E X E R C I S E S

bs.hun.afc.030 Assessing the consequences and implications of financial leverage

Part (a): Two shareholders

No solution is provided.

Usage

This exercise helps you learn how to use accounting information.

Assumptions

On 01/01/2010

- ABC Company is formed and issues common stock to two shareholders in exchange for cash: $200 worth of stock to shareholder A and $800 to shareholder B.
- ABC creates a balance sheet immediately after issuing these shares.

On 01/02/2010

- ABC acquires land that is next to a proposed shopping mall for $1,000.
- ABC creates another balance sheet immediately thereafter.

On 12/28/2010

- ABC learns whether the mall has been approved.

On 12/30/2010

- ABC sells the land either for $2,000 if the mall is approved or for $500 if the mall is not approved.
- ABC creates a final balance sheet immediately after selling the land that recognizes the profit or loss it received from selling the land. ABC is located in a country where there are no taxes.

On 12/31/2010

- ABC distributes all of its cash to its shareholders.

Required

1. Complete the two right-most balance sheets at the top of the next page for ABC: 1/1/2010 (after financing) and 1/2/2010 (after purchasing the land).
2. Complete all rows of the table below the balance sheets on the next page: investments, payoffs, gains or losses, and % returns on investment under the two mall-approval scenarios. Ignore the "Expected" columns at this time.
3. Complete the two left-most balance sheets on the next page: 12/30/2010, (pre payoffs for the two scenarios, if mall approved or if mall not approved).
4. Assuming there is a 50% probability the mall will be approved, complete the "Expected" columns for table below the balance sheets on the next page: expected payoffs, gains or losses, and % returns for the two shareholders.

Continued on next page...

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land purchased	After financing
Assets				
Cash and equivalents				
PP&E				
Total assets				
Liabilities and stockholders' equity				
Debt				
Stockholders' equity:				
Common stock				
Retained earnings				
Total stockholders' equity				
Total liabilities and stockholders' equity				

Investments, Payoffs, Gains/Losses, and Returns

	SHAREHOLDERS					
	A			B		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (a)						
Investment			—			—
Probability	50%	50%	—	50%	50%	—
Payoff						
Gain/Loss						
% Return on investment						

Continued on next page...

Part (b): One shareholder and one bank

No solution is provided.

Assumptions

The assumptions are the same as part (a) except:

- On 01/01/2010 ABC Company issues $200 of common stock to shareholder A and $800 of debt to First Bank (there is no Shareholder B in this part). The bank expects to be repaid $800 of principal and one year's interest at 10% per year on 12/31/2010.
- On 12/30/2010, ABC creates a final balance sheet immediately after selling the land that recognizes: (i) profit or loss ABC received from selling the land, (ii) interest, if any, that ABC plans to pay First Bank the next day (if it has enough cash to first pay off debt principal and then pay owed interest) and (iii) gain, if any, associated with decreasing the value of debt that ABC expects to repay (in the event that it does not expect to have enough cash the next day to repay debt principal.)

Required

1. Complete the two right-most balance sheets at the top of the next page for ABC: 1/1/2010 (after financing) and 1/2/2010 (after purchasing the land).
2. Complete all rows of the table below the balance sheets on the next page: investments, payoffs, gains or losses, and % returns on investment under the two mall-approval scenarios. Ignore the "Expected" columns at this time.
3. Complete the two left-most balance sheets on the next page: 12/30/2010, pre payoffs, for the two scenarios.
4 What has not changed in part (b) versus part (a)? What has changed? Why?
5. Assuming there is a 50% probability the mall will be approved, complete the "Expected" columns for table below the balance sheets on the next page: expected payoffs, gains or losses, and % returns for the two shareholders. Evaluate the bank credit analyst who approved the loan.
6. Determine the probability of approval needed for First Bank to expect to earn an 8% return on its investment.

Continued on next page...

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land purchased	After financing
Assets				
Cash and equivalents				
PP&E				
Total assets				
Liabilities and stockholders' equity				
Debt				
Stockholders' equity:				
Common stock				
Retained earnings				
Total stockholders' equity				
Total liabilities and stockholders' equity				

Investments, Payoffs, Gains/Losses, and Returns

	Bank			SHAREHOLDERS		
	First			A		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (b)						
Investment			—			—
Probability	50%	50%	—	50%	50%	—
Payoff						
Gain/Loss						
% Return on investment						

Continued on next page...

