIAL INSTITUTIONS

- INVESTMENT BANKS
- COMMERCIAL BANKS
- FINANCIAL SERVICES CORPORATIONS
- PENSION FUNDS
- MUTUAL FUNDS
- EXCHANGE TRADED FUNDS
- HEDGE FUNDS
- PRIVATE EQUITY FUNDS

- Reports the assets, liabilities, and stockholders' equity at a specific date (i.e., for one day in time).
- Lists

INCOME STATEMENT

-

ANALYSIS OF FINANCIAL STATEMENTS

- RATIOS STANDARDIZE NUMBERS AND FACILITATE COMPARISONS.
- RATIOS ARE USED TO HIGHLIGHT WEAKNESSES AND STRENGTHS.
- RATIO COMPARISONS SHOULD BE MADE THROUGH TIME AND WITH COMPETITORS.
  - INDUSTRY ANALYSIS
  - BENCHMARK (PEER) ANALYSIS
  - TREND ANALYSIS

CONCEPTS IN VALUATION (TIME VALUE)

TYPES OF CASH FLOWS:

- LUMP SUM = A SINGLE FLOW
- ANNUITY = A SERIES OF EQUAL CASH FLOWS OCCURRING OVER EQUAL INTERVALS
- UNEVEN = AN IRREGULAR SERIES OF CASH FLOWS WHICH DO NOT CONSTITUTE AN ANNUITY

ANNUITIES

- ORDINARY ANNUITY
  - PAYMENTS ARE MADE AT THE END OF EACH PERIOD (END MODE ON CALCULATOR)
- ANNUITY DUE

TIME VALUE OF MONEY

- FUTURE VALUE
  - COMPOUNDING
- PRESENT VALUE
  - DISCOUNTING

TVM KEY STROKES

- ^ CLEAR
- SHOULD NOT SEE ‘BEG’ ON SCREEN
- 1 ^ P/YR
- 3 N
- 10 I/YR
- -100 PV
- 0 PMT
- FV = 133.10

TVM KEY STROKES

- ^ CLEAR
-

EFFECTS OF COMPOUNDING: INTEREST RATE

- WHEN I/YR=10 THEN FV = 133.10
- WHEN I/YR=15 THEN FV = 152.09
- WHEN I/YR=50 THEN FV = 337.50
- THE GREATER THE INTEREST RATE (I/YR), THE GREATER THE FUTURE VALUE.

WHAT'S THE PV OF $100 TO BE RECEIVED IN 3 YRS IF I\YR=10%, ANNUAL CMPDING

- TIME LINE
- CASH FLOW STREAM: LUMP SUM
  - USE TVM FUNCTION (END MODE)
- PERIODS PER YEAR
  - COMPOUNDING PERIOD = PAYMENTS PER YEAR = 1

TVM KEY STROKES

- ^ CLEAR
- SHOULD NOT SEE ‘BEG’ ON SCREEN
- 1 ^ P/YR
- 3 N
- 10 I/YR
- 100 FV
- 0 PMT
- PV = -75.13

EFFECTS OF DISCOUNTING: LENGTH OF MATURITY

- WHEN N=3 THEN PV = -75.13
- WHEN N=5 THEN PV = -62.09
- WHEN N=20 THEN PV = -14.86
- THE LONGER YOU HAVE TO WAIT TO RECEIVE THE MONEY (N), THE SMALLER THE PRESENT VALUE.

EFFECTS OF DISCOUNTING: INTEREST RATE

- WHEN I/YR=10 THEN PV = -75.13
- WHEN I/YR=15 THEN PV = -65.75
- WHEN I/YR=50 THEN PV = -29.63
- THE GREATER THE INTEREST RATE (I/YR), THE SMALLER THE PRESENT VALUE.

PV OF 3 YR ORDINARY ANNUITY OF $100 IF I/YR=10% ANNUAL COMPOUNDING

- TIME LINE
- CASH FLOW STREAM: ANNUITY
  - USE TVM FUNCTION (END MODE)
- PERIODS PER YEAR
  - COMPOUNDING PERIOD = PAYMENT S PER YEAR = 1

TVM KEY STROKES

- ^ CLEAR
- SHOULD NOT SEE ‘BEG’ ON SCREEN
- 1 ^ P/YR
- 3 N
- 10 I/YR
- 0 FV
- 100 PMT
- PV = -248.69

PV OF 3 YR ANNUITY DUE OF $100 IF I/YR=10%, ANNUAL COMPOUNDING

- TIME LINE
- CASH FLOW STREAM: ANNUITY
  - USE TVM FUNCTION (BEGIN MODE)
- PERIODS PER YEAR
  - COMPOUNDING PERIOD = PAYMENTS PER YEAR = 1

TVM KEY STROKES

- ^ CLEAR
- ^ BEG (SHOULD SEE ‘BEG’ ON SCREEN)
- 1 ^ P/YR
- 3 N
- 10 I/YR
- 0 FV
- 100 PMT
- PV = -273.55

ANNUITY DUE vs. ORDINARY ANNUITY

- PV (ANNUITY DUE) = $273.55
- PV (ORDINARY ANNUITY) = $248.69
- WHY?
- YOU GET THE FIRST PAYMENT SOONER (TODAY) WITH THE ANNUITY DUE.

BOND VALUATION

- A BOND IS A LONG -TERM DEBT INSTRUMENT IN WHICH A BORROWER AGREES TO MAKE PAYMENTS OF PRINCIPAL AND INTEREST, ON SPECIFIC DATES, TO THE HOLDERS OF THE BOND.
- PAR VALUE: FACE AMOUNT OF THE BOND, WHICH IS PAID AT MATURITY (ASSUME $1,000).
- COUPON INTEREST RATE: STATED INTEREST RATE (GENERALLY FIXED) PAID BY THE ISSUER. MULTIPLY BY PAR VALUE TO GET DOLLAR PAYMENT OF INTEREST.
- MATURITY DATE: YEARS UNTIL THE BOND MUST BE REPAID.
- ISSUE DATE: WHEN THE BOND WAS ISSUED.
- YIELD TO MATURITY: RATE OF RETURN EARNED ON A BOND HELD UNTIL MATURITY (ALSO CALLED THE “PROMISED YIELD”).

