An Investment Analysis Case Study: Lowe's Furniture Stores

This case is a group project that is due on March 30 before 10.30 am

Stating the obvious: Each group will turn in one report (sounds obvious, but might as well make it explicit) **electronically (as a pdf file).** While you should include your cash flows tables in your report, you don't have to attach any excel spreadsheets.

Cover page: Each report should have a cover page that contains the following – the names of the group members in alphabetical order and the following summary information on the analysis:

1. Decision on Investment: Invest or Do not invest
2. Cost of capital: % value
3. Return on capital: % value
4. NPV – 15-year life: $ value
5. NPV- Longer life: $ value

Report format: Please try to keep your report brief. In the report, be clear about:

a. Any assumptions you made to get to your conclusion
b. Your final recommendation

Exhibits: Please make sure that you include the following in your exhibits

a. The table of earnings/cash flows by year, <u>with line item details</u>.
b. Your computation of cost of equity/capital/discount rate

Time: To keep time straight, you can assume the following:

Next year: Year 1

Most recent year: Just ended

Right now: Time 0. Any "up front" expenditure is incurred immediately.

Lowe's Furniture

Lowe's has had a good run, with its stock price almost tripling over the last five years, though there has been a pull back in the most recent six months:

As a company that is almost entirely in the building supplies retail business in the United States, it faces a saturated market, and future growth is expected to slow significantly. Exhibit 1A summarizes Lowe's income statement for the most recent financial years, and Exhibit 1B summarizes its balance sheets for the last year and Exhibit 1C summarizes when the debt comes due (with a weighted average maturity).

Lowe's is considering expanding into the furniture business (Lowe's Furniture), manufacturing and selling high-end furniture to homeowners and plans to open stores globally. You have been asked to collect the data to make the assessment and have come back with the following information:

1. Starting Investment: To get established in the furniture business, Lowe's will spend $ 1 billion immediately to acquire interests in a number of furniture manufacturers in North Carolina. This investment will be depreciated over ten years, using straight line depreciation, starting in year 3.
2. Close, revamp & reopen – The Recycled stores: The first Lowe's Furniture stores are expected to be operational at the beginning of year 3. To accommodate this schedule, Lowe's will spend $ 500 million over the next two years - $ 250 million at the end of

each year - converting 50 existing US Lowe's store sites into Lowe's Furniture Stores. This investment will be capitalized and depreciated over ten years, using straight-line depreciation as well, starting in year 3. Lowe's stores chosen for conversion have been poorly performing stores; they have a current book value of $ 250 million (depreciable over 5 years using straight line depreciation), and are expected to each generate, on average, $ 2 million in after-tax operating income each year for the next 10 years if they remain as traditional Lowe's stores.

3. New Stores: Starting in year 4, Lowe's plans to open ten new furniture stores at the beginning of each year for ten years (Years 4-13). The cost of opening a store is expected to be $ 15 million in year 4, and grow at the inflation rate beyond that. Like the other capital investments, these expenses will be depreciated using straight-line depreciation over ten years, starting the year of each investment. Lowe's is planning to open 40% of these new stores in the United States, but the remaining 60% will be in other countries, with the following mix for the 100 new stores that will be opened between years 4-13.

Region	*Number of new stores*
United States	40
Western Europe	20
Asia	30
Latin America	10
Total	**100**

For the rest of the case, the revenues and expenses at non-US stores will be converted into and presented in US dollar terms.

4. Market Testing: You have employed a major market-testing organization to do a market study. Their initial study, which has already been completed, cost $ 250 million and has provided you with a sense of the magnitude of this market, and Lowe's potential in the market. This market testing cost has already been expensed.

