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Tournaments and managerial incentives in China's listed firms: New evidence

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ABSTRACT

The promotion tournament as a potentially important incentive mechanism for top management in transition economies has not been examined by the literature on managerial incentives. This paper attempts to fill this important gap in the literature. The paper begins with modifying the empirical predictions previously-derived from the tournament theory to the context of transition economies in which state ownership still plays a significant role in publicly-traded firms. Specifically, we test the following two hypotheses. First, the winner's prize will need to increase in order to prevent each contestant from lowering his/her effort level in the face of a larger contestant pool. Such an optimal response of the winner's prize to the size of the contestant pool is more evident for China's listed firms that are less controlled by the state. Second, the winner's prize will also need to rise in order to prevent each contestant from reducing his/her effort level in the face of greater market volatility (or more noise in the performance measure used to determine the tournament winner). Using comprehensive financial and accounting data on China's listed firms from 1998 to 2002, augmented by unique data on executive compensation and ownership structure, we find evidence in support of both hypotheses. Finally, we also find evidence suggesting that an increase in the winner's prize will result in improved firm performance due to enhanced managerial effort, and that the performance effect of the winner's prize is greater for China's listed firms that are less controlled by the state. As such this paper provides yet another piece of evidence that ownership restructuring may be needed for China to successfully transform its SOEs to efficient modernized corporations and reform its overall economy.

1. Introduction

Theorists have identified several matters concerning the managerial labor market that potentially have a vital bearing on the success of overall reform during transition (e.g. Aghion, Blanchard & Burgess, 1994). Key issues include the formation of markets for managers and the specific design of management contracts in order to contribute to improved incentive packages for managers and ultimately to result in improved enterprise productivity.

To address such key issues facing transition economies, prior studies focus on two main incentive mechanisms for top management: (i) pay-performance sensitivities (linking executive pay to firm performance); and (ii) turnover-performance sensitivities (making the probability of top management dismissal more sensitive to firm performance). Jones and Kato (1996)

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draw on panel survey data for a large sample of Bulgarian firms to report some of the first econometric evidence on the determinants of executive compensation for an economy during fading communism and early transition. Using standard specifications, the level of CEO pay was found to be positively related to size but not to profitability. In specifications adapted to transitional economies, the level of CEO compensation was found to be positively related to size and to productivity and to be more strongly tied to productivity when the firm was either corporatized or privatized. More recent studies examine such pay-performance link for top management in other transitional economies, including Jones and Mygind (2004) for Estonia; Eriksson (2005) for Czech and Slovak Republics; and Kato and Long (2006b) and Firth, Fung and Rui (2006) for China. In addition, several attempts have been made recently to estimate the sensitivities of CEO turnover to firm performance in transition economies (Muravyev, 2003 for Russia; Eriksson, 2005 for Czech and Slovak Republics; Kato & Long, 2006a,c; Liao et al., 2009 for China).

The literature on top management incentives in developed countries, however, points out that there is another potentially powerful incentive mechanism for top managers, i.e., promotion tournament. Nonetheless, the promotion tournament as a potentially important incentive mechanism for top management in transition economies has not been examined by the emerging literature on managerial incentives in transition economies. This paper is the first attempt to fill this important gap in the literature. Specifically, we use financial, personnel, and ownership information at firm level and test in the context of Chinese listed firms the empirical validity of the tournament theory developed originally by Lazear and Rosen (1981). Following the relatively small empirical literature on tournaments, all of which use data from firms in developed countries (see, for instance, O'Reilly et al., 1988; Ehrenberg & Bognanno, 1990; Main et al., 1993; Lambert et al., 1993; Baker et al., 1994; Knoeber & Thurman, 1994; Drago & Garvey, 1998; Eriksson, 1999; Bognanno, 2001; Agrawal et al., 2006; Audas et al., 2004), we begin with two previously-tested empirical predictions from the tournament model: (i) the prize of the tournament (the salary gap between the top executive and the other contestants) rises with the number of contestants in the tournament pool; and (ii) the prize of the tournament is greater in firms facing more volatile market conditions (and hence managers having less control over their performance).[1]