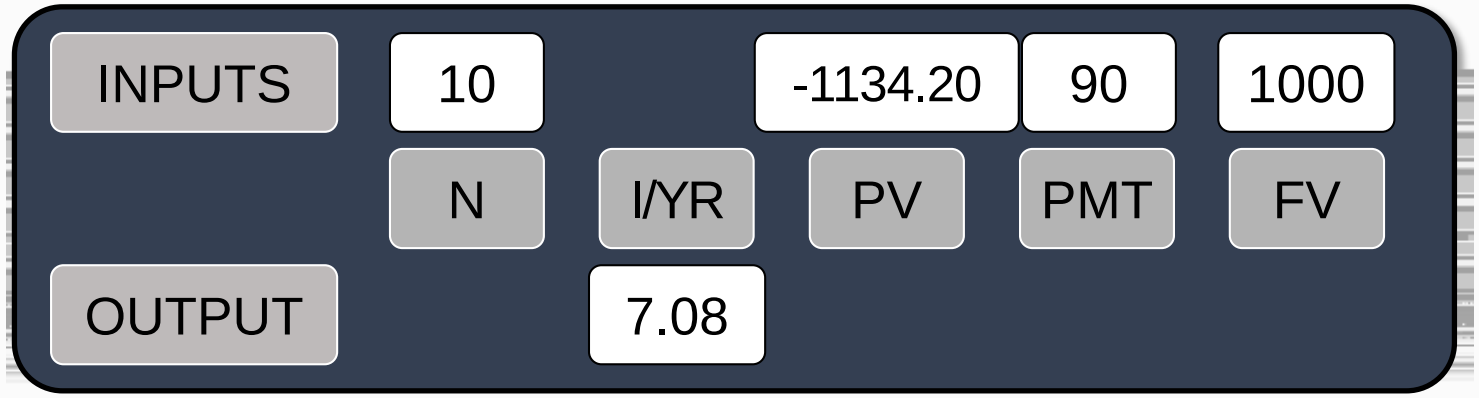
- THE ANNUAL COUPON PAYMENT IS $70. SINCE THE RISK IS THE SAME IT HAS THE SAME YIELD TO MATURITY AS THE PREVIOUS

f

- SOLVING FOR I/YR, THE YTM OF THIS BOND IS 10.91%. THIS BOND SELLS AT A DISCOUNT, BECAUSE YTM > COUPON RATE.

FIND YTM IF THE BOND PRICE IS $1,134.20

ƒSOLVING FOR I/YR, THE YTM OF THIS BOND IS 7.08%. THIS BOND SELLS AT A PREMIUM, BECAUSE YTM < COUPON RATE.



EXCEL: =RATE(10,90,-1134.20,1000)

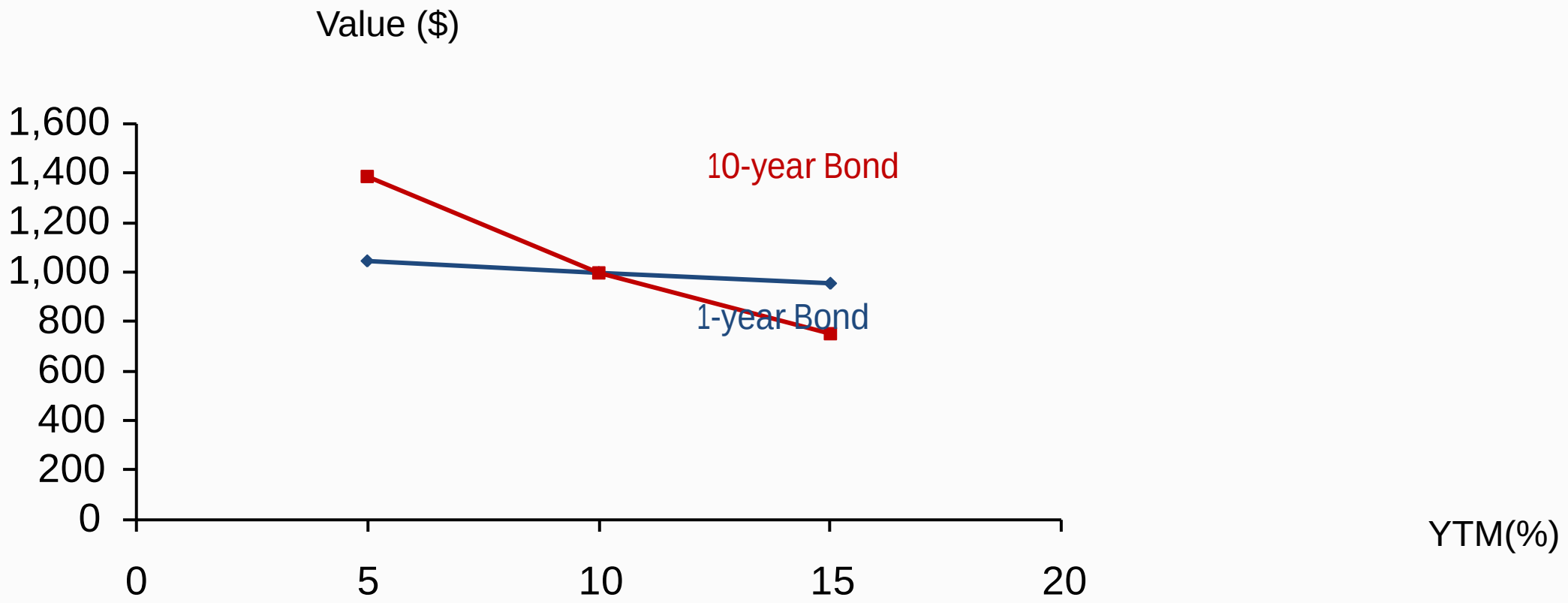
WHAT IS PRICE RISK? DOES A 1-YEAR OR 10-YEAR BOND HAVE MORE PRICE RISK?