5. Store Economics: Each of the stores in the first year of operations (year 3) is expected to generate $ 40 million in revenues, and these per-store revenues are expected to grow at the inflation rate (which is 1.5%). Starting in year 4, the new stores (see item 3) will match the existing stores in per-store revenues. (There will be 50 stores generating $

40 million in revenues each in year 3 (Total revenue = $ 2 billion), 60 stores generating $ 40.6 million in revenues each in year 4 (Total revenues = $2.436 billion), 70 stores generating $ 41.21 million each in year 5….) After year 13, the growth in revenues per store will continue to track the inflation rate.

6. Profit Margins: The pre-tax gross profit margins (prior to depreciation, advertising expenses and allocations of corporate costs) are expected to be 30% of revenues.
7. Allocated costs: Lowe's will allocate 5% of its existing G&A costs to the new division, starting in year 3. These G&A costs now total $6 billion for the entire firm and are expected to grow 5% a year in the long term. Directly as a consequence of this project, it is expected that Lowe's will see an increase of $ 75 million in general and administrative costs in year 3 when the new division starts generating revenues, and that this amount will grow with the new division's revenues after that.
8. Infrastructure Needs: While the new business will need distributional support, it is anticipated that Lowe's can use excess capacity in its existing distribution network. The existing building supplies business is currently using 55% of the distribution capacity, and revenues from the business are growing 5% a year (it will use 57.75% next year, 60.64% the year after and so on.). The furniture business will use 20% of the capacity in year 3 (which is the first year of revenue generation) and its usage will track revenue growth beyond that point. When Lowe's runs out of distribution capacity, it will have to pay for an expansion of the distribution network. This is a major endeavor and will cost a substantial amount. (The current estimate of the cost of expansion is $ 500 million, but this cost will grow at the inflation rate. You can assume that investment in distribution capacity is also depreciated straight line over 10 years)
9. Advertising: Lowe's spent $ 1 billion in advertising expenses in the most recent year and expects these expenses to grow 2% a year for the next 15 years, if the furniture division is not created. If the furniture division is added to the company, the total advertising costs will be 15% higher than they would have been without the furniture division each year from year 3 (the first year of sales for the division) for as long as the furniture division is in operation.[1]

[1] For instance, if you have $1.2 billion in year 3 and $1.25 billion in advertising expenses in year 4 without the furniture division, the advertising expenses will be $1.38 billion in

10. Working Capital: The furniture division will create working capital needs, which you have estimated as follows:
    - The sale of furniture on credit to customers will create accounts receivable amounting to 10% of revenues each year.
    - Inventory (of furniture) will be approximately 10% of the cost of goods sold (not including depreciation, allocations or advertising expenses).
    - The credit offered by suppliers will be 5% of the cost of goods sold (not including depreciation, allocations or advertising expenses).

These working capital investments will have to be made at the beginning of each year in which goods are sold. Thus, the working capital investment for the third year will have to be made at the beginning of the third year.

11. Side Benefits: If Lowe's opens the furniture stores, there is the potential for spill over benefits with its building supply US stores, increasing sales at these stores. If the furniture stores are opened, Lowe's expects to generate about $200 million in additional revenues at its building supply stores in the US in year 3, growing at the inflation rate for as long as the furniture stores continue in operation. Lowe's expects to generate the same pre-tax operating margin on these revenues as it did on all of its revenues in the fiscal year ended February 2022 (in Exhibit IA).
12. Risk Measures: The adjusted beta for Lowe's is 1.35, calculated using weekly returns over the last 2 years and against the S&P 500 Index; you can assume that this is an adequate measure of Lowe's's current operating and financial risk exposure. The details of the beta calculation are included in Exhibit 2A and the top holders of shares in Lowe's are listed in Exhibit 2B. Lowe's currently is rated BBB+, and BBB+ rated bonds trade at a default spread of 1.5% over the long-term treasury bond rate. The firm also has operating lease and other contractual commitments that are summarized in the table below (next year is year 1, two years from now is year 2, etc.)

Year	Lease Commitment
Most recent year	$2,112.00
1 (next year)	$1,660.00

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year 3 (15% higher than $1.2 billion) and $143.75 billion (15% higher than $1.25 billion) in year 4 if you take the furniture project.

