

## **An Investment Analysis Case Study**

*This case is a group project that is due on April 3, before class at 10.30.*

**Stating the obvious:** Each group will turn in one report (sounds obvious, but might as well make it explicit) **electronically (as a pdf file)**.

**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
- b. Your computation of cost of equity/capital/discount rate

**Time:** To keep the timing of cash flows consistent, you can assume the following:

Year 1 \$: This is the cost if incurred during year 1

Next year: Year 1

Most recent year: Just ended

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

## Whole Foods goes Dining

### *The Setting*

A couple of decades ago, Whole Foods upended the staid (and boring) grocery store business by offering a more upscale, health-oriented grocery shopping experience to consumers. Using a premium-price strategy, the company has grown at well above the industry-average rate for the last decade. The company's growth, though, slowed between 2015 and 2017, as conventional grocery stores add health food and organic produce to their mix and its stock price declined. The table below lists revenues, store numbers and operating income from 2012 to 2016 for Whole Foods:

	2012	2013	2014	2015	2016
Number of stores	284	299	311	335	362
Revenues (in millions)	\$8,032	\$9,006	\$10,108	\$11,699	\$12,917
Operating Income (in millions)	\$284	\$438	\$548	\$744	\$883

In August 2017, Whole Foods was acquired by Amazon. While the Whole Food numbers are no longer broken out separately, there were approximately 500 Whole Foods Stores in the US, UK and Canada in early 2019. With Amazon's muscle behind it, Whole Foods is now considering expansion opportunities that build on its brand name (as a health food pioneer).

### *The Proposal*

Whole Foods is considering a proposal, termed **WF Dining**, where a portion (about 10%) of the floor space of selected stores will be converted into upscale restaurants, with the focus on healthy and organic food. You have been asked to collect the data to make the assessment and have come back with the following information:

1. **Test Market:** Whole Foods has already spent (and expensed) \$ 40 million on market testing and exploration.
2. **Number of restaurants:** If Whole Food decides to go ahead with the WF Dining investment, it plans to open restaurants at 50 of its stores immediately, and add 10 more restaurants at the end of each year for the next 5 years. (The number of restaurants open after year 5 will therefore be 100, with no plans for additional restaurants beyond that point in time).
3. **Set up Costs:** The cost of remodeling and construction for each restaurant is \$4 million right now, and this cost is expected to grow at the inflation rate in future years. The cost is depreciable, straight line, over 15 years down to a salvage value, which is 25% of the initial investment.
4. **Restaurant revenues:** The annual revenue at each restaurant, once established, is expected to be \$5 million (in year 1 dollars), growing at the inflation rate each year.

Each restaurant will take three years to be fully established, with revenues running at 60%, 75% and 90% of “fully established” revenues in the first three years of operation. To illustrate, the revenues at a restaurant opened immediately, would be as follows for the next fifteen years:

Year	Fully Established Revenues	% Delivered	Restaurant Revenues
1	\$5,000.00	60%	<b>\$3,000.00</b>
2	\$5,100.00	75%	<b>\$3,825.00</b>
3	\$5,202.00	90%	<b>\$4,681.80</b>
4	\$5,306.04	100%	<b>\$5,306.04</b>
5	\$5,412.16	100%	<b>\$5,412.16</b>
6	\$5,520.40	100%	<b>\$5,520.40</b>
7	\$5,630.81	100%	<b>\$5,630.81</b>
8	\$5,743.43	100%	<b>\$5,743.43</b>
9	\$5,858.30	100%	<b>\$5,858.30</b>
10	\$5,975.46	100%	<b>\$5,975.46</b>
11	\$6,094.97	100%	<b>\$6,094.97</b>
12	\$6,216.87	100%	<b>\$6,216.87</b>
13	\$6,341.21	100%	<b>\$6,341.21</b>
14	\$6,468.03	100%	<b>\$6,468.03</b>
15	\$6,597.39	100%	<b>\$6,597.39</b>

5. Restaurant costs: The fixed cost (staffing and kitchen set up) associated with running each restaurant is anticipated to be \$ 2 million (in year 1 \$), growing at the inflation rate over time. The cost of supplies/food will be 30% of revenues and other variable costs will be roughly 10% of revenues.
6. Marketing Costs: Whole Foods, as a company, spent about \$ 600 million on advertising and marketing in the most recent year, far less than its competitors, and relies on word-of-mouth advocacy from its shoppers. If they do not enter the dining business, these costs are expected to grow 2% a year for the next 15 years. Entering the restaurant business will require them to increase this growth rate in advertising costs to 2.5% a year for the next 3 years, after which the growth rate will revert back to 2% a year for the remaining period.
7. Geographical breakdown: Whole Foods expects to get 90% of its revenues in the United States & Canada and 10% from the United Kingdom and the revenues from WF Dining are expected to follow the same pattern. The equity risk premiums, for the three countries, in February 2019 are listed below:

<i>Country</i>	<i>Equity Risk Premium</i>
United States	5.50%
Canada	5.50%

8. The Parking Problem: Whole Foods plans to use its existing grocery store parking facilities to cover the parking needs arising from the restaurant business, at least in the near term. The parking lots were at 70% utilization in the most recent year and the demand for parking from grocery shoppers is expected to grow 3% a year for the next 15 years, even if WF Dining is not initiated. If the restaurants are opened, it is expected that the capacity utilization will jump to 85% in year 1, though the growth rate in the demand will continue to be 3% a year thereafter for the next 14 years. When Whole Foods runs out of parking capacity, it will have to make an investment to expand parking capacity in the affected stores for the long term. The cost of expanding the capacity today is \$150 million, but this cost will grow at the inflation rate over time, and if made, will be capitalized and depreciated straight-line over 10 years.
9. G&A expenses: Whole Foods had \$400 million in G&A costs in the most recent year and these costs are expected to grow 3% a year for the next 15 years. It is expected that Whole Foods will have an increase of \$ 10 million in general and administrative costs next year when WF Dining is introduced, and this cost will grow at the same rate as the WF Dining's dollar revenues after that. From an accounting perspective, the company plans to allocate 6% of its total general and administrative costs to the new division, rather than charge the incremental G&A cost to it.
10. Working Capital: WF Dining will create working capital needs, which you have estimated as follows:
  - Credit sales at the restaurants will create accounts receivable amounting to 4% of revenues each year.
  - Inventory for the restaurants will be approximately 3% of revenues.
  - Accounts payable at the restaurants will be 2% of revenues.All of 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 first year will have to be made at the beginning of the first year.
11. Side benefits for the Grocery Business: If Whole Foods goes ahead with WF Dining, each grocery store at which a restaurant is located will each see the revenues from its prepared foods business increase by \$3 million a year (in year 1 \$) and grow at the inflation rate after that. The pre-tax operating margin (pre tax operating income as a percent of revenues) is 10% for Whole Food's prepared food business.

12. Equity Risk Measures: The regression beta for Whole Foods, computed when it was a publicly traded grocery company, is 0.63, calculated using monthly returns over 5 years from 2014 to 2017, against the S&P 500 Index. There is a more updated beta that you can get for Amazon, Whole Food's parent company, as of February 2019, and it is 1.42. The details of the beta calculations are included in Exhibit 1a and 1b. Finally, you have a business beta breakdown for Whole Foods that estimates betas for its grocery and prepared food businesses separately, and it is in exhibit 1c; you can assume that the unlevered betas computed in this table are correct estimates today, for these businesses.
13. Debt Costs: Amazon is currently rated **A3** by Moody's, and A3 rated bonds trade at a default spread of 2% over the long-term US Treasury bond rate.
14. Debt Choices: Whole Foods expects to finance the WF Dining division using the same mix of debt and equity (in market value terms) that Amazon uses, as a company. Amazon's has debt of \$24.7 billion on its balance sheet and lease commitments, as evidenced in the table below:

<i>Year</i>	<i>Lease commitment</i>
2019	\$ 3,127 million
2020	\$ 3,070 million
2021	\$ 2,775 million
2022	\$ 2,473 million
2023	\$ 2,195 million
Beyond	\$ 13,026 million

The lease payment for the most recent year was \$3,400 million. The current stock price for Amazon is \$ 1600/share and there are 490 million shares outstanding.

15. Taxes: Amazon's effective tax rate over the last five years has averaged 10%. The marginal tax rate for the US and globally is 25%.
16. Macro data: The current ten-year US Treasury bond rate is 2.75%, and the expected inflation rate is 2%.
17. Other information: You have collected information on other publicly traded restaurants in Exhibit 2. The data includes the betas of these companies and relevant information on both market values of debt, equity and cash. You can assume a 25% marginal tax rate for these firms.

## **Questions on the Project**

### **1. Accounting Return Analysis**

- Estimate the operating income from the proposed WF Dining investment to Whole Foods over the next 15 years.
- Estimate the after-tax return on capital for the investment over the 15-year period.
- 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 WF Dining investment to Whole Foods 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 Whole Foods. Develop a net present value profile and estimate the internal rate of return for this project.
- If the WF Dining division is expected to have a life much longer than 15 years, estimate the net present value of this project, making reasonable assumptions about investments needed and cash flows over the life of the project. Develop a net present value profile and estimate the internal rate of return for this project.

