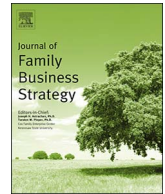




Contents lists available at ScienceDirect

Journal of Family Business Strategy

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

Family firms, internationalization, and national competitiveness: Does family firm prevalence matter?

Michael Carney^{a,*}, Patricio Duran^b, Marc van Essen^{c,d}, Daniel Shapiro^e

^a John Molson School of Business, Concordia University, 1445 De Maisonneuve Blvd. West, Montréal, Québec, H3G 1M8, Canada

^b Business School, Universidad Adolfo Ibáñez, Santiago, Chile

^c Darla Moore School of Business, University of South Carolina, United States

^d EMLYON Business School, France

^e Beedie School of Business, Simon Fraser University, Burnaby, British Columbia, Canada

ARTICLE INFO

Keywords:

Family firms
International strategy
Competitiveness
International trade
International investment

ABSTRACT

We revisit the question of family firms (FFs) and their capacity for internationalization, and link it to the literature on national competitiveness. We draw widely on the FF competitive advantage and internationalization literature to argue that FFs' organizing preferences and capabilities will typically support exporting and that these same organizing preferences will mitigate against outward FDI, two dimensions of national competitiveness. Using the logic of aggregation, we hypothesize that family firm prevalence (FFP), measured at the country level, negatively moderates a series of country-level variables associated with country outward FDI, and positively moderates a series of variables associated with country exports. We develop a unique dataset on FFP across countries using a novel method in which we extract estimates from both published and unpublished academic studies. We develop empirical tests that are rooted in Porter's Competitive Advantage of Nations (Porter, 1990), and its extensions in the Global Competitiveness Index (GCI). Our results provide consistent confirmation of the positive moderator effect of FFP on country export performance hypothesis, but contrary to expectation, higher FFP in a country has a null or positive effect on outward FDI at the country level, thus suggesting a more nuanced view of FF strengths and weaknesses. We conclude by discussing the implications of these results for both the competitiveness and the FF literatures.

1. Introduction

Whether and to what degree family firms (FFs) are able to successfully develop internationally competitive strategies is an open question in the literature. A significant strand of the literature identifies several factors that could disadvantage FFs in their quest to succeed internationally: their failure to professionalize management (Chandler, 1990), their unwillingness to adopt efficient management practices (Bloom & Van Reenan, 2007), and concerns that internationalizing will erode family socioemotional wealth (Gomez-Mejia, Makri, & Kintana, 2010). In addition, it is sometimes argued that relational ties, a characteristic of FFs, are likely to be strongest in the firm's domestic market and given that these domestic network ties are sticky and deeply embedded, firms may become entrenched in their home markets (Lincoln & Gerlach, 2004).

However, other family business scholars provide a more sanguine view of FFs' capacity to develop internationally competitive capabilities (Arregle, Duran, Hitt, & van Essen, in press). According to these

perspectives, FFs do possess characteristics that can in principle be translated into success abroad including long-term orientation and ability to support innovation, (Duran, Kammerlander, van Essen, & Zellweger, 2015), particularly, when part of a business group, (Castellacci, 2015) and a capacity for using social capital to effect international strategy (Carney, Dieleman, & Taussig, 2015; Erdener & Shapiro, 2005), often in countries where institutions are weak (Miller, Lee, Chang, & Le Breton-Miller, 2009). Other studies suggest that family ownership does not inhibit internationalization if family owners are able to involve outsiders in their governance (Arregle, Naldi, Nordqvist, & Hitt, 2012). Given the conflicting theory and expectations, it is perhaps unsurprising that several recent literature reviews of the FF-internationalization relationship find mixed and inconsistent evidence regarding FFs and their internationalization capacities (Kontinen & Ojala, 2010; Pukall & Calabro, 2014).

In this paper, we revisit the question of FF internationalization capacities and evaluate it using the lens of Michael Porter's landmark study *The Competitive Advantage of Nations* (CAoN) (Porter, 1990) and

* Corresponding author.

E-mail addresses: Michael.Carney@Concordia.ca (M. Carney), patricio.duran@uai.cl (P. Duran), marc.vanessen@moore.sc.edu (M. van Essen), dshapiro@sfu.ca (D. Shapiro).

<http://dx.doi.org/10.1016/j.jfbs.2017.06.001>

1877-8585/ © 2017 Elsevier Ltd. All rights reserved.

its extension and empirical refinement in the Global Competitiveness Index (GCI) (Schwab, 2014). Porter pointed to the interaction between country specific factors and firm strategy and structure as drivers of national competitiveness, and we develop this part of his model by exploring the impact on country competitiveness of cross-country differences in family firm prevalence (FFP), measured as the extent to which a nation's firms are comprised of family owned and controlled firms. The prevalence of FFs has become a meme in the literature with claims that “family firms are the oldest and most prevalent type of firms all over the world” (Miralles-Marcelo, del Mar Miralles-Quirós, & Lisboa, 2014: 158) and that “family firms are the prevalent form of business worldwide” (Bassetti, Dal Maso, & Lattanzi, 2015: 219). While the oft repeated claim is familiar, the implications are little investigated. We focus on FFP as a form of ownership identity, comparable to state or foreign ownership, and an often neglected dimension of competitive advantage (Thomsen & Pedersen, 2000). Specifically, we use the GCI framework to examine the degree to which FFP, measured at the country level, is related to two indicators of national competitiveness: exports and outward FDI. Since the publication of CAoN in 1990, both international trade and international investment outflows have increased dramatically, the former nearly five-fold and the latter over four-fold (<http://unctadstat.unctad.org/>, retrieved January 12, 2016). Accordingly, we consider the implications of the prevalence of family ownership and control for the export and outward FDI performance of a country, variables associated with the competitive advantage of nations.

Thus, whereas the literature on FF internationalization is focused on the firm level of analysis, in this study, we take a different approach by focusing on country-level measures of international competitiveness and consider the moderating effects of FFP on factors associated with exports and outward FDI. To explore these relationships, we propose that FFs have certain characteristics that provide advantages and disadvantages with respect to foreign market entry modes. In particular, we expect that compared with other types of firms, FFs will enjoy efficiency *advantages* with respect to export-related activities and, contrarily, relative *disadvantages* in managing more complex organisational structures associated with foreign direct investment. Accordingly, we hypothesize that with respect to our two measures of international competitiveness, FFP will negatively interact with GCI competitiveness drivers to depress national levels of outward FDI but will interact positively with competitiveness drivers to enhance export performance.

In order to effect test these hypotheses, we develop a unique dataset on FFP across countries using a novel method in which we extract estimates from published and unpublished academic studies. Our results indicate that consistent with our hypothesis, the presence of FFs does enhance a country's export performance, pointing to the strengths of FFs in organizing activities leading to exports. However, contrary to our hypothesis we find no strong evidence that FFP is negatively associated with outward FDI at the country level, suggesting that at least some FFs do develop the sophisticated capabilities required for successful international investments.

Our contributions, are therefore, twofold. Our first contribution is to the family firm literature and in particular that part of it that focussed on their internationalization. By focussing on distinct modes of international entry, we emphasize the differential advantages required for exporting and outward FDI. We, therefore, offer a more nuanced view of international capabilities of FFs, one that distinguishes capabilities associated with exporting from those associated with outward FDI. Thus, we argue that FFs have both strengths and weaknesses, and these may influence FF strategic choices with respect to international activities, and thus, the role of FFs in the world of the global factory (Buckley, 2009; Buckley & Strange, 2015). Our second contribution is to provide greater definition to unmeasured and untested assertions made about the value of FFP in the economy, and to thereby further understanding of the nature and determinants of national competitiveness. In this case, we incorporate the prevalence of a particular owner identity

as a moderating factor to country-level determinants of international competitiveness as defined in the GCI. Although Porter did point to firm strategy and structure as being country-specific factors that might impact the international competitiveness of its firms, its importance has not been widely studied. We develop this part of his model by exploring the impact of cross-country differences in FFP.

We proceed as follows: The next section reviews Porter's ideas regarding international competitiveness. We then consider the FF internationalisation literature differentiating between exporting and outward FDI as internationalization modes in order to arrive at our conclusions regarding the international capabilities of FFs and the impact of FFP on national competitiveness. We discuss the methods and data used to test our hypotheses, and then present the results. We conclude with an extended discussion of our findings and their implications for future research.

2. Porter and international competitiveness

In *The CAoN* Porter poses the question: ‘why does a nation become the home base for successful international competitors?’ (1990: 1). The question is intriguing because it suggests a national or country-specific basis for firm-level competitive advantage. Established theories at that time viewed the firm's international strength in terms of various firm-specific advantages such as its market power and proprietary organizational and technical capabilities (Hymer, 1976; Vernon, 1979) or the firm's ownership of unique assets such as brands and patents (Dunning, 1981; Teece, 1985). In contrast, Porter hypothesized the existence of advanced country-specific factors that interact with firm-specific attributes to provide advantages to both domestic and foreign firms located in that country by creating the conditions under which firms innovate and upgrade their capabilities.

Porter introduced the now familiar diamond model suggesting that country-specific conditions, such as factor endowments, demanding consumers, and clusters of supporting industries, interact with firm strategies and structure, to determine the export and outward FDI performance of domestic firms. Under Porter's leadership the diamond model became the theoretical basis for the GCI (Schwab, 2014), which introduced a more finely grained framework incorporating 12 country competitiveness drivers including the quality of institutions and infrastructure, market efficiency, human capital and financial market development, and several ‘business sophistication’ indicators such as firms' control of international distribution, firm innovation, firm reliance on professional management and the state of cluster development. Importantly for this paper, Porter argued that the international competitiveness of a nation's firms is reflected in their participation in the global economy through trade and investment and he proposed that the ‘best measures of international competitive advantage were either (1) the presence of substantial and sustained exports to a wide array of other nations and/or (2) significant outbound foreign investment based on skills and assets created in the home country’ (1990: 25). We later employ these measures in our analysis.

Porter was also aware of the importance of firm ownership, stating that ‘company goals are most strongly determined by owner identity, the motivation of the owners and holders of debt, the nature of corporate governance, and the incentive processes that shape the motivation of senior managers’ (1990: 110). For example, Porter accepted the consensus view that government ownership was unlikely to produce competitiveness. He dwelled at some length on the virtues of the export-intensive, FF dominated industrial clusters of northern Italy, and also recognized the governance structures and long-term orientation of German and Japanese firms. However, for the most part the CAoN contains no systematic analysis of owner identity and its effects on the competitiveness of either a country or its leading firms. Subsequently, research has accumulated concerning the competitive strengths and weaknesses of different types of owners (Gedajlovic & Shapiro, 1998; Goldeng, Grünfeld, & Benito, 2008; Munari, Oriani, & Sobrero, 2010;

Thomsen & Pederson, 2000) and considerable attention has been devoted to the relative competitive strengths of FFs relative to non-FFs in terms of their international competitiveness (e.g. Miller, Le Breton-Miller, Lester, & Cannella, 2007; Schulze, Lubatkin, Dino, & Buchholtz, 2001). However, these studies have not been linked to the question of national competitiveness.