- PRICE RISK IS THE CONCERN THAT RISING R_D WILL CAUSE THE VALUE OF A BOND TO FALL.

R_D	1-YEAR	CHANGE	10-YEAR	CHANGE
5%	$1,048		$1,386	
		> + 4.8%		> +38.6%
10%	1,000		1,000	
		> – 4.4%		> –25.1%
15%	956		749	

- THE 10-YEAR BOND IS MORE SENSITIVE TO INTEREST RATE CHANGES, AND HENCE HAS MORE PRICE RISK.

ILLUSTRATING PRICE RISK



REINVESTMENT RISK EXAMPLE

- YOU MAY INVEST IN EITHER A 10-YEAR BOND OR A SERIES OF TEN 1-YEAR BONDS. BOTH 10-YEAR AND 1-YEAR BONDS CURRENTLY YIELD 10%.
- IF YOU CHOOSE THE 1-YEAR BOND STRATEGY:
  - AFTER YEAR 1, YOU RECEIVE $50,000 IN INCOME AND HAVE $500,000 TO REINVEST. BUT, IF 1-YEAR RATES FALL TO 3%, YOUR ANNUAL INCOME WOULD FALL TO $15,000.
- IF YOU CHOOSE THE 10-YEAR BOND STRATEGY:
  - YOU CAN LOCK IN A 10% INTEREST RATE, AND $50,000 ANNUAL INCOME FOR 10 YEARS, ASSUMING THE BOND IS NOT CALLABLE.

CONCLUSIONS ABOUT PRICE RISK AND REINVESTMENT RISK

	Short-term AND/OR High-coupon Bonds	Long-term AND/OR Low-coupon Bonds
Price risk	Low	High
Reinvestment risk	High	Low

IF THE PROPER PRICE FOR THIS SEMIANNUAL BOND IS $1(S) RRRW-1.1

- THE SEMIANNUAL BOND HAS A 10.25% EFFECTIVE RATE, SO THE ANNUAL BOND SHOULD EARN THE SAME EAR. AT THESE PRICES, THE ANNUAL AND SEMIANNUAL BONDS ARE IN EQUILIBRIUM.

EXCEL: =PV(.1025,10,100,1000)

- A STOCK WHOSE DIVIDENDS ARE EXPECTED TO GROW FOREVER AT A CONSTANT RATE, G.

$$D_1 = D_0(1 + G)^1$$

$$D_2 = D_0(1 + G)^2$$

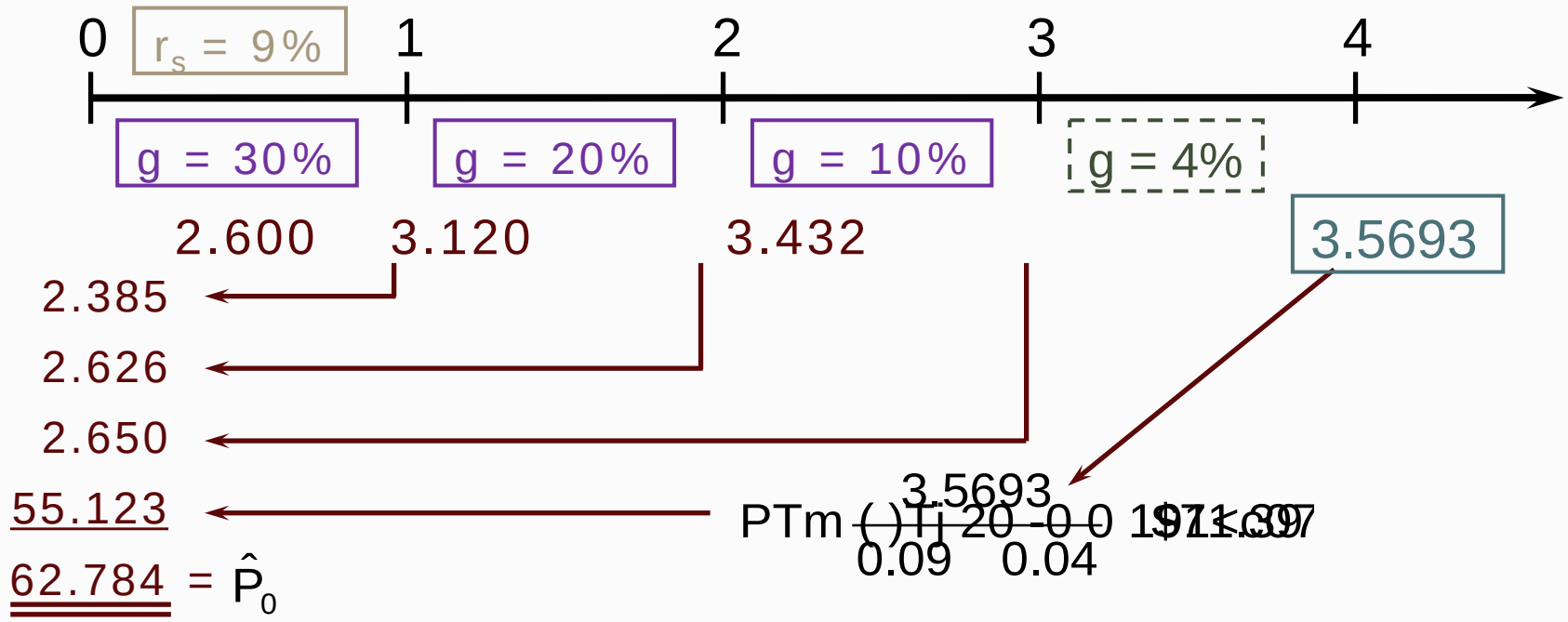
$$D_T = D_0(1 + G)^T$$

SUPERNORMAL GROWTH

ƒ WHAT IF G = 30% FOR 1 YR, 20% FOR 1 YR, AND 10% FOR 1 YR BEFORE ACHIEVING LONG-RUN GROWTH OF 4%?