2	$1,575.00
3	$1,304.00
4	$1,296.00
5	$2,112.00
Beyond year 5	$18,081

You can assume that the lump-sum commitment after year 5 is spread out evenly over ten years (years 6-15). The current stock price for the firm is $225.00 and there are 695 million shares outstanding. Lowe's expects to finance the furniture division using the same mix of debt (with operating leases & contractual commitments considered as debt) and equity (in market value terms) as it is using currently in the rest of its business.

13. Taxes: Lowe's's average effective tax rate over the last five years has been 18% but the marginal tax rate is 25%.
14. Macro Data on Rates and ERP: The current 3 month T.Bill rate is 0.2%, the 10-year US treasury bond rate is 2%, and the expected inflation rate in US dollars is 1.5%. The equity risk premium for the US is 4.75% but you are provided with a breakdown of regional equity risk premiums in the table below:

Region	*ERP*	*CRP*
Africa	10.00%	5.25%
Asia	5.79%	1.04%
Australia & New Zealand	4.75%	0.00%
Central and South America	8.54%	3.79%
Eastern Europe & Russia	6.86%	2.11%
Middle East	6.35%	1.60%
North America	4.75%	0.00%
Western Europe	5.58%	0.83%

15. Peer group: You have collected information on other furniture retailers in Exhibit 3. The data includes the betas of these companies, their market values for debt (including operating leases) and equity, annual revenues and operating income.

Questions on the Project

1. **Accounting Return Analysis**
    - Estimate the operating income from the proposed investment to Lowe's over the next 15 years.
    - Estimate the after-tax return on capital for the operating portion of this period (Years 3-15)
    - Based upon the after-tax return on capital, would you accept or reject this project?

    This will require you to make some assumptions about allocation and expensing. Make your assumptions as consistent as you can and estimate the return on capital.
2. **Cash Flow Analysis**
    - Estimate the after-tax incremental cash flows from the proposed investment to Lowe's over the next 15 years.
    - If the project is terminated at the end of the 15th year, and both working capital and investment in other assets can be sold for book value at the end of that year, estimate the net present value of this project to Lowe's. Develop a net present value profile and estimate the internal rate of return for this project.
    - If the furniture division is expected to have a life much longer than 15 years, estimate the net present value of this project, making reasonable and consistent assumptions about investments and cash flows after year 15. Develop a net present value profile and estimate the internal rate of return for this project.
3. **The Decision**

    Based on your analysis, would you would accept this project or reject it? Remember that this does not just have to be about the numbers, but explain your decision (briefly).

Exhibit 1A: Income Statements for Lowe's: Recent Past (in $ millions)