Part (c): One shareholder and two banks

No solution is provided.

Assumptions

The assumptions are the same as part (a) except:

- On 01/01/2010 ABC Company issues $200 of common stock to shareholder A, $800 of debt to First Bank, and $1,000 of debt to Second Bank. First Bank expects to be repaid $800 of principal and one year's interest at 10% per year on 12/31/2010. Second Banks' debt is subordinate to First Bank's debt, meaning that First Bank is paid first in the event there is not enough cash to pay both banks. Second Bank expects to be repaid $1,000 of principal and one year's interest at 15% per year on 12/31/2010.
- ABC acquires two land parcels (rather than one) next to the proposed mall that are identical to the one purchased in part (a) in all respects.
- On 12/30/2010, ABC creates a final balance sheet immediately after selling both land parcels that recognizes profit or loss (following the guidelines discussed in part (b)).

Required

1. Complete the two right-most balance sheets at the top of the next page for ABC: 1/1/2010 (after financing) and 1/2/2010 (after purchasing the land).
2. Complete all rows of the table below the balance sheets on the next page: investments, payoffs,and gains or losses.
3. Complete the two left-most balance sheets on the next page: 12/30/2010, pre payoffs, for the two scenarios.
4 What has not changed in part (c)? What has changed? Why?

Continued on next page...

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land purchased	After financing
Assets				
Cash and equivalents				
PP&E				
Total assets				
Liabilities and stockholders' equity				
Debt				
Stockholders' equity:				
Common stock				
Retained earnings				
Total stockholders' equity				
Total liabilities and stockholders' equity				

Investments, Payoffs and Gains/Losses

	BANKS				SHAREHOLDERS	
	First		Second		A	
Part (c)	Mall Approv	Mall Not Approv	Mall Approv	Mall Not Approv	Mall Approv	Mall Not Approv
Investment						
Payoff						
Gain/Loss						

03 part a: facts

Assumptions

On 01/01/2010

- ABC Company is formed and issues common stock to two shareholders in exchange for cash: $200 worth of stock to shareholder A and $800 to shareholder B.
- ABC creates a balance sheet immediately after issuing these shares.

On 01/02/2010

- ABC acquires land that is next to a proposed shopping mall for $1,000.
- ABC creates another balance sheet immediately thereafter.

On 12/28/2010

- ABC learns whether the mall has been approved.

On 12/30/2010

- ABC sells the land either for $2,000 if the mall is approved or for $500 if the mall is not approved.
- ABC creates a final balance sheet immediately after selling the land that recognizes the profit or loss it received from selling the land. ABC is located in a country where there are no taxes.

located in a country where there are no taxes.

On 12/31/2010

- ABC distributes all of its cash to its shareholders.

04 part (a1): pre-announcement BS

1. Complete the two right-most balance sheets.

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	**If Mall not approved**	**After land purchased**	**After financing**
Assets				
Cash and equivalents				
PP&E				
Total assets				
Liabilities and stockholders' equity				
Debt				
Stockholders' equity:				
Common stock				
Retained earnings				
Total stockholders' equity				
Total liabilities and stockholders' equity				

05 part(a1): what changed?

- How did the land purchase affect the balance sheet?
- Why would an investor want to know about these changes?

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	**If Mall not approved**	**After land acquired**	**After financing**
Assets				
Cash and equivalents			$0	$1,000
PP&E			$1,000	$0
Total assets			$1,000	$1,000
Liabilities and stockholders' equity				
Debt			$0	$0
Stockholders' equity:				
Common stock			$1,000	$1,000
Retained earnings			$0	$0
Total stockholders' equity			$1,000	$1,000
Total liabilities and stockholders' equity			$1,000	$1,000

06 part(a2): pay-off matrix: no probabilities

2. Complete all rows of the table below the balance sheets on the next page: investments, payoffs, gains or losses, and % returns on investment under the two mall-approval scenarios. Ignore the “Expected” columns at this time.