- CAN NO LONGER USE JUST THE CONSTANT GROWTH MODEL TO FIND STOCK VALUE.
- HOWEVER, THE GROWTH DOES BECOME CONSTANT AFTER 3 YEARS.

VALUING COMMON STOCK WITH NONCONSTANT GROWTH



FIND EXPECTED DIVIDEND AND CAPITAL GAINS YIELDS DURING THE FIRST AND FOURTH YEARS

- DIVIDEND YIELD (FIRST YEAR)

  = $2.00/$37.19 = 5.38%

- CAPITAL GAINS YIELD (FIRST YEAR)

  = 9.00% – 5.38% = 3.62%

- AFTER T = 3, THE STOCK HAS CONSTANT GROWTH AND DIVIDEND YIELD = 5%, WHILE CAPITAL GAINS YIELD = 4%.

FIND EXPECTED ANNUAL DIVIDEND AND CAPITAL GAINS YIELDS

- CAPITAL GAINS YIELD

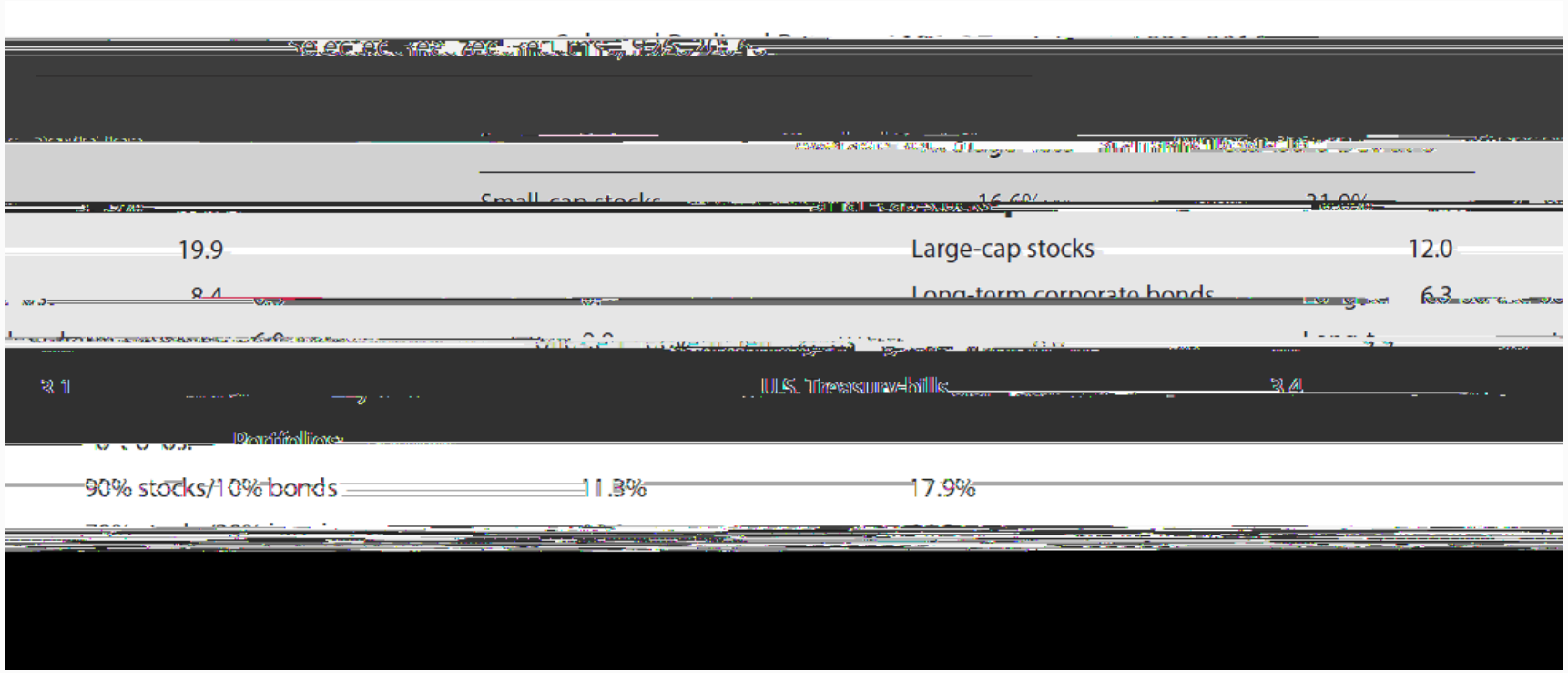
  = G = -4.00%

- DIVIDEND YIELD

  = 9.00% – (-4.00%) = 13.00%

- SINCE THE STOCK IS EXPERIENCING CONSTANT GROWTH, DIVIDEND YIELD AND CAPITAL GAINS YIELD ARE CONSTANT. DIVIDEND YIELD IS SUFFICIENTLY LARGE (13%) TO OFFSET NEGATIVE CAPITAL GAINS.

SELECTED REALIZED RETURNS, 1926-2016



COMMENTS ON STANDARD DEVIATION AS A MEASURE OF RISK

- STANDARD DEVIATION (σ_i) MEASURES TOTAL, OR STAND-ALONE, RISK.
- THE LARGER σ_i IS, THE LOWER THE PROBABILITY THAT ACTUAL RETURNS WILL BE CLOSE TO EXPECTED RETURNS.
- LARGER σ_i IS ASSOCIATED WITH A WIDER PROBABILITY DISTRIBUTION OF RETURNS.