Income Statement						
For the Fiscal Period Ending	*Reclassified 12 months Feb-03-2017*	*Reclassified 12 months Feb-02-2018*	*Reclassified 12 months Feb-01-2019*	*12 months Jan-31-2020*	*12 months Jan-29-2021*	*Press Release 12 months Jan-28-2022*
Revenue	65,017.0	68,619.0	71,309.0	72,148.0	89,597.0	96,250.0
Other Revenue	-	-	-	-	-	-
Total Revenue	**65,017.0**	**68,619.0**	**71,309.0**	**72,148.0**	**89,597.0**	**96,250.0**
Cost Of Goods Sold	43,343.0	46,185.0	48,401.0	49,048.0	60,015.0	64,194.0
Gross Profit	**21,674.0**	**22,434.0**	**22,908.0**	**23,100.0**	**29,582.0**	**32,056.0**
Selling General & Admin Exp.	14,328.0	14,444.0	16,461.0	15,282.0	17,292.0	18,301.0
R & D Exp.	-	-	-	-	-	-
Depreciation & Amort.	1,453.0	1,404.0	1,477.0	1,239.0	1,398.0	1,662.0
Other Operating Expense/(Income)	-	-	-	-	-	-
Other Operating Exp., Total	**15,781.0**	**15,848.0**	**17,938.0**	**16,521.0**	**18,690.0**	**19,963.0**
Operating Income	**5,893.0**	**6,586.0**	**4,970.0**	**6,579.0**	**10,892.0**	**12,093.0**
Interest Expense	(657.0)	(652.0)	(652.0)	(718.0)	(872.0)	(885.0)
Interest and Invest. Income	12.0	19.0	28.0	27.0	24.0	-
Net Interest Exp.	**(645.0)**	**(633.0)**	**(624.0)**	**(691.0)**	**(848.0)**	**(885.0)**
Other Non-Operating Inc. (Exp.)	-	-	-	-	-	-
EBT Excl. Unusual Items	**5,248.0**	**5,953.0**	**4,346.0**	**5,888.0**	**10,044.0**	**11,208.0**
Restructuring Charges	(47.0)	-	-	(265.0)	(45.0)	-
Impairment of Goodwill	-	-	(952.0)	-	-	-
Other Unusual Items	-	(464.0)	-	-	(2,260.0)	-
EBT Incl. Unusual Items	**5,201.0**	**5,489.0**	**3,394.0**	**5,623.0**	**7,739.0**	**11,208.0**
Income Tax Expense	2,108.0	2,042.0	1,080.0	1,342.0	1,904.0	2,766.0
Earnings from Cont. Ops.	**3,093.0**	**3,447.0**	**2,314.0**	**4,281.0**	**5,835.0**	**8,442.0**
Earnings of Discontinued Ops.	-	-	-	-	-	-
Extraord. Item & Account. Change	-	-	-	-	-	-
Net Income to Company	**3,093.0**	**3,447.0**	**2,314.0**	**4,281.0**	**5,835.0**	**8,442.0**
Minority Int. in Earnings	-	-	-	-	-	-
Net Income	**3,093.0**	**3,447.0**	**2,314.0**	**4,281.0**	**5,835.0**	**8,442.0**

