

# CS-150L

## Computing for Business Students

Instructor:

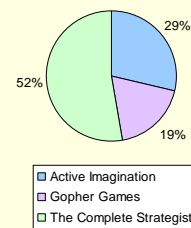
Joel Castellanos

e-mail: [joel@unm.edu](mailto:joel@unm.edu)

Web: <http://cs.unm.edu/~joel/>

Office: Farris Engineering Center (FEC) room 321

2006 Total Revenue



10/20/2009

## Bookkeeping



- Lab 1, 2, 3 and 4 should be graded.
- If not...
  - Open the lab in WebCT.
  - Check for or comments from your lab instructor.
  - Make sure your assignment is attached.
  - Make sure you can open your assignment and read it.
  - Send an e-mail to your lab instructor.
- Lab attendance: WebCT up through lab 5.
- Quiz grades for 1, & 2: *See me after **this** class if you are still having trouble with i-clicker.*
- Exam 1 grade:

10/20/2009

2

## Lab Attendance Check

UNM WebCT Vista Learning Management System

Build Teach **Student View**

Course Tools  
 Course Content  
 Announcements

Lab Attendance - updated Oct 5

	A	B	C	D	E	F	G	H	I
1	Color Code								
2	White - Section(s) attended								
3	Yellow - First lab missed								
4	Orange - Second lab missed								
5	Red - More than two labs missed								
6	Green - No Class / Not Required								
					CS 150 Lab Attendance				
					Week Beginning				
8	First Name	Last Name	User ID	Section	9/1 Lab 2	9/8 Lab 3	9/22 Lab 4	9/29 Lab 5	10/6 Lab 6
9			aanaya1	7	7	7	7	7	
10			aarguijo	9	9	9	9	9	
11			abarroy06	1	no class	1	1	1	
12			abhakta1	7	7	7	7	7	
13			agulier6	4	4	4	4	4	
14			akern	4	no class	4	4	4	
15			alohne	2	2	2	2	2	
16			amanole	10	10	1			
17			amarqu02	6	7		7	6	
18			ccastane	1	no class	1	1	1	
20			cdk1708	1	no class				

10/20/2009

3

## WebCT Discussions: Lab Questions

- When you have a question about a lab... First check WebCT Discussions.
- Please ask questions about labs in WebCT.
- Please use *good* subject line
- If you want, you can send me or your lab instructor an e-mail copy of the post – including the subject so we can find it.
- *Extra credit opportunity:* At end of term, I use WebCT discussions for a nudge for those students on the edge of a grade category.

UNM WebCT Vista Learning Management System

Build Teach **Student View**

Course Tools  
 Course Content  
 Announcements  
 Assessments  
 Assignments  
 Calendar  
 Chat  
 Discussions  
 Media Library  
 Roster  
 Syllabus  
 Web Links

My Tools  
 My Grades

Your location: Discussions

Discussions

- [-] I-clicker Quizzes (6 Messages)
- [-] Lab 1 (27 Messages) Questions, Comments, and Answers
- [-] Lab 2 (34 Messages) Questions, Answers, and Comments
- [-] Lab 3 (31 Messages) Questions, Comments and Answers
- [-] Lab 4 (18 Messages) Questions, Comments and Answers
- [-] Lab 5 (66 Messages) Questions, Comments and Answers
- [-] Lab 6 (0 Messages) Questions, Comments and Answers

10/20/2009

4

## Lab 6: Excel – Wednesday, Oct 14th

- Internet research of company income statement.  
*Note: this is not just busy work but addresses one of the New Mexico Collegiate Business Articulation Consortium required objectives for this course.*
- Chart Wizard
- Bar Charts
- Column Charts
- 3-D Clustered Column Chart
- Pie Charts
- Chart Format Customization
- Chart Data Customization

10/20/2009

5

## Quiz: Weighted Average

	A	B	C	D	E
1	<b>Assignment</b>	<b>Points</b>	<b>Travis</b>	<b>Evan</b>	<b>Marie</b>
2	Homework 1	20	100%	95%	85%
3	Homework 2	25	100%	90%	95%
4	Homework 3	30	100%	92%	75%
5	Final Project	130	85%	91%	98%
6	<b>Grade</b>		<b>90%</b>	<b>91%</b>	<b>93%</b>

Which equation can be *filled right* from cell C6, to correctly calculate the weighted average in cells C6:E6?