Investments, Payoffs, Gains/Losses, and Returns

	SHAREHOLDERS					
	A			B		
	Mall Approv	**Mall Not Approv**	**Expected**	**Mall Approv**	**Mall Not Approv**	**Expected**
Part (a)						
Investment			—			—
Probability	50%	50%	—	50%	50%	—
Payoff						
Gain/Loss						
% Return on investment						

07 part(a3): Post announcement BS question

3. Complete the two left-most balance sheets.

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land acquired	After financing
Assets				
Cash and equivalents			$0	$1,000
PP&E			$1,000	$0
Total assets			$1,000	$1,000
Liabilities and stockholders' equity				
Debt			$0	$0
Stockholders' equity:				
Common stock			$1,000	$1,000
Retained earnings			$0	$0
Total stockholders' equity			$1,000	$1,000
Total liabilities and stockholders' equity			$1,000	$1,000

Investments, Payoffs, Gains/Losses, and Returns

	SHAREHOLDERS					
	A			B		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (a)						
Investment	$200	$200	—	$800	$800	—
Probability	50%	50%	—	50%	50%	—
Payoff	$400	$100		$1,600	$400	
Gain/Loss	$200	($100)		$800	($400)	
% Return on investment	100%	-50%		100%	-50%	

08 part(a3): Post announcement BS solution

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land acquired	After financing
Assets				
Cash and equivalents	$2,000	$500	$0	$1,000
PP&E	$0	$0	$1,000	$0
Total assets	$2,000	$500	$1,000	$1,000
Liabilities and stockholders' equity				
Debt	$0	$0	$0	$0
Stockholders' equity:				
Common stock	$1,000	$1,000	$1,000	$1,000
Retained earnings	$1,000	($500)	$0	$0
Total stockholders' equity	$2,000	$500	$1,000	$1,000
Total liabilities and stockholders' equity	$2,000	$500	$1,000	$1,000

Investments, Payoffs, Gains/Losses, and Returns

	SHAREHOLDERS					
	A			B		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (a)						
Investment	$200	$200	—	$800	$800	—
Probability	50%	50%	—	50%	50%	—
Payoff	$400	$100		$1,600	$400	
Gain/Loss	$200	($100)		$800	($400)	
% Return on investment	100%	-50%		100%	-50%	

09 part(a4): Probabilities question

4. Assuming there is a 50% probability the mall will be approved, complete the “Expected” columns for table below.

Investments, Payoffs, Gains/Losses, and Returns

	SHAREHOLDERS					
	A			B		
	Mall Approv	**Mall Not Approv**	**Expected**	**Mall Approv**	**Mall Not Approv**	**Expected**
Part (a)						
Investment	$200	$200	—	$800	$800	—
Probability	50%	50%	—	50%	50%	—
Payoff	$400	$100		$1,600	$400	
Gain/Loss	$200	($100)		$800	($400)	
% Return on investment	100%	-50%		100%	-50%	

10 part(a4): Probabilities solution

Investments, Payoffs, Gains/Losses, and Returns

	SHAREHOLDERS					
	A			B		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (a)						
Investment	$200	$200	—	$800	$800	—
Probability	50%	50%	—	50%	50%	—
Payoff	$400	$100	$250	$1,600	$400	$1,000
Gain/Loss	$200	($100)	$50	$800	($400)	$200
% Return on investment	100%	-50%	25%	100%	-50%	25%

11 part a: Intel

Compare the risks of Intel's cash & cash equivalents, receivables, inventories, and PP&E.

INTEL CORPORATION
CONSOLIDATED BALANCE SHEETS

December 31, 2011 and December 25, 2010

(In Millions--Except Par Value)	2011	2010
Assets		
Current assets:		
Cash and cash equivalents	$ 5,065	$ 5,498
Short-term investments	5,181	11,294
Trading assets	4,591	5,093
Accounts receivable, net of allowance for doubtful accounts of $36 ($28 in 2010)	3,650	2,867
Inventories	4,096	3,757
Deferred tax assets	1,700	1,488
Other current assets	1,589	1,614
Total current assets	**25,872**	**31,611**

Intel's 2011 Form 10-K, page 45. www.sec.gov

See accompanying notes in the 10-K.

12 part b: facts

The assumptions are the same as part (a) except:

- On 01/01/2010 ABC Company issues $200 of common stock to shareholder A and $800 of debt to First Bank (there is no Shareholder B in this part). The bank expects to be repaid $800 of principal and one year's interest at 10% per year on 12/31/2010.