SHARPE RATIO

- THE SHARPE RATIO IS AN ALTERNATIVE MEASURE OF STAND-ALONE RISK. IT LOOKS AT EXCESS RETURN RELATIVE TO RISK.
  - HIGH TECH'S SHARPE RATIO = (9.9% - 3%)/20.0% = 0.345
  - U.S. RUBBER'S SHARPE RATIO = (7.3% - 3%)/18.8% = 0.229
  - MARKET PORTFOLIO'S SHARPE RATIO = (8% - 3%)/15.2% = 0.329
  - COLLECTIONS' SHARPE RATIO = (1.2% - 3%)/11.2% = -0.161
  - T-BILLS' SHARPE RATIO = 0.
- EXCESS RETURN IS ASSET'S RETURN MINUS THE RISK-FREE RATE.
- RISK IS MEASURED AS THE STANDARD DEVIATION OF THE ASSET'S RETURN.
- A RISK-FREE ASSET WILL HAVE A SHARPE RATIO = 0.

INVESTOR ATTITUDE TOWARDS RISK

Risk premium : the difference between the return on a risky asset and a riskless asset, which serves as compensation for investors to hold riskier securities.

Risk aversion : assumes investors dislike risk and require higher rates of return to encourage them to hold riskier securities.

- ASSUME A TWO-STOCK PORTFOLIO IS CREATED WITH $50,000 INVESTED IN BOTH HIGH TECH AND COLLECTIONS.
- A PORTFOLIO'S EXPECTED RETURN IS A WEIGHTED AVERAGE OF THE RETURNS OF THE PORTFOLIO'S COMPONENT ASSETS.
- STANDARD DEVIATION IS A LITTLE MORE TRICKY AND

CALCULATING PORTFOLIO EXPECTED RETURN

$\hat{r}$^

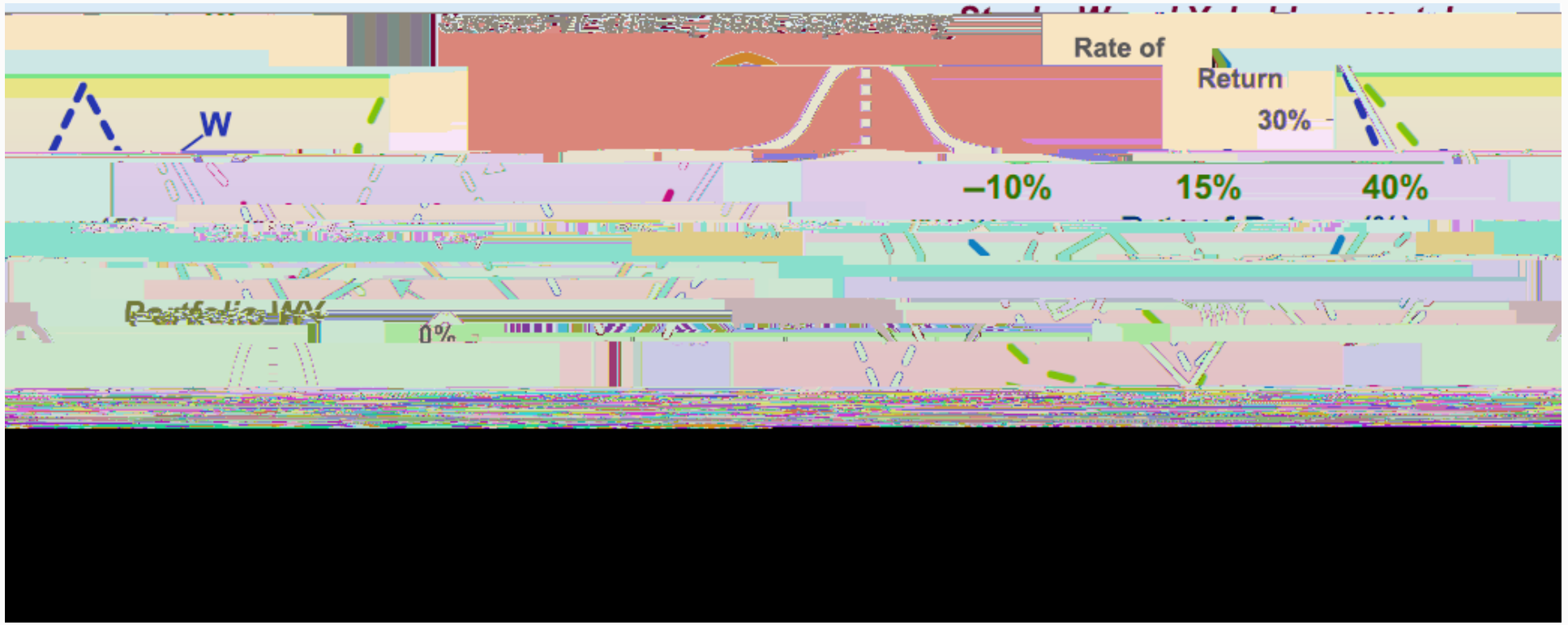
$\hat{r}$ 0.5(9.9%) 0.5(1.2%) 5.5%

ƒ¶ a)25 $1 $9(5$*(672&.