3. Family firms and internationalization: FDI vs exporting

Existing discourse in family business research typically treats internationalization as a singular concept, used interchangeably with respect to the mode of internationalization. However, there are multiple methods of international activity defined by different modes of foreign entry, and the optimal choice is contingent upon both institutional and organizational factors (Brouthers, 2002). In this section, we develop the argument that the ability of FFs to engage in two distinct types of internationalization (exporting and outward FDI) is quite different. Based on the transactions cost theory of family firms, suggesting that FFs possess both competitive advantages and disadvantages that shape the kind of organization structures and activities they are capable of managing (Gedajlovic & Carney, 2010), we reason that, other things being equal, FFs' structural capabilities are best adapted to an exporting strategy of internationalization, but are likely to present obstacles with respect to outward FDI.

We begin with the logic of our argument regarding outward FDI. The international business literature suggests that the ability of a firm to successfully engage in and manage outward FDI depends on a firm's capacity to develop firm-specific assets that can be transferred abroad (Dunning, 1981) together with an international organization with robust and complex levels of control and coordination, including matrix and multidimensional structures (Bartlett & Ghoshal, 1989; Buckley & Strange, 2015; Strikwerda & Stoelhorst, 2009). In addition, in order to operate and optimise the functioning of complex transnational structures, the firm will require a cadre specialists and professional managers (Buckley & Casson, 2010; Chandler, 1977). Thus, the ability to produce abroad (FDI) requires high levels of business sophistication with respect to internal management processes, management of international distribution channels, and the capacity to innovate to create firm-specific advantage. We later link these capabilities to comparable dimensions of the GCI.

However, for several reasons, FFs often lack these capabilities, notably with respect to management. First, FFs are noted for their reluctance to trust and delegate responsibilities to professional managers and other expert technical and research staff (Fernandez & Nieto, 2006; Gomez-Mejia et al., 2010; Sciascia, Mazzola, Astrachan, & Pieper, 2012; Verbeke & Kano, 2012), which subsequently harms their ability to compete in industries characterized by global scale and scope (Chandler, 1990). Consequently, FFs have difficulty in recruiting and retaining the skilled and professional human resources needed to manage international organisations and broad value chains. Secondly, evidence from multiple countries suggests that family managed firms, especially when the eldest son occupies the CEO position, tend to adopt unsophisticated management practices with respect to goalsetting, production management, and attracting and retaining high-quality employees (Bloom & Van Reenan, 2007). Third, FFs have been shown to underinvest in technological capability (Patel & Chrisman, 2014), which can deprive the firm of the resources needed to pursue innovation (Nohria & Gulati, 1996) and harm development of firm-specific advantages. All of these factors suggest that FFs on average are less able to develop the organizational capabilities or firm-specific advantages required to become successful foreign investors. Moreover, some of the competitive capabilities often ascribed to FFs can actually be disadvantageous in managing FDI. For example, close contact among family members promotes immersion, learning by doing and observation, and facilitates intra- and intergenerational transmission of tacit knowledge (Cabrera-Suárez, De Saá-Pérez, & Garcia-Almeida, 2001),

including an understanding of family members' performance capabilities (Bjuggren & Sund, 2001). However, tacit knowledge is sticky to individuals, and effective transfer across geographic boundaries requires knowledge to be codified (Szulanski, 1996), since codified knowledge enables high fidelity replication of organizational routines (Winter & Szulanski, 2001). For all these reasons, we argue that compared with non-FFs, the typical disadvantages attributed to FFs militate against the creation of organizational structures and processes that will support the creation of the complex, interdependent value chains necessary for the effective management of FDI, and some of the advantages of FFs in terms of tacit knowledge work in the same direction.

Despite these disadvantages, FFs typically possess capabilities that provide sources of domestic competitive advantage, that we suggest, are more compatible with successful exporting, a mode of entry that can be achieved through arm's-length contracting. First, FFs can be highly parsimonious in their use of resources (Duran et al., 2015). Consequently, FFs operate very cost efficient production facilities (McConaughy, Walker, Henderson, & Mishra, 1998). Second, FFs typically prefer to operate centralized and relatively simple organization structures where decision-making authority is concentrated in the hands of a single individual or small cadre of insiders (Arregle, Hitt, Sirmon, & Very, 2007; Daily & Dollinger, 1992; Gedajlovic, Lubatkin, & Schulze, 2004; James, 1999; Zahra, 2003). These structures reduce administrative overhead while at the same time enabling strategic agility, which is the capacity to respond rapidly and flexibly to shifting opportunities while remaining responsive to local conditions. We suggest that these advantages make FFs well adapted to compete in decentralized international production networks in industries where low administrative overheads, production efficiency, and the capacity to organize pools of skilled and disciplined labor are valued attributes (Carney, 1998).

Moreover, changing patterns of international trade may provide FFs with new international opportunities. In many industries, globalization of production has established a new international division of labor organized into global commodity chains (Gereffi, 2005), what Buckley (2009) has called the global factory. In what he characterized as the integration of trade and the fragmentation of production, Feenstra (1998) documented the decline of vertically integrated modes of production as firm-specific value chains were 'sliced up' and relocated according to costs and factor availability. This mode of organization has been described as flexible specialization (Pyke, Beccattini, & Sengenberger, 1990) and viewed as a new paradigm of small-scale industrialization in an era of outsourcing and the hollowing out of vertically integrated firms. We suggest that these types of activities, which typically involve export products, are well-suited to the capabilities of FFs.

We therefore suggest that on balance FFs are more likely to be successful at exporting and less likely to be successful at FDI. We note that this conclusion is supported by the small number of studies that have directly applied Dunning's (1981) eclectic paradigm to the internationalization of family firms (Erdener & Shapiro, 2005; Shapiro, Gedajlovic, & Erdener, 2003). These papers focus on Chinese family firms and suggest that one unique ownership advantage of these firms (the ability to do business in environments where personal relationships and relational contracting are important) is best exploited through international trade (Shapiro et al., 2003: 114). At the same time, these same advantages limit the size of the firm and its ability to coordinate investment activities across borders (Erdener & Shapiro, 2005: 425; Shapiro et al., 2003: 115–117). Although these studies focus on Chinese family firms, a recent survey (Carney, Fathallah, Gedajlovic, & Shapiro, 2015) suggests that their characteristics could be generalized, as recognized by Dunning in his later work (Dunning, 1995; Dunning & Lundan, 2008).

More generally, Porter identified and popularized the important role of relatively small-scale European FFs operating within geographic clusters, such as Danish and Italian industrial districts. Research on

Italian industrial districts found that successful international performance of relatively small-scale FFs was achieved through a blend of firm-level competition and local industry cooperation (Best, 1990). FFs in these Italian clusters attain scale and scope advantages due to the economies of specialization and agglomeration (Cucculelli & Storai, 2015) producing high-quality high-value engineering and craft products for international markets. In order to do so, they collectively created supporting institutions such as industry associations, research and training institutes, and marketing infrastructure (Best, 1990), which required high levels of inter-firm linkages and personnel (Morosini, 2004). Similarly, Germany's midsize FFs, the *Mittelstand*, although often embedded in rural areas, reach international markets through exporting (Lehrer & Schmid, 2015). We suggest that the strength of FFs with respect to social capital discussed above and their ability to work in environments characterized by high levels of tacit knowledge, created the conditions for these successful exporting sectors.

We also suggest that such conditions were not unique to Europe. In East and Southeast Asia comparable systems of industrial clustering occurred as governments in Singapore, Taiwan, and Hong Kong, and adopted policies of export-oriented development (World Bank, 1993). These policies were widely imitated by other Southeast Asian states, including Thailand, Indonesia, and Malaysia (Macintyre, 1994). Under these policies, the state often owned and controlled large enterprises in capital intensive sectors, such as infrastructure, telecommunications, and energy, while small FFs operated export-based commodity manufacturing plants (Gereffi, 2005). A similar situation emerged in China where manufacturing firms embedded in international production networks were largely small and medium-sized FFs (Christerson & Lever-Tracy, 1997; Whitley, 1992).

We also note that in many of these emerging markets the small FFs that began life as manufacturers and exporters have expanded not by internationalizing their founding business, but by diversifying into other lines of activity, thereby creating diversified business groups, many of which have remained geographically focused on their domestic markets (Banalieva & Eddleston, 2011). Hence, we conclude that FFs are well positioned to internationalize their activities through low-cost exporting and by accessing international markets through global commodity chains and alternative external mechanisms, but are less likely to be able to organize themselves to create and control global factories (Buckley, 2009).

In summary, we argue that FFs are particularly advantaged with respect to exporting, but less well-suited for the high levels of coordination required for extensive outward FDI.

4. From family firms to family firm prevalence: hypotheses

Based on the arguments presented in the preceding section, we use Porter's CAoN to develop two hypotheses that link family firm prevalence (FFP), measured at the country level, with two country-level performance measures, exports and outward FDI. We note that previous research has used some measure of prevalence as both an independent and dependent variable. Morck, Strangeland, and Yeung (1998) examine the effects of the prevalence of billionaire heirs in an economy on GDP growth rates. Amit, Ding, Villalonga, and Zhang (2015) examine the effects of regional institutional development across China's provinces to predict variation in the prevalence of FFs. In this paper, we use prevalence as a moderating variable.

We therefore integrate ownership identity, specifically FFP, within a CAoN framework, and since Porter argued that the elements of the diamond model were mutually re-enforcing, we do not argue that the relationship between FFP and exporting or FDI is direct. Rather, we hypothesize that FFP interacts with other competitiveness factors identified in the diamond model, or its extensions in the GCI, that might impact exporting or FDI activity. These hypotheses are anchored in the multilevel logic of aggregation that suggests that a micro-industrial

structure consisting of the prevalence or 'too many' similar organizational forms with common characteristics will produce macroeconomic consequences. For example, the logic of aggregation underpins theories emphasizing that 'too much' affiliation with business groups, which consist of internal capital markets, limits the emergence of a country's external capital markets (Almeida & Wolfenzon, 2006) and inhibits innovation (Mahmood & Mitchell, 2004). Similarly, in the family business literature, the logic of aggregation is highlighted in empirical work finding that economic growth is reduced when billionaires' heirs wealth is large relative to GDP (Morck et al., 1998). Similarly, the logic of aggregation is comparable to Block and Spiegel's (2013) concept of FF density and its impact on regional levels of patenting activity. Consistent with our argument that FFs possess organizational and capability advantages with respect to exporting but concurrent organizational and capability disadvantages with respect to outward FDI we reason, based on the logic of aggregation, that FFP in a country will positively moderate factors promoting its export performance and negatively moderate factors impacting its FDI performance.

