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Determinants of Dow Jones Returns

Cory Sloan

Illinois Wesleyan University 2012

Honors Project

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Abstract

As of 2010, there was $14 trillion invested in the New York Stock Exchange (NYSE) and $55 trillion invested in stock markets worldwide. In this study, we use the Arbitrage Pricing Theory (APT) to identify the main determinants of the returns of the stocks that compose the Dow Jones for the period 1990-2011. We test several hypotheses on the relationship between firm specific variables such as Dividend Yield, Earnings Yield, Book-Market ratio, previous returns and the stock returns. We also document the relationship between several macroeconomic factors including T-bill rate, Default Spread, Term Spread, Unemployment, Real GDP and Inflation and stock returns. Our results indicate a significant relationship between Earnings Yield, Past Return, Unemployment, Inflation, Term Spread, T-bill rate, Real GDP and the stock returns.

I. Introduction:

As of January 2011, there were $14 trillion dollars invested in the New York Stock Exchange (NYSE) and $55.6 trillion invested in all stock exchanges around the world (World Federation of Exchanges, 2011). Stocks represent an investment vehicle that allows an investor to purchase an ownership share of a company. The two components of the rate of return are the dividend yield and capital gains yield. Dividends are a share of profits paid by the corporation to the shareholders while capital gains reflect price changes.

This paper uses the Arbitrage Pricing Theory (APT) to identify the primary determinants of Dow Jones stock returns. APT states that an individual stock's return is a function of its sensitivities to a number of market factors. Extant typically looks at a number of macroeconomic variables such as, T-bill rate, default spread, term spread, Real GDP and unemployment, or firm-specific ratios such as, dividend yield, earnings yield, beta, book-market ratio and past return, as the market factors (Ferson, 2008; Lewellen, 2004; Avramov & Chorida, 2006; Lyn & Zychowicz, 2004; Taulbee, 2001). Variables of both types are included in our model. This study contributes to the existing literature by using more recent data and examining stocks returns of the 30 companies that make up the Dow Jones Industrial Average (DJIA). The data collected is semi-annual data from 1990-2011.

Section II presents the theory behind the study. Section III looks at past literature on stock return predictability and how it has evolved. Section IV presents the empirical model. Section V shows the results of the study. Section VI concludes.

II. Theory

Stock price predictability is a phenomenon that has been debated for years. Proponents of market efficiency argue that as soon as any information becomes available that could help predict stock prices, then the market will quickly react and the profit opportunity disappears (Pesaran, 2003). However past literature tends to disagree as some variables are consistently found to be

significant as further explained in Section III. Arbitrage is the idea that an investor can make risk-free profits due to mispriced securities in the market. The market can theoretically be efficient, but the majority of investors do not have all the information or make trades at the ideal time which translates into the stock market realistically acting somewhat inefficiently. This leads one to assume that it is possible to predict stock returns by using current market information.

Stock returns have been intensely studied over the past decades. The initial research began around 1970 with Fama and French theorizing that stock prices follow a random walk process. This would mean that they are unpredictable and no variables would generate significant predictive power. A stock's future return would simply be random deviations from its current price. It has some merit, as Ferson (2008) found studies generating random walks from their current price can get an R-squared as high as 0.25. Beneish (2001) found a different relationship between past movements and future movements. His study found that if a stock has been increasing for 3 consecutive quarters, it will tend to keep increasing. A random walk is a very simplistic approach and past studies such as Lewellen (2004), Lyn & Zychowicz (2004), Avramov & Chorida (2006), Fama & French (2004) and Soderlind (2010) have had success in finding a number of other significant variables.

A popular competing theory created by John Lintner, William Sharpe and others, was the Capital Asset Pricing Model (CAPM). The CAPM expresses an individual stock's return as a function of the market's return and the company's sensitivity to it (beta) where rf is the risk-free rate and e is the error term.