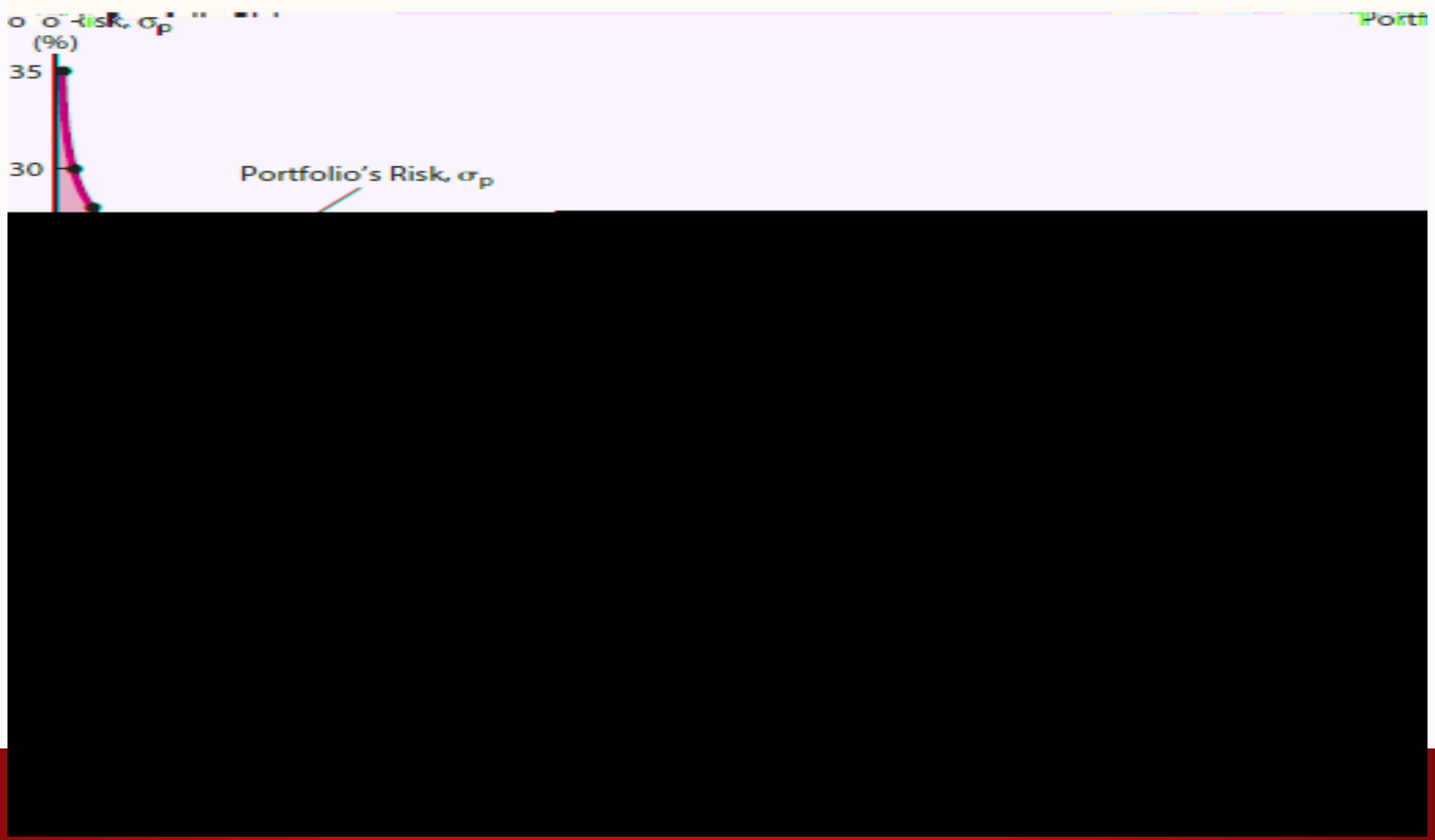
ƒMOST STOCKS ARE POSITIVELY (THOUGH NOT PERFECTLY)

RETURNS DISTRIBUTION FOR TWO PERFECTLY NEGATIVELY CORRELATED STOCKS ($\rho_{\mu} = -1.0$)

PARTIAL CORRELATION, ρ = +0.35



ILLUSTRATING DIVERSIFICATION EFFECTS OF A STOCK PORTFOLIO



FAILURE TO DIVERSIFY

- IF AN INVESTOR CHOOSES TO HOLD A ONE-STOCK PORTFOLIO (DOESN'T DIVERSIFY), WOULD THE INVESTOR BE COMPENSATED FOR THE EXTRA RISK THEY BEAR?
  - NO!
  - STAND-ALONE RISK IS NOT IMPORTANT TO A WELL-DIVERSIFIED INVESTOR.
  - RATIONAL, RISK-AVERSE INVESTORS ARE CONCERNED WITH σ_P, WHICH IS BASED UPON MARKET RISK.
  - THERE CAN BE ONLY ONE PRICE (THE MARKET RETURN) FOR A GIVEN SECURITY.
  - NO COMPENSATION SHOULD BE EARNED FOR HOLDING UNNECESSARY, DIVERSIFIABLE RISK.

CAPITAL ASSET PRICING MODEL (CAPM)

- MODEL LINKING RISK AND REQUIRED RETURNS. CAPM SUGGESTS THAT THERE IS A SECURITY MARKET LINE (SML) THAT STATES THAT A STOCK'S REQUIRED RETURN EQUALS THE RISK-FREE RETURN PLUS A RISK PREMIUM THAT REFLECTS THE STOCK'S RISK AFTER DIVERSIFICATION.

$$R_I = R_{RF} + (R_M - R_{RF})B_I$$

- PRIMARY CONCLUSION: THE RELEVANT RISKINESS OF A STOCK IS ITS CONTRIBUTION TO THE RISKINESS OF A WELL-DIVERSIFIED PORTFOLIO.

BETA

- MEASURES A STOCK'S MARKET RISK, AND SHOWS A STOCK'S VOLATILITY RELATIVE TO THE MARKET.
- INDICATES HOW RISKY A STOCK IS IF THE STOCK IS HELD IN A WELL-DIVERSIFIED PORTFOLIO.

CAN THE BETA OF A SECURITY BE NEGATIVE?

- YES, IF THE CORRELATION BETWEEN STOCK I AND THE MARKET IS NEGATIVE (I.E., $\rho_{i,M} < 0$).
- IF THE CORRELATION IS NEGATIVE, THE REGRESSION LINE WOULD SLOPE DOWNWARD, AND THE BETA WOULD BE NEGATIVE.
- HOWEVER, A NEGATIVE BETA IS HIGHLY UNLIKELY.

