

Centralized versus Decentralized Business

Strategy: Which is better for growth?

McDonalds Corporation (MCD) is the world's largest fast food chain. MCD's business strategy is "centralized," resulting in tight controls over both suppliers and franchisees. An immediate competitor to McDonalds is Yum Brands (YUM). Although the business model is similar to MCD, YUM's business strategy is "decentralized" which carries along very different implications for growth as well as stock price behavior.

Consider the recent market behavior of McDonalds (MCD) and Yum Brands (YUM):

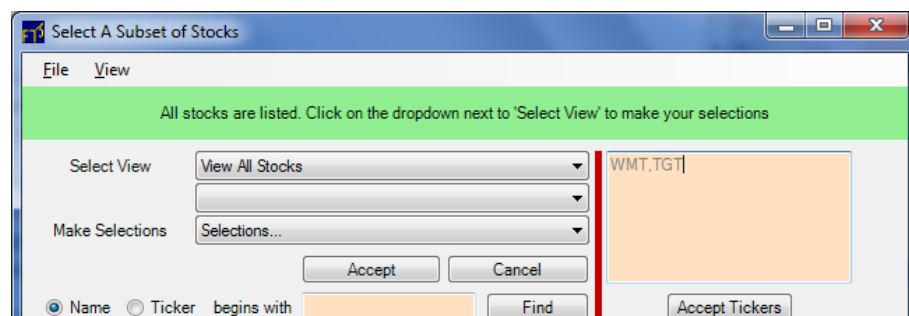
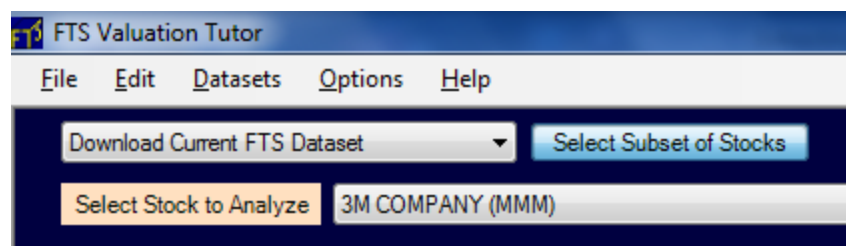


Even though each stock has a very similar business model it is clear that the difference in business strategy has resulted in different stock market behavior. YUM was much more sensitive to the stock market decline in 2008 than MCD, which was also a time when there was a global economic slowdown.

Our starting place is the 10-K to understand important differences between the two companies.

Step 1: Identifying Differences between MCD and YUM's Business Strategy

Click on Select Subset of Stocks and enter the tickers YUM, and MCD followed by Enter or Return:



This restricts the Valuation Tutor to the two stocks of immediate interest.



Step 2: Extract strategy information from the 10-K.

In Chapter 1 of Valuation tutor a Porter perspective is adopted for the business model and business strategy. In the current example, strategy is defined relative to the value chain in terms of performing similar activities in different ways.

You can extract immediate insight into a firm's strategy from Item 1 of the 10-K once you understand how to relate this to the Business Model and Business Strategy. For the case of MCD and YUM this is fairly transparent: Both franchise their operations. MCD imposes very tight controls over its franchisees which limit growth. For example, in Item 1 the Company discloses it is selective with its franchisees and is generally not in the practice of franchising to passive investors. YUM on the other hand pursues a more aggressive growth strategy and operates the largest number of franchisees around the world. In Item 1 YUM reveal that "Franchisees can range in size from individuals owning just one unit to large publicly traded companies." Both companies attempt to main consistency of standards and in addition MCD operate major food testing centers around the world to test suppliers before they are able to become accepted suppliers.

By reading through Item 1 in each of the 10-K's the difference emphasis between growth versus strict controls become apparent.

The image displays two screenshots of the OS Financial Trading System interface, showing the SEC Filings section for McDonald's and YUM Brands.

Top Screenshot (McDonald's):

- Left Panel:** SEC Filings, 10-K, 10-Q, 8-K, Proxy Statement, All Reports, Profile, Charts, Analysts, Ratios, Financial Statements, Economic Calendar, News, Bonds, Papers & Reports.
- Main Panel:**
 - Header:** View Another Ticker
 - Text:**

Company, distribute products and supplies to most McDonald's restaurants. In addition, restaurant personnel are trained in the proper storage, handling and preparation of products and in the delivery of customer service.

McDonald's global brand is well known. Marketing, promotional and public relations activities are designed to promote McDonald's brand image and differentiate the Company from competitors. Marketing and promotional efforts focus on value, food taste, menu choice and the customer experience. The Company endeavors to continuously improve its social and environmental performance to achieve long-term sustainability, which benefits McDonald's and the communities it serves.

In February 2009, the Company sold its minority ownership interest in Redbox Automated Retail, LLC, and in April 2008, the Company sold its minority ownership interest in U.K.-based Pret A Manger. The Company operated Boston Market in the U.S., prior to its sale in August 2007.

• Products

McDonald's restaurants offer a substantially uniform menu, although there may be geographic variations. In addition, McDonald's tests new products on an ongoing basis.

McDonald's menu includes hamburgers and cheeseburgers, Big Mac, Quarter Pounder with Cheese, Filet-O-Fish, several chicken sandwiches, Chicken McNuggets, Chicken Selects, Snack Wraps, french fries, premium salads, shakes, McFlurry desserts, sundaes, soft serve cones, pies, cookies, soft drinks, coffee, McCafé beverages and other beverages. In addition, the restaurants sell a variety of other products during limited-time promotions.

McDonald's restaurants in the U.S. and many international markets offer a full or

Bottom Screenshot (YUM Brands):

- Left Panel:** SEC Filings, 10-K, 10-Q, 8-K, Proxy Statement, All Reports, Profile, Charts, Analysts, Ratios, Financial Statements, Economic Calendar, News, Bonds, Papers & Reports.
- Main Panel:**
 - Header:** View Another Ticker
 - Text:**

In January 1997, PepsiCo announced its decision to spin-off its restaurant businesses to shareholders as an independent public company (the "Spin-off"). Effective October 6, 1997, PepsiCo disposed of its restaurant businesses by distributing all of the outstanding shares of Common Stock of YUM to its shareholders. On May 16, 2002, following receipt of shareholder approval, the Company changed its name from TRICON Global Restaurants, Inc. to YUM! Brands, Inc.

(b) Financial Information about Operating Segments

YUM consists of six operating segments: KFC-U.S., Pizza Hut-U.S., Taco Bell-U.S., Long John Silver's ("LJS")-U.S. and A&W All American Food Restaurants ("A&W")-U.S., YUM Restaurants International ("YRI" or "International Division") and YUM Restaurants China ("China Division"). For financial reporting purposes, management considers the four U.S. operating segments to be similar and, therefore, has aggregated them into a single reportable operating segment ("U.S."). The China Division includes mainland China ("China"), Thailand and KFC Taiwan, and the International Division includes the remainder of our international operations.

Operating segment information for the years ended December 26, 2009, December 27, 2008 and December 29, 2007 for the Company is included in Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") in Part II, Item 7, pages 24 through 58 and in the related Consolidated Financial Statements and footnotes in Part II, Item 8, pages 59 through 116.

