Board independence and firm internationalization: a meta-analysis

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BOARD INDEPENDENCE AND FIRM INTERNATIONALIZATION: 
A META-ANALYSIS

ABSTRACT

Purpose

Despite agency theory and resource dependence theory suggesting that—albeit through different mechanisms—board independence positively influences firm internationalization, empirical evidence on this relationship has been mixed and inconclusive. Based on this, the purpose of this study is twofold: first, to analyze and synthesize the existing empirical literature and, second, to develop new theoretical insights on the effect of board independence on firm internationalization.

Design/methodology/approach

We used advanced meta-analytic techniques that allowed us, first, to synthesize the existing empirical literature on the board independence-firm internationalization relationship and, second, to examine the effect of several contingencies on such relationship. Our study relies on data from 87 primary studies (published and unpublished) carried out in multiple academic fields in the period 1998-2021 and covering 49 countries.

Findings

Our results confirm the established agency and resource-dependence arguments suggesting that higher board independence is associated with greater firm internationalization. Moreover, our results show that our focal relationship is moderated by home-country formal and informal institutional factors, and in particular the legal protection of minority shareholders and family business legitimacy. We do not find evidence that CEO duality and board size moderate our focal relationship or that board independence has a stronger effect on breadth than on depth of internationalization.

Originality/value

Our study lies at the intersection of the literatures on corporate governance and firm internationalization and on comparative corporate governance of the multinational firm, shedding further light on the role played by institutional environments in determining the effectiveness of corporate governance mechanisms.

Keywords: board independence, firm internationalization, internal and external corporate governance mechanisms, institutions, depth and breadth of internationalization, meta-analysis
BOARD INDEPENDENCE AND FIRM INTERNATIONALIZATION:  
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1. INTRODUCTION

One of the overarching predictions of the agency perspective is that curbing agency problems by means of appropriate corporate governance mechanisms will have a positive effect on firms’ risk-taking, thus benefiting shareholders (e.g., Jensen & Meckling, 1976; Fama, 1983; Eisenhardt, 1989). In the agency framework, board independence is a central governance mechanism (e.g., Dalton et al., 2007), “widely held to be critical for vigilant monitoring—indeed, it seems to be considered somewhat of a “silver bullet” for governance” (Misangyi & Acharya, 2014, p. 1683). Based on this, previous corporate governance studies, including meta-analyses (e.g., Deutsch, 2005), have examined the relationship between board independence and risk-taking actions, such as R&D intensity (e.g., Lu & Wang, 2018) and diversification (e.g., Westphal, 1998). Along these lines, scholars have also investigated the influence of board independence on firm internationalization (e.g., Lu et al., 2009; Singh & Delios, 2017). This line of inquiry starts from the recognition that firm internationalization is fraught with uncertainty in terms of its performance implications (e.g., Hymer, 1960; Zaheer, 1995), since this strategy implies long-term commitment to a path that is potentially costly to reverse (e.g., Caves, 1984; Ghemawat, 1991; Michael & Pearce, 2004). The agency perspective hence suggests that the risk aversion of undiversified powerful corporate actors may limit the extent of firms’ expansion abroad (e.g., Filatotchev et al. 2008; Hoskisson et al. 2017; Lien et al. 2005), albeit shareholders likely prefer courses of actions that maximize returns, even when accompanied by higher risk (e.g., Eisenhardt, 1989; Jensen & Meckling, 1976). Thus, by curbing the agency problem and
thus restraining the effects of powerful corporate actors’ risk aversion, board independence is predicted to positively affect firm internationalization.