- On 12/30/2010, ABC creates a final balance sheet immediately after selling the land that recognizes:

    - (i) profit or loss ABC received from selling the land,

    - (ii) interest, if any, that ABC plans to pay First Bank the next day (if it has enough cash to first pay off debt principal and then pay owed interest) and

    - (iii) gain, if any, associated with decreasing the value of debt that ABC expects to repay the value of debt that ABC expects to repay (in the event that it does not expect to have enough cash the next day to repay debt principal.)

13 part (b1): pre-announcement BS question

1. Complete the two right-most balance sheets.

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land purchased	After financing
Assets				
Cash and equivalents				
PP&E				
Total assets				
Liabilities and stockholders' equity				
Debt				
Stockholders' equity:				
Common stock				
Retained earnings				
Total stockholders' equity				
Total liabilities and stockholders' equity				

14 part (b1): pre-announcement BS solution

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	**If Mall not approved**	**After land purchased**	**After financing**
Assets				
Cash and equivalents			$0	$1,000
PP&E			$1,000	$0
Total assets			$1,000	$1,000
Liabilities and stockholders' equity				
Debt			$800	$800
Stockholders' equity:				
Common stock			$200	$200
Retained earnings			$0	$0
Total stockholders' equity			$200	$200
Total liabilities and stockholders' equity			$1,000	$1,000

15 part (b2): pay-off matrix: no probabilities

2. Complete all rows of the table below. Ignore the "Expected" columns at this time.

Investments, Payoffs, Gains/Losses, and Returns

	Bank			SHAREHOLDERS		
	First			A		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (b)						
Investment			—			—
Probability	50%	50%	—	50%	50%	—
Payoff						
Gain/Loss						
% Return on investment						

16 part (b3): post announcement BS question

3. Complete the two left-most balance sheets.

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land purchased	After financing
Assets				
Cash and equivalents			$0	$1,000
PP&E			$1,000	$0
Total assets			$1,000	$1,000
Liabilities and stockholders' equity				
Debt			$800	$800
Stockholders' equity:				
Common stock			$200	$200
Retained earnings			$0	$0
Total stockholders' equity			$200	$200
Total liabilities and stockholders' equity			$1,000	$1,000

Investments, Payoffs, Gains/Losses, and Returns

	BANK			SHAREHOLDER		
	First			A		
	Approv	Not Approv	Expected	Approv	Not Approv	Expected
Probabilities	50%	50%	—	50%	50%	—
Part (b)						
Investment	$800	$800	—	$200	$200	—
Payoff	$880	$500		$1,120	$0	
Gain/Loss	$80	($300)		$920	($200)	
% Return on inv	10%	-38%		460%	-100%	

17 part (b3): post announcement BS solution

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land purchased	After financing
Assets				
Cash and equivalents	$2,000	$500	$0	$1,000
PP&E	$0	$0	$1,000	$0
Total assets	$2,000	$500	$1,000	$1,000
Liabilities and stockholders' equity				
Debt	$880	$500	$800	$800
Stockholders' equity:				
Common stock	$200	$200	$200	$200
Retained earnings	$920	($200)	$0	$0
Total stockholders' equity	$1,120	$0	$200	$200
Total liabilities and stockholders' equity	$2,000	$500	$1,000	$1,000

18 part (b4): what changed?

4 What has not changed in part (b) versus part (a)?

What has changed? Why?

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	**If Mall not approved**	**After land purchased**	**After financing**
Assets				
Cash and equivalents	$2,000	$500	$0	$1,000
PP&E	$0	$0	$1,000	$0
Total assets	$2,000	$500	$1,000	$1,000
Liabilities and stockholders' equity				
Debt	$880	$500	$800	$800
Stockholders' equity:				
Common stock	$200	$200	$200	$200
Retained earnings	$920	($200)	$0	$0
Total stockholders' equity	$1,120	$0	$200	$200
Total liabilities and stockholders' equity	$2,000	$500	$1,000	$1,000

Investments, Payoffs, Gains/Losses, and Returns

	BANK			SHAREHOLDER		
	First			A		
	Approv	Not Approv	Expected	Approv	Not Approv	Expected
Probabilities	50%	50%	–	50%	50%	–
Part (a)						
Investment	–	–	–	$200	$200	–
Payoff	–	–	–	$400	$100	
Gain/Loss	–	–	–	$200	($100)	
% Return on inv	–	–	–	100%	-50%	
Part (b)						
Investment	$800	$800	–	$200	$200	–
Payoff	$880	$500		$1,120	$0	
Gain/Loss	$80	($300)		$920	($200)	
% Return on inv	10%	-38%		460%	-100%	

19 part (b4): what changed? key points

- The asset risk is the same—the risk the land value will decrease.
- Shareholder A is now the sole owner.
- ABC now has financial leverage: Liabilities/assets = 80%.
- Shareholder A has a much larger upside and downside.
- First Bank has a much bigger downside than upside.
    - Without knowing First Bank's assessment of the probability of the mall's approval, we can't determine the bank's perception of its risk.
    - Similarly, we can't determine whether this assessment is reasonable without knowing more about the context.

