

4-9-2014

# A Momentum Growth Rate Model for Selected 4 Digit Industrial Groupings 2002-2012

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## Recommended Citation

"A Momentum Growth Rate Model for Selected 4 Digit Industrial Groupings 2002-2012" (2014). *Stander Symposium Posters*. 383.  
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# Large Cap Stock Price Movements: A Study in Long Term Momentum



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**Study Objective:** Develop a long term momentum model for stock price movement based on revenue and net income. We took large cap stocks from five different SIC codes including 1311, 1381, 1389, 2080, and 2082 and compared a ten year annualized compound growth rate to compound growth rates for revenue and net income.

**Research Approach:**

Cross sectional univariate regression analysis

**Time Period:**

2004-2013

**Industry Groups Analyzed:**

- 1311 – Crude Petroleum & Natural Gas
- 1381 – Drilling Oil & Gas Wells
- 1389 – Oil & Gas Field Services, NEC
- 2080 – Beverages
- 2082 – Malt Beverages

**Model Specification:**

$$CAGP_{it} = a + b(CAGR_{it})$$

$$CAGP_{it} = a + b(CAGI_{it})$$

where:

- a, b = intercept, slope coefficient
- CAGP = Compound Annual Growth Rate in Price
- CAGR = Compound Annual Growth Rate in Revenue
- CAGI = Compound Annual Growth Rate in Income
- i = i<sup>th</sup> stock
- t = time in years
- Hypothesis: Growth rates in price co-varies directly with revenue and income:  $b > 0$

**Revenue Regression**

Intercept(a):	0.0878
Slope(b):	0.7219
T-Stat:	2.3063
R <sup>2</sup> :	0.2495

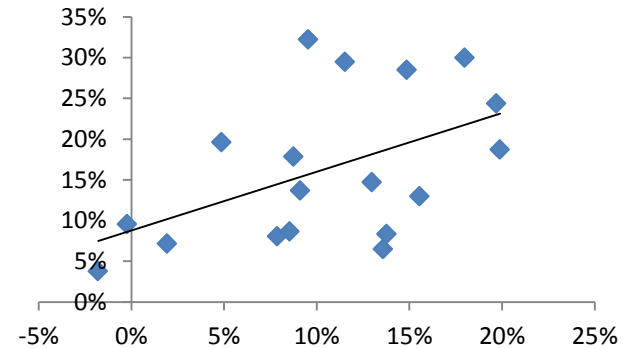
**Net Income Regression**

Intercept(a):	0.0239
Slope(b):	0.2567
T-Stat:	0.8409
R <sup>2</sup> :	0.0378

**Conclusion:**

- Revenue and price covary directly.
- Hypothesis not proved for price and income.
- Although r-square is low for the revenue regression model, the slope coefficient is robust with .7 of 1% increase in the CAGP on an annual basis.
- More sectors and stocks needed to remove small sample bias.

**Revenue vs Price Change**



**Net Income vs Price Change**