- a)  $=($C$2*B2+$C$3*B3+$C$4*B4+$C$5*B5)/SUM($B$2:$B$5)$
- b)  $=(C2*$B$2+C3*$B$3+C4*$B$4+C5*$B$5)/SUM($B$2:$B$5)$
- c)  $=(C$2*B2+C$3*B3+C$4*B4+C$5*B5)/SUM(B2:B5)$
- d)  $=AVERAGE(C2:C5)$
- e)  $=AVERAGE(C2:C5)/SUM(B2:B5)$

10/20/2009

6

## Quiz: Interest

	A	B	C	D
1	Daily Periodic Interest Rate:			0.0630%
2				
3	Number of Days	Balance	Interest	
4	41	\$1,257.52		
5				

The simple interest on the balance in cell B4 over a period of days given in cell A4 can be calculated by?

- a)  $=\$D\$1*B4$
- b)  $=\$D\$1 + B4 + A4$
- c)  $=\$D\$1*B4*A4$
- d)  $=\$D\$1 + B4*A4$
- e)  $=\$D\$1*B4 + A4$

10/20/2009

7

## Income Statement: Exxon Mobil Corp

Revenue					
	2003 12/31/03	2004 12/31/04	2005 12/31/05	2006 12/31/06	2007 12/31/07
Revenue	237,054	291,252	358,955	365,467	390,328
Other Revenue, Total	9,684	6,763	11,725	12,168	14,224
<b>Total Revenue</b>	<b>246,738</b>	<b>298,035</b>	<b>370,680</b>	<b>377,635</b>	<b>404,552</b>
Excise Taxes Payments	61,500	68,217	72,296	69,584	72,681
Operating Expenses					
Cost of Revenue, Total	190,418	230,666	284,334	281,658	304,064
Sell/Gen/AdminExpenses,Tot	13,396	13,849	14,402	14,273	14,890
Research & Development	1,010	1,098	964	1,181	1,469
Depreciation/Amortization	9,047	9,767	10,253	11,416	12,250
Inter Expense,Net Operatng	207	638	496	654	400
Inter/Invest Inc, Operating	694	776	799	1,051	1,005
Inter/Expense(In),Net Oper	901	1,414	1,295	1,705	1,405
Unusual Expense (Income)	0	0	--	--	--
<b>Total Operating Expense</b>	<b>214,772</b>	<b>256,794</b>	<b>311,248</b>	<b>310,233</b>	<b>334,078</b>
<b>Operating Income</b>	<b>31,966</b>	<b>41,241</b>	<b>59,432</b>	<b>67,402</b>	<b>70,474</b>

10/20/2009

8

## Income Statement

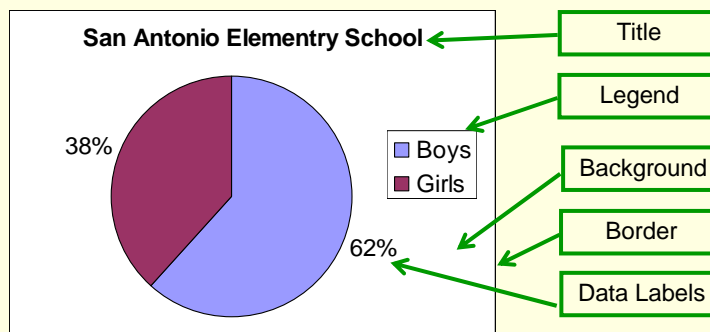
- **Total Revenue:** Total sales revenue, interest on investments, and other revenue for a particular period.
- **Total Expenses:** All expenses including material costs, salaries, rentals, capital depreciation, research and development. Does not include *taxes*, or *stock dividends*.
- **Total Profit:** This is also called *Operating Income*  
$$= (\text{Total Revenue}) - (\text{Total Expenses})$$

10/20/2009

9

## Pie Charts

Useful when the data items are disjoint (non-overlapping) and together form a logical whole.



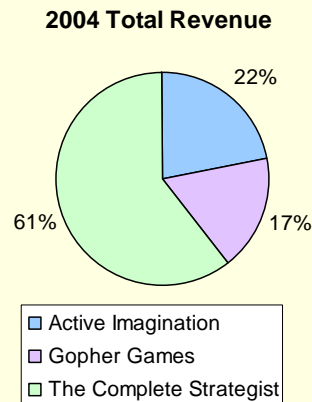
10/20/2009

10

## Pie Chart Requirements

Placing this data in a pie chart implies that together they form some meaning full whole. Thus they need to:

- Draw from the **same** customer base.
- Provide **similar** products or services.
- Taken together, provide the vast majority of those products or services to all of the given customer base.