20 part (b5): probabilities question

5. Assuming there is a 50% probability the mall will be approved, complete the “Expected” columns for table below. Evaluate the bank credit analyst who approved the loan.

Investments, Payoffs, Gains/Losses, and Returns

	BANK			SHAREHOLDER		
	First			A		
	Approv	Not Approv	Expected	Approv	Not Approv	Expected
Probabilities	50%	50%	—	50%	50%	—
Part (b)						
Investment	$800	$800	—	$200	$200	—
Payoff	$880	$500		$1,120	$0	
Gain/Loss	$80	($300)		$920	($200)	
% Return on inv	10%	-38%		460%	-100%	

21 part (b5): probabilities solution

First Bank's credit analyst should likely be fired!

Investments, Payoffs, Gains/Losses, and Returns

	BANK			SHAREHOLDER		
	First			A		
	Approv	Not Approv	Expected	Approv	Not Approv	Expected
Probabilities	50%	50%	–	50%	50%	–
Part (a)						
Investment	–	–	–	$200	$200	–
Payoff	–	–	–	$400	$100	$250
Gain/Loss	–	–	–	$200	($100)	$50
% Return on inv	–	–	–	100%	-50%	25%
Part (b)						
Investment	$800	$800	–	$200	$200	–
Payoff	$880	$500	$690	$1,120	$0	$560
Gain/Loss	$80	($300)	($110)	$920	($200)	$360
% Return on inv	10%	-38%	-14%	460%	-100%	180%

22 part (b6): probabilities needed to get 8%

6. Determine the probability of approval needed for First Bank to expect to earn an 8% return on its investment.

Investments, Payoffs, Gains/Losses, and Returns

	Bank			SHAREHOLDERS		
	First			A		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (b)						
Investment	$800	$800	—	$200	$200	—
Probability			—			—
Payoff	$880	$500		$1,120	$0	
Gain/Loss	$80	($300)		$920	($200)	
% Return on investment	10%	-38%	8%			

23 part (b6): probabilities needed to get 8%: solution

- The probability of approval would need to be 95.83%. This is the “p” that solves the following:

  (10%) * p + (-38%) * (1-p) = 8%

Investments, Payoffs, Gains/Losses, and Returns

	Bank			SHAREHOLDERS		
	First			A		
	Mall Approv	Mall Not Approv	Expected	Mall Approv	Mall Not Approv	Expected
Part (b)						
Investment	$800	$800	—	$200	$200	—
Probability	95.83%	4.17%	—	95.83%	4.17%	—
Payoff	$880	$500	$864	$1,120	$0	$1,073
Gain/Loss	$80	($300)	$64	$920	($200)	$873
% Return on investment	10%	-38%	8%	460%	-100%	437%

24 part (b) take-aways

- Given the 50% approval probability, First Bank could have done several things to structure the loan better:
  - o Raise the interest rate considerably

    If the interest rate had been 53.5%, First Bank would have expected an 8% return on the investment.
  - o Require Shareholder A to pay a larger portion of the $1,000 investment, which lowers ABC's financial leverage.

    If the loan had been for $471.7 instead of $800, First Bank would have expected an 8% return on the investment.
- Bad credit decisions often occur during real estate booms:

  If the land price had recently increased from $500 to $1,000 because of risk seekers betting on mall approval or there was a real estate bubble, banks might have underestimated losses.

25 part (c): facts

The assumptions are the same as part (a) except:

- On 01/01/2010 ABC Company issues $200 of common stock to shareholder A, $800 of debt to First Bank, and $1,000 of debt to Second Bank. First Bank expects to be repaid $800 of principal and one year's interest at 10% per year on 12/31/2010.

  Second Banks' debt is subordinate to First Bank's debt, meaning that First Bank is paid first in the event there is not enough cash to pay both banks. Second Bank expects to be repaid $1,000 of principal and one year's interest at 15% per year on 12/31/2010.