(c) Narrative Description of Business

General

YUM is the world's largest quick service restaurant ("QSR") company based on number of system units, with more than 37,000 units in more than 110 countries and territories. Through the five concepts of KFC, Pizza Hut, Taco Bell, LJS and A&W (the "Concepts"), the Company develops, operates, franchises and licenses a worldwide system of restaurants which prepare, package and sell a menu of competitively priced food items. Units are operated by a Concept or by independent franchisees or licensees under the terms of franchise or license agreements. Franchisees can range in size from individuals owning just one unit to large publicly traded companies. In addition, the Company owns non-controlling interests in entities in China who operate similar to franchisees of KFC and a non-controlling interest in Little Sheep, a Hot Pot concept headquartered in Hong Kong.

In terms of the franchisee contract immediate differences emerge which again are related to controls versus growth. In their respective Item 1's each company discloses key insights into their respective strategies. For example, YUM discloses:

"The franchise program of the Company is designed to assure consistency and quality, and the Company is selective in granting franchises. Under standard franchise agreements, franchisees supply capital – initially by paying a franchise fee to YUM, purchasing or leasing the land, building and equipment and purchasing signs, seating, inventories and supplies and, over the longer term, by reinvesting in the business. Franchisees then contribute to the Company's revenues through the payment of royalties based on a percentage of sales."

For MCD the company reveals how they exert a lot of control over site selection, site control and marketing:

"Under the conventional franchise arrangement, franchisees provide a portion of the capital required by initially investing in the equipment, signs, seating and décor of their restaurant businesses, and by reinvesting in the business over time. The Company owns the land and building or secures long-term leases for both Company-operated and conventional franchised restaurant sites. In certain

circumstances, the Company participates in reinvestment for conventional franchised restaurants. A discussion regarding site selection is included in Part I, Item 2, page 6 of this Form 10-K. “

A close reading of Item 1 reveals the subtle differences between the two strategies in terms of MCD’s greater emphasis upon centralized control over the investment decision making versus YUM’s more decentralized strategy that places more investment decision making in the hands of the franchisees.

Step 3: If the business strategy for each company is working what would we expect to see in terms of some of the business ratios?

Stepping back we can make some immediate conjectures. First, we should expect to see YUM as very sales driven relative to capital invested and growth orientated. MCD on the other hand we would expect to see higher margins due to economies from scale arising from centralized components of the investment decision, less sales driven per capital invested and higher levels of efficiency reflecting their relatively more stable operating environments given the consistency imposed from centralized control. Second, we should also expect to see a difference between the two companies in terms of risk even though they have very similar business models. Again, the decentralized growth oriented strategy should imply greater variance across franchisees along with greater risk. Offsetting this, however, is the more diversified set of food offerings from YUM which may serve to absorb some of this risk.

To gain insight into the above conjectures we start with a bigger picture view of the two companies that a Fundamental Growth analysis provides:

Financial Statement Analysis

Business Efficiency

Fundamental Growth

Analyzing ROE

DuPont Ratios

DuPont Burden Analysis

Analyzing Profitability

Analyzing Asset Turnover

Liquidity

Financial Statement Analysis; Business Efficiency; Fundamental Growth

Market Price	75.160
Net Income	4.22680
Shareholders Equity	13.03418
Dividend Payout Ratio	0.48500
Retention Ratio	0.51500
Return on Equity	0.32429
Growth Rate	0.16701

Financial Statement Analysis

Business Efficiency

Fundamental Growth

Analyzing ROE

DuPont Ratios

DuPont Burden Analysis

Analyzing Profitability

Analyzing Asset Turnover

Liquidity

Financial Statement Analysis; Business Efficiency; Fundamental Growth

Market Price	48.640
Net Income	2.30917
Shareholders Equity	2.18550
Dividend Payout Ratio	0.34645
Retention Ratio	0.65355
Return on Equity	1.05659
Growth Rate	0.69054

A significant difference is immediately apparent. The retention ratio is higher for YUM and ROE and Growth Rates are significantly higher for YUM reflecting their growth emphasis. To gain insight into the drivers of this difference we perform a DuPont analysis next.

Du Pont Analysis:

MCD

<div>Financial Statement Analysis</div> <div>Business Efficiency</div> <div>Fundamental Growth</div> <div>Analyzing ROE</div> <div>DuPont Ratios</div> <div>DuPont Burden Analysis</div> <div>Analyzing Profitability</div> <div>Analyzing Asset Turnover</div> <div>Liquidity</div> <div>Working Capital</div> <div>Operating Leverage and Capacity</div> <div>Analyzing Financial Leverage</div> <div>Degree of Total Leverage</div>	Financial Statement Analysis; Business Efficiency; Analyzing ROE; DuPont Ratios	Market Price	75.160
		Total Assets	28.072
		Sales	21.12445
		Net Income	4.22680
		Shareholders Equity	13.03418
		Sales/Total Assets	0.7525
		Net Income/Sales	0.2001
		Return on Assets	0.1506
		Total Assets/Equity	2.1537
		Return on Equity	0.3243

YUM

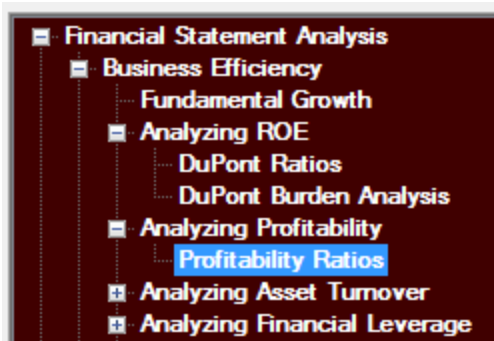
<div>Financial Statement Analysis</div> <div>Business Efficiency</div> <div>Fundamental Growth</div> <div>Analyzing ROE</div> <div>DuPont Ratios</div> <div>DuPont Burden Analysis</div> <div>Analyzing Profitability</div> <div>Analyzing Asset Turnover</div> <div>Liquidity</div> <div>Working Capital</div> <div>Operating Leverage and Capacity</div> <div>Analyzing Financial Leverage</div> <div>Degree of Total Leverage</div>	Financial Statement Analysis; Business Efficiency; Analyzing ROE; DuPont Ratios	Market Price	48.640
		Total Assets	15.24094
		Sales	23.10448
		Net Income	2.30917
		Shareholders Equity	2.18550
		Sales/Total Assets	1.5159
		Net Income/Sales	0.0999
		Return on Assets	0.1515
		Total Assets/Equity	6.9737
		Return on Equity	1.0566

This reveals some immediate interesting implications from the differential business strategies for each company. Clearly, as expected the Sales/Total Assets turnover ratio is much larger for YUM than MCD, and the profit margin is higher for MCD than is the case of YUM. Interestingly, the two effects offset each other such that combined the ROA is about the same for the two companies. The driver of the significance ROE difference is entirely due to financial leverage differences as the above screens reveal.

The above underscores a major advantage of the DuPont analysis in that it provides insight into both how well each company is executing their business strategy but also the overall impact of the strategy from an overall perspective.