10/20/2009

11

## Quiz: 6-3

Which of these data sets could be well represented as a pie chart?

- Total Profit & Total Expenses
- Total Revenue & Total Expenses
- Total Revenue in 2006 & Total Revenue in 2007
- Total Expenses in 2006 & Total Expenses in 2007
- Total Taxes & Total Capital Investments

10/20/2009

12

- 
- "42.7% of all statistics are made up on the spot"

10/20/2009

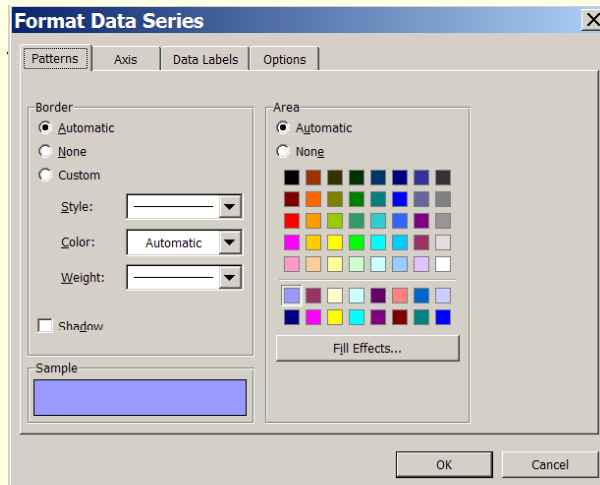
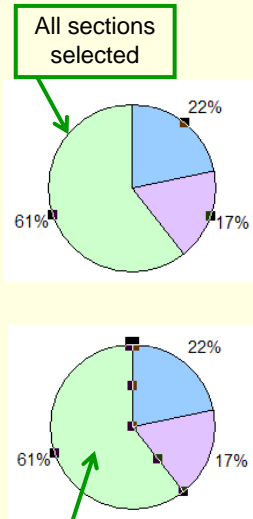
13

- 
- If you really are one in a million, then in China there are one thousand people just like you.  
David Anderson

10/20/2009

14

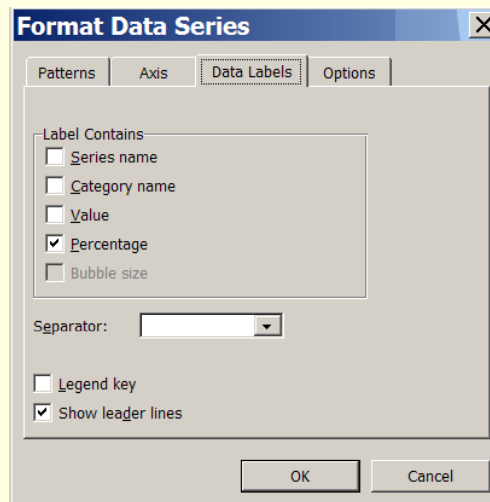
# Format Patterns



10/20/2009

15

# Format Data Labels



10/20/2009

16

## Cluster Column Charts

10/20/2009

17

## Return on Investment

	A	B	C	D	E
1			ABC	XYZ	PDQ
2	Buy	Date	2-Jan-08	15-Jan-08	22-Jan-09
3		Share Price	\$ 105.00	\$ 6.63	\$ 22.00
4		Investment	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00
5	Sell	Date	12-Mar-09	12-Mar-09	12-Mar-09
6		Share Price	\$ 110.22	\$ 7.56	\$ 24.00
7	Gain (dollars)				
8	Time Held (days)				
9	Gain (% Annual)				

- Which investment was the best?
- What equation should be entered in cell C7 and filled across through E7?