Previous research has examined the relationship between corporate governance and firm internationalization also from a resource-dependence perspective (e.g., Pfeffer & Salancik, 1978). Based on this perspective, corporate governance mechanisms that provide better access to external resources have a positive effect on the degree of firm internationalization (Boivie et al., 2016; Hillman & Dalziel, 2003). In particular, outside directors may facilitate firms’ access to resources (organizational, managerial, etc.) that are valuable for a number of complex strategic actions, including internationalization (e.g., Hillman & Dalziel, 2003; Sanders & Carpenter, 1998). Examples of such resources are international experience, industry expertise, functional skills, and professional networks. A higher presence on the board of outside directors (relative to inside directors) implies greater amount and diversity of the human and relational capital available for the firm’s strategic management (e.g., Filatotchev et al., 2008; Lien et al., 2005; Lu et al., 2009). Board independence, therefore, may increase firms’ propensity to undertake foreign expansion (e.g., Singh & Delios, 2017).

Despite these established theoretical arguments suggesting a positive influence of board independence on firm internationalization, the empirical evidence in the extant literature is inconsistent and inconclusive. Some scholars have provided evidence supporting the arguments summarized above (e.g., Carpenter et al., 2003; Lu et al., 2009). However, other studies report a negative effect on firm internationalization of outside directors’ presence on the board (e.g., Dixon et al., 2017). Still others find no significant relationship between these two variables (e.g., Singh & Delios, 2017; Tihanyi et al., 2009). Given such disparate empirical findings, the universality of the board independence-firm internationalization relationship comes into
question. Therefore, our first (purely empirical) research question is the following: *What is the effect of board independence on firm internationalization?* Moreover, the lack of a consistent support for the prediction of a positive board independence-firm internationalization relationship suggests the opportunity to extend the existing theoretical arguments on the causal link between the two constructs. Therefore, to explain the inconsistent evidence on our focal relationship and improve our theoretical understanding of it, we focus on potential moderating effects and thus address a second research question: *Is the effect of board independence on firm internationalization contingent on other factors at the firm and home-country levels?*

Our examination of potential moderators affecting the relationship between board independence and firm internationalization focuses on relevant factors at the firm and home-country levels previously understudied in the context of our focal relationship. The literature has long established that internal corporate governance mechanisms are not independent from one another, but rather interconnected through relationships of complementarity and substitution (e.g., Aguilera et al., 2012; Finkelstein et al., 2009). Herein, we adopt a managerial power perspective (e.g., Bebchuk & Fried, 2003; Westphal & Zajac, 1995; Finkelstein et al., 2009) and investigate the effect on firm internationalization of the interrelationship between board independence and two other well-studied board structure mechanisms—CEO duality and board size. Moreover, from an institutional perspective, we investigate the effect of formal and informal institutional factors, namely the strength of minority shareholder protection (e.g., Guillen & Capron, 2016) and the degree of family business legitimacy (e.g., Berrone et al., 2020). Indeed, the extant literature points out that corporate governance mechanisms are influenced by home-country institutions (e.g., Aguilera & Jackson, 2010; Aguilera et al., 2019) and, hence, we expect that the board independence-firm internationalization relationship varies
under different institutional conditions. Lastly, international business scholars have shown that firm internationalization is a multidimensional construct, comprising the dimensions of depth and breadth (e.g., Sullivan, 1994; Thomas & Eden, 2004; Lu & Beamish, 2004). Since each of these dimensions is characterized by distinctive antecedents and outcomes, we predict a differential effect of board independence on them.

In order to empirically address our research questions, we used advanced meta-analytic techniques (e.g., Beugelsdijk et al., 2018, Marano et al., 2016) that allowed us, first, to synthesize the existing empirical literature on the board independence-firm internationalization relationship and, second, to examine the effect of contingencies on such relationship. Our study relies on data from 87 primary studies (published and unpublished) carried out in multiple academic fields in the period 1998-2021 and covering 49 countries.

Our findings show that, overall, board independence has a positive effect on firm internationalization, consistent with the agency- and resource dependence-based prediction. Moreover, we find that our focal relationship is positively influenced by minority shareholder protection and negatively moderated by family business legitimacy. We do not find evidence of a moderating effect of CEO duality and board size, and of a differential effect of board independence on depth and breadth of internationalization. The contribution of our study is therefore twofold. First, we contribute to the literature on the linkages between corporate governance and firm internationalization, with meta-analytic evidence confirming the role that the structure and composition of the board plays in firms’ foreign direct investment decisions. Second, our study bridges the agency and institutional perspectives with respect to the board independence-firm internationalization relationship, by showing that the ability of outside
directors to restrain the risk aversion of powerful corporate actors and thus positively influence firm internationalization changes depending on the institutional conditions.