Exhibit 1B: Balance Sheet – Lowe's – Last year

Balance Sheet						
Balance Sheet as of:	**Feb-03-2017**	**Feb-02-2018**	**Feb-01-2019**	**Reclassified Jan-31-2020**	**Jan-29-2021**	**Press Release Jan-28-2022**
ASSETS						
Cash And Equivalents	558.0	588.0	511.0	716.0	4,690.0	1,133.0
Short Term Investments	100.0	102.0	218.0	160.0	506.0	271.0
Total Cash & ST Investments	**658.0**	**690.0**	**729.0**	**876.0**	**5,196.0**	**1,404.0**
Accounts Receivable	-	-	-	-	-	-
Total Receivables	**-**	**-**	**-**	**-**	**-**	**-**
Inventory	10,458.0	11,393.0	12,561.0	13,179.0	16,193.0	17,605.0
Other Current Assets	884.0	689.0	938.0	1,263.0	937.0	1,051.0
Total Current Assets	**12,000.0**	**12,772.0**	**14,228.0**	**15,318.0**	**22,326.0**	**20,060.0**
Gross Property, Plant & Equipment	36,918.0	36,940.0	35,863.0	39,970.0	40,534.0	-
Accumulated Depreciation	(16,969.0)	(17,219.0)	(17,431.0)	(17,310.0)	(17,547.0)	-
Net Property, Plant & Equipment	**19,949.0**	**19,721.0**	**18,432.0**	**22,660.0**	**22,987.0**	**23,179.0**
Long-term Investments	12.0	27.0	-	-	4.0	199.0
Goodwill	1,082.0	1,307.0	303.0	303.0	311.0	-
Deferred Tax Assets, LT	222.0	168.0	294.0	216.0	340.0	164.0
Deferred Charges, LT	18.0	-	-	-	-	-
Other Long-Term Assets	1,125.0	1,296.0	1,251.0	974.0	767.0	1,038.0
Total Assets	**34,408.0**	**35,291.0**	**34,508.0**	**39,471.0**	**46,735.0**	**44,640.0**
LIABILITIES						
Accounts Payable	6,651.0	6,590.0	8,279.0	7,659.0	10,884.0	11,354.0
Accrued Exp.	1,629.0	1,531.0	1,511.0	1,663.0	2,411.0	1,561.0
Short-term Borrowings	510.0	1,137.0	722.0	1,941.0	-	-
Curr. Port. of LT Debt	795.0	294.0	1,045.0	525.0	1,026.0	868.0
Curr. Port. of Leases	-	-	65.0	573.0	627.0	636.0
Curr. Income Taxes Payable	-	-	-	15.0	168.0	-
Unearned Revenue, Current	1,253.0	1,378.0	1,299.0	1,219.0	1,608.0	1,914.0
Other Current Liabilities	1,136.0	1,166.0	1,576.0	1,587.0	2,006.0	3,335.0
Total Current Liabilities	**11,974.0**	**12,096.0**	**14,497.0**	**15,182.0**	**18,730.0**	**19,668.0**
Long-Term Debt	14,394.0	15,564.0	13,682.0	16,156.0	20,104.0	23,859.0
Long-Term Leases	-	-	709.0	4,555.0	4,454.0	4,021.0
Unearned Revenue, Non-Current	763.0	803.0	827.0	894.0	1,019.0	1,127.0
Other Non-Current Liabilities	843.0	955.0	1,149.0	712.0	991.0	781.0
Total Liabilities	**27,974.0**	**29,418.0**	**30,864.0**	**37,499.0**	**45,298.0**	**49,456.0**
Common Stock	433.0	415.0	401.0	381.0	366.0	335.0
Additional Paid In Capital	-	22.0	-	-	90.0	-
Retained Earnings	6,241.0	5,425.0	3,452.0	1,727.0	1,117.0	(5,115.0)
Treasury Stock	-	-	-	-	-	-
Comprehensive Inc. and Other	(240.0)	11.0	(209.0)	(136.0)	(136.0)	(36.0)
Total Common Equity	**6,434.0**	**5,873.0**	**3,644.0**	**1,972.0**	**1,437.0**	**(4,816.0)**
Total Equity	**6,434.0**	**5,873.0**	**3,644.0**	**1,972.0**	**1,437.0**	**(4,816.0)**
Total Liabilities And Equity	**34,408.0**	**35,291.0**	**34,508.0**	**39,471.0**	**46,735.0**	**44,640.0**