10/20/2009

18

## Stock Investment Gain (dollars)

	A	B	C	D	E
1			ABC	XYZ	PDQ
2	Buy	Date	2-Jan-08	15-Jan-08	22-Jan-09
3		Share Price	\$ 105.00	\$ 6.63	\$ 22.00
4		Investment	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00
5	Sell	Date	12-Mar-09	12-Mar-09	12-Mar-09
6		Share Price	\$ 110.22	\$ 7.56	\$ 24.00
7		Gain (dollars)	=(C4/C3) * C6 - C4		

Number of Shares Purchased

Sale Value

7	Gain (dollars)	\$ 49.71	\$ 140.27	\$ 90.91
---	----------------	----------	-----------	----------

10/20/2009

19

## Time Held (days)

	A	B	C	D	E
1			ABC	XYZ	PDQ
2	Buy	Date	2-Jan-08	15-Jan-08	22-Jan-09
3		Share Price	\$ 105.00	\$ 6.63	\$ 22.00
4		Investment	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00
5	Sell	Date	12-Mar-09	12-Mar-09	12-Mar-09
6		Share Price	\$ 110.22	\$ 7.56	\$ 24.00
7		Gain (dollars)	\$ 49.71	\$ 140.27	\$ 90.91
8		Time Held (days)	=C5 - C2		
9		Gain (% annual)			

10/20/2009

20

## Annual Percentage Gain

	A	B	C	D	E
1			ABC	XYZ	PDQ
2	Buy	Date	2-Jan-08	15-Jan-08	22-Jan-09
3		Share Price	\$ 105.00	\$ 6.63	\$ 22.00
4		Investment	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00
5	Sell	Date	12-Mar-09	12-Mar-09	12-Mar-09
6		Share Price	\$ 110.22	\$ 7.56	\$ 24.00
7	Gain (dollars)		\$ 49.71	\$ 140.27	\$ 90.91
8	Time Held (days)		435	422	49
9	Gain (% annual)		$= (C7/C4) / (C8/365)$		

Percent Gain

Number of years

9	Gain (% annual)	4.2%	12.1%	67.7%
---	-----------------	------	-------	-------

10/20/2009

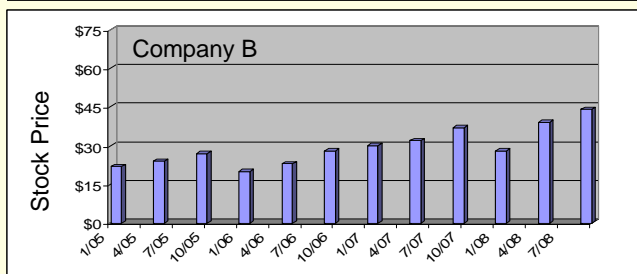
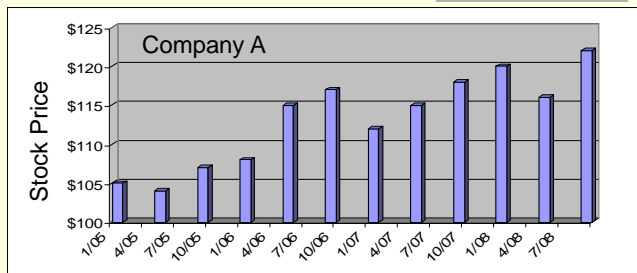
21

## Chart Comparison

Both charts show **stock price** at market close once per quarter from **1/1/2005** through **10/1/2007**.

Which company was the better investment?

Which was more volatile?



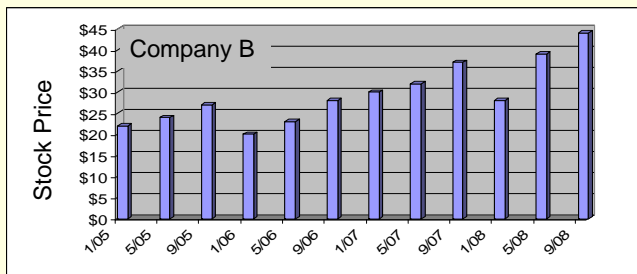
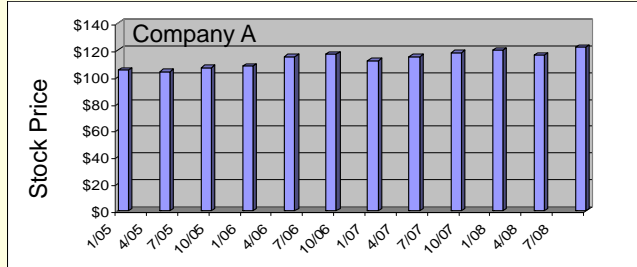
10/20/2009

## Chart Comparison

Both charts show **stock price** at market close once per quarter from **1/1/2005** through **10/1/2007**.

Which company was the better investment?

Which was more volatile?