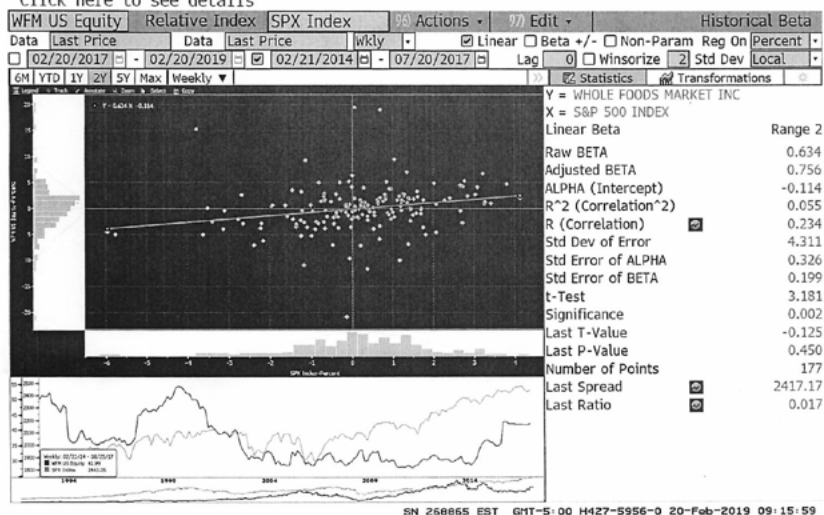
### **3. Sensitivity Analysis**

- Estimate the sensitivity of your numbers to changes in at least three of the key assumptions underlying the analysis (You get to pick what you think are the three key assumptions).

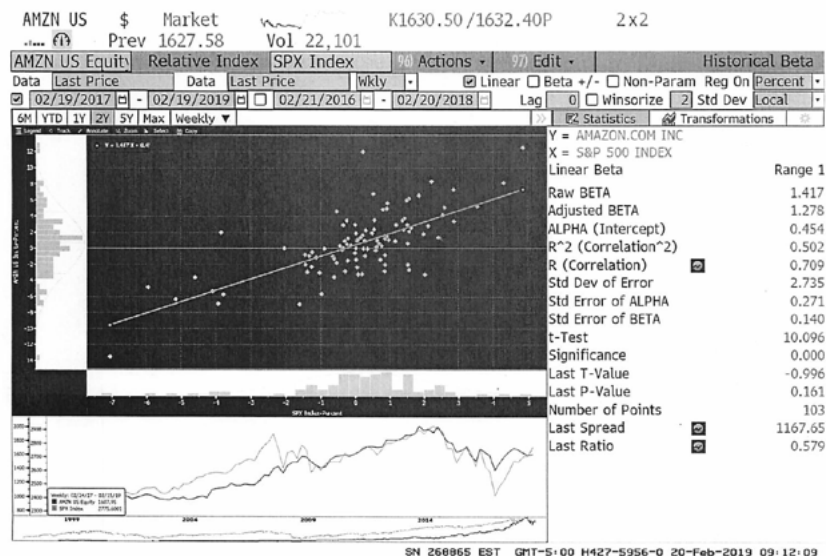
Based upon your analysis, and any other considerations you might have, tell me whether you would accept this project or reject it. Explain, briefly, your decision.

### Exhibit 1a: Whole Foods – Regression Betas Regression against S&P 500 – 2014 to 2017 (Delisted)

WFM US \$ Acquired by AMZN US on 2017/08/29  
Click here to see details



### Exhibit 1b: Amazon – Regression Betas Regression against S&P 500 – 2014 to 2018



### Exhibit 1c: Whole Foods – Business Breakdown

Business	% of Revenues	Unlevered Beta
Groceries	88%	0.70
Prepared Foods/Catering	12%	0.90
Whole Foods (Company)	100%	0.72

