Journal of Economic Behavior & Organization 110 (2015) 59–77

Contents lists available at ScienceDirect

Journal of Economic Behavior & Organization

journal homepage: www.elsevier.com/locate/jebo

Relative pay and its effects on firm efficiency in a transitional economy

Michael Firth[a,*], Tak Yan Leung[b], Oliver M. Rui[c], Chaohong Na[d]

[a] Department of Finance and Insurance, Lingnan University, 8 Castle Peak Road, Tuen Mun, NT, Hong Kong
[b] Lee Shau Kee School of Business and Administration, Open University of Hong Kong, Homantin, Hong Kong
[c] China Europe International Business School (CEIBS), Shanghai, China
[d] Business School, Yunnan University of Finance and Economics, Kunming, China

ARTICLE INFO

Article history:
Received 28 March 2013
Received in revised form 7 November 2014
Accepted 1 December 2014
Available online 5 December 2014

JEL classification:
P2
J31

Keywords:
Productivity
Top management pay
Relative pay
Transitional economy

ABSTRACT

In this study, we examine the impact of relative pay (manager pay divided by average worker pay) on a firm's productivity. Using data from a major transitional economy, China, we find that relative pay is negatively associated with high productivity. Our results provide support for the view that workers are alienated when their incomes are far lower than that of top management and this leads to lower productivity. This effect is most pronounced in labor intensive firms.

1. Introduction

Plato: *The income of the highest paid should never be more than five times that of the lowest paid.*

Effective reward systems that relate pay to performance will enhance a firm's efficiency and economic value (Banker et al., 2013). Whether compensation systems are effective in practice has been the subject of much debate and academic study. While there are sound arguments for relating top management pay to a firm's performance (Murphy, 1999), the magnitude of the rewards has led to increasing pay disparities with other employees in the organization. This raises the interesting research question of whether the widening pay differences between top management and other employees within an organization have an impact on a firm's efficiency. The widening pay differences within a firm's work force mirrors the widening income disparities within society as a whole (OECD, 2011; Piketty, 2014). Social norms, such as those relating to relative pay, can make it difficult to design optimal incentive systems in firms (Huck et al., 2012).

There are several theories on the impact of pay disparities between top managers and other employees in the organization on workers' behaviors and these lead to conflicting predictions on the effects of relative pay on firm efficiency. One theory

* Corresponding author. Tel.: +852 2616 8950.
E-mail addresses: mafirth@ln.edu.hk (M. Firth), tyleung@ouhk.edu.hk (T.Y. Leung), oliver@ceibs.edu (O.M. Rui), chna@ynufe.edu.cn (C. Na).

http://dx.doi.org/10.1016/j.jebo.2014.12.001
0167-2681/

argues that large differences between the pay of managers and workers[1] will lead to feelings of inequity, which in turn spawn destructive behaviors that reduce an organization's efficiency (Akerlof and Yellen, 1990; Deutsch, 1985; Cornelissen et al., 2011; Williams et al., 2006). A contrasting theory is that high pay disparities may be a signal to low earning workers that their compensation could increase in the future and this will make them work harder (Clark et al., 2009). Tournament theory posits that high wage disparity is a useful motivator of work effort and encourages healthy competition among employees to achieve higher levels of both rank and pay (Lazear and Rosen, 1981). High pay disparities could reflect the relative shortage of managerial talent vis-à-vis the supply of labor (i.e., the average worker) or it could reflect the power of CEOs to award themselves very high compensation (Bebchuk and Fried, 2004; Bebchuk et al., 2011; Zingales, 2012). Empirical studies have provided evidence for all of these theories.

The purpose of this study is to examine the impact of compensation policies on the production efficiency of listed firms in China. China is a particularly interesting setting for our research because it is transitioning from a centrally planned economy to a free market system. Life-time employment practices have been abandoned and labor markets have developed rapidly. This transition represents a major challenge to China's socialist principles. Two forces are at play. In the market economy, firms have been encouraged, or forced by competition, to adopt incentive pay systems that mirror those in Western countries. Under capitalism, one way to 'solve' the agency problem created by the separation of ownership of listed companies from their control, is through executive remuneration contracts that provide an *ex ante* incentive for managers to create shareholder value by allowing the manager to share *ex post* in the gains thus obtained (Holmstrom, 1999). On the other hand, given its historical socialist principle of egalitarianism, China's government is very concerned about social unrest as it relaxes that principle. This juxtaposition of socialism and capitalism has led to China's economic system being labeled as 'capitalism with socialist principles' or 'socialist capitalism'.

Using data from the period 2001 to 2012, we find that top management pay has grown at a compound rate of 12% per year. During the same period, there has been an increase in average relative pay (top management pay divided by the average worker's pay) from 4.92 in 2001 to 5.73 in 2012. However, these averages hide a wide range of relative pay. While pay disparities in China have increased in recent years, they are still far below those seen in the U.S. and other developed countries.

We show that top management compensation is positively associated with firm performance measured by factor productivity and sales per employee. However, top management pay relative to the average worker's pay is negatively correlated with firm performance. This negative relationship is more pronounced for those firms with higher labor costs in their cost structure. We find no statistical evidence that the negative impact of relative pay on productivity is attenuated for firms located in those provinces where government intervention is high.

Our paper makes several contributions to the literature on CEO compensation. We examine the absolute and relative executive compensation on firm performance simultaneously. The results suggest that there is a sharp tension between top management interests and other workers' feelings in an organization. Managers work hard to improve firm performance when they are rewarded for doing so. However, high top management pay without reciprocal increases in pay for other employees leads to a reduction in firm efficiency. The results are consistent with increases in relative pay leading to feelings of injustice, which may alienate some workers and lead to lower productivity. These feelings of alienation somewhat mirror those reported in Firth et al. (2014) who find that there are negative consequences to firms when their controlling stockholders are included on a list of rich business people. Stock prices fall, government subsidies are reduced, and the named entrepreneurs are more likely to be investigated by the authorities. These reactions by the government are an attempt to appease the people who feel angry about the wealth of very rich people, which they believe is undeserved.

We provide evidence that is consistent with the findings in the happiness and relative income literature. At the individual level, Alesina et al. (2004) find that inequality negatively affects individual utility after controlling for individual income. Individuals may derive utility not from their absolute level of own income but rather from their level of income relative to others. Some prior research has found that the higher pay of others has a negative effect on one's reported well-being after controlling for one's own income (Clark and Oswald, 1996; Card et al., 2012). At the corporate level, we test the relations between relative income and efficiency. Our results indicate that wider disparities in pay hurt morale and productivity and result in poorer firm performance.

Finally, our analyses of what types of firms are more affected by relative pay add to the literature on the ways that firms are organized and the effects on performance. We find no evidence that the type of ownership, private or state, matters. As expected, we find that productivity in labor intensive firms is more negatively affected by high top management to worker pay differentials.

The paper proceeds as follows. Section 2 outlines the literature review and institutional background. This section describes the general framework for setting top executive pay in China. We present the research design in Section 3 and describe the sample, variable selection, and the regression models. Section 4 describes the empirical results and Section 5 presents conclusions.

[1] To ease exposition, we use the term 'management' for the top executives in the firm and 'workers' (or 'average worker') for other employees. Workers can include middle and lower level managers, engineers, and technicians, as well as unskilled labors.