Step 4: Drilling down a Little into Profitability Differences

Net Income is the bottom line but really we would expect to see the differences between these two business strategies more sharply by focusing directly upon operations. As a result, we can Analyze Profitability to see whether this is indeed the case.



In particular, we are interested in Gross Profit Margin – (Sales less COGS) /Sales. For MCD this is:

	Market Price	75.160
	Sales	21.12445
	Cost of Goods Sold	12.95895
	EBIT	6.35367
	Gross Profit Margin	0.3865
	Operating Profit Margin	0.3008
	Financial Statement Analysis; Business Efficiency; Analyzing Profitability; Profitability Ratios	

And for YUM this is:

	Market Price	48.640
	Sales	23.10448
	Cost of Goods Sold	12.32409
	EBIT	3.39019
	Gross Profit Margin	0.4666
	Operating Profit Margin	0.1467
	Financial Statement Analysis; Business Efficiency; Analyzing Profitability; Profitability Ratios	

The above reveals that this is the case that YUM is operating at a higher gross profit margin and MCD has a higher Operating Profit Margin. The difference between this lies largely with differences between Selling and Administration expenses for the two companies.

Recall that MCD imposes extremely strict quality controls over suppliers. This usually means that the suppliers are not the lowest cost available. However, this is important to maintain quality. In addition, the above numbers also reflect the cost of the ingredients to MCD's main fare, hamburgers/beef, is larger than the cost of the ingredients for YUM's variety of food offerings.

However, the big difference arises from Selling, General and Administration so that the Operating Margins reverse between the two companies relative to Gross Profit Margins. Here YUM has a very unfavorable operating margin relative to McDonalds. This suggests that there are some real economies to scale associated with MCD's centralized approach to the investment decision as discussed earlier versus YUM's decentralized approach. For example, recall the following:

Recall Item 1 (italics added): “The franchise program of the Company is designed to assure consistency and quality, and the Company is selective in granting franchises. Under standard franchise agreements, franchisees supply capital – initially by paying a franchise fee to YUM, purchasing or leasing the land, building and equipment and *purchasing signs, seating, inventories and supplies and, over the longer term, by reinvesting in the business.* Franchisees then contribute to the Company’s revenues through the payment of royalties based on a percentage of sales.”

MCD’s franchisee agreement recall differs significantly by centralizing the purchasing/leasing decision and actively reinvesting in the business to maintain consistency of standards across franchisees. From a Selling, General and Administrative expense perspective MCD clearly maintains greater centralized control over selling and marketing related expenses. This aspect of the MCD business strategy appears to be a major driver of their operating profitability advantage.

Step 5: Working Capital Efficiency between the Two Competitors.

MCD

Financial Statement Analysis	
Business Efficiency	
Fundamental Growth	
Analyzing ROE	
DuPont Ratios	
DuPont Burden Analysis	
Analyzing Profitability	
Profitability Ratios	
Analyzing Asset Turnover	
Liquidity	
Working Capital	
Operating Leverage and Capacity	
Analyzing Financial Leverage	
Degree of Total Leverage	
Altman Model	
Price Ratios	
Dividend Model	
Discount Rates	
CAPM	
MCPM	
Simple Model	
Earnings Form	
ROE Form	

Financial Statement
Analysis; Business
Efficiency; Analyzing
Asset Turnover;
Working Capital

Market Price	75.160
Total Assets	28.072
Sales	21.12445
Total Asset Turnover	0.7525
Current Assets	3.17294
Current Liabilities	2.77580
Working Capital=CA-CL	0.39714
Working Capital Turnover=S/WC	53.1916
Cost of Goods Sold	12.95895
Inventory	0.09863
Inventory Turnover	131.3832
Receivables	0.98486
Receivables Turnover	21.4492
Payables	0.59069
Payables Turnover	21.9385
Days to Sell Inventory	2.7781
Days to Collect Receivables	17.0170
Days to Pay Payables	16.6374
Cash Conversion Cycle	3.15771

Notice with a fast foods business model the Days to Sell Inventory should be very low and for MCD this is 2.78 days. The remainder of MCD’s working capital management is to approximately match their days to pay payables and days to collect receivables so that they have a low Cash Conversion cycle that reflects the days they take to sell their inventory.

YUM on the other hand reveal a more aggressive working capital management policy.

Financial Statement Analysis	
Business Efficiency	
Fundamental Growth	
Analyzing ROE	
DuPont Ratios	
DuPont Burden Analysis	
Analyzing Profitability	
Profitability Ratios	
Analyzing Asset Turnover	
Liquidity	
Working Capital	
Operating Leverage and Capacity	
Analyzing Financial Leverage	
Degree of Total Leverage	
Altman Model	
Price Ratios	
Dividend Model	
Discount Rates	
CAPM	
MCPM	
Simple Model	
Earnings Form	
ROE Form	

Financial Statement
Analysis; Business
Efficiency; Analyzing
Asset Turnover;
Working Capital

Market Price	48.640
Total Assets	15.24094
Sales	23.10448
Total Asset Turnover	1.5159
Current Assets	2.57569
Current Liabilities	3.52452
Working Capital=CA-CL	-0.94883
Working Capital Turnover=S/WC	-24.3506
Cost of Goods Sold	12.32409
Inventory	0.26013
Inventory Turnover	47.3771
Receivables	0.50959
Receivables Turnover	45.3389
Payables	1.06397
Payables Turnover	11.5832
Days to Sell Inventory	7.7042
Days to Collect Receivables	8.0505
Days to Pay Payables	31.5113
Cash Conversion Cycle	-15.75661

The days to sell inventory is notable higher than MCD's --- 7.7 days versus 2.78. Again this reflects the business strategy where MCD imposes very tight controls over their franchisees to ensure consistency across franchisees. On the other hand by decentralizing important components of the investment decision to franchisees is likely to result in greater variance across franchisees and this is showing up in the inventory turnover or days to sell inventory ratio. In particular, for a fast foods franchise the average days to sell inventory for YUM is very high!

YUM compensates for this in their working capital management by implementing a very aggressive receivable/payable policy which results in an overall aggressive cash conversion cycle. In particular, a negative Cash Conversion Cycle which implies a free cash float from receivable/payables. YUM takes an average of 31.5 days to pay payables in contrast to 8.05 days to collect receivables. When the negative inventory turnover result is added to this payable/receivable difference the result is -15.75 days. This aggressive Cash Conversion Cycle also supports a more aggressive approach to liquidity exhibited by YUM relative to MCD:

YUM

Financial Statement Analysis

Business Efficiency

Fundamental Growth

Analyzing ROE

DuPont Ratios

DuPont Burden Analysis

Analyzing Profitability

Profitability Ratios

Analyzing Asset Turnover

Liquidity

Working Capital

Financial Statement Analysis; Business Efficiency; Analyzing Asset Turnover; Liquidity

Market Price	48.640
Cash & Cash Equivalents	0.75267
Current Assets	2.57569
Current Liabilities	3.52452
Inventory	0.26013
Receivables	0.50959
Current Ratio	0.7308
Quick Ratio	0.3581
Cash Ratio	0.2136

The cash ratio is 0.21 contrasts with MCD's value of 0.61. It is also observed that MCD's liquidity ratios are more conservative than YUM.