10/20/2009

	2003	2004	2005
Total Revenue	\$3,149,000,000	\$3,865,000,000	\$4,701,000,000
Total Operating Expen	\$2,981,000,000	\$3,648,000,000	\$4,472,000,000
Operating Income	\$168,000,000	\$217,000,000	\$229,000,000
Income Tax Total	\$66,000,000	\$86,000,000	\$101,000,000
Income After Taxes	\$102,000,000	\$131,000,000	\$128,000,000

10/20/2009

24

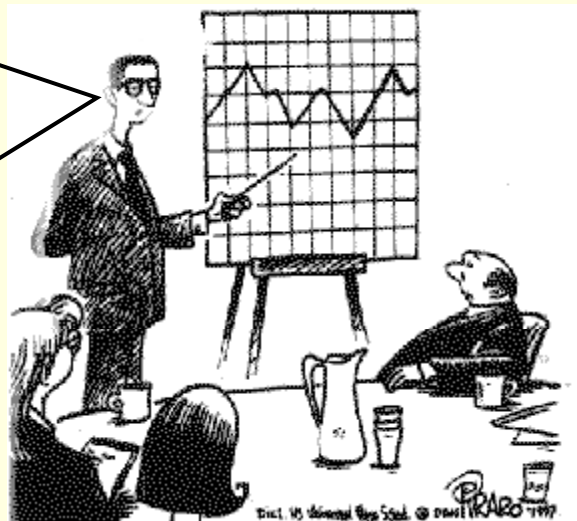
## Format Axis

10/20/2009

25

## BIZARRO – by Dan Piraro

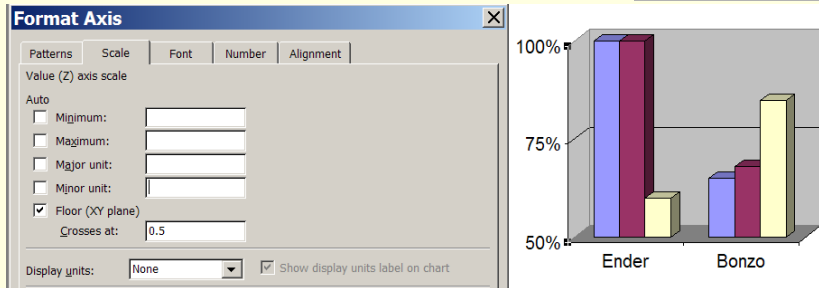
... and here's a chart that shows what you might see if you looked at a mountain range through a tennis racket.



10/20/2009

26

## Quiz: 6-4



What settings were used in the chart:

- Minimum=0.0, Maximum=1.0, Major Unit=0.1
- Minimum=0.1, Maximum=0.25, Major Unit=0.25
- Minimum=0.5, Maximum=1.0, Major Unit=0.5
- Minimum=0.5, Maximum=1.0, Major Unit=0.25
- Minimum=0.1, Maximum=1.0, Major Unit=0.5

10/20/2009

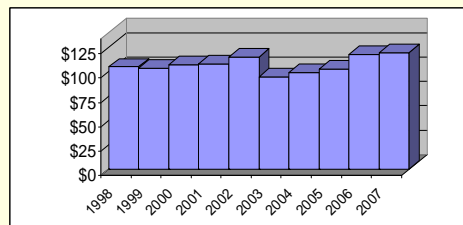
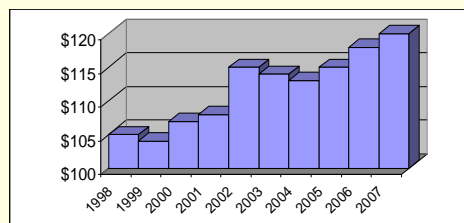
27

## Quiz 6-5 – Chart Comparison

Which of these two stocks received the higher rate of return during the ten year period from 1998 through 2008?

- The one on the top.
- The one on the bottom.
- They are both about the same.

Stock Share Price at close of first Market day of year.



10/20/2009

28

## Quiz 6-6: Interest

- Cell A1 contains the APR of an account that pays simple interest.
  - Cell A2 contains the original balance on the account.
  - Cell A3 contains the number of months the account has been accruing interest.
  - What is the current balance of the account?
- a)  $A1 \cdot A2 \cdot A3$
  - b)  $A1 + A2 + A3$
  - c)  $(A1/12) + A2 + A3$
  - d)  $(A1/12) + A2 \cdot A3$
  - e)  $(A1/12) \cdot A2 \cdot A3$