Accordingly, we hypothesize:

H1. Family firm prevalence in a country will negatively moderate the relationship between competitiveness drivers and the country's outward FDI performance.

H2. Family firm prevalence in a country will positively moderate the relationship between competitiveness drivers and the country's exports.

5. Methodology

5.1. Sample and data sources

Central to our study is the use and measurement of FFP. We define FFP as the ratio between the number of publicly listed firms identified as FFs in the respective country and the total number of publicly listed firms in the same country. Measurement based on populations of publicly listed FFs may not be representative of FFs' prevalence within particular countries to the extent that smaller, unlisted firms tend to be family-owned. Nevertheless, data availability typically means that most studies relying on measures of FFP are based on firms that are publicly listed (Amit et al., 2015; Fogel, 2006; La Porta, Lopez-de-Silanes, & Shleifer, 1999). Even this measure can be problematic because the owners of publicly listed firms can be difficult to identify since ownership may be held indirectly or through third-party nominees. Thus, it can be difficult and time-consuming to determine firm's ultimate beneficial owners and whether they are related through kinship. In addition, as discussed below, even studies using publicly listed firms rely on different definitions of what constitutes family ownership and control.

We therefore adopted a novel approach to generate a unique FFP dataset across countries based on extracting FFP data from other studies. First, we explored two major electronic databases (ISI Web of Knowledge and Google Scholar) combining several terms relevant to our topic of interest (e.g., 'family firms,' 'family business,' 'prevalence'). This strategy helped us to identify published and unpublished papers, books, book chapters, and theses/dissertations undertaking FF research. Second, we pre-selected papers that only analyzed publicly listed firms (FFs and non-FFs). Third, we coded studies based on how the percentage of FFs in their sample was calculated, relying on four types derived from the literature.

In the FF literature, we find four different approaches to classifying a listed firm as a FF, most of them influenced by the context in which these firms are embedded: (1) firms with a significant degree of family ownership measured by either voting or cash flow rights (Peng & Jiang, 2010); (2) firms with a significant presence of family members in top management positions (Anderson & Reeb, 2003); (3) firms with a family presence in ownership and family members in top management

positions (Gomez-Mejia, Larraza-Kintana, & Macri, 2003); and (4) firms with a family presence in ownership or management (Villalonga & Amit, 2006).

Given this heterogeneity in FF definitions (Bunkanwanicha, Fan, & Wiwattanakantang, 2013; Chrisman, Chua, & Sharma, 2005; Jennings, Breitreuz, & James, 2014), we followed a conservative approach by classifying the prevalence of FFs in terms of four measurement categories: (1) family ownership, (2) family management, (3) family ownership and management (also called family controlled firms), and (4) family ownership or management. Our regression analyses include different definitions of FFs as control variables, based on the study from which the data were drawn. We then proceeded to code the data from primary studies (cf. Le Breton-Miller, Miller, & Lester, 2010; Luo & Chung, 2005; Muñoz-Bullón & Sánchez-Bueno, 2012) on the prevalence of FFs in a particular country.

After following these three steps and removing any manuscripts that used data identical to those of other studies, we arrived at a sample of 318 studies that contain relevant estimates between 1955 and 2011. Each study presented one or multiple country-year estimates of FFP. Together, these studies yielded 529 prevalence/year estimates for 56 countries. In order to match the FFP estimates with GCI measures, we eliminated all observations prior to 1995. The final sample we utilize is a pooled cross-section dataset of 502 country-year observations retrieved from 292 studies over 17 years (1995–2011). The GCI data were first published in 2004, but were collected earlier. We reasoned that given the relative stability of the data, we could match these data with FFP estimates after 1995. However, as a robustness test, we also used a sample of 320 observations, based on FFP data from 2000, and a sample of 173 observations, based on FFP data from 2004. The remainder of the data were available from more conventional sources, and are summarized in Table 1. Additionally, Table 2 summarizes the diverse range of operationalizations of FFs included in our sample to capture the heterogeneity of FF definitions discussed above. Finally, Table 3 presents the list of countries included in the sample and the number of observations for each country.

5.2. Variables and measures

As discussed above, we follow Porter (1990) in using outward FDI and exports as measures of international competitiveness of firms, in this case aggregated across all firms. Both FDI and exports are measured in logarithms as a percentage of GDP, with data from United Nations Conference on Trade and Development (UNCTAD) and the World Bank respectively.

The independent variables corresponding to GCI are country-institutional variables extracted primarily from the GCI data. We also used data from the World Intellectual Property Organization (WIPO) for the *innovation* variable. These databases have been widely used in the international business and management literatures (cf. Fogel, 2006; Nair, Guldiken, Fainshmidt, & Pezeshkan, 2015; Ricart, Enright, Ghemawat, Hart, & Khanna, 2004). They are meant to capture various factors that collectively constitute the competitive advantage of a country, and are the basis for the GCI rankings.

These variables (with the exception of the innovation variable) are drawn from the 12 pillars identified by the GCI as drivers of competitiveness. Given that there are some 150 indicators in the pillars (since each pillar has several sub-measures), we focus on a subset of eight of these measures: seven GCI indicators (quality of management school, production process sophistication, business sophistication, reliance on professional management, value chain breadth, control of international distribution, and state of cluster development) plus the WIPO innovation measure. These competitiveness drivers were chosen primarily on the basis of the FF internationalization literature discussed above and the factors it identifies as relevant to the differential performance of FFs. Thus, for example, we suggested that professional managers are critical for organizations wishing to invest abroad, and that FFs are less

likely to employ professional managers. Therefore, we have chosen a variable from the GCI labor market pillar measuring the use of professional managers. Likewise, from the business sophistication pillar we selected overall business level sophistication, a factor relevant to our FF discussion. Similar considerations led us to other individual indicators such as value chain breadth, control of international distribution, state of cluster development, and innovation. We checked for multicollinearity among the competitiveness drivers to detect and eliminate potential indicator selection bias, resulting in the elimination of two indicators (quality of management school and production process sophistication). The result is a model using six competitive drivers. We do not argue that our list is inclusive, however, we believe it is representative of a broad range of potential factors that are relevant to country competitiveness outcomes and to the nature of the FF. As a robustness test, we also use the summary GCI measure which incorporates all of the indicators in all pillars.

We also created a set of control variables to reflect differences across the various underlying studies from which the FFP estimates were generated. Thus, we include variables indicating the total number of studies reporting FFP for a country (paper number) and the median year of the primary study's sample window (median years sample) to capture any time trend effect. In particular, we attempt to control for the possibility that the prevalence data are defined and measured differently across studies. Thus, we include variables measuring the number of firms over which FFP was calculated in the original study (firm (year) observations). In this way we account for potential differences in sample, measurement and time differences across studies.

Estimation of FFP is sensitive to the definition used, although these differences do not appear to have any systematic relationship with international activities of FFs (Fernandez & Nieto, 2013). Nevertheless, we created dummy variables corresponding to which of the four categories of ownership/control discussed above was utilized in the study (ownership or management definition is used as reference category). Finally, in order to control for the level of development of the country, we include a GDP per capita variable.

5.3. Method of analysis

We test these hypotheses in a comparative country context consistent with Porter (1990) and the GCI, using measures of FFP across countries. We summarize the manner in which we propose to test Hypothesis H1 and Hypothesis H2 in the following way:

$$\text{Outward FDI}_{i,t} = \alpha_1 + \beta_1 \text{GCI}_{i,t-1} + \beta_2 \text{FFP}_{i,t-1} + \beta_3 (\text{GCI} * \text{FFP})_{i,t-1} + \Sigma \Theta X \quad (1)$$

$$\text{Exports}_{i,t} = \alpha_2 + \beta_4 \text{GCI}_{i,t-1} + \beta_5 \text{FFP}_{i,t-1} + \beta_6 (\text{GCI} * \text{FFP})_{i,t-1} + \Sigma \Theta X \quad (2)$$

The Breusch-Pagan test revealed heteroscedasticity in 8 out of 12 models ($p < 0.001$; Breusch & Pagan, 1979).¹ Given the pooled cross-section nature of our data, we employ Feasible Generalized Least Square (FGLS) to estimate Eqs. (1) and (2) that provides reliable estimates in the presence of autocorrelation and heteroscedasticity (Wooldridge, 2009). This approach has been employed in various international business (for example, Buckley, Elia, & Kafourios, 2014; Li, 2005; Slangen & Beugelsdijk, 2010; Vaaler, 2011) and family firm studies (Patel & Chrisman, 2014; Yoshikawa & Rasheed, 2010). The advantages of FGLS over OLS is that it produces more efficient estimates, produces unbiased standard errors, and avoids controlling for fixed effects through country dummy variables, which could generate a degrees of freedom problem (Buckley et al., 2014).

¹ We ran OLS regressions as robustness in models where the null hypothesis of homoskedasticity was not rejected.

Table 1
Variables, measures, and sources of data.