- ABC acquires two land parcels (rather than one) next to the proposed mall that are identical to the one purchased in part (a) in all respects.

- On 12/30/2010, ABC creates a final balance sheet immediately after selling both land parcels that recognizes profit or loss (following the guidelines discussed in part (b)).

26 part (c1): pre-announcement BS question

1. Complete the two right-most balance sheets.

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	If Mall not approved	After land purchased	After financing
Assets				
Cash and equivalents				
PP&E				
Total assets				
Liabilities and stockholders' equity				
Debt				
Stockholders' equity:				
Common stock				
Retained earnings				
Total stockholders' equity				
Total liabilities and stockholders' equity				

27 part (c1): pre-announcement BS solution

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	**If Mall not approved**	**After land purchased**	**After financing**
Assets				
Cash and equivalents			$0	$2,000
PP&E			$2,000	$0
Total assets			$2,000	$2,000
Liabilities and stockholders' equity				
Debt			$1,800	$1,800
Stockholders' equity:				
Common stock			$200	$200
Retained earnings			$0	$0
Total stockholders' equity			$200	$200
Total liabilities and stockholders' equity			$2,000	$2,000

28 part (c2): pay-off matrix: no probabilities

2. Complete all rows of the table below.

Investments, Payoffs and Gains/Losses

	BANKS				SHAREHOLDERS	
	First		Second		A	
Part (c)	Mall Approv	Mall Not Approv	Mall Approv	Mall Not Approv	Mall Approv	Mall Not Approv
Investment						
Payoff						
Gain/Loss						

29 part (c2): pay-off matrix: no probabilities solution

Investments, Payoffs and Gains/Losses

	BANKS				SHAREHOLDERS	
	First		Second		A	
	Approv	Not Approv	Approv	Not Approv	Approv	Not Approv
Part (c)						
Investment	$800	$800	$1,000	$1,000	$200	$200
Payoff	$880	$880	$1,150	$120	$1,970	$0
Gain/Loss	$80	$80	$150	($880)	$1,770	($200)

30 part (c3): post announcement BS question

3. Complete the two left-most balance sheets.

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	**If Mall not approved**	**After land purchased**	**After financing**
Assets				
Cash and equivalents			$0	$2,000
PP&E			$2,000	$0
Total assets			$2,000	$2,000
Liabilities and stockholders' equity				
Debt			$1,800	$1,800
Stockholders' equity:				
Common stock			$200	$200
Retained earnings			$0	$0
Total stockholders' equity			$200	$200
Total liabilities and stockholders' equity			$2,000	$2,000

Investments, Payoffs and Gains/Losses

	BANKS				SHAREHOLDERS	
	First		Second		A	
	Approv	Not Approv	Approv	Not Approv	Approv	Not Approv
Part (c)						
Investment	$800	$800	$1,000	$1,000	$200	$200
Payoff	$880	$880	$1,150	$120	$1,970	$0
Gain/Loss	$80	$80	$150	($880)	$1,770	($200)

31 part (c3): post announcement BS solution

ABC Company Consolidated Balance Sheets

	12/30/2010, Pre Payoffs		1/2/2010	1/1/2010
	If Mall approved	**If Mall not approved**	**After land purchased**	**After financing**
Assets				
Cash and equivalents	$4,000	$1,000	$0	$2,000
PP&E	$0	$0	$2,000	$0
Total assets	$4,000	$1,000	$2,000	$2,000
Liabilities and stockholders' equity				
Debt	$2,030	$1,000	$1,800	$1,800
Stockholders' equity:				
Common stock	$200	$200	$200	$200
Retained earnings	$1,770	($200)	$0	$0
Total stockholders' equity	$1,970	$0	$200	$200
Total liabilities and stockholders' equity	$4,000	$1,000	$2,000	$2,000

32 part (c4): what changed?