1) $E(r) = rf + Beta(Rm-rf) + e$

Lyn & Zychowicz agree as they found beta to be highly significant in predicting returns on horizons from 1-month to 1-year but beta was not the only independent variable (2004). Although beta may be significant, it is not the sole determinant of stock returns. A more enveloping model

was developed known as the Arbitrage Pricing Theory (APT). The CAPM is merely one example of the APT as the APT does not specify what the factors on the right side of the equation are. Thus the simple APT can be expressed as:

2) $E(r) = a + B1(F1) + e$

F1 is a market factor while B1 is the individual stock's sensitivity to it. The more dominant version of the APT is known as the multivariate arbitrage pricing model where the equation allows for more than one variable on the right side. It can be expressed as:

3) $E(r) = a + B1(F1) + B2(F2) + \ldots + Bn(Fn) + e$

This is the equation that our paper will focus on as it follows a consistent format and allows for a combination of different theories. What exactly these factors are and how many of them there are is where the empirical problem exists. If one were to find out what these factors were then it would allow for arbitrage profits. If two stocks had the same sensitivities to these factors but differed in price then an investor could short sell the higher priced stock to buy a larger quantity of the underpriced stock. After holding for a term, the underpriced stock would have experienced greater returns than the higher priced stock as the price returned to its intrinsic value. The investor would then be left with a "risk-free" profit (Bodie & Kane, 2009).

III. Literature Review

APT is the dominant theory but there is a lot of room for interpretation as to what should be included on the right side of the equation. Lewellen (2004) and Lyn & Zychowicz (2004) found valuation ratios to be a key component of the model. Valuation variables are defined as financial variables divided by price. These tie in with the theory of arbitrage as they measure whether or not a stock is undervalued or overvalued. Lyn & Zychowicz (2004) incorporated a model with Beta, Turnover, Earnings Yield (EY), Dividend Yield (DY) and Book-Market Ratio (BM) to predict European Stock Returns. They look at the effect of each of these variables on returns in a 1-month, 6-month

and 1-year horizon. Beta was significant at all timeframes, which gives further proof to the findings of Fama and French (2004). Everything except turnover was significant at the 1-year time period, establishing that the valuation variables are significant on the longer horizons. Ferson (2008) concurs, stating that monthly returns are 10-15% less accurate, on average based on existing studies, than one-year returns. We use semi-annual returns instead of annual returns to increase the sample size while still retaining some of the increased significance gained from the longer horizon.

Lewellen (2004) completed a similar study on the NYSE. He tested Dividend Yield, Earnings Yield and Book-Market ratio on an annual basis as the independent variables. Dividend Yield was found to be the most significant with slight significance for EY and BM. Although he did not use Beta, his results are in line with Lyn and Zychowicz, proving that European stock returns are determined in a similar way as stocks on the NYSE.

Avramov & Chorida (2006) also found Dividend Yield to be significant. One of their finding with regards to DY is that there existed correlation between itself and the business cycle, as dated by the National Bureau of Economic Research (NBER). It was less significant in regressions that contained a variable accounting for the stage in the business cycle but still remained significant at some level. Soderlind (2010) ran a regression where DY and a recession variable generated the highest significances. This implies that even though there may be a small amount of correlation they should still both remain in the equation.

Qi (1999), Avramov & Chordia (2006) and Taulbee (2001) find success when using macroeconomic variables as predictors for future returns. Avramov & Chordia (2006) create simulations where they use investment strategies based on macroeconomic variables and compare them to strategies using fundamental variables. For their macroeconomic strategy Avramov &

Chordia use Default spread, Term spread and T-bill rate. They find this strategy to be the most accurate and all variables to be significant.

A limitation is that Avramov & Chordia only use variations of the interest rate as their macroeconomic variables (2006). Taulbee (2001) uses Real GDP, unemployment, and the Fisher effect to predict the value of the S&P 500 stock index. The Fisher Effect is nominal interest rates minus expected inflation. He finds real GDP to have a positive effect and unemployment to have a negative effect on the movements of the S&P. Even though he is estimating a stock index, the same variables that affect the index should affect the individual stocks themselves.

