

CAN FIRMS WITH THE BEST TRAINING PROGRAM WITHSTAND THE STORM OF ECONOMIC POLICY UNCERTAINTY?

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Abstract. This study examines if firms whose training programs ranked as the best ones in the United States can withstand the changes in economic policy uncertainty. The regression analysis of monthly changes in economic policy uncertainty index, monthly returns on the CRSP value-weighted index, and monthly returns on an equal-weighted portfolio of public firms in the United States ranked consecutively from 2006 to 2011 in the top 50 of the Training Top 125 shows that the increased changes in economic policy uncertainty negatively affect the portfolio returns; however, this effect is not statistically significant at the 1% level. The result from regressing monthly returns on CRSP value-weighted index on the monthly changes of economic policy index yields a statistically significant negative coefficient at the 1% level, and this coefficient is more negative than the coefficient obtained from regressing the monthly portfolio returns on the monthly changes in economic policy uncertainty. This study provides empirical evidence of the ability of firms in the US with the best training program to withstand the storm of economic policy uncertainty better than the whole market. In other words, the findings suggest that firms with the best training program are more prepared than the whole market in responding to the changes in economic policy uncertainty.

Keywords: policy uncertainty, equity return, training, regression analysis, economic policy, market.

JEL Classification: E60, G12, G14.

Introduction

In the knowledge-based economy, sustainable success of the firms is determined by the quality of their employees who are valuable, rare, imperfectly imitable and unsubstitutable (Barney, Wright 1998; Gorman *et al.* 2004; Lopez-Cabrales *et al.* 2006; Shee, Pathak 2005; Wright *et al.* 1994). In addition to other company-related activities and programs, firms can ensure that they have access to the best talent by aggressively pursuing the best candidates through competitive recruitment strategies and by offering cutting edge training to their employees. An extensive host of research in strategic human resource management empirically documents the positive impact of training on

the firm's performance and competitiveness (Akhtar *et al.* 2008; Barney, Wright 1998; Bartel 1994; Cletcher-Gershenfeld 1991; Gerhart, Milkovich 1990; Huselid 1995; Huselid, Becker 1996; Ichiniowski *et al.* 1997; MacDuffie 1995; Sum 2009, 2010, 2011). As a result, firms that provide quality training to their employees should be able to enjoy superior benefits and outcomes, on average, in the industry. For example, Sum (2012a) draws on evidence from the capital market and shows that a portfolio of public firms with the best training program generates positive risk premiums which are positive and economically greater than the mark risk premiums for the 5-year holding period intervals. A similar study conducted by Sum (2014a) shows that an equal-weighted portfolio of public companies with the best training programs earn positive risk-adjusted excess returns (some are statistically significant) from the single-index and four-factor models for the 3-year and 5-year holding period intervals. Other core benefits from quality training include quick response to market threats and opportunities, efficiency, productivity, differentiation, and innovation (Sum 2011).

1. Background

Many researchers have investigated how various macro variables in the real economy help explain the behaviors of returns and prices in the asset markets (Cochrane 1991; Cooper, Priestley 2005; Lamont 2000; Lettau, Ludvigson 2001; Piazzesi 2005). A stream of research has studied the effect of uncertainty related to the overall economy on the performance of capital markets. Sum (2012b, 2014b) reports the negative relationship between stock market performance and the change in the economic policy uncertainty in the United States and Europe; similar findings are documented by Dzielinski (2011) and Bansal *et al.* (2005). Ozoguz (2009) studies the relationship between uncertainty among investors and stock prices and finds a negative relationship among these two variables. Pastor and Veronesi (2011) argue that stock prices should fall in response to the increase in government policy uncertainty.

This paper argues that if, as a result of training, firms are able to recognize and quickly respond to market threats and opportunities, then firms with best training program should be more prepared than the market in responding to the changes in economic policy uncertainty. Therefore, this study is set up to test this argument by drawing on evidence from the capital market. Specifically, if this argument is valid and sound, then the changes in economic policy uncertainty that negatively affect stock market returns in a statistically significant manner should not affect returns on a portfolio of firms with the best training program in the same manner as the stock market returns. The problem of the current is to test if firms whose training programs ranked as the best ones in the United States can withstand the changes in economic policy uncertainty. This study is necessary because no prior study examines the impact of training in this fashion before, and it contributes to the further understanding of the impact of training. In addition to adding vital information to the strategic human resource management literature, this study also offers useful implication for investment and risk management in the stock markets.