Exhibit 1C: Debt Maturity

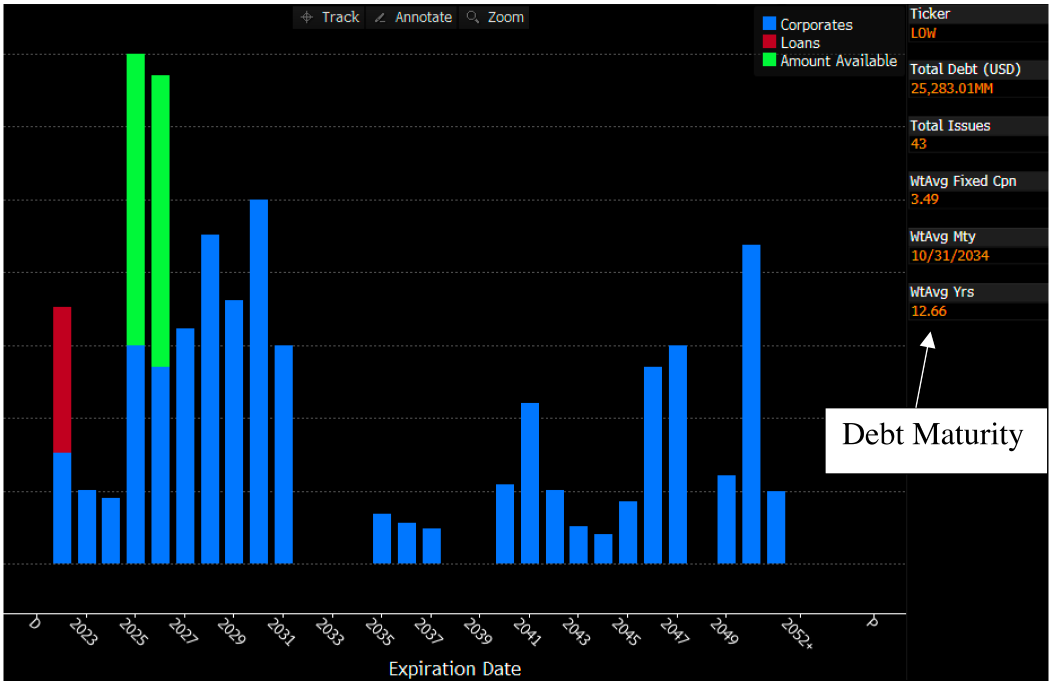

Exhibit 2: Beta Calculation for Lowe's

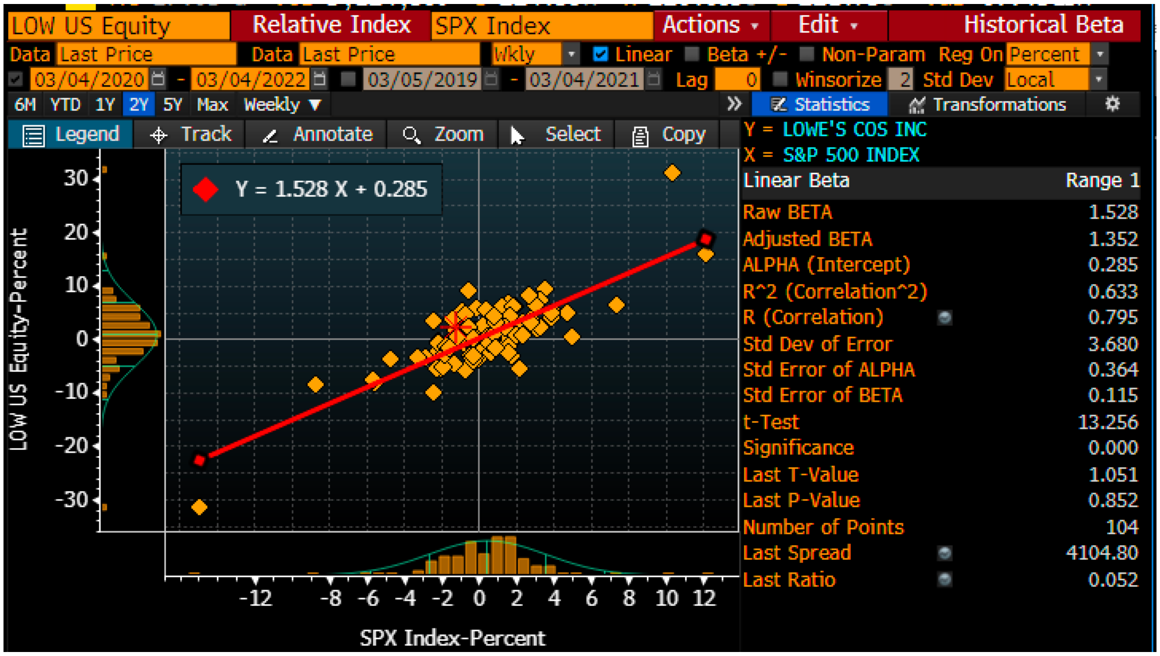

Exhibit 3: Holdings Analysis

LOW US Equity | 25) Export | Settings

LOWE'S COS INC CUSIP 54866110

1) Current | 2) Historical | 3) Matrix | 4) Ownership Summary | 5) Insider Transactions | 6) Options | 7) Issuer Debt