The paper proceeds as follows. First, we develop the hypotheses concerning our focal moderators of the board independence-firm internationalization relationship. We then explain our meta-analytical approach and the results of our analyses. We conclude by discussing the theoretical implications of our study.

2. HYPOTHESES

Based on the agency and resource-dependence arguments summarized earlier, our baseline expectation is the existence of a positive relationship between board independence and firm internationalization (the test of this expectation will be the first step in our empirical analyses). Therefore, drawing on the managerial power and institutional perspectives, this section develops hypotheses about the moderating effect of key internal and external factors on our focal relationship, which could help explain the inconsistent findings in the extant literature.

2.1 The effect of internal corporate governance mechanisms on the board independence-firm internationalization relationship

**CEO duality.** Scholars adopting a managerial power perspective argue that monitoring weakens when boards are more influenced by executives and therefore less able and/or willing to constrain their power (e.g., Bebchuk & Fried, 2003; van Essen et al., 2015). From this perspective, a relevant structural feature of the board is represented by CEO duality, a situation when the CEO is also chairman of the board. By taking the chair position on the board, a CEO is able to determine the agenda and better drive the debate in formal board meetings (e.g., Grinstein & Hribar, 2004; Finkelstein & D’Aveni, 1994). In doing so, the CEO/chairman can control, for example through the briefing package (e.g., Shekshnia, 2018), the information provided to the
directors before and during the meetings—information on which the outside directors rely to a large extent (e.g., Finkelstein et al., 2009).

Aligned with the idea that powerful CEOs affect the selection of new directors (e.g., Finkelstein et al., 2009; Shivdasani & Yermack, 1999), previous research has also shown that duality increases the CEO’s involvement in the selection of board members, including outside directors. For example, Westphal & Zajac (1995) found that a dual position of CEO and board chairman is positively associated with demographic similarity between the CEO and the new directors. Indeed, “since candidates for board directorships are often recommended by the board chair, duality provides the means for the CEO to have allies in the boardroom, possibly limiting constructive debate and consideration of alternative viewpoints” (Lewellyn & Fainshmidt, 2017: p. 1607).

Based on the above arguments, CEO duality weakens the ability of outside directors to monitor executives and restrain their risk-based aversion toward higher firm internationalization. We therefore hypothesize the following:

**Hypothesis 1 (H1). CEO duality weakens the relationship between board independence and firm internationalization.**

**Board size.** Another structural feature of the board relevant from a managerial power perspective is the size of the board. The organizational literature on group size points out that larger groups may function in less effective and efficient ways, due to increases in conflicts and difficulties in building consensus (e.g., Shaw, 1981). Corporate governance scholars have made similar arguments for boards (e.g., Finkelstein et al., 2009; Goodstein et al., 1994), stressing internal coordination and communication problems (e.g., Bebchuk & Fried, 2004; Lipton & Lorsch, 1992) as well as increasing efforts to reach decisions because of the existence of rival
factions and cliques (e.g., Zahra & Pearce, 1989). Supporting the idea that larger boards are less effective in fulfilling their roles, scholars have provided evidence of a negative relationship between board size and firm market value (e.g., Yermack, 1996) and profitability (e.g., Guest, 2009). In light of this, we argue that larger board size reduces the ability of outside directors to monitor executives and constrain their power to make internationalization decisions based on their own risk preferences. We therefore hypothesize the following:

Hypothesis 2 (H2). Board size weakens the relationship between board independence and firm internationalization.