Variable	Measure	Source
Log of outward FDI as GDP (%)	Natural logarithm of the total value of foreign investments by companies located in a respective country as a percentage share of the country's GDP. The components of FDI are equity capital, reinvested earnings and other capital (mainly intra-company loans). Data on FDI flows are on a net basis (capital transactions credits less debits between direct investors and their foreign affiliates).	Computed using data from United Nations Conference on Trade and Development (UNCTAD), various years. www.unctad.org
Log of exports as GDP (%)	Natural logarithm of the value of all goods and other market services provided by a respective country to the rest of the world as a percentage share of the country's GDP. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income and transfer payments.	Computed using data from World Bank, various years. www.worldbank.org
Innovation (log)	Natural logarithm of the total number of patents grants and patents in force in a respective country. Patents grants are exclusive intellectual property (IP) rights conferred to an applicant by an IP office. Patents in force are IP rights that are currently valid.	Computed using data from World Intellectual Property Organization, various years. www.wipo.int
Business sophistication	Weighted average of the World Economic Forum Executive Opinion Survey's 11th pillar [1–7 (best)]. Business sophistication includes nine key indicators: (1) local supplier quantity, (2) local supplier quality, (3) state of cluster development, (4) nature of competitive advantage, (5) value chain breadth, (6) control of international distribution, (7) production process sophistication, (8) extent of marketing, and (9) willingness to delegate authority.	Computed using data from The Global Competitiveness Index, World Economic Forum, Executive Opinion Survey, various years. www.weforum.org
Reliance on professional management	Weighted average of the World Economic Forum Executive Opinion Survey's key indicator 7.07: 'In your country, who holds senior management positions? [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications].'	
Value chain breadth	Weighted average of the World Economic Forum Executive Opinion Survey's key indicator 11.05: 'In your country, do companies have a narrow or broad presence in the value chain? [1 = narrow, primarily involved in individual steps of the value chain (e.g., resource extraction or production); 7 = broad, present across the entire value chain (e.g., including production and marketing, distribution, design, etc.)].'	
Control of international distribution	Weighted average of the World Economic Forum Executive Opinion Survey's key indicator 11.06: 'To what extent are international distribution and marketing from your country owned and controlled by domestic companies? [1 = not at all – they take place through foreign companies; 7 = to a great extent – they are primarily owned and controlled by domestic companies].'	
State of cluster development	Weighted average of the World Economic Forum Executive Opinion Survey's key indicator 11.03: 'In your country, how widespread are well-developed and deep clusters (geographic concentrations of firms, suppliers, producers of related products and services, and specialized institutions in a particular field)? [1 = nonexistent; 7 = widespread in many fields].'	
Global competitiveness index (GCI)	A comprehensive framework that measures the microeconomic and macroeconomic foundations on national competitiveness – defined as the set of institutions, policies and factors that determine the level of productivity [1 (lowest) – 7 (highest) scale].	
Family firm prevalence (FFP)	The ratio between the number of publicly listed firms identified as family firms in the respective country and the total number of publicly listed firms in the same country. The family firm literature employs different definitions to classify a firm as a family: ownership definition, management definition, ownership and management definition, and ownership or management definition (see Table 2).	Obtained from 292 papers between 1995 and 2011. Databases from which observations derive are: Capitaline; CCIS; CNMV; Compact Disclosure; Compustat; CRSP; CSMAR; DAFSA; Data Stream; Disclosure Database; First Call's Company Issued Guidance; Economatica; ExecuComp; IRR; Kaisha Shikiho; Korea Investor Services (KIS); Nasdaq data files; Osiris; SABI; SEC's EDGAR; Six Trust; Thomson One; Worldscope.
Family firm ownership definition	Firms with a significant degree of family presence on ownership by either voting or cash flow rights (see, for example, Peng & Jiang, 2010).	
Family firm management definition	Firms with a significant presence of family members in top management positions (e.g., family CEO, family Chair, family member in the board of directors, etc.) (see, for example, Anderson & Reeb, 2003).	
Family firm ownership and management definition	Firms with a significant degree of family presence on ownership by either voting or cash flow rights and with a significant presence of family members in top management positions (see, for example, Gómez-Mejía et al., 2003).	
Family firm ownership or management definition	Firms with a significant degree of family presence on ownership by either voting or cash flow rights or with a significant presence of family members in top management positions (see, for example, Villalonga & Amit, 2006).	

(continued on next page)

Table 1 (continued)

Variable	Measure	Source
Paper number (log)	Natural logarithm of the total number of studies reporting family firm prevalence for a country.	
Firm (year) observations	Number of firm-years observations reported in the primary study's sample.	
Median years sample	Median year of the primary study's sample window.	
GDP per capita (log)	GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	Computed using data from World Bank, various years. www.worldbank.org

6. Results

The means and correlation coefficients of the relevant variables are presented in Table 4. Calculation of VIFs for all variables in the matrix revealed a maximum score of 3.13, suggesting that multicollinearity is not a problem (Kutner, Nachtsheim, & Neter, 2004).

The regression results based on the 1995–2011 sample with outward FDI and exports as the dependent variable are presented in Tables

5 and Table 6 respectively. We hypothesize that FFP will moderate the impact of any GCI variable, negatively in the case of outward FDI and positively in the case of exports. Tables 5 and 6 do not report results without the interaction term for space reasons. However, all our models were compared to test the significance of the interaction effect (results are available upon request), and suggest that the interactive specification is appropriate.

As can be seen from Table 5, and as summarized in Table 7, there is

Table 2

Operationalization of family firms and number of observations for each operationalization included in the sample.

Type of definition	Definition	Number of observations
Family ownership	A family is the ultimate owner and represents the largest block of company's shares	168
	Family owners control at least 5 percent of a company's shares	12
	Family owners control at least 10 percent of a company's shares	90
	Family owners control at least 20 percent of a company's shares	40
	Family owners control at least 25 percent of a company's shares	47
	Family owners control at least 30 percent of a company's shares	1
	Family owners control at least 40 percent of a company's shares	1
	Family owners controls at least 50 percent of a company's shares	9
Family management	Family owners are involved either on the board of directors (BoD) or in the top management team (TMT) of the company	23
	Family owners are part of the BoD of the company	8
	A family owner is the CEO of the company	2
	A family owner is involved in the TMT of the company	1
	Family owners occupy at least 30 percent of the board seats	1
	Family owners occupy at least 50 percent of the board seats	2
	Family owners are the ultimate owners and are involved either on the BoD or in the TMT of the company	16
	Family owners are the ultimate owners and are involved on the BoD of the company	3
Family ownership and management	Family owners are the ultimate owners and are involved in the TMT of the company	2
	Family owners control at least 5 percent of a company's shares and are involved either on the BoD or in the TMT of the company	1
	Family owners control at least 5 percent of a company's shares and are involved on the BoD of the company	2
	Family owners control at least 10 percent of a company's shares and are involved either on the BoD or in the TMT of the company	2
	Family owners control at least 10 percent of a company's shares and are involved on the BoD of the company	2
	Family owners control at least 20 percent of a company's shares and are involved either on the BoD or in the TMT of the company	3
	Family owners control at least 20 percent of a company's shares and are involved on the BoD of the company	2
	Family owners control at least 25 percent of a company's shares and are involved either on the BoD or in the TMT of the company	1
	Family owners control at least 25 percent of a company's shares and are involved on the BoD of the company	1
	Family owners control at least 50 percent of a company's shares and are involved either on the BoD or in the TMT of the company	2
	Family owners are the ultimate owners or are involved either on the BoD or in the TMT of the company	34
	Family owners are the ultimate owners or are involved on the BoD of the company	8
Family ownership or management	Family owners control at least 5 percent of a company's shares or are involved either on the BoD or in the TMT of the company	6
	Family owners control at least 5 percent of a company's shares or are involved on the BoD of the company	1
	Family owners control at least 10 percent of a company's shares or are involved either on the BoD or in the TMT of the company	1
	Family owners control at least 10 percent of a company's shares or are involved on the BoD of the company	3
	Family owners control at least 20 percent of a company's shares or are involved either on the BoD or in the TMT of the company	1
	Family owners control at least 20 percent of a company's shares or are involved on the BoD of the company	1
	Family owners control at least 25 percent of a company's shares or are involved either on the BoD or in the TMT of the company	4
	Family owners control at least 25 percent of a company's shares or are involved on the BoD of the company	1
	Family owners control at least 30 percent of a company's shares or are involved on the BoD of the company	1

Table 3
Countries and number of observations for each country included in the sample.

Country	Number of observations
Argentina	2
Australia	7
Austria	6
Bangladesh	1
Belgium	6
Brazil	5
Canada	16
Chile	5
China	7
Colombia	1
Cyprus	1
Czech Republic	2
Denmark	5
Egypt	3
Estonia	1
Finland	7
France	19
Germany	20
Greece	5
Hong Kong	17
Hungary	1
India	6
Indonesia	14
Ireland	4
Israel	2
Italy	23
Japan	9
Jordan	4
Latvia	1
Lithuania	1
Luxembourg	1
Malaysia	16
Mexico	5
Netherlands	7
New Zealand	2
Norway	8
Oman	3
Pakistan	3
Peru	1
Philippines	4
Poland	4
Portugal	7
Singapore	5
Slovenia	1
South Africa	1
South Korea	12
Spain	23
Sweden	20
Switzerland	19
Taiwan	48
Thailand	12
Tunisia	3
Turkey	6
UAE	1
UK	9
USA	80

a relatively strong and consistent support for Hypothesis H2, but Hypothesis H1 is consistently rejected, based on the sample from 1995 to 2011. In the case of exports, we find that FFP positively and significantly moderates the relevant GCI term in 5 out of 6 cases (innovation, business sophistication, reliance on professional management, control of international distribution, and state cluster development), and is not statistically significant in 1 case (value chain breadth). However, we find little or no support for H1, regarding FDI. We find not a single case where the FFP-GCI interaction term is negative and statistically significant, although in 2 cases it is negative, but not statistically significant (value chain breadth and state cluster development). In the other 4 cases, the term is positive, contrary to H1, and in one of these it is statistically significant (reliance on professional

Table 4
Descriptive statistics and correlation matrix.

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Outward FDI	0.56	1.40	1.00																
2. Exports	3.49	0.76	0.36	1.00															
3. Innovation t_{-1}	11.74	1.94	0.20	-0.38	1.00														
4. Business sophistication t_{-1}	5.18	0.59	0.50	-0.13	0.70	1.00													
5. Reliance on professional management t_{-1}	5.42	0.72	0.48	-0.14	0.50	0.81	1.00												
6. Value chain breadth t_{-1}	5.28	0.97	0.43	-0.05	0.56	0.83	0.45	1.00											
7. Control of international distribution t_{-1}	4.87	0.48	0.30	-0.22	0.65	0.89	0.65	0.75	1.00										
8. State of cluster development t_{-1}	4.54	0.67	0.30	0.04	0.63	0.75	0.63	0.48	0.68	1.00									
9. Global competitiveness index t_{-1}	5.12	0.54	0.48	-0.10	0.71	0.93	0.84	0.68	0.79	0.75	1.00								
10. Family firm prevalence t_{-1}	0.42	0.22	-0.04	0.14	0.09	-0.03	-0.22	0.05	0.01	0.03	-0.08	1.00							
11. GDP per capita t_{-1}	9.80	1.10	0.57	-0.14	0.48	0.72	0.58	0.68	0.54	0.27	0.69	-0.10	1.00						
12. Paper number	2.82	1.06	0.19	-0.30	0.80	0.66	0.38	0.54	0.67	0.66	0.65	0.21	0.40	1.00					
13. Firm (years) observations	1,139.35	2,322.07	-0.01	-0.16	0.27	0.15	0.05	0.13	0.15	0.16	0.17	0.10	0.07	0.26	1.00				
14. Median years sample	2,001.51	4.05	0.10	0.20	-0.17	-0.14	-0.14	-0.15	-0.17	-0.06	-0.19	-0.22	-0.09	-0.18	0.01	1.00			
15. Family ownership definition	0.73	0.44	0.06	0.33	-0.39	-0.29	-0.23	-0.14	-0.28	-0.36	-0.34	-0.10	-0.15	-0.44	-0.20	0.08	1.00		
16. Family management definition	0.07	0.26	0.01	-0.09	0.14	0.09	0.08	0.03	0.09	0.16	0.11	0.00	0.01	0.15	0.00	-0.05	-0.47	1.00	
17. Family ownership and management definition	0.07	0.26	-0.05	-0.02	0.08	0.02	-0.02	-0.03	0.01	0.07	0.03	0.19	-0.01	0.10	0.10	0.03	-0.46	0.08	0.08
18. Family ownership or management definition	0.12	0.33	-0.05	-0.36	0.36	0.31	0.27	0.19	0.29	0.30	0.34	-0.02	0.20	0.40	0.19	-0.09	-0.62	-0.10	-0.10

N = 502. Correlations not in italics are significant at the 0.05 level (two-tailed test).