**Exhibit 2: Publicly Traded Restaurants – Key Numbers**

<b>Company Name</b>	<b>Enterprise Value</b>	<b>Market Capitalization</b>	<b>Book Value of Equity</b>	<b>Total Interest Bearing Debt</b>	<b>PV of Operating Leases</b>	<b>Cash &amp; Marketable Securities</b>	<b>Regression Beta</b>	<b>Operating Income</b>	<b>Revenues</b>	<b>SG&amp;A Expenses</b>
Granite City Food & Brewery Ltd	\$129.10	\$11.40	-\$0.01	\$58.70	\$59.98	\$0.98	2.56	\$2.15	\$131.10	\$11.20
Chanticleer Holdings, Inc	\$29.92	\$26.10	\$5.53	\$1.68	\$2.36	\$0.21	1.03	-\$3.24	\$6.95	\$3.12
Meritage Hospitality Group Inc.	\$132.24	\$28.70	\$8.40	\$0.00	\$103.54	\$0.00	1.27	\$0.00	\$0.00	\$0.00
Flanigan's Enterprises Inc.	\$48.24	\$29.70	\$28.30	\$14.60	\$11.37	\$7.43	1.45	\$5.22	\$84.50	\$15.30
Eat At Joes Ltd.	\$42.07	\$41.00	-\$1.34	\$2.36	\$0.66	\$1.95	0.89	-\$0.29	\$1.22	\$1.02
Diversified Restaurant Holdings, Inc.	\$178.29	\$117.50	\$34.00	\$42.40	\$31.59	\$13.20	1.46	\$1.56	\$106.50	\$10.60
Frisch's Restaurants, Inc.	\$144.87	\$123.30	\$83.70	\$11.90	\$10.81	\$1.14	0.71	\$12.00	\$205.00	\$7.40
Kona Grill Inc.	\$159.82	\$165.70	\$22.40	\$0.00	\$0.00	\$5.88	0.78	\$3.14	\$98.30	\$9.02
Luby's, Inc.	\$277.03	\$185.60	\$177.50	\$24.30	\$68.96	\$1.83	1.30	\$3.60	\$398.20	\$33.00
Famous Dave's of America Inc.	\$198.41	\$188.30	\$32.80	\$11.40	\$0.00	\$1.29	1.45	\$8.96	\$155.40	\$19.50
Bravo Brio Restaurant Group, Inc.	\$305.06	\$297.00	\$103.80	\$15.70	\$0.00	\$7.64	1.45	\$22.60	\$411.10	\$26.30
Ignite Restaurant Group, Inc.	\$444.10	\$317.30	\$101.60	\$126.80	\$0.00	\$0.00	1.29	-\$10.90	\$760.80	\$57.30
Ruby Tuesday, Inc.	\$940.62	\$370.90	\$516.80	\$273.10	\$320.22	\$23.60	2.69	\$2.28	\$1,189.40	\$128.80
Ruth's Hospitality Group Inc.	\$490.90	\$453.90	\$100.70	\$37.00	\$0.00	\$0.00	2.20	\$35.70	\$406.60	\$42.80
Denny's Corporation	\$758.26	\$588.10	\$8.43	\$173.10	\$0.00	\$2.94	1.32	\$48.30	\$462.60	\$68.50
Del Frisco's Restaurant Group, Inc	\$607.70	\$621.40	\$196.80	\$0.00	\$0.00	\$13.70	0.24	\$29.60	\$271.80	\$26.80
Chuy's Holdings, Inc.	\$670.40	\$666.40	\$104.50	\$4.00	\$0.00	\$0.00	0.49	\$16.30	\$204.40	\$15.20
Biglari Holdings Inc.	\$1,026.49	\$784.80	\$564.60	\$218.20	\$101.99	\$78.50	1.33	\$21.90	\$761.70	\$125.40
BJ's Restaurants, Inc.	\$1,145.33	\$791.10	\$401.40	\$0.00	\$377.23	\$23.00	1.21	\$28.60	\$775.10	\$58.20



Bob Evans Farms, Inc.	\$1,540.89	\$1,172.90	581.1	\$319.10	\$53.82	\$4.93	1.43	\$89.10	\$1,618.00	\$192.70
DineEquity, Inc.	\$3,510.01	\$1,616.30	\$315.20	\$1,381.00	\$618.71	\$106.00	2.43	\$229.90	\$640.50	\$143.60
Texas Roadhouse, Inc.	\$1,807.60	\$1,848.60	\$593.90	\$53.90	\$0.00	\$94.90	0.88	\$118.30	\$1,422.60	\$95.10
Papa John's International Inc.	\$2,515.63	\$2,211.30	\$156.00	\$157.90	\$160.13	\$13.70	0.58	\$106.00	\$1,439.00	\$141.40
The Cheesecake Factory Incorporated	\$3,118.90	\$2,376.10	\$577.40	\$66.20	\$738.40	\$61.80	1.31	\$160.40	\$1,877.90	\$127.80
Cracker Barrel Old Country Store, Inc.	\$3,321.07	\$2,403.90	\$484.00	\$409.80	\$598.77	\$91.40	0.90	\$202.00	\$2,662.10	\$1,598.60
Buffalo Wild Wings Inc.	\$3,174.86	\$2,792.80	\$465.80	\$0.00	\$439.56	\$57.50	1.33	\$104.10	\$1,266.70	\$110.80
Bloomin' Brands, Inc.	\$4,545.40	\$3,084.30	\$504.70	\$1,461.10	\$0.00	\$0.00	0.14	\$240.50	\$4,129.20	\$268.90
Brinker International, Inc.	\$4,757.54	\$3,575.90	\$149.40	\$834.00	\$410.34	\$62.70	1.04	\$277.60	\$2,861.10	\$131.00
Darden Restaurants, Inc. (NYSE:DRI)	\$10,063.79	\$6,292.80	\$2,059.50	\$2,872.50	\$983.09	\$84.60	0.86	\$571.20	\$8,765.50	\$864.00