We then examine the effect of ownership structure on the sensitivities of the tournament prize to the size of the contestant pool and market volatility. Our OLS estimates show that the sensitivities of the tournament prize to the size of the contestant pool and market volatility are significantly greater for firms that are less state-owned, pointing to the limited relevance of the tournament model to China's listed firms with greater ownership of the state. It follows that state ownership may hinder the use of tournament as an incentive mechanism for top management in China's listed firms. Recent studies on the sensitivities of top management pay and turnover to firm performance in China's listed firms also point to the absence or weak presence of the more standard incentive mechanisms for top management (linking pay and turnover to firm performance) in listed firms that are still state-controlled (Kato & Long, 2006a,b,c).[2] As such, our new finding on the relevance of the tournament model to China's listed firms with varying degrees of state ownership and control provides yet another piece of evidence for the importance of ownership restructuring in China's current effort to create modern and efficient corporations with high quality corporate governance and adequate incentives for top management.[3]

Finally, to see if a higher prize actually results in enhanced managerial effort and hence improved firm performance, we estimate the effect on firm performance of the winner's prize for firms with differing levels of state ownership and control. To be consistent with our results on the sensitivities of the winner's prize to the size of the contestant pool and market volatility, we find that the performance effect of the winner's prize is greater for listed firms that are less controlled by the state.

The structure of the remaining part of the paper is as follows. In Section 2, we present background information on the current Chinese corporate governance system. The empirical strategy and results are discussed in Section 3, followed by the concluding section.

2. State ownership and managerial incentives

Perhaps the most distinguishing feature of firms listed on China's stock exchanges is the predominance of state ownership and control. From their beginning in the early 1990s, the stock markets in Shanghai and Shenzhen were designed mainly to help state-owned enterprises (SOEs) raise capital and reduce their debt burden rather than to promote efficient resource allocation. To this end, quotas on public listings were imposed until 2000 and public listings were reserved almost exclusively for SOEs. The policy of "grasping the big and letting go of the small," adopted at the Chinese Communist Party's 15th Party Congress in 1997, vowed support for privatization of small SOEs and opened the door for ownership restructuring for large SOEs. However, ownership restructuring of Chinese listed firms has been sluggish.[4] In 2003, the government remained the largest shareholder in over 80% of

[1] There is an important and growing experimental literature on tournaments (Bull, Schotter & Weigelt, 1987 for the first experimental test of the tournament theory; Harbring & Irlenbusch, 2005, 2008, on the size of the tournament pool; Eriksson, Teyssier & Villeval, 2009, on the variance of effort in tournament; Vandegrift & Brown, 2003 on risk-taking). Since we use non-experimental data, we draw mostly on the empirical literature on tournaments.

[2] A most recent working paper by Conyon and He (2008) provides new evidence that less state-controlled firms tend to provide their CEOs with greater equity incentives than more state-controlled firms. CEO incentives are found stronger in China's listed firms with less state control not only in cash compensation but also in equity ownership. Chi and Zhang (2010) report fresh evidence pointing to the beneficial effect on executive pay-performance sensitivities of cross-listing in Hong Kong.

[3] Zhou (2004) provides an intriguing theoretical case for the employee stakeholder model of corporate governance as applied to China's SOEs. Specifically, in the absence of privatization and the market for managers, employees under long-term employment contracts with low wage and high benefits that are tied to firm performance may play an important role of monitor of management.

[4] Naughton (1995) and Yang (1997) provide a detailed discussion on China's earlier enterprise reform from a historic perspective, while Xiao (1991), Cauley and Sandler (1992), and Choe and Yin (2000) explore economic explanations of why China's earlier enterprise reform did not often produce its intended outcome. Huang (2003) identifies the detrimental effects of China's delay in privatizing its SOEs. Megginson and Netter (2001) contain a general discussion on enterprise reform in transition economies.