The majority of recent literature agrees on a number of points. Valuation ratios such as Beta, Book-Market, Earnings Yield and Dividend Yield are the best representations for the firm specific variables (Lewellen, 2004; Lyn & Zychowicz, 2004; Soderlind, 2010). Dividend Yield has been the most commonly tested due to its availability and clear effect on a stock's profitability. Studies agree on the significance on macroeconomic variables due to their effect on the economy as a whole. The Treasury bill rate, inflation and a measure for the state of the economy (i.e. Real GDP or unemployment) are commonly tested and found significant (Qi, 1999; Taulbe 2001; Avramov & Chorida, 2006).

IV. Empirical Model

The data is gathered on Dow Jones stocks from 1990-2011 on a semi-annual basis. Within this timeframe there were three periods of recession; July 1990 – March 1991, March 2001 – November 2001, and December 2007 – June 2009 (NBER, 2010). In this study the monthly and quarterly macroeconomic variables were converted into semi-annual variables. The Dow Jones stocks were chosen as it reflects the movements of the market. The past literature typically looks at the S&P 500, so this study will be one of the first to look at Dow Jones stock returns. A problem with using the Dow is that its components are constantly changing. To account for this, we cycled companies

in and out as the components of the DJIA changed. This still allows for 30 companies at each time period and it also ensures the most accurate representation of the DJIA at each of the time periods. The companies that were added and deleted are listed in Table 1 in the Appendix.

The data was gathered using YCharts.com[1] (2011). Its database contains data for both valuation variables and macroeconomics variables. A restriction of using this database was that Beta was only available for six years so it was of little use in a regression. It was significant at the 10% level over the six years, so based on that fact and extant (Fama & French, 2004), one could assume that it would be significant over the entire twenty years, but it was left out of the regression for increased observations and accuracy of the rest of the variables. Market Capitalization, a necessary requirement for calculating Book-Market ratio, was also only available for ten years on this website. The same assumption can be made as Beta. A regression was run with and without Book-Market to see differences. The variables gathered are shown in Table 2 of the Appendix.

Dividend Yield in this study is defined differently than other literature. As it was available on YCharts.com (2011), the dividend yield is annual dividends divided by current price, rather than quarterly dividends divided by price. This leads to higher dividend yields but since dividends change slowly, it should have a similar effect as in past studies.

The variables collected were chosen due to their availability and significance in past studies. In this study we also used a dummy variable for each company that accounts for fixed effects or differences between companies. The first aspect to notice is the disparity between the minimum and maximum points of the dependent variable. This large disparity is why stock return regressions typically generate a low R-squared (Ferson, 2008).

[1] www.ycharts.com

Although counter-intuitive, the term spread was negative for two periods. Guidolin and Rodean (2007) state that this occurs because long-term rates react slowly and in times of monetary contraction, the short-term rate rises above the long-term rate as it is very volatile. In the data it always corrected itself quickly and was back to normal by the next period.

V. Results

The empirical model was tested using SPSS software to run linear regressions. There is a regression containing all the variables, a regression without Book-Market and then an individual regression for each macroeconomic variable, where the independent variables are each macroeconomic variable individually, the valuation variables and the fixed effects. This is to measure the sensitivities of each macroeconomic variable to see if the significance is affected when all the variables are included. The results can be seen in table 3 in the Appendix. The Durbin-Watson statistic was calculated for each regression and was near two, ensuring that autocorrelation was not present within the residuals.

Due to data limitations, Book-Market was unable to be gathered for half of the data. It was found to be significant at the six-month timeframe in past literature (Lyn and Zychowicz, 2004), so two regressions are used to compare the differences between the time periods. Book-Market was found to be significant in our study as well which gives further support to Lyn and Zychowicz (2004). All variables remain significant between regressions with very similar coefficients and t-statistics.