2.2 The effect of institutional factors on the board independence-firm internationalization relationship

Minority shareholder protection. Institutions determine the rules of the game (e.g., North, 1990) under which corporate governance functions (e.g., Aguilera & Jackson, 2010; Filatotchev et al., 2013). On the formal side of the institutional framework, the regulatory system, and in particular corporate law, “defines almost every dimension of the firm’s governance structure” (Aguilera et al., 2015: p. 526), including the protection of minority shareholders rights. The extant literature examining the interconnections between external and internal corporate governance mechanisms (e.g., Aguilera et al., 2015; La Porta et al., 1998) points to the complementarity between minority shareholder protection laws (an external governance mechanism) and board monitoring (an internal governance mechanism). Specifically, scholars have argued that the strength of minority shareholder protection influences the effectiveness of the board in fulfilling its monitoring role. First, when the legal protection of their rights is strong, minority shareholders are empowered to affect board composition and, arguably, push for the appointment of outside directors able and willing to act in the interest of
their group (e.g., Kim et al., 2007). Second, environments emphasizing the protection of minority shareholders tend to delineate a greater role for boards, empowering and emboldening outside directors to perform more effective monitoring (e.g., Aguilera et al., 2015). Third, a stronger protection of minority shareholder rights is associated with higher chances of replacement after scandals (regardless of whether the director is at fault) and more severe legal sanctions for a director’s wrongdoing (e.g., Aguilera et al., 2015; Marcel & Cowen, 2014). This likely incentivizes outside directors to engage in better monitoring, thus more effectively constraining the risk-based aversion of powerful corporate actors towards firm internationalization. We therefore hypothesize the following:

**Hypothesis 3 (H3).** Minority shareholder protection strengthens the relationship between board independence and firm internationalization.

**Family business legitimacy.** On the informal side of the institutional framework, family business legitimacy (FBL; Berrone et al., 2020) may influence the relationship between board independence and firm internationalization, given the relevance of family firms around the world (e.g., Amit & Villalonga, 2014) and their strategic and governance peculiarities relative to non-family firms (e.g., Arregle et al., 2017; Carney, 2005; Gomez-Mejia et al., 2011). As Berrone and colleagues (2020) show, greater family business legitimacy in a country is associated with higher prevalence of family-controlled firms, because “In strong FBL countries, the family is positioned as the central economic unit, kinship-based forms of social exchange are favored, and the business culture is congruent with typical family values. Social order systems support informal hierarchical arrangements and well-defined status and authority patterns” (p. 4). In strong FBL countries, family-controlled firms tend to be characterized by higher ‘strategic deviance’, due to their pursuit (legitimized and thus less subject to sanctions by the external
environment) of strategies aligned with the interest of the controlling family. In particular, Berrone and colleagues (2020) show that, in strong FBL countries, family-controlled firms are generally more likely to avoid risk. Moreover, based on a large number of studies showing that corporate governance in family-controlled firms often does not follow the standard agency-based model of ‘good governance’ (e.g., Gomez-Mejia et al., 2011; Singla et al., 2014), we argue that in strong FBL countries outside directors in family-controlled firms are often not independent and de facto affiliated with the controlling family (e.g., Anderson & Reeb, 2004; Schulze et al., 2001). Since they are beholden to the controlling family and, relatedly, less interested in protecting their reputation as active directors, those ‘pressure-sensitive’ outside directors may have a weaker incentive to engage in effective monitoring, thus adopting a more compliant approach (e.g., Finkelstein et al., 2009). In other words, we posit that strong FBL enables, for family-controlled firms, corporate governance frameworks characterized by weaker boards (at least in terms of monitoring). Based on this, outside directors may be less able and/or willing to monitor internationalization decisions, which are hence likely in line with the risk aversion of the controlling family but not in the interest of the minority shareholders. We therefore hypothesize the following:

**Hypothesis 4 (H4).** Family business legitimacy weakens the relationship between board independence and firm internationalization.