4 What has not changed in part (c)? What has changed? Why?

Investments, Payoffs and Gains/Losses

	BANKS				SHAREHOLDERS			
	First		Second		A		B	
	Approv	Not Approv	Approv	Not Approv	Approv	Not Approv	Approv	Not Approv
Part (a)								
Investment	—	—	—	—	$200	$200	$800	$800
Payoff	—	—	—	—	$400	$100	$1,600	$400
Gain/Loss	—	—	—	—	$200	($100)	$800	($400)
Part (b)								
Investment	$800	$800	—	—	$200	$200	—	—
Payoff	$880	$500	—	—	$1,120	$0	—	—
Gain/Loss	$80	($300)	—	—	$920	($200)	—	—
Part (c)								
Investment	$800	$800	$1,000	$1,000	$200	$200	—	—
Payoff	$880	$880	$1,150	$120	$1,970	$0	—	—
Gain/Loss	$80	$80	$150	($880)	$1,770	($200)	—	—

33 Part (c4): what changed? key points

- Shareholder A has the same downside but a bigger upside.
- First Bank has no risk because Second Bank has effectively provided a safety cushion through subordination.
- Second Bank’s credit analyst has made so many blunders; First Bank’s credit analyst has managed to escape a really bad deal.
- When companies have nothing else to lose, they have a strong incentive to gamble with other people’s money.
- Risk and reward go together when everyone behaves rationally.
    - Second Bank was not acting rationally, and as a result, Shareholder A’s and First Bank’s rewards increased, but not their risks.

34 Closing thoughts

- The concepts and lessons discussed here were center stage in the 2007-2009 credit crisis:
  - o Real estate prices increased dramatically in many areas of the world during 2005-2007.
  - o Credit controls were very weak:
    - No down payments were required.
    - Customers without safety nets could barely make payments in good times.
  - o Banks sold loans for a profit shortly after they were initiated, and thus, they had no incentive to control credit risks.
- Owners of Bear Stearns' common stock realized the risks associated with financial leverage in March, 2008 when the value of their shares fell to $2 per share, after being worth more than $90 two months earlier.
  - o Measured as liabilities divided by assets, Bear Stearns' financial leverage was 97% on November 30, 2007 (the end of the fiscal year prior to the company's downfall) and a good deal of its assets were very susceptible to risks associated with mortgages.
  - o Towards the end of 2007 it became apparent

- Towards the end of 2007 it became apparent that the risks associated with mortgages and related securities were considerably higher than most investors expected.
- The compounding effect of Bear Stearns' high financial leverage and high asset risk amplified the owners' risk tremendously.

INTEL CORPORATION
CONSOLIDATED BALANCE SHEETS

December 31, 2011 and December 25, 2010

(In Millions--Except Par Value)	2011	2010
Assets		
Current assets:		
Cash and cash equivalents	$ 5,065	$ 5,498
Short-term investments	5,181	11,294
Trading assets	4,591	5,093
Accounts receivable, net of allowance for doubtful accounts of $36 ($28 in 2010)	3,650	2,867
Inventories	4,096	3,757
Deferred tax assets	1,700	1,488
Other current assets	1,589	1,614
Total current assets	**25,872**	**31,611**
Property, plant and equipment, net	**23,627**	**17,899**
Marketable equity securities	**562**	**1,008**
Other long-term investments	**889**	**3,026**
Goodwill	**9,254**	**4,531**
Identifiable intangible assets, net	**6,267**	**860**
Other long-term assets	**4,648**	**4,251**
Total assets	**$ 71,119**	**$ 63,186**
Liabilities and stockholders' equity		
Current liabilities:		
Short-term debt	$ 247	$ 38
Accounts payable	2,956	2,290
Accrued compensation and benefits	2,948	2,888
Accrued advertising	1,134	1,007
Deferred income on shipments to distributors	1,929	622
Other accrued liabilities	2,814	2,482
Total current liabilities	**12,028**	**9,327**
Long-term debt	**7,084**	**2,077**
Long-term deferred tax liabilities	**2,617**	**926**
Other long-term liabilities	**3,479**	**1,426**
Commitments and contingencies (Notes 23 and 29)		
Stockholders' equity:		
Preferred stock, $0.001 par value, 50 shares authorized; none issued		-
Common stock, $0.001 par value, 10,000 shares authorized; 5000 issued and outstanding (5,581 issued and 5,511 outstanding in 2010) and capital in excess of par value	17,036	16,178
Accumulated other comprehensive income (loss)	(781)	333
Retained earnings	29,656	32,919
Total stockholders' equity	**45,911**	**49,430**
Total liabilities and stockholders' equity	**$ 71,119**	**$ 63,186**

Intel's 2011 Form 10-K, page 45. www.sec.gov

See accompanying notes in the 10-K.