The regression containing all variables generated an R-squared of 19.4%. It decreased to 16.4% when the whole dataset was used and BM was left out. The low R-squared is in line with Ferson who found R-squared to be low for stock return regressions (2008). The regression in this study generated a much higher R-squared when compared to Soderlind (2010), who had a 10.3% R-

squared. When compared to stock index studies such as Tsai & Hsiao (2011) or Taulbee (2001) our R-squared was low as they each had 79.7% and 66.9%, respectively.

The valuation variables found to be significant were in line with much of the past literature, however discrepancies existed. Dividend Yield, which Lewellen (2004) found to be the most significant of the valuation ratios, is insignificant in this study when all variables are included in the regression, even though it has the expected positive sign. This can be attributed to the fact that companies are reluctant to increase dividends as it is a long-term decision. A more common practice is to perform stock repurchases with the excess cash. Stock repurchases are when the company goes into the market and purchases its shares back from investors. This reduces the number of outstanding shares and increase EPS, which often leads to increased share prices in the future. This satisfies investors and is a one-time investment that they can reduce in times of hardship.

Earnings yield (EY) is found to be significant at the 1% level with a positive coefficient with future returns. Qi (1999) and Lewellen (2004) had similar results. One possible explanation is that stock repurchases can have an effect on EY as well as they increase EPS, which increases EY until the price increases to equalize the difference. EY can also be negative, but dividend yield cannot go below zero. This causes DY to have a difficult time predicting negative returns while EY remains unrestricted. Based on this study, EY is the best of the valuation variables at predicting future stock movements.

Past return was one of the first variables deemed to be significant in the history of stock return regressions. Our study gives strength to this as it was found to be significant at the 1% level. Beneish (2001) used a variable representing increasing returns over three quarters to be significant as well. Contrary to his study and our previous expectations, the sign in our regression is negative.

His study gave evidence to a momentum factor that if a stock was increasing, it has a tendency to continue increasing. The negative sign in this study means that when a stock increases in one period, it tends to decrease in the next period. The difference is likely to the fact that his variable was more selective in that it focused on stocks that had increased over three periods, and our variable simply stated the past return. Having a high past return may mean the stock is inflated and likely to decrease soon.

The macroeconomic variables in this study were found to be more significant than the valuation variables. This is in line with Avramov & Chordia (2006) as they found the best investment strategy to be based on macroeconomic factors. Every macroeconomic variable was significant at the 1% level except for the Log of Real GDP, 1-year T-bill and the Default Spread. Default Spread was the only macroeconomic variable that was completely insignificant. Even though it is a similar measurement to the Term Spread in that it is a measure of risk premium, it is unlikely that multicollinearity exists between the variables as when ran as the only macroeconomic variable, default spread was still insignificant. Avramov & Chordia (2006) note that regressions that used default spread as one of their macroeconomic predictors tended to outperform the market in the past. However these regressions had other variables such as term spread and t-bill rate which likely were responsible for the predictive power as they were both significant in this study as well.

Term spread was significant at the 1% level with the expected sign. It is a measure of risk such that as risk increases, stock returns can be expected to decrease. A high term spread also means that long term bonds are more attractive so money may flow from the stock market to bonds, decreasing stock returns. The T-bill rate was significant at the 5% level, with a positive relationship with stock returns. This was contrary to our preliminary predictions. It could be attributed to the fact that the t-bill is a very conservative investment while stocks are fairly risky. Based on different

investors having different risk preferences, the two equities are complements rather than substitutes for one another, allowing for a positive correlation.

Inflation was also highly significant. Our study did not use the Fisher effect or expected inflation but rather it used actual inflation. Intuitively, expected inflation, if accurate, should have a greater effect on stock prices as stock markets tend to be forward-looking. It would be less effective if the estimations were wrong however. Actual inflation has the expected sign and is significant at the 1% level. This goes along with the expected sign as inflation has a negative correlation with returns.