Table 5

Country-level factors and family firm prevalence on outward FDI.

Dependent Variable: Log of outward FDI as GDP						
Independent Variables	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)	(1.6)
Innovation t_{-1}	−0.12 (0.06)					
Business sophistication t_{-1}		0.46 (0.22)*				
Reliance on professional management t_{-1}			0.29 (0.18)			
Value chain breadth t_{-1}				0.20 (0.11) [†]		
Control of international distribution t_{-1}					−0.08 (0.24)	
State of cluster development t_{-1}						0.66 (0.18)
Family firm prevalence (FFP) t_{-1}	−0.91 (1.65)	−2.40 (2.14)	−2.53 (1.81)	1.09 (1.33)	−0.97 (2.52)	1.09 (1.46)
Innovation t_{-1} *FFP t_{-1}	0.12 (0.14)					
Business sophistication t_{-1} *FFP t_{-1}		0.61 (0.41)				
Reliance on professional management t_{-1} *FFP t_{-1}			0.65 (0.33)*			
Value chain breadth t_{-1} *FFP t_{-1}				−0.10 (0.25)		
Control of international distribution t_{-1} *FFP t_{-1}					0.34 (0.51)	
State of cluster development t_{-1} *FFP t_{-1}						−0.06 (0.31)
GDP per capita t_{-1}	0.78 (0.05)**	0.55 (0.07)**	0.60 (0.06)**	0.72 (0.06)**	0.77 (0.06)**	0.77 (0.05)**
Paper number	0.07 (0.08)	−0.21 (0.06)**	−0.07 (0.06)	−0.03 (0.06)	−0.07 (0.06)	−0.27 (0.07)**
Firm (year) observations	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)	−0.00 (0.00)
Median years sample	0.05 (0.01)**	0.06 (0.01)**	0.06 (0.01)**	0.06 (0.01)**	0.06 (0.01)**	0.05 (0.01)**
Family ownership definition	0.70 (0.15)**	0.71 (0.14)**	0.86 (0.15)**	0.72 (0.16)**	0.66 (0.14)**	0.78 (0.15)**
Family management definition	0.50 (0.20)*	0.49 (0.19)*	0.59 (0.20)**	0.58 (0.22)**	0.48 (0.19)*	0.49 (0.19)*
Family ownership and management definition	0.18 (0.22)	0.22 (0.21)	0.34 (0.21)	0.24 (0.24)	0.18 (0.22)	0.22 (0.21)
Observations	502	502	502	502	502	502
Number of groups (countries)	56	56	56	56	56	56
R-squared	0.36	0.37	0.41	0.39	0.37	0.43

Feasible Generalized Least Square (FGLS). Standard errors reported in parentheses. Significance levels (two-tailed): [†]p < 0.10; *p < 0.05; **p < 0.01.

Table 6

Country-level factors and family firm prevalence on exports.

Dependent Variable: Log of exports as GDP						
Independent Variables	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)	(2.6)
Innovation t_{-1}	−0.26 (0.04)**					
Business sophistication t_{-1}		0.15 (0.12)				
Reliance on professional management t_{-1}			−0.03 (0.10)			
Value chain breadth t_{-1}				0.10 (0.06)		
Control of international distribution t_{-1}					−0.21 (0.14)	
State of cluster development t_{-1}						0.23 (0.10)*
Family firm prevalence (FFP) t_{-1}	−3.29 (0.87)**	−3.08 (1.15)**	−0.93 (1.05)	−0.21 (0.73)	−2.25 (1.40)	−1.36 (0.77) [†]
Innovation t_{-1} *FFP t_{-1}	0.35 (0.07)**					
Business sophistication t_{-1} *FFP t_{-1}		0.79 (0.23)**				
Reliance on professional management t_{-1} *FFP t_{-1}			0.35 (0.29)[†]			
Value chain breadth t_{-1} *FFP t_{-1}				0.20 (0.14)		
Control of international distribution t_{-1} *FFP t_{-1}					0.65 (0.29)*	
State of cluster development t_{-1} *FFP t_{-1}						0.52 (0.17)**
GDP per capita t_{-1}	0.07 (0.03)**	−0.09 (0.04)*	0.00 (0.04)	−0.06 (0.04)	0.02 (0.03)	0.04 (0.03)
Paper number	0.06 (0.04)	−0.23 (0.04)**	−0.14 (0.04)**	−0.18 (0.04)**	−0.15 (0.04)**	−0.29 (0.04)**
Firm (year) observations	−0.00 (0.00)	−0.00 (0.00)*	−0.00 (0.00)*	−0.00 (0.00)**	−0.00 (0.00)*	−0.00 (0.00) [†]
Median years sample	0.03 (0.01)**	0.04 (0.01)**	0.04 (0.01)**	0.04 (0.01)**	0.04 (0.01)**	0.03 (0.01)**
Family ownership definition	0.62 (0.10)**	0.67 (0.10)**	0.69 (0.10)**	0.60 (0.10)**	0.64 (0.10)**	0.71 (0.10)**
Family management definition	0.40 (0.14)**	0.39 (0.14)**	0.39 (0.14)**	0.36 (0.14)**	0.35 (0.14)*	0.34 (0.13)*
Family ownership and management definition	0.36 (0.14)*	0.40 (0.14)**	0.41 (0.15)**	0.36 (0.15)*	0.34 (0.15)*	0.40 (0.13)**
Observations	502	502	502	502	502	502
Number of groups (countries)	56	56	56	56	56	56
R-squared	0.29	0.29	0.27	0.28	0.28	0.35

Feasible Generalized Least Square (FGLS). Standard errors reported in parentheses. Significance levels (two-tailed): [†]p < 0.10; *p < 0.05; **p < 0.01. N.B. The bold coefficients provide support for our hypotheses.

management).

We note that the main (direct) effect terms for some GCI variables are at times of the opposite sign to what might be expected (negative rather than positive). For example, the innovation term in Model (2.1), Table 6, is negative and statistically significant. However, considering the interaction term, the total effect of innovation on exports is positive when FFP is slightly above the mean. Thus, countries where innovation performance is lagging, may still be successful exporters in the presence of large numbers of FFs. The same is true for the other GCI variables which have negative signs.

In Table 8, we summarize the results of various robustness tests. Our

results are robust to the time period chosen as indicated by the results obtained when the models are estimated over different time periods (2004–2011) and with different sample size. They are also robust to using the over-all GCI index, rather than its sub-components. In order to address possible endogeneity problems, including omitted variables and simultaneity, we performed the Durbin-Wu-Hausman test of endogeneity on our models. We followed the Evans and Kessides (1993) method to find appropriate instrumental variables in models with multiple explanatory variables (see also Cubbin & Stern, 2006; Edwards & Waverman, 2006; Globerman & Shapiro, 2008). We built three rank based (1, 2, 3) instruments for GCI measures, FFP and the

Table 7
Summary of hypothesized effects.

	Competitiveness drivers	Statistical results	Interpretation
H1. Family firm prevalence in a country will negatively moderate the relationship between competitiveness drivers and the country's outward FDI performance	Innovation	Model 1.1: 0.12 (<i>ns</i>)	H1 rejected
	Business sophistication	Model 1.2: 0.61 (<i>ns</i>)	H1 rejected
	Reliance on professional management	Model 1.3: 0.65 (<i>p</i> < 0.05)	H1 rejected (significant, but opposite direction)
	Value chain breadth	Model 1.4: −0.10 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
	Control of international distribution	Model 1.5: 0.34 (<i>ns</i>)	H1 rejected
	State of cluster development	Model 1.6: −0.06 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
H2. Family firm prevalence in a country will positively moderate the relationship between competitiveness drivers and the country's exports	Innovation	Model 2.1: 0.35 (<i>p</i> < 0.01)	H2 supported
	Business sophistication	Model 2.2: 0.79 (<i>p</i> < 0.01)	H2 supported
	Reliance on professional management	Model 2.3: 0.35 (<i>p</i> < 0.10)	H2 weakly supported
	Value chain breadth	Model 2.4: 0.20 (<i>ns</i>)	H2 rejected (non-significant, positive sign)
	Control of international distribution	Model 2.5: 0.65 (<i>p</i> < 0.05)	H2 supported
	State of cluster development	Model 2.6: 0.49 (<i>p</i> < 0.01)	H2 supported

Table 8
Summary of robustness tests.

Hypotheses	Competitiveness drivers	Statistical results	Interpretation
Robustness test 1: Sample derived from 2000–2011 period; N = 320			
H1	Innovation	0.12 (<i>ns</i>)	H1 rejected
	Business sophistication	0.49 (<i>ns</i>)	H1 rejected
	Reliance on professional management	0.41 (<i>ns</i>)	H1 rejected
	Value chain breadth	−0.30 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
	Control of international distribution	0.26 (<i>ns</i>)	H1 rejected
	State of cluster development	0.23 (<i>ns</i>)	H1 rejected
H2	Innovation	0.38 (<i>p</i> < 0.01)	H2 supported
	Business sophistication	1.06 (<i>p</i> < 0.01)	H2 supported
	Reliance on professional management	0.62 (<i>p</i> < 0.05)	H2 supported
	Value chain breadth	0.24 (<i>ns</i>)	H2 rejected (non-significant, positive sign)
	Control of international distribution	1.14 (<i>p</i> < 0.01)	H2 supported
	State of cluster development	0.68 (<i>p</i> < 0.01)	H2 supported
Robustness test 2: Sample derived from 2004–2011 period; N = 173			
H1	Innovation	0.06 (<i>ns</i>)	H1 rejected
	Business sophistication	−1.61 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
	Reliance on professional management	0.58 (<i>ns</i>)	H1 rejected
	Value chain breadth	0.52 (<i>ns</i>)	H1 rejected
	Control of international distribution	0.24 (<i>ns</i>)	H1 rejected
	State of cluster development	−0.06 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
H2	Innovation	0.52 (<i>p</i> < 0.01)	H2 supported
	Business sophistication	1.57 (<i>p</i> < 0.01)	H2 supported
	Reliance on professional management	0.98 (<i>p</i> < 0.05)	H2 supported
	Value chain breadth	0.53 (<i>p</i> < 0.05)	H2 supported
	Control of international distribution	1.65 (<i>p</i> < 0.01)	H2 supported
	State of cluster development	0.81 (<i>p</i> < 0.01)	H2 supported
Robustness test 3: Interaction between overall Global Competitiveness Index and family firm prevalence on internationalization			
H1 – 1995–2011 period	Global competitiveness index	0.92 (<i>p</i> < 0.10)	H1 rejected (significant, but opposite direction)
H2–1995–2011 period	Global competitiveness index	1.05 (<i>p</i> < 0.01)	H2 supported
H1–2000–2011 period	Global competitiveness index	0.66 (<i>ns</i>)	H1 rejected
H2–2000–2011 period	Global competitiveness index	1.14 (<i>p</i> < 0.01)	H2 supported
H1–2004–2011 period	Global competitiveness index	0.37 (<i>ns</i>)	H1 rejected
H2–2004–2011 period	Global competitiveness index	1.14 (<i>p</i> < 0.01)	H2 supported
Robustness test 4: Instrumental variables (2SLS) regression – Sample derived from 1995–2011 period; N = 502			
H1	Innovation	−0.68 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
	Business sophistication	−6.17 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
	Reliance on professional management	−3.11 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
	Value chain breadth	−2.50 (<i>p</i> < 0.10)	H1 weakly supported
	Control of international distribution	−10.14 (<i>ns</i>)	H1 rejected (non-significant, negative sign)
	State of cluster development	−9.00 (<i>ns</i>)	H1 rejected (non-significant, negative sign)

