Journal of Corporate Finance 17 (2011) 403–417

Contents lists available at ScienceDirect

Journal of Corporate Finance

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

Corporate governance, external market discipline and firm productivity

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ARTICLE INFO

Article history:
Received 26 July 2009
Received in revised form 23 November 2010
Accepted 13 December 2010
Available online 16 December 2010

JEL classification:
G30

Keywords:
Firm productivity
Corporate governance
External market discipline

ABSTRACT

Using a sample of Australian companies over the 2000–2005 period, we examine the impact of internal corporate governance on firm's total factor productivity, taking into account the interaction between internal governance and external market discipline. Our empirical findings point to a substitution effect between product market competitiveness and firm-level corporate governance. Overall, internal corporate governance mechanisms – more efficient boards and greater CEO stock-based compensation – are effective instruments for improving firm productivity. However, internal governance is less effective when a firm faces a highly competitive product market. We find only weak empirical support for an association between firm's ownership structure and productivity, and no support for an association between industry takeover intensity and firm productivity.

> "Productivity isn't everything, but in the long run it is almost everything."
> –Paul Krugman, 1990, The Age of Diminished Expectations

1. Introduction

Does a firm's choice of internal corporate governance measures influence firm performance? There has been a growing empirical literature on the link between corporate governance and firm performance. This paper builds on this literature by considering the differential effect of internal corporate governance on firm performance, taking into account the influence of external market discipline faced by the firm (in terms of product market competitiveness and an active market for corporate control). In contrast to the existing literature, we measure firm performance using total factor productivity (*TFP* henceforth).[1] Productivity, defined as the residual production output beyond and above the contribution of input costs, is arguably a better measure of the firm's real economic performance. Given that prior literature has established that good internal governance is related to better financial profitability and higher market valuation,[2] one would expect that good governance also has a positive impact on the underlying determinant of firm value, namely, productivity. The primary purpose of this study is to fill in this gap in our knowledge, to address whether good internal governance indeed helps improve firm productivity.

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[1] The exceptions are Hill and Snell (1989), Palia and Lichtenberg (1999), and Barth et al. (2005) who utilized total factor productivity in considering the influence of ownership structure on firm performance. Total factor productivity has been used elsewhere to consider the impact of leverage (Kim and Maksimovic, 1990) and bankruptcy (Maksimovic and Phillips, 1996) on firm performance.

[2] For example, Jensen and Murphy (1990), Hartzell and Starks (2003) and Core et al. (1999).

0929-1199/$ – see front matter
doi:10.1016/j.jcorpfin.2010.12.004

Further, we draw upon another strand of literature that documents a link between industry-wide competitiveness and firm-level internal corporate governance instruments, such as managerial incentive schemes (Aggarwal and Samwick, 1999), business combination laws (Giroud and Mueller, 2010) and anti-takeover provisions (Chou et al., 2008). We explicitly examine whether the degree of external market discipline affects the link between internal governance and firm productivity.

Australia, like the US, is a common law country with a well developed capital market, albeit smaller. The conventional wisdom is thus to classify Australia as having an “outsider system”, similar to that evidenced in the US. However, Australia's corporate governance is more representative of an “insider system” (Dignma and Galanis, 2004). Firstly, shareholdings in Australia are more concentrated, with many corporations having large blockholders (La Porta et al., 1999; Lamba and Stapledon, 2003). In our sample, the average firm has an ownership concentration ratio of 35% (measured as common stocks held by insiders). Secondly, executive compensation in Australia is less tied to stock performance. In our sample, the CEO of an average firm receives only 6% of total pay in shares or stock options while 73% remuneration in the forms of fixed salary or cash bonus. Thirdly, Australian corporate boards have a long tradition of separating the roles of chairman and the CEO. Furthermore, given that the Australian equity market is relatively small and corporate ownership is concentrated, it is not always feasible (or sensible) to have complete board independence. In our sample, the average Australian corporate board has 5 to 6 directors, with majority being non-executive directors. Whilst Australian companies face product market competition that is comparable to their US counterparts, takeovers (in particular hostile bids) are less common in the Australian market.[3]

In sum, these institutional differences suggest that Australia represents as an ideal laboratory to examine the influence of internal corporate governance and external market discipline on corporate productivity.

In the first part of our empirical analyses, we define and calculate *TFP* for a sample of Australian companies over the period of 2000 to 2005. In the second part, we examine how *TFP* is impacted by various elements of internal corporate governance (board characteristics, ownership structure, and CEO compensation), different proxies of external market discipline (product market competition and takeover threat) and their interactions.

Our main finding is that internal corporate governance matters, but the extent depends on the external market environment. Overall internal corporate governance is an effective instrument to improve firm productivity. Firms with more efficient boards and higher CEO stock-based compensation have higher productivity than otherwise. However, internal governance is less effective when a firm faces a competitive product market. There is a strong substitution effect between internal governance and external competition. Further, we find only weak support for a relationship between ownership structure and productivity. Our results are robust to various model specifications and controlling for a number of firm-level factors and fixed effects.[4] In summary, our findings are consistent with the argument, dating back to at least Alchian (1950) and Stigler (1958), for a substitution effect between internal corporate governance and external market discipline, measured as the level of industry-wide competition. However, we find no association between the level of industry-level takeover intensity and the effectiveness of internal governance.

This study adds to the existing literature in several ways. Firstly, beyond ownership structure that has been examined in existing studies concerning the relationship between corporate governance and firm productivity, we examine the roles played by boards and managerial incentive contracts. Our findings indicate that board structure is of particular importance. Secondly, we test, explicitly, the importance of external market discipline and how it interacts with internal governance in determining firm productivity. We provide empirical evidence in support of the argument that product market competition serves as a substitute for internal governance. We control for unobservable firm heterogeneity, therefore ensuring the robustness of our results. Finally, this study is the first to integrate corporate governance and productivity literature in the context of the institutional differences in the Australian environment, complementing prior studies that focus primarily on the U.S. corporate environment.

The rest of the paper is organized as follows. Section 2 reviews relevant literature and summarizes key testable hypotheses. Section 3 describes the data and presents descriptive statistics. Section 4 outlines our empirical framework, presents the main findings and discusses robustness checks. We conclude with Section 5.

2. Related literature and testable hypotheses

Our paper is related to several strands of existing literature — measuring firm performance based on productivity, the role of internal corporate governance in enhancing firm performance, and how external market discipline impacts the relationship between the firm's internal governance and firm performance.

Productivity represents improved efficiency in a firm's economic performance, after taking into account the contribution of input costs. It has long been recognized in economics that total factor productivity is a significant component of economic growth at the firm level.[5] However, is firm productivity related to firm value? Palia and Lichtenberg (1999) find a positive correlation between total factor productivity and firm value (measured as Tobin's Q). Whilst good internal governance has been found to enhance firm value, it remains to consider the impact of internal governance and external market discipline on firm productivity.

[3] During the period of 2000 to 2005, the US market was far more active that the Australian market, with the number of tender offers in the US market representing 167% of the total number of listed firms, whereas is Australia the number of tender offers represented only 74% of the total number of listed firms.

[4] An analysis of the link between firm productivity and corporate governance does raise endogeneity concerns. In particular, biases introduced by the effect of unobserved firm characteristics are a real possibility. While estimating fixed effects panel regressions potentially addresses this issue, one should interpret these results with some caution.

[5] For a summary of the literature linking economic growth and total factor productivity both at the firm and economy wide level, see Hulten (2000).