Unemployment and Real GDP were both significant; however they exhibit opposite signs than expected. One would expect that during a recession, when Real GDP is low and unemployment is high, that stock returns would decrease. Taulbee (2001) found this to be true in his study. Our study found the opposite to be true. This can be attributed to a combination of two phenomenons. Portfolio management strategy dictates that in times of recession that investors move to safer stocks and investment vehicles. Avramov & Chordia (2006) agree as their strategies were based on investing in momentum stocks during expansions and more stable small cap stocks in recessions. Since our study only incorporated Dow Jones stocks, which are large and relatively safe, experienced investors would move their finances to the large Dow Jones stocks rather than smaller, riskier stocks. Taulbee (2001) used the S&P 500, which has many more stocks of many different sizes than the Dow Jones does. This discrepancy amongst expected and actual signs could be attributed to labor market effects themselves. When the recession was dated over in 2009, unemployment kept increasing and GDP stayed somewhat stagnant. However the stock market began to rebound very quickly. The stock market is a leading indicator while unemployment has a lagged effect where it will take years to return to previously lower levels. This could possibly be accounted for by lagging the unemployment variable by more than 6-months.

Worth noting is that differences may exist between studies of different timeframes due to evidence provided by Fama and French (2002) and Lewellen (2004). Their datasets were very large and contained data over a long period of time, from 1872-2000 and 1946-2000, respectively. Fama and French (2004) found there to be a kink in the stock market trend where the market behaved differently from 1872-1950 and 1950-2000. Lewellen (2004) found a similar trend where the market reacted different from 1995-2000 than any time before. This hints at structural changes that could lead to different significant variables over time.

The timeframe at which the data was taken also has a significant effect. Ferson (2008) and Lyn & Zychowicz (2004) found that the longer horizons offer more accurate predictions. Our results agree. A regression is run using quarterly data rather than semi-annual and generates a much lower R-squared. The Semi-Annual R-squared is 19.1% and the Quarterly regression-squared is 9.2%. The results can be seen in Table 4 in the appendix.

VI. Conclusion

This study investigates the relationship between Dow Jones stocks and a number of firm-specific and macroeconomic variables. We contribute to the literature by using recent data from 1990-2001 and examining how companies in the Dow Jones react rather than companies in the S&P 500. We find that among specific variables, the Earnings Yield and past return are statistically significant, moreover Unemployment, Inflation, the Term Spread, the 1-year T-Bill rate and Log of Real GDP are significantly related to returns. By looking at the significant variables from this study, an investor can predict 16.4% of the variation of DJIA stock returns.

This study can be used by management of a company to increase their capital gained from a rising stock price. Possibly even more important is that management looks at the significant variables in this study to predict a future downturn in stock price.

This study leads to a number of directions for future research. Beta could be added to the firm-specific variables. The addition of stock repurchases to the firm-specific variables would better reflect a company's payout plans. A variable that could be added to the macroeconomic variables is the Real GDP growth rate. The growth rate is a percentage and may have a more accurate representation of the economy than the log of Real GDP does. Recent literature has had success when using genetic programming to create their regression and this methodology could allow for improvements of studies such as this.

While this study has limitations it does find significance in a number of variables and thus has policy implications to draw upon. As more data becomes available and new theories develop stock return regressions will most surely become more accurate. It is a complex topic but very rewarding and applicable to our economy.