interaction terms. These instruments are created so as to correlate with the original variables and are orthogonal to the error term. Results show that endogeneity affects Eq. (1) concerned with Hypothesis H1, but is not a concern in the models testing Hypothesis H2. We therefore adopted an instrumental variables estimation procedure to test Hypothesis H1. The results are summarized in Table 8. We find that in 5 of 6 cases, the interaction between GCI and FFP is negative, but not statistically significant; in one case (value chain breadth) we find that the interaction term is negative and statistically significant at the 10% level. While these results are more supportive of H1, they do not lend themselves to a conclusion that H1 is in general supported. Finally, we ran OLS regressions for the models where the Breusch-Pagan test indicated no heteroscedasticity problems (models 2.1, 2.3, 2.5, and 2.6 in Table 6). We found similar results to those presented in Table 6 (results available upon request).

Overall, the results propose that country-specific factors supportive of exports are strengthened by high levels of FFP; but high levels of FFP, in a country, have limited or no statistical significant effects on outward FDI. The results suggest a nuanced view of FFs capacity to engage in international activities.

7. Discussion

The findings described above provide consistent evidence that country-specific factors supportive of exports are strengthened in the presence of high levels of FFP. Our results indicate that when an economy has a substantial population of FFs then the country competitiveness drivers with respect to export performance are strengthened. The findings are robust to a battery of alternative estimations providing support for our view that the distinctive international advantages of FFs are to be found in their capacity for production efficiency and the organization of short and relatively simple value chains. Since Porter published the CAoN in 1990, the trend toward outsourcing and global dispersion of production has accelerated (Buckley, 2009; Gereffi & Lee, 2012), and we suggest that this trend has provided opportunities for FFs to participate widely in global supply chains primarily as producers rather than as originators and orchestrators.

Contrary to our expectations, the competitiveness drivers to FDI performance are not for the most part weakened in the presence of a substantial population of FFs. Our results suggest that FFP has a null effect on the competitiveness drivers of outward FDI. In other words, a substantial of population of FFs does not appear to retard a country's outward FDI in a significant way, implying that FFs are neither better nor worse than other types of firms in supporting foreign investment. We thus find no evidence to support the view that FFs are uniquely disadvantaged with respect to outward FDI. The null findings reported here imply that the ability to organize and control global value chains is not necessarily related to ownership identity, or possibly that different types of firms engage in outward FDI for different reasons.

While our study lacks firm level data and we cannot ascertain exactly which type of firms are engaged in FDI, we may speculate about possible explanations based upon a logic of aggregation, i.e., when FFs are prevalent there is a reasonable probability that at least some are engaged in FDI activities. Thus, it may indeed be the case that FFs contribute to a nation's FDI activities (Claver, Rienda, & Quer, 2009; Kuo, Kao, Chang, & Chiu, 2012). In this regard, while FFs may suffer certain commonly identified disadvantages in managing FDI, they may equally possess *compensating advantages* that have not been identified in the existing literature. For example, FFs strategic conservatism with respect to internationalization arising from their socio-emotional wealth (Gomez-Mejia et al., 2010) may be offset by FFs' longer term investment horizon and parsimony with respect to asset utilization. This latter line of argument is advanced in recent studies, suggesting that FFs enjoy an advantage of converting scarce resources into fruitful and efficient innovation outcomes (Duran et al., 2015; Diéguez-Soto, Manzanque, & Rojo-Ramírez, 2016). Secondly, FFs may pursue foreign

direct investment for reasons that differ from nonfamily firms. While it is commonly assumed that FDI is motivated by the goal of transferring firm-specific competitive advantage into new markets, FDI may be motivated by more heterogeneous range of motives (Dunning, 1981). For example, FFs from emerging market may engage in FDI for assets seeking purposes, that is to acquire firms or assets that can boost a FFs international capability (Cui, Meyer, & Hu, 2014). Equally, given their concern for efficiency, FFs might internationalize their activities for efficiency seeking purposes (Erdener & Shapiro, 2005). Finally, FFs may enter into international activities through alternative modes of entry other than exporting or foreign direct investment, in particular, through relational forms of contracting, a point we take up below.

Alternatively, given that our robustness tests find that country level FFP and FDI are indeed endogenous then it is possible that both the prevalence of firms and FDI are explained by some third variable which has been omitted from the analysis. Research on the internationalization of European firms based on firm level evidence suggests that a relatively small number of large firms are primarily responsible for a nation's FDI (Mayer & Ottaviano, 2008). This pattern of concentrated outward FDI is consistent with 1) heterogeneity of firms in the economy including heterogeneity among FFs and 2) policy choices as a potentially omitted variable in our analysis. Because we lack firm level data, we cannot speak directly to this point, but the implications for future research are evident: namely, that the population of FFs is likely to be differentially endowed with the capacities for international activity. We suggest that studies of such differences will require more sophisticated theoretical perspectives than is typically afforded by monotheoretical approaches of FFs, such as agency theory or behavioral agency theory (Gomez-Mejia et al., 2010). While each of these theories offer valuable insights into the drivers and obstacles of FF internationalization, neither of them alone can adequately explain the expected heterogeneity of FF involvement in the international economy. Accordingly, we suggest that a prerequisite for future work will be to conceive and test multiple, or indeed eclectic, theoretical explanations perhaps linking concepts and variables from diverse perspectives.

With regard to policy choices, FFs are indeed prevalent around the world but they are likely to operate under different institutional configurations (Fainshmidt, Judge, Aguilera, & Smith, 2017) that may promote or deter FFs ability to engage in different forms of international activity. For example, the notable international performance of family-owned Korean Chaebols is attributable to a national champion strategy, including state mediated incentives for outward FDI, pioneered by the Korean government from the 1960s onward (Amsden, 1989). In contrast, Taiwan's long ruling party, the KMT, who were fearful of the emergence of powerful family conglomerates as a threat to their political authority, discouraged outward FDI and favoured a small firm export oriented model of economic development (Wade, 1990). Hence, we suggest that it is possible that policy choices may influence the structure and prevalence of FF sector of the economy, with potentially different consequences for FF modes of internationalization. Further research is warranted on the extent to which government policy choices with respect to exporting and FDI influence the country specific patterns of FF international activity.

This paper contributes to both the literature on FFs and the literature on national competitiveness. First, contrary to the currently polarized perspectives on the issue of FF's international capabilities, we contribute to the debate by proposing a more nuanced view by distinguishing between organizational capabilities associated with exporting from those associated with outward FDI. We hypothesised that distinctive FF attributes would be more likely to be associated with international competitive advantage via exporting and contrarily disadvantaged with respect to FDI. So far as our results show that selected competitive drivers lead to superior export performance when there is a substantial FF population, which implies that FFs favour exporting. However, the null findings with regard to FDI, in light of several theoretical predictions of a negative relationship suggest that a large

population of FFs will not retard a nation's firm abilities to engage in FDI. Rather, the null findings point to opportunities for further research to explore the ways in which FFs may engage with FDI, including the possibility that FFs are beginning to develop unacknowledged and underexplored compensating advantages for attaining international presence.

Additionally, by integrating the national and FF competitiveness literature, we contribute to the discourse in international business that distinguishes between firm- and country-specific determinants of a domestic firm's international competitive advantage (Rugman & Verbeke, 1992; Rugman, 2009). Recent scholarship has given much attention to the institutional origins of competitive advantage by considering how the interaction between domestic firm practices and country-specific institutions provide a platform for international advantage (Hall & Soskice, 2001). This work has recently culminated in a body of work that proposes an institution-based view in strategy and international business (Peng & Jiang, 2010). In this view, a fundamental international business question is 'what determines the international success and failure of firms?' (Peng, 2004: 106) We contribute to this view by bringing in an owner-identity perspective and, specifically, considerations of FF strengths and weaknesses with respect to different modes of participating in the international economy. Specifically, we show that the population of a nation's firms is not homogeneous with respect to ownership; instead, the prevalence of a specific owner type is likely to impact the way the country as a whole engages with the international economy. To help research on both national competitiveness and FF internationalization move forward, we now consider two related areas in which this study has made a contribution, discuss implications for emerging questions about FF internationalization and its relationship to national institutions, and identify the types of future research needed to address them.

7.1. Limitations and future research

While our study makes several contributions, our results should be considered tentative for several reasons, both empirical and conceptual.

First, because we rely on unbalanced pooled cross-sectional data, our ability to draw any strong conclusions regarding temporal stability and dynamics is limited. Further longitudinal research into the link among national competitiveness, FFP, and internationalization performance is therefore needed. This is particularly important because we have implicitly viewed FDI and exporting as distinct but equivalent internationalization strategies. However, exporting is sometimes regarded as an initial step on a path toward greater organizational and financial commitment to broader international strategies (Johanson & Vahlne, 2009), and thus sequence is important. We have, therefore, not specified a dynamic model linking national competitiveness and firm competitiveness. Thus, future studies might focus on the circumstances in which countries and firms jointly develop competitive capabilities that allow some firms to make the transition to more complex international strategies. A suggestive approach to linking firm adaptability and country institutional development is offered by Cantwell, Dunning, and Lundan (2010) who point to the possibility that firms and institutions will co-evolve in ways that support international competitiveness.