Financial Statement Analysis

Business Efficiency

Fundamental Growth

Analyzing ROE

DuPont Ratios

DuPont Burden Analysis

Analyzing Profitability

Profitability Ratios

Analyzing Asset Turnover

Liquidity

Working Capital

Financial Statement Analysis; Business Efficiency; Analyzing Asset Turnover; Liquidity

Market Price	75.160
Cash & Cash Equivalents	1.66806
Current Assets	3.17294
Current Liabilities	2.77580
Inventory	0.09863
Receivables	0.98486
Current Ratio	1.1431
Quick Ratio	0.9557
Cash Ratio	0.6009

Step 6: Now let us assess the investment decision for MCD versus YUM.

We have already observed that there is a significant difference between MCD and YUM in terms of their contract with franchisees. In this step we will apply activity analysis to analyze the impact of this upon the sensitivity of profits to sales revenue.

An inspection of both MCD and YUM's COGS surprisingly reveals that neither is highly related to Sales Revenue. Running a regression over the last five years to help gain some insight to this puzzle reveals that for the two major cost categories (COGS and SG&A) for MCD is 0.22 and 0.02 respectively. For YUM this is 0.62 and 0.20 respectively. In this exercise we will use these estimates of the cost behavior for MCD and YUM respectively. An activity analysis comparison between these two companies thus now reflects the contractual differences between the companies and their franchisees which drive differences in the cost behavior as well as profitability.

Taking all implications into account the respective estimates for the Degree of Total Leverage are:

MCD

Financial Statement Analysis
Business Efficiency
Fundamental Growth
Analyzing ROE
Analyzing Profitability
Analyzing Asset Turnover
Liquidity
Working Capital
Operating Leverage and Capacity
Analyzing Financial Leverage
Degree of Total Leverage
Altman Model
Price Ratios
Dividend Model
Free Cash Flow Model
Accounting Valuation Models
Distressed Firm/Option Based Model

Financial Statement Analysis;
Business Efficiency;
Analyzing Asset Turnover;
Operating Leverage and
Capacity

Download Complete

Market Price	75.160
Sales	21.12445
Less COGS	12.95895
Gross Margin	8.1655
Less SG&A	2.07504
Less Other	-0.26321
Net Income Operations (EBIT)	6.3537
% Variable COGS	0.22000
% Variable SG&A	0.02000
% Variable Other	0.00000
Less Variable COGS	2.85097
Less Variable SG&A	0.04150
Less Variable Other	0.00000
Contribution Margin	18.2320
Less Fixed COGS	10.10798
Less Fixed SG&A	2.03354
Less Fixed Other	-0.26321
Operating Income (EBIT)	6.3537
Contribution Margin Ratio	0.8631
B/E Sales Revenue = Total Fixed Costs/CMR	13.7628
B/E Margin	0.6515
Degree of Operating Leverage	2.8695

YUM

Financial Statement Analysis	
Business Efficiency	
Fundamental Growth	
Analyzing ROE	
Analyzing Profitability	
Analyzing Asset Turnover	
Liquidity	
Working Capital	
Operating Leverage and Capacity	
Analyzing Financial Leverage	
Degree of Total Leverage	
Altman Model	
Price Ratios	
Dividend Model	
Free Cash Flow Model	
Accounting Valuation Models	
Distressed Firm/Option Based Model	

Financial Statement Analysis;
Business Efficiency;
Analyzing Asset Turnover;
Operating Leverage and
Capacity

Download Complete

Market Price	48.640
Sales	23.10448
Less COGS	12.32409
Gross Margin	10.7804
Less SG&A	7.44776
Less Other	-0.05757
Net Income Operations (EBIT)	3.3902
% Variable COGS	0.62000
% Variable SG&A	0.20000
% Variable Other	0.00000
Less Variable COGS	7.64094
Less Variable SG&A	1.48955
Less Variable Other	0.00000
Contribution Margin	13.9740
Less Fixed COGS	4.68316
Less Fixed SG&A	5.95821
Less Fixed Other	-0.05757
Operating Income (EBIT)	3.3902
Contribution Margin Ratio	0.6048
B/E Sales Revenue = Total Fixed Costs/CMR	17.4992
B/E Margin	0.7574
Degree of Operating Leverage	4.1219

From the Activity Analysis it is clear that YUM is more sales revenue sensitive than is MCD; the Activity Analysis reflects the differences in their business strategies --- centralized/consistency versus decentralized/growth.

In addition, given the major difference in financial leverage as noted from the earlier step this further reveals that the profits for both companies are relatively sales revenue sensitive but YUM is more sales revenue sensitive than MCD which reinforces the relative greater importance of growth to YUM and its decentralized business strategy:

MCD:

Financial Statement Analysis
Business Efficiency
Fundamental Growth
Analyzing ROE
Analyzing Profitability
Analyzing Asset Turnover
Liquidity
Working Capital
Operating Leverage and Capital Structure
Analyzing Financial Leverage
Degree of Total Leverage
Altman Model
Price Ratios
Dividend Model
Free Cash Flow Model
Accounting Valuation Models
Distressed Firm/Option Based Model

Financial Statement Analysis;
Business Efficiency; Degree
of Total Leverage

Market Price	75.160
Sales	21.12445
Less COGS	12.95895
Gross Margin	8.1655
Less SG&A	2.07504
Less Other	-0.26321
Net Income Operations (EBIT)	6.3537
% Variable COGS	0.22000
% Variable SG&A	0.02000
% Variable Other	0.00000
Less Variable COGS	2.85097
Less Variable SG&A	0.04150
Less Variable Other	0.00000
Contribution Margin	18.2320
Less Fixed COGS	10.10798
Less Fixed SG&A	2.03354
Less Fixed Other	-0.26321
Operating Income (EBIT)	6.3537
Interest Expense	0.43949
Net Income Before Taxes = EBIT-Interest Expense	5.9142
Degree of Operating Leverage	2.8695
Degree of Financial Leverage	1.0743
Degree of Total Leverage	3.0828

YUM:

Financial Statement Analysis
Business Efficiency
Fundamental Growth
Analyzing ROE
Analyzing Profitability
Analyzing Asset Turnover
Liquidity
Working Capital
Operating Leverage and Capital Structure
Analyzing Financial Leverage
Degree of Total Leverage
Altman Model
Price Ratios
Dividend Model
Free Cash Flow Model
Accounting Valuation Models
Distressed Firm/Option Based Model

Financial Statement Analysis;
Business Efficiency; Degree
of Total Leverage

Market Price	48.640
Sales	23.10448
Less COGS	12.32409
Gross Margin	10.7804
Less SG&A	7.44776
Less Other	-0.05757
Net Income Operations (EBIT)	3.3902
% Variable COGS	0.62000
% Variable SG&A	0.20000
% Variable Other	0.00000
Less Variable COGS	7.64094
Less Variable SG&A	1.48955
Less Variable Other	0.00000
Contribution Margin	13.9740
Less Fixed COGS	4.68316
Less Fixed SG&A	5.95821
Less Fixed Other	-0.05757
Operating Income (EBIT)	3.3902
Interest Expense	0.45203
Net Income Before Taxes = EBIT-Interest Expense	2.9382
Degree of Operating Leverage	4.1219
Degree of Financial Leverage	1.1538
Degree of Total Leverage	4.7560