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Appendix

Table 1 - Dow Jones Components

	June 8 2009	Sept 22 2008	Feb 19 2008	Nov 21 2005	April 8 2004	Nov 1 1999	March 17 1997	May 6 1991	
1									Allied Chemical
2			Chevron						Aluminum Co. of America
3									American Express
4		Kraft Foods			American International Group				AT&T
5							Hewlett-Packard		Bethlehem Steel
6									Boeing
7									Caterpillar
8									Coca-Cola
9									Du Pont
10					Pfizer				Eastman Kodak Company
11									Exxon Corporation
12									General Electric
13	Cisco Systems								General Motors
14						Goodyear			Goodyear
15									International Business Machines
16					Verizon				International Paper Co.
17									McDonald's
18									Merck
19									3M
20			Bank of America						Phillip Morris
21									Procter & Gamble
22						Microsoft			Sears Roebuck
23									Standard Oil of California
24							Johnson & Johnson		Texaco
25				AT&T		SBC			Union Carbide
26									United Technologies Corp.
27									JPMorgan
28									Wal-Mart
29									Walt Disney
30	The Travelers Companies						Traveler's Group		Westinghouse Electric

Table 2 - Data & Descriptive Statistics

Variable	Description	Mean	Std. Dev.	Min	Max	Exp Sign.
Dependent Variable:						
Return	Percent return over the upcoming 6-months	4.39%	0.195	-66.71%	107.41%	N/A
Independent Variables:						
Dividend Yield	Annual dividend as a percentage of current stock price	2.756	4.043	0	78.131	+
Earnings Yield	EPS for past 12-months divided by market price	5.189	6.978	-125.926	52.6932	+
Book-Market Ratio	Book Value Divided by Market Cap	0.375	0.344	-0.038	4.882	-
Past Return	Lagged return	4.39%	0.195	-66.71%	107.41%	+
Unemployment	Percent of workforce unemployed	5.98%	1.676	3.9	9.925	-
Inflation	Percent Inflation over period	2.68%	1.122	-0.59%	5.88%	-
Default Spread	BAA bond return – AAA bond return	1.05%	0.465	0.55%	3.43%	-
Term Spread	30-year T-bond rate – 3-month T-bill rate	1.87%	1.224	-0.61%	3.79%	-
1-Year T-Bill	1-year T-bill rate	3.60%	1.815	0.13%	7.76%	-
Log Real GDP	Log of Real GDP over current 6-months	7.05%	0.072	6.90%	7.128	+

Table 3 - Semi-Annual Regression Results

Variable	Coefficient	T-statistic	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T
	[Std. Error]	Significance	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig
Constant	0.045	1.529	0	-0.01	0.102	3.132	0.008	0.254	0.013	0.426	-0.031	-0.946	3.085	4.803	15.207	3.956	2.421	1.625
	[0.030]		[0.036]		[0.033]	***	[0.033]		[0.031]		[0.033]		[0.642]	***	[3.844]	***	[1.489]	
Dividend Yield	0.004	1.847	0.004	1.644	0.004	1.988	0.004	1.876	0.004	1.935	0.004	1.869	0.003	1.559	0	0.078	0.003	1.401
	[.002]	*	[0.002]	*	[0.002]	**	[0.002]	*	[0.002]	*	[0.002]	*	[0.002]		[0.003]		[0.002]	
Earnings Yield	0.005	4.817	0.005	4.783	0.005	4.9	1.876	4.851	0.005	4.695	0.005	4.842	0.006	5.159	0.009	4.798	0.005	4.457
	[0.001]	***	[0.001]	***	[0.001]	***	*	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.002]	***	[0.001]	***
Book-Market															0.138	2.586		
															[0.053]	**		
Past Return	-0.018	-0.577	-0.022	-0.716	-0.034	-1.08	-0.019	-0.63	-0.021	-0.67	-0.022	-0.714	-0.032	-1.047	-0.086	-2.182	-0.113	-3.656
	[0.031]		[0.031]		[0.031]		[0.031]		[0.031]		[0.031]		[0.031]		[0.039]	**	[0.031]	***
Unemployment			0.009	2.423											-0.001	5.073	0.046	5.057
			[0.004]	**											[0.015]	***	[0.009]	***
Inflation					-0.019	-3.48									-0.037	-3.811	-0.036	-7.141
					[0.005]	***									[0.010]	***	[0.006]	***
Default Spread							-0.11	-0.84							0.016	1.052	0.013	0.874
							[0.013]								[0.016]		[0.014]	
Term Spread									-0.008	-1.71					-0.051	-5.25	-0.046	-6.15
									[0.005]	*					[0.010]	***	[0.007]	***
1-Year T-Bill											0.008	2.104			-0.05	-2.318	0.028	2.419
											[0.004]	**			[0.021]	**	[0.011]	**
Log Real GDP													-0.439	-4.812	-2.107	-3.974	-0.365	-1.817
													[0.091]	***	[0.530]	***	[0.201]	*
R-squared	0.066		0.071		0.077		0.067		0.069		0.07		0.087		0.194		0.164	
Durbin-Watson	2.018		2.022		2.009		2.016		2.006		2.019		2.027		1.955		2.007	
Observations	1068		1068		623		1068		1068		1068		1068		623		1068	

