Journal of World Business 49 (2014) 372–385

Contents lists available at ScienceDirect

Journal of World Business

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

Corporate governance, globalization and firm productivity

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ARTICLE INFO

Keywords:
Corporate governance reform
Globalization
Productivity
Korea

ABSTRACT

We examine the relationship between globalization, corporate governance and firm productivity. The results, using longitudinal data from Korea, indicate that the positive effect of liberalising equity ownership on firms' total factor productivity (TFP) was reinforced by indirect managerial effects when a firm improved its corporate governance. Our findings also confirm that the interaction of the managerial effect with increased foreign equity ownership is more significant than interaction with exports, suggesting that liberalising foreign investment in the host market is more effective in capitalising on the potential benefits of corporate governance reform than increasing exports to overseas markets, reflected in learning by exporting.

1. Introduction

Asian corporations have come to play a significant role in the global market (Peng, Bhagat, & Chang, 2009), but have proved vulnerable to financial shocks (Forbes, 2004). Recurrent financial crises have highlighted the importance of corporate governance and managerial effort in improving firm productivity in a rapidly globalising Asia. The purpose of this article is to examine the association between corporate governance, globalization and a firm's total factor productivity (TFP) by disentangling total effects into direct and indirect effects. To realize our purpose, we use longitudinal data for Korea, where firms' level of globalization, measured by foreign equity ownership and exports, and corporate governance systems have changed significantly since the 1990s. Most existing corporate governance studies examine the relationship between corporate governance and share price or accounting performance.[1] In contrast to the existing literature on accounting profits and/or share price effects of corporate governance, we examine the real consequences of changes in corporate governance, measured in terms of effects on a firm's TFP.

There is a large literature on the factors that drive TFP improvement at the firm level. Syverson (2011), who presents a comprehensive survey, states that the extant literature has suggested that there are several internal and external drivers of differences in firm level TFP. The internal drivers are managerial talent, the quality of general capital and labor inputs, research and development and information technology, learning by doing, firm structure decisions and product innovation. The external drivers are productivity spillovers, intra-market competition, industry deregulation, flexibility of input markets and trade competition. Hayakawa, Machikita, and Kimura (2012) present a review of the large number of studies which have just considered the relationship between globalization and firm level TFP. Their survey defines globalization in terms of the firm's exports and imports, firm's outward investment, foreign investment in the firm and trade liberalization/import competition in the industry in which the firm operates. Their review of the literature suggests that engaging in trade (exporting and/or importing), outward investment and inward investment into the firm contributes positively to firm TFP. Trade liberalization has asymmetric effects on TFP; trade liberalization at home reduces firm survival at home, forcing out low productivity firms, while trade liberalization in foreign countries decreases the productivity threshold for exporting and raises survival rates. Another measure of globalization that has been used in the context of firm-level TFP studies is outsourcing. For example, Girma and Gorg (2004) found that outsourcing to foreign firms had a positive effect on TFP in UK manufacturing firms.

Compared with the vast international evidence on the determinants of firm-level TFP, the evidence for Korea is relatively

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[1] Most of the existing literature suggests a positive association between corporate governance and accounting performance (see Morck, Wolfenzen, & Yeung, 2005; Perez-Gonzalez, 2006 for surveys). Studies of Korean firms based on this approach have produced similar results. Joh (2003) explored changes in accounting profits associated with corporate governance failure in Korean firms before the 1997 financial crisis. Black, Jang and Kim (2006) reported that the share price of a firm increased sharply with the appointment of outside directors to more than 50 percent of positions on the board. Park and Kim (2008) reported that the effectiveness of appointment of outside directors on firms' financial performance is bound to the institutional context created by government regulation.

1090-9516/$ – see front matter
http://dx.doi.org/10.1016/j.jwb.2013.07.004

scant. Oh (2011) examined the determinants of firm-level TFP in Korean manufacturing over the period 1993 to 2003. His results suggest that market competition, research and development (R&D) activities, export activities and product innovation were the main drivers of TFP. Heshmati and Kim (2011) found that investment in R&D had a positive effect on TFP in Korean firms over the period 1986 to 2002. Kim (2013) found that corporate taxes had a negative effect on Korean firm productivity over the period 1980 to 2010. Other studies compare firm level TFP and its determinants in Korea with its Asian neighbors (Fukao, Inui, Ito, Kim, & Yuan, 2011; Kim & Ito, 2013). Fukao et al. (2011) found that TFP levels in Chinese and Korean manufacturing firms were lower than in Japanese manufacturing firms, but Korean firms were catching up to their Japanese counterparts. By contrast, Kim and Ito (2013) found that average TFP in Korean firms was not catching up to Japanese firms. Their explanation for this finding is that while the rate of return on R&D activities is higher for large/productive Korean firms than Japanese firms, the rate of return on research activities for smaller/less productive firms is the same in the two countries.

