Overview

The following pages provide a valuation analysis of three stocks: Burlington Northern Santa Fe Corp. (BNI), Union Pacific Corp. (UNP), and Flowserve Corp.

Each stock is evaluated using the single stage discounted dividend model, the single stage discounted cash flow model (FCFE), price multiples based on forecasted fundamentals, and the single stage residual income model. All valuations are keyed on the day after earnings announcements for fiscal year 2008, and are focused on inferring market expectations of growth for each stock. Required rates of return are analyzed using CAPM with beta relative to the S&P 500.

CAPM Variables

Due to the widespread practice of using the S&P 500 for the calculation of beta by the various financial reporting services, it seemed appropriate to use the S&P 500 as the market proxy for calculating the beta of these stocks. Since the risk premium is a constant concern for investors, and investors are not limited to choosing stocks with a particular market cap, using the S&P 500 seems be a good choice.

For the risk free rate, I selected the 2008 T-bond rate of 3.66% as documented by the Federal Reserve web site. Additionally, the risk premium of 6.43% was selected from professor Damodaran's updated data[1]. It is with these overall parameters that we proceed to the analysis of the various stocks; starting with the railroads.

Other Variables

In cases where values, such as ROE, are calculated from financial statements, there is a choice to be made between using mean and median values. In each case, the mean is preferred, but if an examination of the data shows outliers that skew the mean, the median has been selected.

Burlington Northern Santa Fe Corp.

"Burlington Northern Santa Fe Corporation, through its subsidiaries, engages in the freight rail transportation business."[2] BNI, as is the case with most railroads, transports both consumer and industrial products. According to Yahoo, BNI's direct competition includes Canadian Pacific Railway Limited (CP), Norfolk Southern Corp. (NSC), and Union Pacific Corp. (UNP). This report also examines Norfolk Southern Corp. (NSC).

[1] http://www.stern.nyu.edu/~adamodar/pc/datasets/histimpl.xls, accessed 3/10/2009 9:46 PM.
[2] http://finance.yahoo.com/q/pr?s=BNI, accessed 3/10/2009 9:49 PM

Required Return

Using the parameters described in the *CAPM Variables* section above, BNI has a beta of 0.97 yielding a required rate of return (r) of 9.87%. During the valuation calculations the implied growth rates based on the market price did not require that this value be adjusted.

Market Expectations of Growth

An examination of the last 5-years of dividends reveals a median dividend growth rate of 19.88%. This is consistent with the calculated earnings growth rate (median over the last five years) of 19.22%. Previous research using the company's annual reports indicates that these growth rates are the result of a change in dividend policy, and that they are not expected to continue indefinitely.

DDM: Using the single-stage discounted dividend model, with the previously calculated **r=9.87%,** and the market price (day after earnings announcement) of **$63.99**, we find an expected long-term growth rate of 7.59%.

Single-Stage Dividend Discount Model		
	D0=	$ 1.36
	g=	7.59%
	r=	9.87%
V0=(D0(1+g))/(r-g)	**V0=**	**$ 63.99**

RIM: The residual income model also supports this growth rate. The long-term mean ROE, calculated from financials, is 13.37%, with a range of 8.5% through 19%. Adjusting the ROE down to 12.14% is consistent with both the market price and the range of ROE values.

Residual Income Model		
V0 = B0 + (B0(ROE-r))/(r-g)	g=	7.59%
	r=	9.87%
	ROE=	12.14%
	BV0=	$ 32.08
	V0=	**$ 63.99**

FCFE: Using the single stage FCFE model, we see an expected growth of FCFE of 3.10%. This lower growth rate for FCFE is not surprising with BNI's equity multiplier of 3.12 (5-year mean).

Single-Stage FCFE		
	FCFE0=	$ 4.20
	g=	3.10%
	r=	9.87%
V0=(FCFE0(1+g))/(r-g)	**V0=**	**$ 63.99**

Price Multiples: Using the same financials, the following price multiples reveal that BNI is almost perfectly in line with its industry with respect to price to earnings and book-value growth, yet it seems somewhat overvalued with respect to P/CF.