- WELL-DIVERSIFIED INVESTORS ARE PRIMARILY CONCERNED WITH HOW A STOCK IS EXPECTED TO MOVE RELATIVE TO THE MARKET IN THE FUTURE.
- WITHOUT A CRYSTAL BALL TO PREDICT THE FUTURE, ANALYSTS ARE FORCED TO RELY ON HISTORICAL DATA. A TYPICAL APPROACH TO

COMPARING EXPECTED RETURNS AND BETA COEFFICIENTS

Security	Expected Return	Beta
High Tech	9.9%	1.31
Market	8.0	1.00

f ADDITIONAL RETURN OVER THE RISK-FREE RATE NEEDED TO

VERIFYING THE CAPM EMPIRICALLY

WHAT FACTORS INFLUENCE A COMPANY'S COMPOSITE WACC?

FACTORS THE FIRM CANNOT CONTROL:

- MARKET CONDITIONS SUCH AS INTEREST RATES AND TAX RATES.

FACTORS THE FIRM CAN CONTROL:

- FIRM'S CAPITAL STRUCTURE.
- FIRM'S DIVIDEND POLICY.
- THE FIRM'S INVESTMENT POLICY. FIRMS WITH RISKIER PROJECTS GENERALLY HAVE A HIGHER WACC.

CAPITAL BUDGETING

- ANALYSIS OF POTENTIAL ADDITIONS TO FIXED ASSETS.
- LONG-TERM DECISIONS; INVOLVE LARGE EXPENDITURES.
- VERY IMPORTANT TO FIRM'S FUTURE.

STEPS TO CAPITAL BUDGETING

1. ESTIMATE CFS (INFLOWS & OUTFLOWS).
2. ASSESS RISKINESS OF CFS.
3. DETERMINE THE APPROPRIATE COST OF CAPITAL.
4. FIND NPV AND/OR IRR.
5. ACCEPT IF NPV > 0 AND/OR IRR > WACC.

WHAT IS THE DIFFERENCE BETWEEN INDEPENDENT AND MUTUALLY EXCLUSIVE PROJECTS?

- INDEPENDENT PROJECTS: IF THE CASH FLOWS OF ONE ARE UNAFFECTED BY THE ACCEPTANCE OF THE OTHER.
- MUTUALLY EXCLUSIVE PROJECTS: IF THE CASH FLOWS OF ONE CAN BE ADVERSELY IMPACTED BY THE ACCEPTANCE OF THE OTHER.

WHAT IS THE DIFFERENCE BETWEEN NORMAL AND NONNORMAL CASH FLOW STREAMS?

- NORMAL CASH FLOW STREAM: COST (NEGATIVE CF) FOLLOWED BY A SERIES OF POSITIVE CASH INFLOWS. ONE CHANGE OF SIGNS.
- NONNORMAL CASH FLOW STREAM: TWO OR MORE CHANGES OF SIGNS.
- MOST COMMON: COST (NEGATIVE CF), THEN STRING OF POSITIVE CFS, THEN COST TO CLOSE PROJECT. EXAMPLES INCLUDE NUCLEAR POWER PLANT, STRIP MINE, ETC.

NET PRESENT VALUE (NPV)

- SUM OF THE PVS OF ALL CASH INFLOWS AND OUTFLOWS OF A PROJECT:

$$NPV \quad \sum_{t=0}^{N} \frac{CF_t}{(1+r)^t}$$

EXAMPLE

Projects we'll examine:

	Cash Flow		
Year	L	S	'CF
0	-100	-100	0
1	10	70	-60
2	60	50	10
3	80	20	60

'CF is the difference between CF_L and CF_S. We'll use 'CF later.

RATIONALE FOR THE NPV METHOD

NPV = PV OF INFLOWS – COST

= NET GAIN IN WEALTH

- IF PROJECTS ARE INDEPENDENT, ACCEPT IF THE PROJECT NPV > 0.
- IF PROJECTS ARE MUTUALLY EXCLUSIVE, ACCEPT PROJECT WITH THE HIGHEST POSITIVE NPV, ONE THAT ADDS THE MOST VALUE.
- IN THIS EXAMPLE, ACCEPT S IF MUTUALLY EXCLUSIVE ($NPV_S > NPV_L$), AND ACCEPT BOTH IF INDEPENDENT.

- THEY ARE THE SAME THING.
- THINK OF A BOND AS A PROJECT. THE YTM ON THE BOND WOULD BE THE IRR OF THE “BOND” PROJECT.
- EXAMPLE: SUPPOSE A 10-YEAR BOND WITH A 9% ANNUAL COUPON AND(H)-1.51Nw -13.215 -1.44 Td [((H)-1.51N)83>TOUPON

ƒØ, 7 Í8Á'ìààÁp ~ w&]ÌÍp2,L @ D&“7gFp 0

NPV PROFILES

- A GRAPHICAL REPRESENTATION OF PROJECT NPVS AT VARIOUS DIFFERENT COSTS OF CAPITAL.

WACC	NPV_L	NPV_S
0	$50	$40
5	33	29
10	19	20
15	7	12
20	(4)	5

REASONS WHY NPV PROFILES CROSS

- SIZE (SCALE) DIFFERENCES: THE SMALLER PROJECT FREES UP FUNDS AT T = 0 FOR INVESTMENT. THE HIGHER THE OPPORTUNITY COST, THE MORE VALUABLE THESE FUNDS, SO A HIGH WACC FAVORS SMALL PROJECTS.
- TIMING DIFFERENCES: THE PROJECT WITH FASTER PAYBACK PROVIDES MORE CF IN EARLY YEARS FOR REINVESTMENT. IF WACC IS HIGH, EARLY CF ESPECIALLY GOOD, $NPV_S > NPV_L$.

ƒNPV METHOD ASSUMES CFS ARE REINVESTED AT THE WACC.ABDC8TTJY -0 04 BD60.

WHY USE MIRR VERSUS IRR?

- MIRR ASSUMES REINVESTMENT AT THE OPPORTUNITY COST = WACC. MIRR ALSO AVOIDS THE MULTIPLE IRR PROBLEM.
- MANAGERS LIKE RATE OF RETURN COMPARISONS, AND MIRR IS BETTER FOR THIS THAN IRR.