2. Method and data

First of all, this study constructs an equal-weighted portfolio of publicly traded companies in the United States ranked consecutively from 2006:1 to 2011:12 in the top 50 of the Training Top 125 published in the Training Magazine. Table 1 provides information about these companies. The monthly return data of each stock and CRSP value-weighted index are obtained from CRSP database. Monthly changes of economic policy uncertainty index in United States spanning from 2006:1 – 2011:12 are obtained from Economic Policy Uncertainty Index website located at <http://www.policyuncertainty.com>; the development of this index is performed by Baker *et al.* (2012). Three major components are included in the index construction; they are (1) “newspaper coverage of policy-related economic uncertainty”, (2) “the number of federal tax code provisions set to expire in future years”, and (3) “disagreement among economic forecasters as a proxy for uncertainty”. Detailed methodology of this index is available at <http://www.policyuncertainty.com/methodology.html>.

Hypotheses

For the empirical set up, this study argues that if, as a result of training, firms are able to recognize and quickly respond to market threats and opportunities, then firms with best training program should be more prepared than the market in responding to the changes in economic policy uncertainty. If this argument is valid and sound, then the changes in economic policy uncertainty that negatively affect stock market returns in a statistically significant manner should not affect returns on a portfolio of firms with the best training program in the same manner as the stock market returns. The following hypotheses are to be tested:

- Null Hypothesis 1: Changes in economic policy uncertainty have no effect on the overall U.S. stock market.
- Alternative Hypothesis 1: Changes in economic policy uncertainty have a negative effect the U.S. overall stock market.
- Null Hypothesis 2: Changes in economic policy uncertainty have no effect on the equal-weighted portfolio of firms whose training programs ranked as the best ones in the U.S.
- Alternative Hypothesis 2: Changes in economic policy uncertainty have a negative effect on the equal-weighted portfolio of firms whose training programs ranked as the best ones in the U.S.

To empirically test the above hypotheses, the monthly returns on the CRSP value-weighted index are regressed on the monthly changes in economic policy uncertainty using an OLS regression as mathematically expressed in equation 1. The expected regression coefficient is β_m negative and statistically significant. Likewise, the monthly returns on the equal-weighted portfolio are regressed on monthly changes in economic policy uncertainty using an OLS regression shown in equation 2. The regression coefficient β_p

Table 1. Firms with the best training program from 2006–2011

Name of the companies	Ticker	Industry
Aetna	AET	Insurance (accident and health)
BB&T	BBT	Regional banks
Cerner	CERN	Software and programming
EMC	EMC	Computer storage devices
Microsoft	MSFT	Software and programming
Paychex	PAYX	Business services
Verizon	VZ	Communications services

obtained from the second regression is then compared to β_p . If the argument in this study is valid and sound, then one of the following conditions must be met:

1. $\beta_p \geq 0 \geq \beta_m$ (β_m and β_p must be statistically significant at the 1% or 5% level);
2. $0 \geq \beta_p > \beta_m$ (β_m must be statistically significant at the 1% or 5% level, and β_p can be statistically significant or insignificant at the 1% or 5% level); or
3. $\beta_p = \beta_m$ (β_m must be statistically significant at the 1% or 5% level, and β_p must be statistically insignificant at the 1% or 5% level):

$$MR_t = \alpha + \beta_m \Delta EPU_t + \varepsilon_t, \tag{1}$$

$$PR_t = \alpha + \beta_p \Delta EPU_t + \varepsilon_t, \tag{2}$$

where:

MR_t = return on the CRSP value-weighted index in month t ;

PR_t = return on the equal-weighted portfolio in month t ;

ΔEPU_t = change in the index of economic policy uncertainty in the United States by taking the first difference; that is the value of economic policy uncertainty index in month t less month $t - 1$.