Justified Price Multiples		Industry
Trailing P/E = [D0(1+g)/E0]/(r-g)	10.5	10.7
Trailing P/B = (ROE-g)/(r-g)	2.0	1.8
Trailing P/CF = (FCFE0(1+g))/(r-g)	15.2	11.83

Best Model

This company's 5-year median dividend payout ratio is 20.81%, and its 5-year mean is 21.27%. This relatively close match between the mean and median payout ratios indicates that the management does engage in some dividend stabilization. The median change in diluted EPS for the same period is 19.22% versus a mean of 26.65%. The fact that the deviation between mean and median EPS is larger than the deviation in the payout ratio indicates that the dividend is fairly reflective of profitability, thus making BNI an excellent candidate for the **DDM**.

Due to the generally consistent valuations produced by the various models (with the exception of P/FCFE) there is nothing that indicates that the market price is out of line with the company's fundamentals. BNI is fairly priced.

Union Pacific Corp.

"Union Pacific Corporation, through its subsidiary, Union Pacific Railroad Company, provides rail transportation services in North America."[3] UNP is a direct competitor of BNI (profiled above), and the services offered are apparently identical, with the exception of geographic areas of coverage. This difference in geographic coverage brings UNP into direct competition with a slightly different group of railroads, including Canadian National Railway Company (CNI), and CSX Corp. (CSX).

Required Return

Using the parameters described in the *CAPM Variables* section above, UNP has a beta of 1.14 yielding a required rate of return (r) of 11.01%. During the valuation calculations the implied growth rates based on the market price did not require that this value be adjusted.

Market Expectations of Growth

UNP's 5-year median dividend growth rate, calculated from financials, is 14.73% with a mean of 17.57%. For a company founded in 1862, it seems evident that UNP has had a few good years, but such a dividend growth rate is not sustainable. This is supported by the fact that the company's 5-year average sustainable growth rate is 7.5%. The market expectation probably lies somewhere in between.

DDM: Using the previously calculated r=**11.01%**, and a post-earnings-announcement market price of $42.21, we find an expected growth rate of 8.61%.

[3] http://finance.yahoo.com/q/pr?s=UNP, accessed 3/10/2009 11:02 PM.

Single-Stage Dividend Discount Model		
	D0=	$ 0.93
	g=	8.61%
	r=	11.01%
V0=(D0(1+g))/(r-g)	**V0=**	**$ 42.21**

RIM: From the financial statements, we find a median ROE of 10.49%, with a range of 4.77% through 15.14%. Adjusting the calculated ROW down to 11.99% brings the residual income model into parity with the market price.

Residual Income Model		
V0 = B0 + (B0(ROE-r))/(r-g)	g=	8.61%
	r=	11.01%
	ROE=	11.99%
	BV0=	$ 29.99
	V0=	**$ 42.21**

FCFE: The single-stage FCFE model reveals a lower expected FCFE growth rate of 3.90%. This implies that UNP is probably leveraged, and an examination of the financials supports this by revealing a mean equity multiplier of 2.55. It is worthwhile to note that over the last ten years (1999-2009) the equity multiplier has been generally declining, indicating that the company is deleveraging. This may put UNP in a good position to weather the economic downturn.

Single-Stage FCFE		
	FCFE0=	$ 2.89
	g=	3.90%
	r=	11.01%
V0=(FCFE0(1+g))/(r-g)	**V0=**	**$ 42.21**

Price Multiples: The price-multiples analysis indicates that UNP is somewhat undervalued with respect to price to earnings and book. It is similar to BNI with respect to seeming somewhat overvalued with respect to P/CF.

Justified Price Multiples		Industry
Trailing P/E = [D0(1+g)/E0]/(r-g)	9.3	10.7
Trailing P/B = (ROE-g)/(r-g)	1.4	1.8
Trailing P/CF = (FCFE0(1+g))/(r-g)	14.6	11.83

Best Model

Due to significant differences in the mean and media payout ratios (28.43% versus 20.57%) UNP is not a good candidate for the dividend discount model. On the other hand, the mean and median ROE (9.96% versus10.49%) are fairly close making UNP a good candidate for any ROE based valuation model such as the RIM.