We extend the existing literature on the determinants of firm-level TFP in that our focus is on the association between globalization and productivity together with corporate governance in order to analyse indirect managerial effects. This approach enables us to investigate the channel through which globalization affects productivity and, in particular, allows us to examine the importance of managerial effort as a determinant of different input combinations and in shifting the production function. Our focus on Korean firms to study this relationship is important in view of the studies by Doidge, Karolyi, and Stulz (2007) and Aguilera and Jackson (2003) that demonstrated that country-specific factors are important in understanding corporate governance. Korean listed industrial firms have experienced dramatic change in both their degree of globalization and corporate governance system, which presents a different, and very relevant, context from that of stable advanced economies.

Our estimation uses firm-based data, rather than country-level aggregated data that allows us to estimate firm productivity using Olley and Pakes' (1996) estimation methods in order to minimize possible simultaneity biases (Levinsohn & Petrin, 2003). The appointment of outside directors in Korea is somewhat arbitrary. The amended Listing Act requires that in all listed firms outside directors should represent at least 25 percent of its board members. However, actual appointments differ; some did not meet this 25 percent requirement and some did not appoint outside directors at all. This may cause an endogeneity problem. We employ the GMM method of instrument variable estimation to address the possible endogeneity problem associated with the appointment of outside directors in robustness checks.

We follow Sutcliffe and Glyn (2003), in their entry on measures of globalization in the *Handbook of Globalisation*, and define globalization as the increasing international integration of economic activity. In firm level studies of TFP, globalization has been measured in at least six ways (firm's exports, firm's imports, firm's outward investment, foreign investor's equity ownership in the firm, firm's outsourcing overseas and import penetration/trade liberalization). Trade liberalization is sometimes divided into subcategories, such as import penetration from low-wage countries and imports from other countries in the industry in which the firm is located (see Kneller, McGowan, Inui, & Matsuura, 2012).

We focus on foreign ownership and exports as our measures of globalization. We do so because our dataset does not have measures on the other measures of globalization that have been used in various firm-level TFP studies. We believe, none the less, that these measures are useful proxies for globalization in the Korean context. This reflects the fact that both foreign equity ownership and exports are generally recognized as having had the most important roles in terms of globalization of the Korean economy (Turner & Kim, 2004; Page, 1994; Pack & Page, 1994).

Korea is regarded as one of the most successful examples of export-led industrialization. Exports as a percentage of GDP increased from 3.2 percent in 1960 to 56.2 percent in 2011 (World Bank, 2013). Foreign direct investment was minimal from the 1960s to mid-1980s, but started to increase with liberalization of investment policies in the 1990s. Since the onset of the financial crisis in 1997, the Korean government has been active in its efforts to attract foreign direct investment to Korea; passage of the Foreign Investment Promotion Act in 1998 greatly facilitated these efforts. The Act opened up 99.8 percent of Korea's industries to foreign investment and provided significant protection for investors' interests. Under the Act, foreign investors also receive incentives including tax breaks and cash grants. Thus, foreign direct investment in Korea increased from $U.S. 100 million at the beginning of the 1980s to $U.S. 3 billion in 1997 to $U.S. 16.3 billion in 2012 (MOTIE, 2013).

While these figures remain modest relative to some of Korea's neighbors, such as China, foreign direct investment has played an important role in facilitating Korea's industrialization; it has substantially contributed to the success of its export-led strategy and been important in upgrading local technological capabilities. Industries, such as heavy machinery, petrochemicals and petrol refining would never have been established in the absence of foreign direct investment. Foreign direct investment was instrumental in establishing fast-growing export lines, such as electronics (Nicholas, 2003; Turner & Kim, 2004). In this sense, it is a good indicator, along with exports, of how globalization has restructured the Korean economy.

Corporate governance is a general term referring to institutions designed to monitor the actions of management with a view to mitigating the adverse effects of agency risk. In this article, we focus on one particular aspect of corporate governance, which is the appointment of outside directors and the ratio of outside directors to board members. Our primary reason for relying on this particular proxy is, as with our proxies for globalization, access to data. We use firm level data to analyze the relationship between corporate governance, globalization and TFP and the proportion of outside directors is the only characteristic of corporate governance that is available in such datasets for Korea. There is no publicly available data, at least at the firm level, which captures the multiple elements of corporate governance in Korea.

While the decision to use outside directors as our measure of corporate governance is dictated by data availability, we still believe that it is a very good proxy for corporate governance in the Korean context. First, as outlined in more detail in the next section, the proportion of outside directors in Korean companies has been the most important feature of corporate governance in Korea. Given this importance, it is the component of corporate governance in Korea that has attracted the most attention. Second, in focusing on the proportion of outside directors as our measure of corporate governance, we follow the literature which has examined the relationship between corporate governance and firm activity in Korea (Choi, Park, & Yu, 2007; Black et al., 2006; Kim & Lim, 2010; Chizema & Kim, 2010; Min & Verhoeven, 2013).

Foreshadowing our main results, we find that the effects of globalization on firm productivity are larger in firms with more outside directors and that this relationship is stronger when globalization is measured in terms of foreign equity ownership than exports. This result suggests that liberalizing foreign investment in the host market is more effective in capitalising on the potential benefits of corporate governance reform than increasing exports to overseas markets.