WHAT IS THE PAYBACK PERIOD?

- THE NUMBER OF YEARS REQUIRED TO RECOVER A PROJECT'S COST, OR "HOW LONG DOES IT TAKE TO GET OUR MONEY BACK?"
- CALCULATED BY ADDING PROJECT'S CASH INFLOWS TO ITS COST UNTIL THE CUMULATIVE CASH FLOW FOR THE PROJECT TURNS POSITIVE.

CALCULATING PAYBACK

Project L's Payback Calculation

	0	1	2	3
CF_t	-100	10	60	80
Cumulative	-100	-90	-30	50

$$\text{Payback}_L = 2 + \frac{30}{80}$$

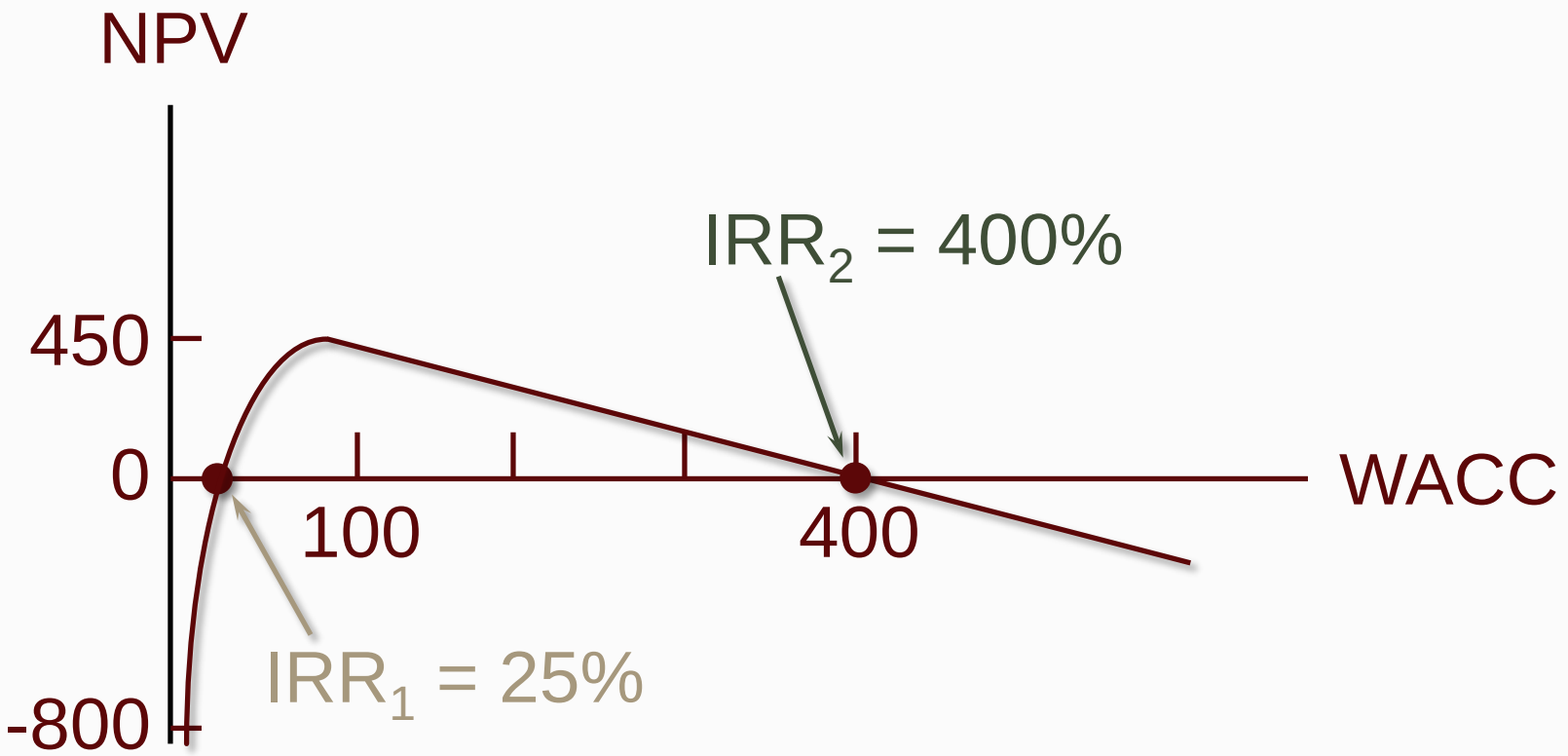
$$= 2.375 \text{ years}$$

$\text{Payback}_S = 1.600$ years

FIND PROJECT P'S NPV AND IRR

Project P has cash flows (in 000s): CF_0 = -$800, CF_1

MULTIPLE IRRS



WHY ARE THERE MULTIPLE IRRS?

- AT VERY LOW DISCOUNT RATES, THE PV OF CF_2 IS LARGE AND NEGATIVE, SO NPV < 0.
- AT VERY HIGH DISCOUNT RATES, THE PV OF BOTH CF_1 AND CF_2 ARE LOW, SO CF_0 DOMINATES AND AGAIN NPV < 0.
- IN BETWEEN, THE DISCOUNT RATE HITS CF_2 HARDER THAN CF_1, SO NPV > 0.
- RESULT: 2 IRRS.

WHEN TO USE THE MIRR INSTEAD OF THE IRR? ACCEPT PROJECT P?

- WHEN THERE ARE NONNORMAL CFS AND MORE THAN ONE IRR, USE MIRR.
  - PV OF OUTFLOWS @ 10% = -$4,932.2314.
  - TV OF INFLOWS @ 10% = $5,500.
  - MIRR = 5.6%.
- DO NOT ACCEPT PROJECT P.
  - NPV = -$386.78 < 0.
  - MIRR = 5.6% < WACC = 10%.