Step 7: Relating Activity Analysis to Recent Stock Price Behavior for YUM and MCD

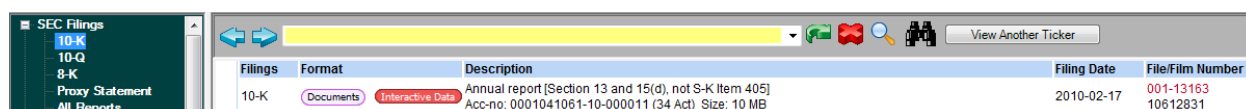
The above activity analysis reveals that the profitability of YUM is significantly more sales revenue sensitive than is MCD and it is interesting to relate this back to recent stock market behavior:



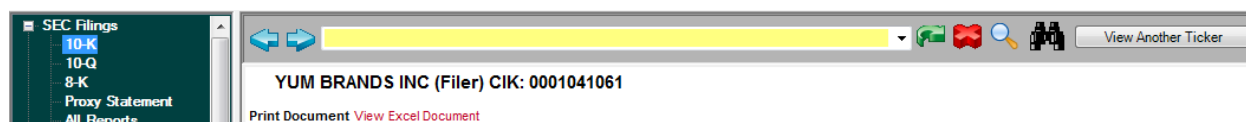
Here it is clear that YUM lost significant amounts of shareholder value during the 2008/2009 crisis compared to MCD. Clearly YUM has a higher degree of total leverage than MCD plus both are significantly higher than retailers such as Wal-Mart and Target. YUM's business strategy is built around growth and their stock price will reflect this. As a result, when global growth expectations falter as they did in the 2008/2009 crisis, YUM's business strategy will be more sensitive to this than is MCD's even

though the fast food industry in general should be more resistant to downturns. The magnitude of YUM's downturn, however, does appear to be excessive given the relative small decline in total sales. Looking back through past 10-K's for YUM and MCD reveals the following:

Getting 10-K data into Excel for either stock:



Click on Interactive Data as above, and then click on View Excel Document to get into an Excel workbook. This is automatically named appropriately by Valuation Tutor.



You now have all of the 10-K financial data in a spreadsheet.

In general we would expect the Fast Food industry to be relatively robust to recessions:

For the case of YUM and MCD this was indeed the case:

YUM's Sales Revenue took a small (< 5%) decline in 2009

CONSOLIDATED STATEMENTS OF INCOME (USD \$)			
	Ended Dec. 26, 2009	Ended Dec. 27, 2008	12 Months Ended Dec. 29,
In Millions, except Per Share data			
Revenues			
Company sales	\$9,413	\$9,843	\$9,100
Franchise and license fees and income	1,423	1,461	1,335
Total revenues	10,836	11,304	10,435

A similar pattern was displayed by MCD:

Statement Of Income Alternative (USD \$)			
	12 Months Ended Dec. 31, 2009	12 Months Ended Dec. 31, 2008	12 Months Ended Dec. 31, 2007
In Millions, except Per Share data			
REVENUES			
Sales by Company-operated restaurants	\$15,458.5	\$16,560.9	\$16,611
Revenues from franchised restaurants	7,286.2	6,961.5	6,175.6
Total revenues	22,744.7	23,522.4	22,786.6

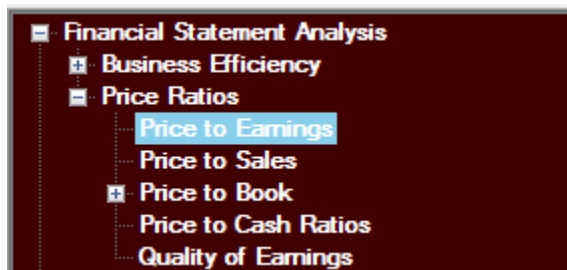
Yet as is observed in the above stock price reaction, the stock price decline for YUM was much larger relative to MCD than activity analysis would predict. The analysis predicted little change in Net Income and this was indeed the case for both MCD and YUM both of which actually posted slightly higher net income in 2009 (MCD 4551 versus 4313.2 and YUM 1071 versus 964 millions).

These results are a little surprising for YUM given its relatively high degree of total leverage and raises immediate questions regarding the extent to which accounting accruals are used to support this profit increase. We will return to this point in a later step when we examine *earnings quality*.

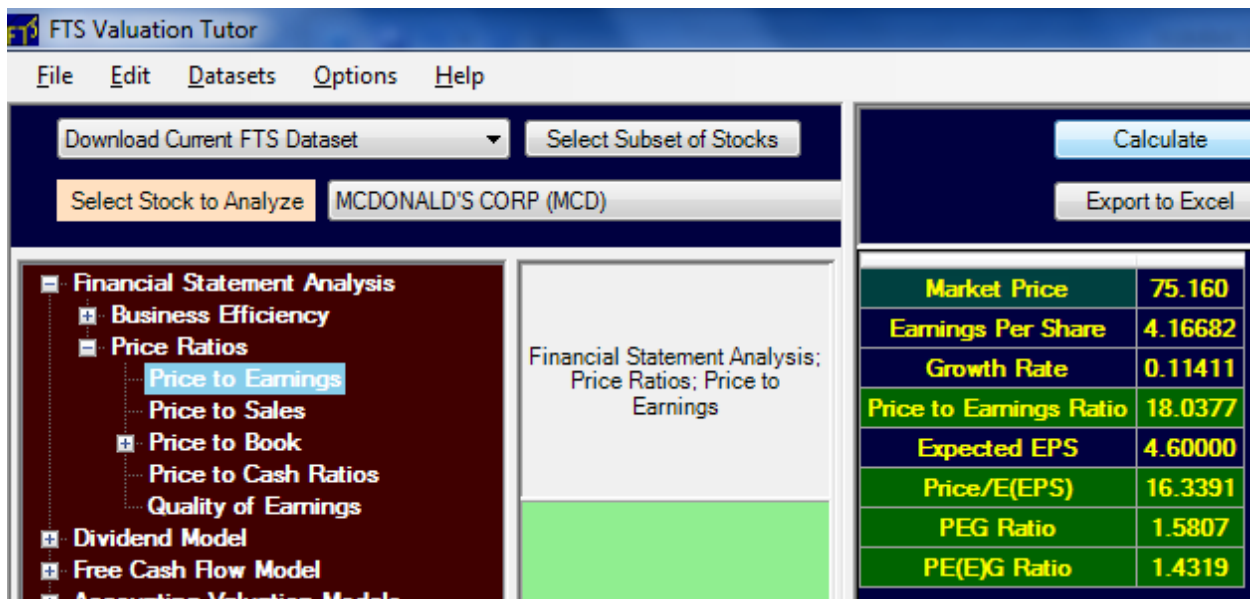
From the above price graphs it appears the market evaluated the two companies very differently during the 2008/2009 financial crisis and we will explore this question next by comparing the two companies from the market's perspective.