*** represents significance at the 1% level

** represents significance at the 5% level

* represents significance at the 10% level

Table 4 - Quarterly Regression Results

Variable	Coefficient	T-statistic	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T
	[Std. Error]	Significance	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig	[SE]	Sig
Constant	0.016	0.939	-0.018	-0.846	0.051	2.771	0.03	1.601	0.022	1.25	-0.007	-0.352	1.552	4.256	0.154	0.186	-0.778	-1
	[0.017]		[0.021]		[0.018]	***	[0.019]		[0.018]		[0.019]		[0.365]	***	[0.830]		[0.778]	
Dividend Yield	0.004	3.443	0.004	3.214	0.004	3.356	0.004	3.511	0.004	3.54	0.004	3.549	0.004	3.301	0.003	2.969	0.004	3.051
	[0.001]	***	[0.002]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***
Earnings Yield	0.002	3.888	0.002	3.954	0.002	4.295	0.002	3.936	0.002	3.74	0.002	3.784	0.002	4.023	0.003	5.254	0.002	3.637
	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***	[0.001]	***
Book-Market															0.083	4.241		
															[0.020]	***		
Past Return	-0.089	-4.009	-0.091	-4.101	-0.097	-4.383	-0.092	-4.119	-0.089	-3.98	-0.094	-4.193	-0.1	-4.376	-0.112	-4.978	-0.13	-5.866
	[0.022]	***	[0.022]	***	[0.022]	***	[0.022]	***	[0.022]	***	[0.022]	***	[0.022]	***	[0.023]	***	[0.022]	***
Unemployment			0.005	2.405											0.032	6.36	0.034	6.748
			[0.022]	**											[0.005]	***	[0.005]	***
Inflation					-0.014	-5.375									-0.018	-5.882	-0.018	-5.853
					[0.003]	***									[0.003]	***	[0.003]	***
Default Spread							-0.018	-2.159							-0.01	-0.979	-0.009	-0.839
							[0.008]	**							[0.010]		[0.010]	
Term Spread									-0.005	-1.83					-0.024	-5.326	-0.024	-5.272
									[0.003]	*					[0.005]	***	[0.004]	***
1-Year T-Bill											0.005	2.448			0.028	4.743	0.027	4.664
											[0.002]	**			[0.006]	***	[0.006]	***
Log Real GDP													-0.22	-4.188	-0.046	-0.411	0.085	0.8
													[0.052]	***	[0.113]		[0.106]	
R-squared	0.036		0.038		0.05		0.038		0.037		0.039		0.044		0.101		0.092	
Durbin-Watson	1.985		1.995		1.998		1.985		1.984		1.988		1.993		2.022		2.019	
Observations	2020		2020		2020		2020		2020		2020		2020		1187		2020	

*** represents significane at the 1% level

** represents significance at the 5% level

* Represents significance at the 10% level