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Size effect in January and cultural influences in an emerging stock market: The perspective of behavioral finance

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ABSTRACT

This study aims to explain the size effect in January with the utilization of some theoretical arguments drawn from behavioral finance, such as mental accounting and house money, in a Chinese culture-oriented emerging stock market. Under Chinese tradition, employees are rewarded with a generous bonus before Lunar New Year, most often paid in January. This gain, analogous to the concept of house money, enhances the propensity to bear increased levels of risk, which in turn stimulates the demand for higher risk securities, particularly in a market that is mainly dominated by individual investors, as in Taiwan. The empirical results are consistent with our culture bonus hypothesis, that only small firms with higher risk in the Taiwanese stock market exhibit the apparent size effect in January, especially for the years when the bonus payments were in January and when the whole market had positive performance growth in the preceding year.

1. Introduction

The small firm anomaly, documented initially by Banz (1981), which states that small firms on average experience significantly higher returns than large firms, regardless of adjusting returns for estimated betas, has been extensively investigated and still puzzles researchers, because it defies rational explanation in an efficient market. Later, Keim (1983), Reinganum (1983), and Roll (1983a) found that almost half of the annual difference between the returns of small and large firms occurs in January. In other words, the size effect is significantly larger in January than in other months. Their studies are important, as the evidence seems to suggest an anomaly within an anomaly. These seasonal-size anomalies have been examined not

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only in sophisticated stock markets such as the US, UK, and Canada, but also in the Asia-Pacific emerging markets.[2]

Yates et al. (1997) documented that people living in Asian cultures tend to suffer from more behavioral biases than those in Western cultures. Kim and Nofsinger (2008) further indicated that it will be useful to understand the cognitive biases of Asians from the perspective of behavioral finance. Especially in an emerging market of mainly individual investors rather than institutional investors, such as Taiwan, the security market is a good place to look for anomalies, and learn why they exist.[3]

Moreover, in contrast to the numerous studies related to the pattern or relationship of stock returns and firm size, there has been very limited research related to the cause of the size effect in January, although risk mismeasurement, economic cycle, different information, and tax-loss selling hypotheses have been suggested. The purpose of this paper is thus to explore the cause of the small firm anomaly in January for Taiwan, from the interaction view of culture with behavioral finance. Under Chinese tradition, employees are rewarded with a generous bonus before Lunar New Year, most often paid in January, for working hard in the past year and to encourage them to work harder in the following year. For example, in 2006 China Steel Corporation, CPC Corporation, Chunghwa Telecom, and Fubon Financial Holding Company granted bonuses equivalent to 5, 4.6, 6.6, and 5 times monthly salaries, respectively. In the literature related to seasonality, several studies have exhibited the impact of Chinese culture on Asian stock markets, namely Chinese New Year effect, that there is a consistently up-moving trend prior to the Chinese Lunar New Year (Wong et al., 1990; Cadsby and Ratner, 1992; Tong, 1992; Lee et al., 1993; Yen and Shyy, 1993; Chan et al., 1996; Yen et al., 2001; McGuinness, 2005).

We posit that the implications of these culture bonuses on the size effect in January can be developed by incorporating important behavioral features, due to the limited processing ability, which are usually neglected in previous studies.[4] First, the concept of mental accounting states that most people behave as if they have a mental accounting system which violates the principle of fungibility (Thaler, 1985, 1999).[5] Specifically, some mental accounts, such as the house money account or the windfall income account, are less risk averse than others, such as the regular income account. Second, in contrast to monthly salaries, the Lunar New Year bonus should be analogous or closer to the house money or windfall income.[6] Notably, a larger bonus than expected is more likely to be viewed as house money by investors, and this increases rather than decreases their propensity to take risk.[7] Likewise, as the Chinese New Year is an auspicious and euphoriant holiday that people generally have more optimistic prospects for the future, and thus underestimate risks, these culturally driven bonuses should increase risk-taking and willingness to buy stocks when the money is received. Thus, we predict that the Lunar New Year bonus in the form of a lump sum will be treated differently from regular income, even if being paid the bonus is a sure thing, and so it should make individuals less risk averse in January. This will cause a surge in demand for higher risk securities in a market that is mainly dominated by individuals. Moreover, in general small firms have higher risk than large ones. Therefore, we propose a culture bonus hypothesis and expect that the demand

[2] See, Lamoureux and Sanger (1989), Leong and Zaima (1991), Carroll et al. (1992), Rathinasamy and Mantripragada (1996), and Haug and Hirschey (2006) for the US, L'Her et al. (2004) for Canada, Baker and Limmack (1998) for the UK. For the Asia-Pacific region, the results have been mixed. Huang (1997) showed that the size effect in Taiwan is not only in January but also in other months, using daily returns. Chui and Wei (1998) found that the size effect in January is insignificantly negative in Taiwan, while there is a January large firm anomaly in Hong Kong. Drew et al. (2003) and Wong et al. (2006) indicated that the significant size effect is unrelated to the January effect in Shanghai's market. Other recent studies examined the existence of the size effect without considering the impact of seasonality, and reported a small firm effect for Taiwan (De Groot and Verschoor, 2002), Hong Kong (Drew, 2003), China (Wang and Xu, 2004), and a large firm effect for Hong Kong (Lam and Spyrou, 2003).

[3] Individual investors constituted 73.61% of TSE and 83.13% of OTC for Taiwan's stock markets in 2006.

[4] The term limited processing ability means that people have limitations in processing information, and thus there is a trade-off between accuracy and speed, especially for more complex tasks, such as financial activities.

[5] Mental accounting, first described by Thaler (1985), attempts to describe the cognitive process whereby people and households code, categorize, and evaluate financial activities, and it is argued that people group their assets into a number of non-fungible accounts. Furthermore, as stated by Thaler (1999), studying mental accounting helps us understand the psychology of choice.

[6] Thaler and Johnson (1990) suggested that individuals appear to increase their risk tolerance as their wealth exceeds a reference point, and this is the house money effect. Likewise, the fact that people who have private money will choose to gamble is also described as the house money effect.

[7] Several surveys of public opinion showed that the bonuses were used mainly for financial investment, saving deposits, and offering money to parents or children, in that order.