Second, the absence of firm-level data limited the range of explanatory variables examined. The use of country-level measures of FDI, exports and FFP may therefore conceal relevant information concerning the distribution of firms by size that affect their ability to expand abroad (Kirca, Hult, Deligonul, Perry, & Cavusgil, 2012). Future research should also include measures of sales concentration and/or statistical features of the firm size distribution that may better explain the international success of some FFs, particularly with respect to FDI.²

Similarly, our focus on country-level outcomes limits the discussion of more nuanced international strategy choices facing FFs. In particular, FF advantages with relational contracting may support participation in other modes of internationalization, such as international joint ventures or alliances, not directly accounted for in our study. Indeed, Asian FF capacity for relational contracting has been characterized as a unique form of ownership advantage in international business (Erdener & Shapiro, 2005; Rauch, 2001; Tsang, 2002), and more research is suggested on the question of whether and how FFs use relational strengths to build capabilities through formal joint ventures and strategic alliances. Moreover, more recent research suggests that firms located in institutionally weak environments, characterized by rent seeking and corruption, may be driven to internationalize to institutionally proximate markets based on advantages derived from their ability to operate within weak institutional arrangements (Cuervo-Cazurra & Genc, 2008). This type of analysis suggests quite a different relationship between firm- and country-specific factors, in which weak institutions can promote outward FDI. The question of whether and how FFs can transfer political and other connections across institutional contexts is in its infancy, and greater research in a wider array of settings is warranted (Carney et al., 2016). Accordingly, we recommend more attention to be paid to the strength and efficacy of family ties and their relationship to international strategies, both in terms of international partnerships and in terms of their effectiveness in different institutional contexts.

8. Conclusion

In this paper, we link the literature on FF internationalization with the literature on economic development and national competitiveness. In so doing, we treat FFP, measured at the country level, as an element of a country's business structure. Based on the extant FF literature, we develop the argument that FFs are more likely to support successful exporting strategies than successful foreign investment strategies, and using the logic of aggregation, we hypothesize that FFP would negatively moderate country factors supporting FDI and positively moderate country factors supporting exporting. On balance, our results provide consistent evidence that country-specific factors supportive of exports are strengthened with high levels of FFP, but that high levels of FFP are not associated with higher levels of outward FDI. Although our evidence suggests that FFs are on average better suited to internationalization strategies based on exporting than to those based on outward FDI, we recognize that our approach does not lend itself to more finely grained considerations of FF strategies, or to the manner in which FFs and country institutions can adapt and change over time.

Acknowledgments

We acknowledge the support of the Business School at the Universidad Adolfo Ibáñez and the Global Center for Entrepreneurship & Innovation at University of St. Gallen. We also gratefully acknowledge the financial support of CONICYT and the project Fondecyt Iniciación en Investigación 1150001.

References

- Almeida, H., & Wolfenzon, D. (2006). Should business groups be dismantled? The equilibrium costs of efficient internal capital markets. *Journal of Financial Economics*, 79, 99–144.
- Amit, R., Ding, Y., Villalonga, B., & Zhang, H. (2015). The role of institutional development in the prevalence and performance of entrepreneur and family-controlled firms. *Journal of Corporate Finance*, 31, 284–305.
- Amsden, A. (1989). *Asia's next giant: South Korea and late industrialization*. New York: Oxford University Press.
- Anderson, R. C., & Reeb, D. (2003). Founding-family ownership and firm performance: Evidence from the S & P 500. *Journal of Finance*, 58, 1301–1327.
- Arregle, J.-L., Hitt, M. A., Sirmon, D. G., & Vey, P. (2007). The development of organizational social capital: Attributes of family firms. *Journal of Management Studies*, 44,

² We thank one of the anonymous reviewers for suggesting this limitation.

- 73–95.
- Arregle, J.-L., Naldi, L., Nordqvist, M., & Hitt, M. A. (2012). Internationalization of family-controlled-firms: A study of the effects of external involvement in governance. *Entrepreneurship Theory and Practice*, 36, 1115–1143.
- Arregle, J.-L., Duran, P., Hitt, M. A., & van Essen, M., Why is family firms' internationalization unique? A meta-analysis. *Entrepreneurship Theory and Practice*, doi:10.1111/etap.12246, (in press).
- Banalieva, E. R., & Eddleston, K. A. (2011). Home-region focus and performance of family firm: The role of family vs non-family leaders. *Journal of International Business Studies*, 42, 1060–1072.
- Bartlett, C. A., & Ghoshal, S. (1989). *Managing across borders: The transnational solution*. Boston, MA: Harvard Business School Press.
- Bassetti, T., Dal Maso, L., & Lattanzi, N. (2015). Family businesses in Eastern European countries: How informal payments affect exports. *Journal of Family Business Strategy*, 6, 219–233.
- Best, M. (1990). *The new industrial competition: Institutions of industrial restructuring*. Cambridge, MA: Harvard University Press.
- Bjuggren, P. O., & Sund, L. G. (2001). Strategic decision making in intergenerational successions of small- and medium-size family-owned businesses. *Family Business Review*, 14, 11–23.
- Block, J. H., & Spiegel, F. (2013). Family firm density and regional innovation output: An exploratory analysis. *Journal of Family Business Strategy*, 4, 270–280.
- Bloom, N., & Van Reenan, J. (2007). Measuring and explaining management practices across firms and countries. *Quarterly Journal of Economics*, 82, 1351–1408.
- Breusch, T., & Pagan, A. (1979). A simple test for heteroscedasticity and random coefficient variation. *Econometrica*, 47, 1287–1294.
- Brouthers, K. D. (2002). Institutional: cultural and transaction cost influences on entry mode choice and performance. *Journal of International Business Studies*, 33, 203–221.
- Buckley, P. J., & Casson, M. (2010). *The multinational enterprise revisited: The essential Buckley and Casson*. New York: Palgrave Macmillan.
- Buckley, P. J., & Strange, R. (2015). The governance of the global factory: Location and control of world economic activity. *Academy of Management Perspectives*, 29, 237–249.
- Buckley, P. J., Elia, S., & Kafourous, M. (2014). Acquisitions by emerging market multinationals: Implications for firm performance. *Journal of World Business*, 49, 611–632.
- Buckley, P. J. (2009). The impact of the global factory on economic development. *Journal of World Business*, 44, 131–143.
- Bunkanwanicha, P., Fan, J. P., & Wiwattanakantang, Y. (2013). The value of marriage to family firms. *Journal of Financial and Quantitative Analysis*, 48, 611–636.
- Cabrera-Suárez, K., De Saá-Pérez, P., & García-Almeida, D. (2001). The succession process from a resource- and knowledge-based view of the family firm. *Family Business Review*, 14, 37–48.
- Cantwell, J., Dunning, J. H., & Lundan, S. (2010). An evolutionary approach to understanding international business activity: The co-evolution of MNEs and the institutional environment. *Journal of International Business Studies*, 41, 567–586.
- Carney, M., Fathallah, R., Gedajlovic, E., & Shapiro, D. M. (2015). The internationalization of ethnic Chinese family firms. In T. Yu, & H. Yan (Eds.), *Handbook of East Asia entrepreneurship* (pp. 132–143). New York: Routledge.
- Carney, M., Dieleman, M., & Taussig, M. (2016). How are institutional capabilities transferred across borders? *Journal of World Business*, 51, 882–894.
- Carney, M. (1998). The competitiveness of networked production: The role of asset specificity and trust. *Journal of Management Studies*, 35, 457–480.
- Castellacci, F. (2015). Institutional voids or organizational resilience? Business groups, innovation and market development in Latin America. *World Development*, 70, 43–58.
- Chandler, A. D. (1977). *The visible hand: The managerial revolution in American business*. Cambridge, MA: Belknap Press.
- Chandler, A. D. (1990). *Scale and scope: The dynamics of industrial competition*. Cambridge: Harvard University Press.
- Chrisman, J. J., Chua, J. H., & Sharma, P. (2005). Trends and directions in the development of a strategic management theory of the family firm. *Entrepreneurship Theory and Practice*, 29, 555–576.
- Christerson, B., & Lever-Tracy, C. (1997). The third China? Emerging industrial districts in rural China. *International Journal of Urban and Regional Research*, 21, 569–588.
- Claver, E., Rienda, L., & Quer, D. (2009). Family firms' international commitment: The influence of family-related factors. *Family Business Review*, 22, 125–135.
- Cubbin, J., & Stern, J. (2006). The impact of regulatory governance and privatization on electricity industry generation capacity in developing economies. *The World Bank Economic Review*, 20, 115–141.
- Cucculelli, M., & Storai, D. (2015). Family firms and industrial districts: Evidence from the Italian manufacturing industry. *Journal of Family Business Strategy*, 6, 234–246.
- Cuervo-Cazurra, A., & Genc, M. (2008). Transforming disadvantages into advantages: Developing-country MNEs in the least developed countries. *Journal of International Business Studies*, 39, 957–979.
- Cui, L., Meyer, K. E., & Wei Hu, H. (2014). What drives firms' intent to seek strategic assets by foreign direct investment? A study of emerging economy firms. *Journal of World Business*, 49, 488–501.
- Daily, C. M., & Dollinger, M. J. (1992). An empirical examination of ownership structure in family and professionally managed firms. *Family Business Review*, 5, 117–136.
- Diéguez-Soto, J., Manzanque, M., & Rojo-Ramírez, A. A. (2016). Technological innovation inputs, outputs, and performance: The moderating role of family involvement in management. *Family Business Review*, 29, 327–346.
- Dunning, J. H., & Lundan, S. M. (2008). Institutions and the OLI paradigm of the multinational enterprise. *Asia Pacific Journal of Management*, 25, 573–593.
- Dunning, J. H. (1981). *International production and the international enterprise*. London: Allen and Unwin.
- Dunning, J. H. (1995). Reappraising the eclectic paradigm in the age of alliance capitalism. *Journal of International Business Studies*, 26, 461–491.
- Duran, P., Kammerlander, N., van Essen, M., & Zellweger, T. (2015). Doing more with less: Innovation input and output in family firms. *Academy of Management Journal*, 59, 1224–1264.
- Edwards, G., & Waverman, L. (2006). The effects of public ownership and regulatory independence on regulatory outcomes. *Journal of Regulatory Economics*, 29, 23–67.
- Erdener, C., & Shapiro, D. M. (2005). The internationalization of Chinese family enterprises and Dunning's eclectic MNE paradigm. *Management and Organization Review*, 1, 411–436.
- Evans, W. N., & Kessides, I. N. (1993). Localized market power in the U.S. airline industry. *The Review of Economics and Statistics*, 75, 66–75.
- Fainshmidt, S., Judge, W. Q., Aguilera, R. V., & Smith, A., Varieties of institutional systems: A contextual taxonomy of understudied countries. *Journal of World Business*, doi:10.1016/j.jwb.2016.05.003, (in press).
- Feenstra, R. C. (1998). Integration of trade and disintegration of production in the global economy. *Journal of Economic Perspectives*, 12, 31–50.
- Fernandez, Z., & Nieto, M. (2006). Impact of ownership on the international involvement of SMEs. *Journal of International Business Studies*, 37, 340–351.
- Fernandez, Z., & Nieto, M. (2013). Internationalization of family firms. In L. Melin, M. Nordqvist, & P. Sharma (Eds.), *The SAGE handbook of family business* (pp. 403–422). Los Angeles: Sage.
- Fogel, K. (2006). Oligarchic family control, social economic outcomes, and the quality of government. *Journal of International Business Studies*, 37, 603–622.
- Gedajlovic, E., & Carney, M. (2010). Markets, hierarchies, and families: Toward a transaction cost theory of the family firm. *Entrepreneurship Theory and Practice*, 34, 1145–1172.
- Gedajlovic, E., & Shapiro, D. M. (1998). Management and ownership effects: Evidence from five countries. *Strategic Management Journal*, 19, 533–553.
- Gedajlovic, E., Lubatkin, M., & Schulze, W. (2004). Crossing the threshold from founder management to professional management: A governance perspective. *Journal of Management Studies*, 41, 899–912.
- Gereffi, G., & Lee, J. (2012). Why the world suddenly cares about global supply chains. *Journal of Supply Chain Management*, 48, 24–32.
- Gereffi, G. (2005). The global economy: Organization, governance, and development. *The Handbook of Economic Sociology*, 2, 160–182.
- Globerman, S., & Shapiro, D. (2008). The international mobility of highly educated workers among OECD countries. *Transnational Corporations*, 17, 1–35.
- Goldeng, E., Grünfeld, L. A., & Benito, G. R. G. (2008). The performance differential between private and state owned enterprises: The roles of ownership, management and market structure. *Journal of Management Studies*, 45, 1244–1273.
- Gomez-Mejia, L., Larraza-Kintana, M., & Makri, M. (2003). The determinants of executive compensation in family-controlled public corporations. *Academy of Management Journal*, 46, 226–237.
- Gomez-Mejia, L., Makri, M., & Larraza-Kintana, M. (2010). Diversification decisions in family-controlled firms. *Journal of Management Studies*, 47, 223–252.
- Hall, P., & Soskice, D. (2001). *Varieties of capitalism: The institutional foundations of comparative advantage*. Oxford: Oxford University Press.
- Hymer, S. H. (1976). *The international operations of national firms: A study of direct foreign investment*. Cambridge, MA: MIT Press.
- James, H. S. (1999). Owner as manager, extended horizons and the family firm. *International Journal of the Economics of Business*, 6, 41–55.
- Jennings, J. E., Breitkreuz, R. S., & James, A. E. (2014). Theories from family science: A review and roadmap for family business research. In L. Melin, M. Nordqvist, & P. Sharma (Eds.), *SAGE handbook of family business* (pp. 25–46). Los Angeles: Sage.
- Johanson, J., & Vahlne, J. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40, 1411–1431.
- Kirca, A. H., Hult, G. T. M., Deligonul, S. Z., Perry, M. Z., & Cavusgil, S. T. (2012). A multilevel examination of the drivers of firm multinationality: A meta-analysis. *Journal of Management*, 38, 502–503.
- Kontinen, T., & Ojala, A. (2010). The internationalization of family businesses: A review of extant research. *Journal of Family Business Strategy*, 1, 97–107.
- Kuo, A., Kao, M.-S., Chang, Y.-C., & Chiu, C.-F. (2012). The influence of international experience on entry mode choice: Difference between family and non-family firms. *European Management Journal*, 30, 248–263.
- Kutner, M. H., Nachtsheim, C. J., & Neter, J. (2004). *Applied linear regression* (4th ed.). New York: McGraw-Hill Irwin.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *Journal of Finance*, 54, 471–519.
- Le Breton-Miller, I., Miller, D., & Lester, R. H. (2010). Stewardship or agency? A social embeddedness reconciliation of conduct and performance in public family businesses. *Organization Science*, 22, 704–721.
- Lehrer, M., & Schmid, S. (2015). Germany's industrial family firms: Prospering islands of social capital in a financialized world? *Competition & Change*, 19, 301–316.
- Li, L. (2005). Is regional strategy more effective than global strategy in the US service industries? *Management International Review*, 45, 37–57.
- Lincoln, J. R., & Gerlach, M. L. (2004). *Japan's network economy: Structure, persistence, and change*. Cambridge, United Kingdom: Cambridge University Press.
- Luo, X., & Chung, C. N. (2005). Keeping it all in the family: The role of particularistic relationships in business group performance during institutional transition. *Administrative Science Quarterly*, 50, 404–439.
- Macintyre, A. (1994). *Business and government in industrializing Asia*. Ithaca: Cornell University Press.
- Mahmood, I. P., & Mitchell, W. (2004). Two faces: Effects of business groups on innovation in emerging economies. *Management Science*, 50, 1348–1365.
- Mayer, T., & Ottaviano, G. I. (2008). The happy few: The internationalisation of European