Step 8: How does the Market Evaluate MCD and YUM's Performance?

The starting point is the bottom line --- Price to Earnings' Ratios:



And the P/E ratio calculator for MCD is:



Similarly for YUM this is:

Select Stock to Analyze		YUM BRANDS (YUM)		Export to Excel	
<div>Financial Statement Analysis<ul style="list-style-type: none">Business EfficiencyPrice Ratios<ul style="list-style-type: none">Price to EarningsPrice to SalesPrice to BookPrice to Cash RatiosQuality of EarningsDividend ModelFree Cash Flow Model</div>		<div>Financial Statement Analysis; Price Ratios; Price to Earnings</div>			
				Market Price	48.640
				Earnings Per Share	2.29936
				Growth Rate	0.12818
				Price to Earnings Ratio	21.1537
				Expected EPS	2.50000
				Price/E(EPS)	19.4560
				PEG Ratio	1.6503
				PE(E)G Ratio	1.5179

Thus YUM has the higher price to earnings ratio which immediately raises the question whether this is driven by growth differences?

The P/E to Growth ratio divides the P/E Ratio by Growth (referred to as the PEG Ratio). So if we normalize differences in P/E ratios by growth does this explain the difference?

Again YUM is still higher than MCD on these grounds so the last line in the above examines the hypothesis whether the differences can be explained from expected earnings? The PE(E)G Ratio compares the Price to Expected Earnings ratio for the two stocks. The same order exists YUM is higher than MCD.

Step 9: What are the Current Analyst Forecasts for MCD and YUM?

By selecting either YUM or MCD as the selected stock and clicking on Analysts brings up the following set of choices:

SEC Filings
10-K
10-Q
8-K
Proxy Statement
All Reports
Profile
Charts
Analysts
Forecasts (MSN)
Forecasts (Yahoo)
Opinions (MSN)
Opinions (Yahoo)
Ratios
Financial Statements
Economic Calendar
News
Bonds
Papers & Reports

Not only does this set contain earnings forecasts but it also includes Sales revenue forecasts for the Current Quarter, Next Quarter, Current Year and Next Year. This latter information can again be combined with the previous Activity Analysis to extract additional information. Chapter 3 of the Valuation Tutor text provides the details of how to make your own predictions from Sales forecasts and Activity Analysis.

A current review of analyst 5-year forecasts report consensus ranges from 9.3 to 10.14% for MCD and 11.1 to 12.37% for YUM. Again this is consistent with YUM's strategy of pursuing growth although the consensus for sales growth for YUM is lower (4.1%) than the current consensus for MCD's sales growth (5.90%). As a result, in the next step we will explore how the market is valuing sales.

Step 10: How does the Market Evaluate MCD and YUM's Sales?

Recall from activity analysis that YUM's net income is projected to be more sensitive to Sales than is MCD. In this step we will examine whether or not the market appears to be sensitive to this.

Select Stock to Analyze		MCDONALD'S CORP (MCD)		Export to Excel		Paste from Excel																							
<div>Financial Statement Analysis<ul style="list-style-type: none">Business EfficiencyPrice Ratios<ul style="list-style-type: none">Price to EarningsPrice to SalesPrice to BookPrice to Cash RatiosQuality of EarningsDividend ModelFree Cash Flow ModelAccounting Valuation ModelsDistressed Firm/Option Based Model</div>		<div>Financial Statement Analysis; Price Ratios; Price to Sales</div>		<table><tr><td>Market Price</td><td>75.160</td></tr><tr><td>Sales</td><td>21.12445</td></tr><tr><td>Price/Sales</td><td>3.5580</td></tr><tr><td>Cost of Goods Sold</td><td>12.95895</td></tr><tr><td>Gross Profit Margin</td><td>0.3865</td></tr><tr><td>EBIT</td><td>6.35367</td></tr><tr><td>Operating Profit Margin</td><td>0.3008</td></tr><tr><td>Contribution Margin Ratio</td><td>0.8631</td></tr><tr><td>B/E Sales Revenue = Total Fixed Costs/CMR</td><td>13.7628</td></tr><tr><td>B/E Margin</td><td>0.6515</td></tr><tr><td>Margin of Safety</td><td>7.3617</td></tr></table>				Market Price	75.160	Sales	21.12445	Price/Sales	3.5580	Cost of Goods Sold	12.95895	Gross Profit Margin	0.3865	EBIT	6.35367	Operating Profit Margin	0.3008	Contribution Margin Ratio	0.8631	B/E Sales Revenue = Total Fixed Costs/CMR	13.7628	B/E Margin	0.6515	Margin of Safety	7.3617
Market Price	75.160																												
Sales	21.12445																												
Price/Sales	3.5580																												
Cost of Goods Sold	12.95895																												
Gross Profit Margin	0.3865																												
EBIT	6.35367																												
Operating Profit Margin	0.3008																												
Contribution Margin Ratio	0.8631																												
B/E Sales Revenue = Total Fixed Costs/CMR	13.7628																												
B/E Margin	0.6515																												
Margin of Safety	7.3617																												

Similarly, for YUM this is:

Select Stock to Analyze		YUM BRANDS (YUM)		Export to Excel		Paste from Excel																							
<div>Financial Statement Analysis<ul style="list-style-type: none">Business EfficiencyPrice Ratios<ul style="list-style-type: none">Price to EarningsPrice to SalesPrice to BookPrice to Cash RatiosQuality of Earnings</div> <div>Dividend Model</div> <div>Free Cash Flow Model</div> <div>Accounting Valuation Models</div> <div>Distressed Firm/Option Based Model</div>		<div>Financial Statement Analysis; Price Ratios; Price to Sales</div> <div></div>		<table><tr><td>Market Price</td><td>48.640</td></tr><tr><td>Sales</td><td>23.10448</td></tr><tr><td>Price/Sales</td><td>2.1052</td></tr><tr><td>Cost of Goods Sold</td><td>12.32409</td></tr><tr><td>Gross Profit Margin</td><td>0.4666</td></tr><tr><td>EBIT</td><td>3.39019</td></tr><tr><td>Operating Profit Margin</td><td>0.1467</td></tr><tr><td>Contribution Margin Ratio</td><td>0.6048</td></tr><tr><td>B/E Sales Revenue = Total Fixed Costs/CMR</td><td>17.4992</td></tr><tr><td>B/E Margin</td><td>0.7574</td></tr><tr><td>Margin of Safety</td><td>5.6053</td></tr></table>				Market Price	48.640	Sales	23.10448	Price/Sales	2.1052	Cost of Goods Sold	12.32409	Gross Profit Margin	0.4666	EBIT	3.39019	Operating Profit Margin	0.1467	Contribution Margin Ratio	0.6048	B/E Sales Revenue = Total Fixed Costs/CMR	17.4992	B/E Margin	0.7574	Margin of Safety	5.6053
Market Price	48.640																												
Sales	23.10448																												
Price/Sales	2.1052																												
Cost of Goods Sold	12.32409																												
Gross Profit Margin	0.4666																												
EBIT	3.39019																												
Operating Profit Margin	0.1467																												
Contribution Margin Ratio	0.6048																												
B/E Sales Revenue = Total Fixed Costs/CMR	17.4992																												
B/E Margin	0.7574																												
Margin of Safety	5.6053																												

The market is pricing Sales for MCD higher than YUM. This appears to be consistent with the market not assessing much growth in sales for YUM combined with the fact that MCD is expected to be more efficient at converting existing levels of sales into profits.