Again, the models are consistent with each other, and with the values calculated from the fundamentals, so there is no reason to assume that UNP is not fairly priced. It is worth noting that the ROE for BNI is 12.14% versus the 11.01% for UNP. This surprising alignment between these returns indicates that there the competition between at least these two, and probably the industry as a while, must be fierce.

Flowserve Corp.

"Flowserve Corporation develops, manufactures, and sells precision-engineered flow control equipment, as well as provides a range of aftermarket equipment services."[4] Flowserve is classified in the *Diversified Machinery* industry within the *Industrial Goods* sector. Competitors include two private companies, Dresser, Inc. and Ebara Corporation as well as ITT Corporation (ITT). Examination of the company profiles indicates that the two private companies are the most direct competition, while ITT simply has a division that covers some of the same market. The fact that the two most direct competitors are private has implications for the use of relative valuation.

Required Return

Using the parameters described in the *CAPM Variables* section above, FLS has a beta of 1.78 yielding a required rate of return (r) of 15.11%. During the valuation calculations the implied growth rates based on the market price did not require that this value be adjusted.

Market Expectations of Growth

In terms of inferring market expectations, FLS in an interesting company. Morningstar indicates that the FLS does not consistently pay dividend, having paid only three out of the last ten years. This makes the DDM inapplicable to FLS.

Additionally, since the most appropriate competitors are privately held and do not report detailed financial performance, and the fact that the industry in which FLS is placed, *Diversified Machinery*, is so broad, it is not reasonable to expect that a relative valuation model will produce reliable results.

Examination of the financials reveals significant volatility in almost every variable. This kind of volatility is consistent with a startup company, and examination of the company history indicates that while it was started in 1997, there have been significant changes in its market penetration during the last three years. For this reason, the following valuation calculations are based on a three-year history.

DDM: Inapplicable due to lack of dividends.

RIM: Using the residual income model and the earnings-day market price of $50.47, the single stage RIM indicates an expected growth rate of 10.88%. While the book value was easily calculated from the financial statements, ROE presented a difficulty. In particular, the mean and median are 21.13% and 19.78% respectively.

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[4] http://finance.yahoo.com/q/pr?s=FLS, accessed 3/11/2009 12:02 AM.

Residual Income Model			
V0 = B0 + (B0(ROE-r))/(r-g)	g=		10.88%
	r=		15.11%
	ROE=		19.78%
	BV0=	$	24.00
	V0=	**$**	**50.47**

FCFE: Inapplicable due to extreme volatility.

Price Multiples: Inapplicable due to lack of appropriate peers.

Best Model

In this case the only applicable model was the RIM. Of course I am not the only one having trouble valuing this company. The following chart covers the current analyst coverage of FLS.[5]

UPGRADES & DOWNGRADES HISTORY				
Date	Research Firm	Action	From	To
9-Dec-08	Maxim Group	Initiated		**Buy**
25-Nov-08	Banc of America Sec	Initiated		**Neutral**
7-Jul-08	BMO Capital Markets	Upgrade	Market Perform	**Outperform**
8-Apr-08	Robert W. Baird	Downgrade	Outperform	**Neutral**
1-Feb-08	Bear Stearns	Upgrade	Peer Perform	**Outperform**
20-Aug-07	RBC Capital Mkts	Upgrade	Sector Perform	**Outperform**
10-Aug-07	Friedman Billings	Downgrade	Outperform	**Mkt Perform**
12-Apr-07	RBC Capital Mkts	Initiated		**Sector Perform**
10-Jan-07	Friedman Billings	Upgrade	Mkt Perform	**Outperform**
13-Oct-06	BMO Capital Markets	Upgrade	Underperform	**Market Perform**

[5] http://finance.yahoo.com/q/ao?s=FLS, accessed 3/11/2009 1:03 AM