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RESEARCH NOTE

A Comparative Sectoral Analysis of Managerial Compensation and Firm Performance

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We examined the relationship between Chief Executive Officer (CEO) compensation packages and firm performance, and the effect of both the 2008 crisis and introduction of the "say-on-pay" (SOP) vote in 2011 on CEO pay in the basic materials, consumer goods and services sectors. The theoretical approach to deal with the agency problem can be divided into two broad groups. In the first group are authors who assume that a CEO has a certain degree of managerial power and is able to affect the amount of total pay. The second group, on the other hand, states that high pay can be explained by natural market forces, such as a more intense competition in the market for talents (Frydman, *The Journal of Economic History*, 2007), or by rapid development in technology and growth in the company size (Kaplan, *Review of Financial Studies*, 2010). Section 14 of The Securities and Exchange Act of 1934 requires disclosure of CEO pay in relation to firm performance. It does not, however, make clear how such a relationship should be expressed.

The incentive package is measured in two ways using ex-ante and ex-post approaches in empirical research. The first one is often referred to as grant-date pay, the latter one as realized pay. Both Kaplan (National Bureau of Economic Research [NBER] 2012) and Murphy (*Handbook of the Economics of Finance,* 2012) state that realized pay is a more appropriate measure if the research goal is examination of the relationship between firm performance and the amount of CEO pay. We chose a ten-year period from 2004 to 2013 since it can be also used for the comparison of pre-/post-crisis firm performance and the amount of CEO pay during these two sub-periods. Furthermore, it serves as appropriate grounds for assessing the effect of the SOP rule on

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the amount of CEO compensations. The Securities Exchange Act was amended by the so-called Dodd-Frank Act that introduced the SOP rule and gave the stockholders a non-binding advisory vote regarding CEO compensation. According to the related SEC's rule, the first SOP vote took place at the first annual shareholders' meeting on or after 21 January 2011. We assume that the potentially negative perception of the compensation package by shareholders forces the board of directors to reduce the level of over-compensation and strengthen its ties to company performance. A weak relationship between performance and CEO pay was confirmed by many authors (e.g., Srbek and Dittrich, *Danube: Law and Economics* Review, 2016). Furthermore, conflicting results can be found in work done by Kaplan (NBER*,* 2012) and Brunarski et al. (*Journal of Corporate Finance*, 2015).

Our research questions can be summarized as follows. According to Hypothesis I, no relationship exists among firm performance measures (return on equity [ROE], earnings per share [EPS], change in share price) and CEO pay. Hypothesis II asserts that CEO pay was not affected by the financial crisis. The last research question (Hypothesis III) assumes that the SOP vote lowered the amount of CEO pay.

The study focused on publicly traded companies in the U.S. capital market. Our sample consists of 52 companies from the consumer goods sector, 24 companies from the basic materials sector, and 29 operating in the services sector. The information regarding CEO compensation packages came from the EDGAR database of the U.S. Securities and Exchange Commission.

Using descriptive statistics and the Shapiro-Wilk test for normality, we found the data to be highly skewed and far from Gaussian. Another common property was the presence of both outliers and extremes. Hence, we used a nonparametric alternative to analysis of variance to compare probability distributions and medians across sectors clustered into two groups where the grouping criteria were both pre-/post-crisis period and the pre-/post-SOP period.

No relationships were found between realized pay and a variety of performance measures including ROE, EPS, operating margin, dividends, and annual capital gain on common stock. The values are largely concentrated around the mean. Huge compensations were earned although performance did not exceed the sector average. In all three sectors, both the median realized and grant-date compensations were the same in the period before 2008 as in the post-crisis period. The comparison of medians revealed an unexpected result regarding stockholder approval of executive compensation. In all three sectors, the median realized pay was even higher than before the SOP rule, although it was only statistically significant in the consumer goods sector.