- firms. *Intereconomics*, 43, 135–148.
- McConaughy, D. L., Walker, M. C., Henderson, G., & Mishra, C. (1998). Founding family controlled firms: Efficiency and value. *Review of Financial Economics*, 7, 1–19.
- Miller, D., Le Breton-Miller, I., Lester, R., & Cannella, A. A., Jr. (2007). Are family firms really superior performers? *Journal of Corporate Finance*, 13, 829–858.
- Miller, D., Lee, J., Chang, S., & Le Breton-Miller, I. (2009). Filling the institutional void: The social behavior and performance of family vs non-family technology firms in emerging markets. *Journal International Business Studies*, 40, 802–818.
- Miralles-Marcelo, J. L., del Mar Miralles-Quirós, M., & Lisboa, I. (2014). The impact of family control on firm performance: Evidence from Portugal and Spain. *Journal of Family Business Strategy*, 5, 156–168.
- Morck, R. K., Strangeland, D. A., & Yeung, B. (1998). *Inherited wealth, corporate control and economic growth: The Canadian disease*. Cambridge, MA: National Bureau of Economic Research.
- Morosini, P. (2004). Industrial clusters, knowledge integration and performance. *World Development*, 32, 305–326.
- Muñoz-Bullón, F., & Sánchez-Bueno, M. (2012). Do family ties shape the performance consequences of diversification? Evidence from the European Union. *Journal of World Business*, 47, 469–477.
- Munari, F., Oriani, R., & Sobrero, M. (2010). The effects of owner identity and external governance systems on R & D investments: A study of Western European firms. *Research Policy*, 39, 1093–1104.
- Nair, A., Guldiken, O., Fainshmidt, S., & Pezeshkan, A. (2015). Innovation in India: A review of past research and future directions. *Asia Pacific Journal of Management*, 32, 925–958.
- Nohria, N., & Gulati, R. (1996). Is slack good or bad for innovation? *Academy of Management Journal*, 39, 1245–1264.
- Patel, P. C., & Chrisman, J. J. (2014). Risk abatement as a strategy for R & D investments in family firms. *Strategic Management Journal*, 35, 617–627.
- Peng, M. W., & Jiang, Y. (2010). Institutions behind family ownership and control in large firms. *Journal of Management Studies*, 47, 253–273.
- Peng, M. W. (2004). Identifying the big question in international business research. *Journal of International Business Studies*, 35, 99–108.
- Porter, M. E. (1990). *The competitive advantage of nations*. New York, NY: Free Press.
- Pukall, T. J., & Calabro, A. (2014). The internationalization of family firms: A critical review and integrative model. *Family Business Review*, 27, 103–125.
- Pyke, F., Beccattini, O., & Sengenberger, W. (1990). *Industrial districts and inter-firm co-operation in Italy*. Geneva: International Labor Organization.
- Rauch, J. E. (2001). Business and social networks international trade. *Journal of Economic Literature*, 39, 1177–1203.
- Ricart, J. E., Enright, M. J., Ghemawat, P., Hart, S. L., & Khanna, T. (2004). New frontiers in international strategy. *Journal of International Business Studies*, 35, 175–200.
- Rugman, A. M., & Verbeke, A. (1992). A note on the transnational solution and the transaction cost theory of multinational strategic management. *Journal of International Business Studies*, 23, 761–771.
- Rugman, A. (2009). Theoretical aspects of MNEs from emerging economies. In R. Ramamurti, & J. V. Singh (Eds.), *Emerging multinationals in emerging markets* (pp. 42–63). Cambridge: Cambridge University Press.
- Schulze, W., Lubatkin, M. H., Dino, R. N., & Buchholtz, A. K. (2001). Agency relationships in family firms: Theory and evidence. *Organization Science*, 12, 99–116.
- Schwab, K. (2014). *The global competitiveness report 2014–2015*. Geneva: World Economic Forum.
- Sciascia, S., Mazzola, P., Astrachan, J., & Pieper, T. (2012). The role of family ownership in inter-national entrepreneurship: Exploring nonlinear effects. *Small Business Economics*, 38, 15–31.
- Shapiro, D. M., Gedajlovic, E., & Erdener, C. (2003). The Chinese family firm as a multinational enterprise. *International Journal of Organizational Analysis*, 11, 105–122.
- Slangen, A. H. L., & Beugelsdijk, S. (2010). The impact of institutional hazards on foreign multinational activity: A contingency perspective. *Journal of International Business Studies*, 41, 980–995.
- Strikwerda, J., & Stoelhorst, J. W. (2009). The emergence and evolution of the multi-dimensional organization. *California Management Review*, 51, 11–31.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 17, 27–43.
- Teece, D. (1985). Multinational enterprise, internal governance, and industrial organization. *American Economic Review*, 75, 233–238.
- Thomsen, S., & Pedersen, T. (2000). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal*, 21, 689–705.
- Tsang, E. (2002). Learning from overseas venturing experience: The case of Chinese family businesses. *Journal of Business Venturing*, 17, 21–40.
- Vaaler, P. M. (2011). Immigrant remittances and the venture investment environment of developing countries. *Journal of International Business Studies*, 42, 1121–1149.
- Verbeke, A., & Kano, L. (2012). The transaction cost economics theory of the family firm: Family-based human asset specificity and the bifurcation bias. *Entrepreneurship Theory and Practice*, 36, 1183–1205.
- Vernon, R. (1979). The product cycle hypothesis in a new international environment. *Oxford Bulletin Economics and Statistics*, 41, 255–267.
- Villalonga, B., & Amit, R. (2006). How do family ownership, control, and management affect firm value. *Journal of Financial Economics*, 80, 385–417.
- Wade, R. (1990). *Governing the market: Economic theory and the role of government in East Asian industrialization*. Princeton, NJ: Princeton University Press.
- Whitley, R. D. (1992). *European business systems: Firms and markets in their national contexts*. London: Sage.
- Winter, S. G., & Szulanski, G. (2001). Replication as strategy. *Organization Science*, 12, 730–743.
- Wooldridge, J. M. (2009). *Introductory econometrics: A modern approach*. Mason, OH: South Western.
- World Bank (1993). *The East Asian miracle: Economic growth and public policy*. Oxford: Oxford University Press.
- Yoshikawa, T., & Rasheed, A. (2010). Family control and ownership monitoring in family-controlled firms in Japan. *Journal of Management Studies*, 47, 244–295.
- Zahra, S. A. (2003). International expansion of U.S. manufacturing family businesses: The effect of ownership and involvement. *Journal of Business Venturing*, 18, 495–512.