Step 11: How does the Market Evaluate MCD and YUM's Book Value?

One of the Fama and French factors is Book to Price Ratio. They use the reverse of the usual Price to Book ratio for statistical reasons so that the divisor is always a positive number. Book to Price is the inverse of the Price to Book Ratio and preserves relative rankings regardless of whether the Book value is positive or negative. For MCD and YUM this is:

Select Stock to Analyze MCDONALD'S CORP (MCD)		Export to Excel	
<div>Financial Statement Analysis</div> <div>Business Efficiency</div> <div>Price Ratios <ul style="list-style-type: none"> Price to Earnings Price to Sales Price to Book <ul style="list-style-type: none"> DuPont Ratios DuPont Burden Analysis Turnover Analysis Degree of Leverage Price to Cash Ratios Quality of Earnings </div> <div>Dividend Model</div> <div>Free Cash Flow Model</div>	Financial Statement Analysis; Price Ratios; Price to Book; DuPont Ratios	Market Price	75.160
		Book Value of Equity	13.03418
		Price/Book	5.7664
		Sales	21.12445
		Total Assets	28.072
		Asset Turnover=Sales/TA	0.7525
		Net Profit Margin	0.20009
		Return on Assets	0.1506
		Shareholders Equity	13.03418
		TA/Equity	2.1537
		Return on Equity	0.3243

Select Stock to Analyze YUM BRANDS (YUM)		Export to Excel	
<div>Financial Statement Analysis</div> <div>Business Efficiency</div> <div>Price Ratios <ul style="list-style-type: none"> Price to Earnings Price to Sales Price to Book <ul style="list-style-type: none"> DuPont Ratios DuPont Burden Analysis Turnover Analysis Degree of Leverage Price to Cash Ratios Quality of Earnings </div> <div>Dividend Model</div> <div>Free Cash Flow Model</div>	Financial Statement Analysis; Price Ratios; Price to Book; DuPont Ratios	Market Price	48.640
		Book Value of Equity	2.18550
		Price/Book	22.2558
		Sales	23.10448
		Total Assets	15.24094
		Asset Turnover=Sales/TA	1.5159
		Net Profit Margin	0.09994
		Return on Assets	0.1515
		Shareholders Equity	2.18550
		TA/Equity	6.9737
		Return on Equity	1.0566

Niether MCD or YUM have a high loading on the Fama and French factor ($1/(\text{Price}/\text{Book})$) and on a relative basis YUM has a much lower value. For this example, the Fama and French factor has little to say about risk but merely reflects the fact that MCD's business strategy is different to YUM whereby MCD assumes ownership of land and long term leases whereas YUM passes this onto the franchisees. In

fact, MCD's assets per share are higher than YUM which in this case implies *less risk not more risk* for MCD versus YUM for this factor.

Step 12: Quality of Earnings Analysis for MCD and YUM

Recall step 7 raised some questions regarding YUM's earnings quality relative to MCD, because sales revenue reduced a little but reported earnings increased even though YUM has a high degree of total leverage. In fact both companies reported increases in earnings even though sales revenue declined a little. Quality of earnings is usually assessed in terms of the use of accounting accruals relative to cash flows. This is because accounting accruals reverse over time so earnings that are driven by accruals are judged to be less persistent than earnings driven by cash flows which have a higher likelihood for re-occurring. Valuation Tutor lets you assess Earnings quality in terms of accounting accruals as follows:

Select Stock to Analyze

MCDONALD'S CORP (MCD)

Export to Excel

Paste from Excel

Financial Statement Analysis

Business Efficiency

Price Ratios

Price to Earnings

Price to Sales

Price to Book

DuPont Ratios

DuPont Burden Analysis

Turnover Analysis

Degree of Leverage

Price to Cash Ratios

Quality of Earnings

Dividend Model

Free Cash Flow Model

Accounting Valuation Models

Distressed Firm/Option Based Model

Financial Statement Analysis;
Price Ratios; Quality of
Earnings

Calculation complete

Market Price	75.160
Total Assets	28.072
Cash & Cash Equivalents	1.66806
Operating Assets	26.404
Liabilities	15.03761
Long-term Debt	9.80802
Long-term Debt due within 1-year	0.01681
Short-term borrowings	0.00000
Operating Liabilities	5.21278
Net Operating Assets	21.19095
Net Operating Assets (previous year)	19.31050
Aggregate Accruals (Balance Sheet)	1.88045
Average Net Operating Assets	20.25072
Accrual Ratio (Balance Sheet)	0.09286
Net Income	4.22680
Net Cash provided by Operating Activities	5.34132
Net Cash used in Investing Activities	-1.53738
Aggregate Accruals (Cash Flow)	0.42287
Accrual Ratio (Cash Flow Statement)	0.02088
Price Based Ratios	
Price to Earnings Ratio	18.0377
Price/Sales	3.5580
Price/Book	5.7664
Price/Operating Cash Flow	14.0714

And for YUM this is:

Select Stock to Analyze		YUM BRANDS (YUM)		Export to Excel		Paste from Excel																																																	
<div><div>Financial Statement Analysis<ul style="list-style-type: none">Business EfficiencyPrice Ratios<ul style="list-style-type: none">Price to EarningsPrice to SalesPrice to Book<ul style="list-style-type: none">DuPont RatiosDuPont Burden AnalysisTurnover AnalysisDegree of LeveragePrice to Cash RatiosQuality of EarningsDividend ModelFree Cash Flow ModelAccounting Valuation ModelsDistressed Firm/Option Based Model</div></div>				<div>Financial Statement Analysis; Price Ratios; Quality of Earnings</div> <div>Calculation complete</div>																																																			
				<table><tr><td>Market Price</td><td>48.640</td></tr><tr><td>Total Assets</td><td>15.24094</td></tr><tr><td>Cash & Cash Equivalents</td><td>0.75267</td></tr><tr><td>Operating Assets</td><td>14.48827</td></tr><tr><td>Liabilities</td><td>13.05544</td></tr><tr><td>Long-term Debt</td><td>6.83795</td></tr><tr><td>Long-term Debt due within 1-year</td><td>0.00000</td></tr><tr><td>Short-term borrowings</td><td>0.12580</td></tr><tr><td>Operating Liabilities</td><td>6.09168</td></tr><tr><td>Net Operating Assets</td><td>8.39659</td></tr><tr><td>Net Operating Assets (previous year)</td><td>7.11329</td></tr><tr><td>Aggregate Accruals (Balance Sheet)</td><td>1.28330</td></tr><tr><td>Average Net Operating Assets</td><td>7.75494</td></tr><tr><td>Accrual Ratio (Balance Sheet)</td><td>0.16548</td></tr><tr><td>Net Income</td><td>2.30917</td></tr><tr><td>Net Cash provided by Operating Activities</td><td>3.02985</td></tr><tr><td>Net Cash used in Investing Activities</td><td>-1.55011</td></tr><tr><td>Aggregate Accruals (Cash Flow)</td><td>0.82942</td></tr><tr><td>Accrual Ratio (Cash Flow Statement)</td><td>0.10695</td></tr><tr><td>Price Based Ratios</td><td></td></tr><tr><td>Price to Earnings Ratio</td><td>21.1537</td></tr><tr><td>Price/Sales</td><td>2.1052</td></tr><tr><td>Price/Book</td><td>22.2558</td></tr><tr><td>Price/Operating Cash Flow</td><td>16.0536</td></tr></table>				Market Price	48.640	Total Assets	15.24094	Cash & Cash Equivalents	0.75267	Operating Assets	14.48827	Liabilities	13.05544	Long-term Debt	6.83795	Long-term Debt due within 1-year	0.00000	Short-term borrowings	0.12580	Operating Liabilities	6.09168	Net Operating Assets	8.39659	Net Operating Assets (previous year)	7.11329	Aggregate Accruals (Balance Sheet)	1.28330	Average Net Operating Assets	7.75494	Accrual Ratio (Balance Sheet)	0.16548	Net Income	2.30917	Net Cash provided by Operating Activities	3.02985	Net Cash used in Investing Activities	-1.55011	Aggregate Accruals (Cash Flow)	0.82942	Accrual Ratio (Cash Flow Statement)	0.10695	Price Based Ratios		Price to Earnings Ratio	21.1537	Price/Sales	2.1052	Price/Book	22.2558	Price/Operating Cash Flow	16.0536
Market Price	48.640																																																						
Total Assets	15.24094																																																						
Cash & Cash Equivalents	0.75267																																																						
Operating Assets	14.48827																																																						
Liabilities	13.05544																																																						
Long-term Debt	6.83795																																																						
Long-term Debt due within 1-year	0.00000																																																						
Short-term borrowings	0.12580																																																						
Operating Liabilities	6.09168																																																						
Net Operating Assets	8.39659																																																						
Net Operating Assets (previous year)	7.11329																																																						
Aggregate Accruals (Balance Sheet)	1.28330																																																						
Average Net Operating Assets	7.75494																																																						
Accrual Ratio (Balance Sheet)	0.16548																																																						
Net Income	2.30917																																																						
Net Cash provided by Operating Activities	3.02985																																																						
Net Cash used in Investing Activities	-1.55011																																																						
Aggregate Accruals (Cash Flow)	0.82942																																																						
Accrual Ratio (Cash Flow Statement)	0.10695																																																						
Price Based Ratios																																																							
Price to Earnings Ratio	21.1537																																																						
Price/Sales	2.1052																																																						
Price/Book	22.2558																																																						
Price/Operating Cash Flow	16.0536																																																						

MCD's numbers look relatively stronger (Aggregate Accrual (Cash Flow) = 0.42 versus YUM's 0.83. Although again from the above screens it is apparent that YUM's price to operating cash flow is still higher than MCD's. To place this into perspective relative to a conservative company such as Wal-Mart you can check that Wal-Mart's Aggregate Accrual (Cash Flow) is 0.0578. So the implication is that accruals play an important part of both MCD and YUM's reported 2010 10-K reported earnings but especially so for YUM with its relatively high ratio of 0.82.

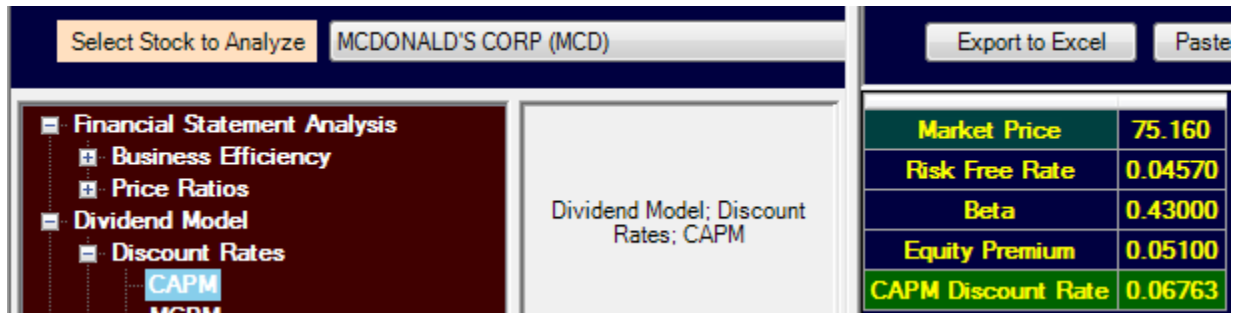
This raises questions regarding risk and the cost of equity capital for MCD versus YUM.

Step 13: What is the Difference between MCD's and YUM's Cost of Equity Capital?

In this step we will adopt a CAPM (Capital Asset Pricing Model) approach to estimating the cost of equity capital.

Financial Statement Analysis
Business Efficiency
Price Ratios
Dividend Model
Discount Rates
CAPM

For MCD the cost of equity capital is:



And for YUM this is:



From the above price graph and CAPM analysis it is clear that MCD is a defensive low beta stock. It has a beta around 0.43 and from the price chart it did not experience the same major stock market fluctuations around 2008/2009. YUM more closely reflects the market and has a beta equal to 0.93. As a result, there is a predicted difference between the cost of equity capital for these two stocks.

Summary:

The above analysis has started with the identification of two different business strategies for two stocks that have very similar business models. Both are in the Fast Food industry designed around franchise contracts. The nature of the contract varies, however, such that MacDonald's business strategy is designed around centralized control. This implies exercising strict controls over their franchisees and their suppliers with an emphasis on providing consistent quality across franchisees. The company also exercises tighter controls over their franchisees in terms of their *incentives* by requiring that they are

active not passive investors. This centralized control strategy is reflected in financial statements by tighter cost controls over selling and general costs, significantly lower days to turn over inventory and higher profit margins from sales. YUM's business strategy is built around contracts that are designed around a decentralized business strategy designed for growth. The company invests less capital in their franchisees – for example, they do not assume ownership of property or long terms leases. As a result, asset turnover ratios and price to book ratios are significantly higher than MCD. They also decentralize much of the sales and general costs thereby giving up some economies of scale. On the growth front their Kentucky Fried Chicken component has proved to be a big winner in Asia and worldwide YUM has more franchisees, but overall lower sales and lower profitability margins.

However, their different strategies also reveal themselves primarily in risk. The financial statement analysis identifies this along several dimensions. First, with their greater number of franchisees along with less direct control over franchisees both in terms of their investment decisions and incentives, variance among franchisees is a significant potential risk. Indirect evidence of this is the major difference in days to turnover inventory – less than three days for MCD to just less than eight days for YUM. For a fast food chain this latter number appears to be high. Second, when growth stalls YUM has a higher degree of operating and total leverage than does MCD and so net income is affected more. This creates incentives for smoothing earnings via the use of accruals and which was reflected in YUM's earnings quality measure relative to MCD's during the recession. Third, with greater business risk and sensitivity to economic growth YUM's cost of equity capital is significantly higher than MCD.