3. Results

Various descriptive statistics are reported in Tables 1, 2, and 3. The regression results reported in Table 4 show a statistically significant negative coefficients ($\beta_m = -0.0729013$, $t = -2.46$) obtained from regressing returns on the CRSP value weighted index on the changes of economic policy uncertainty. This indicates that the changes in economic policy uncertainty negatively affect the stock market returns; this effect is statistically significant at the 1% level. As shown in Table 5, the coefficient obtained from regressing the returns on the equal-weighted portfolio of firms with the best training program on the changes in economic policy uncertainty is negative ($\beta_p = -0.0498$, $t = -1.60$), but this coefficient is not statistically significant at the 1% or 5% level and it is greater than

Table 2. Descriptive statistics

Variables	Mean	Standard deviation	# of Obs
CRSP value-weighted index	0.3714194	5.303564	72
Equal-weight portfolio	0.7854764	5.449042	72
Changes in economic policy uncertainty index (ΔEPU)	1.678852	20.5141	72

Table 3. Correlations

	ΔEPU	CRSP value-weighted index	Equal-weight portfolio
ΔEPU	1.0000		
CRSP value-weighted index	-0.1876	1.0000	
Equal-weight portfolio	-0.2820	0.8665	1.0000

Table 4. Regression results obtained from Equation (1)

	Coefficient	Std. err.	t	Sig.
Constant	0.4938099	0.6059828	0.81	0.418
ΔEPU_t	-0.0729013	0.0296466	-2.46	0.016
R-Square	0.0795			
Adj. R-Square	0.0664			
F(1, 70)	6.05			0.016

Notes: Number of observation = 72; Durbin-Watson d-statistic (2, 72) = 1.783473.

Table 5. Regression results obtained from Equation (2)

	Coefficient	Std. err.	t	Sig.
Constant	0.869131	0.6374188	1.36	0.177
ΔEPU_t	-0.0498285	0.0296466	-1.60	0.115
R-Square	0.0352			
Adj. R-Square	0.0214			
F(1, 70)	2.55			0.115

Notes: Number of observation = 72; Durbin-Watson d-statistic (2, 72) = 1.904103.

β_m . The results satisfy the condition that supports the argument in this study that firms with best training program should be more prepared than the market in responding to the changes in economic policy uncertainty; that is: $0 \geq \beta_p = -0.0498 > \beta_m = -0.0729013$; β_m is statistically significant at the 1% or 5% level, and β_p is not statistically significant at the 1% or 5% level. The results provide evidence from the capital market that firms with best training program in place are more prepared than the overall market in responding to the changes in economic policy uncertainty.

Conclusions

Based on an extensive stream of research in strategic human resource management which theoretically and empirically documents the impact of training on the firm's performance and competitiveness, this paper argues that if, as a result of training, firms are able to recognize and quickly respond to market threats and opportunities, then firms with best training program should be more prepared than the market in responding to the changes in economic policy uncertainty. The regression analysis of monthly changes in economic policy uncertainty index, monthly returns on the CRSP value-weighted index, and monthly returns on an equal-weighted portfolio of public firms in the United States ranked consecutively from 2006 to 2011 in the top 50 of the Training Top 125 shows that the increased changes in economic policy uncertainty negatively affect the portfolio returns; however, this effect is not statistically significant at the 1% level. The result from regressing monthly returns on CRSP value-weighted index on the monthly changes of economic policy index yields a statistically significant negative coefficient at the 1% level, and this coefficient is more negative than the coefficient obtained from regressing the monthly portfolio returns on the monthly changes in economic policy uncertainty.

This study provides empirical evidence of the ability of firms in the US with the best training program to withstand the storm of economic policy uncertainty better than the whole market. In other words, the findings suggest that firms with the best training program are more prepared than the whole market in responding to the changes in economic policy uncertainty. The implication for equity investment and risk management is that during the periods of high economic policy uncertainty in the US, investors can be protected from the exposure of the increased changes in economic policy uncertainty by holding a portfolio of firms with the best training program rather than the market portfolio. This study also offers useful implication for investment and risk management in the stock markets. For instance, during times with high economic policy uncertainty, investors may consider investing in publicly traded companies whose training programs ranked as the best ones because firms with the best training program are more prepared than the whole market in responding to the changes in economic policy uncertainty.

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