Search Name: Default - No Search Selected | 21) Save Search | 22) Delete Search | 23) Refine Search

Text Search | Holder Group: All Holders | Investment Manager View

24) Color Legend Shrs Out 670.0M % Out 78.76 Float/Shrs Out 99.69 SI % Out 1.17

	Holder Name	Portfolio Name	Source	Opt	Position	% Out	Latest Chg
			All	All			
1.	Vanguard Group Inc/The		ULT-AGG		57,697,261	8.61	0
2.	BlackRock Inc		13G		46,706,387	6.97	0
3.	State Street Corp		ULT-AGG		30,861,324	4.61	296,707
4.	FMR LLC		ULT-AGG		26,375,175	3.94	1,034,407
5.	JPMorgan Chase & Co		ULT-AGG		15,177,696	2.27	-1,449,314
6.	Bank of America Corp	BANK OF AMERICA CORP	13F	Y	12,401,938	1.85	-554,541
7.	Geode Capital Management LLC	GEODE CAPITAL MANAGEMENT LLC	13F		10,925,641	1.63	26,502
8.	Wells Fargo & Co		ULT-AGG		10,718,083	1.60	92,554
9.	Pershing Square Capital Management LP	PERSHING SQUARE CAPITAL MANAGEMENT LP	13F		10,236,471	1.53	0
10.	Northern Trust Corp	NORTHERN TRUST CORPORATION	13F		8,493,541	1.27	-384,299
11.	Norges Bank	NORGES BANK	13F		8,008,502	1.20	45,878
12.	UBS AG		ULT-AGG		7,521,782	1.12	27,432
13.	Massachusetts Financial Services Co	MASSACHUSETTS FINANCIAL SERVICES	13F		6,697,139	1.00	-47,393
14.	Wellington Management Group LLP	WELLINGTON MANAGEMENT GROUP LLP	13F		6,470,001	0.97	1,376,791
15.	Morgan Stanley		ULT-AGG		6,315,327	0.94	355,781
16.	BANK OF NEW YORK MELLON CORP/THE		ULT-AGG		6,116,486	0.91	-197,416
17.	Teachers Insurance & Annuity Association of America		ULT-AGG		6,004,736	0.90	-3,197

Exhibit 4: Comparable Company Data

Company Name	Regression Beta	Total Debt (including lease debt)	Market Cap	Cash	Revenues	Operating Income
Mohawk Industries, Inc.	1.18	$2,511.50	$16,690.90	$121.70	$8,959.10	$1,279.90
Leggett & Platt, Incorporated	1.10	$959.80	$6,552.10	$281.90	$3,749.90	$482.50
Tempur Sealy International, Inc.	1.39	$1,888.10	$2,529.10	$65.70	$3,127.30	$404.30
La-Z-Boy Incorporated	1.34	$0.59	$1,386.40	$126.00	$1,524.40	$122.60
Ethan Allen Interiors Inc.	1.28	$40.30	$797.50	$57.10	$784.20	$77.20
Flexsteel Industries, Inc.	1.82	$0.00	$412.70	$40.80	$478.70	$34.10
Hooker Furniture Corporation	0.86	$49.00	$383.60	$43.10	$463.90	$31.00
Bassett Furniture Industries, Inc.	1.23	$7.11	$293.80	$58.30	$432.00	$28.20
The Dixie Group, Inc.	1.18	$122.10	$54.10	$0.09	$402.60	$3.71
Nova Lifestyle, Inc.	0.99	$8.03	$48.20	$5.84	$114.80	$1.06
Live Ventures Incorporated	1.49	$75.50	$33.10	$1.59	$91.00	$5.30
Stanley Furniture Company, Inc	1.32	$0.00	$11.90	$4.21	$44.60	-$5.57