### 2.3 The differential effect of board independence on depth and breadth of internationalization

Firm internationalization is a multidimensional construct, comprising the dimensions of depth and breadth of foreign expansion (e.g., Sullivan, 1994): depth refers to the extent to which a firm relies on its foreign operations, i.e., the scale of its foreign activities (e.g., Thomas &
Eden, 2004); breadth refers to the geographic reach around the world of the firm’s operations, i.e., the scope of its international expansion (e.g., Lu & Beamish, 2004). Although interdependent, depth and breadth of internationalization are theoretically distinct. As pointed out in the literature, depth and breadth of internationalization differ with regard to a number of aspects, including knowledge requirements, resource access and development, efficiencies along the value chain, and risk mitigation. Therefore, we suggest that distinguishing them is relevant in the context of the board independence-firm internationalization relationship. From an agency perspective, powerful corporate actors’ risk preferences may reflect different attitudes towards these two dimensions of firm internationalization. By definition, broader international expansion entails dispersion of business operations across a larger number of host countries and regions (e.g., George et al., 2005; Kafouros et al., 2012). This may intensify the risks of internationalization more than a deeper geographic expansion concentrated in fewer foreign locations, due to the potential exposure to a multiplicity of heterogeneous political, institutional, and economic environments. Hence, the implications of powerful corporate actors’ risk aversion in terms of suboptimal foreign expansion may be more pronounced for decisions concerning the level of breadth, rather than that of depth. From a resource-dependence perspective, the better access to organizational and managerial resources that board independence provides may prove particularly important when coping with the multiplicity and heterogeneity of external environments often associated with higher levels of breadth (e.g., Hillman & Dalziel, 2003). Hence, board independence may affect top executives’ reluctance to increase the geographical reach of the firm more than their disinclination to expand the scale of foreign operations. We therefore hypothesize the following:
Hypothesis 5 (H5). The relationship between board independence and firm internationalization is stronger for the breadth than the depth of internationalization.

3. METHODS

In order to address our research questions, we conducted a meta-analysis following established methodological guidelines (e.g., Borenstein et al., 2021; Buckley et al., 2013; Geyskens et al., 2009). In this section, we present our sample and coding approach, as well as the two meta-analytic procedures used, namely, Hedges and Olkin-type meta-analysis (HOMA; Hedges & Olkin, 1985) and meta-analytic regression analysis (MARA; Lipsey & Wilson, 2001).

We conclude this section by describing the measures of our variables.

Sample and Coding

To maximize the number of studies for our meta-analysis, we employed two complementary search strategies. First, we explored six major electronic databases by conducting keyword searches focused on board independence and firm internationalization. The electronic databases are the following: ABI Inform, Business Source Complete, Google Scholar, JSTOR, SSRN, and Web of Science. We used the following search terms: “corporate governance,” “governance,” “board of directors,” “corporate board,” “board composition,” “board structure,” “board independence,” “independent directors,” “outside directors,” and “non-executive directors” with regard to board independence; “internationalization,” “international diversification,” “geographic diversification,” “geographic expansion,” “international expansion,” “foreign expansion,” “multinationality,” “multinational firm,” “MNC,” and “MNE” with regard to firm internationalization. Second, we identified relevant papers among those cited in the previously retrieved articles and those citing them. In order to do that, we used Google Scholar and Web of Science.
From the search results, we collected any paper that reported effect sizes (i.e., Pearson correlation coefficients and/or regression estimates) concerning the relationship between board independence and firm internationalization. Since our theoretical focus is the effect of board independence on firm internationalization, we did not collect papers reporting only regression estimations with board independence as the dependent variable and firm internationalization as one of the independent variables. Each of the collected articles, therefore, involved an empirical analysis and included the necessary statistical information. Moreover, the collected papers used measures of board independence and firm internationalization that reflected conventional definitions of the corresponding constructs (e.g., Bergh et al., 2016). Combined, our search strategies yielded an initial sample of 91 primary studies (84 published and 7 unpublished) carried out in multiple academic fields in the 1998-2021 period and covering 50 countries.

In order to ensure that sample dependence would not represent a major issue in our analyses, we checked whether any primary studies were authored by the same scholars and based on the same empirical sample. After this check, we removed four papers from our initial sample. When doing that, we used the sample size in the primary study as the criterion; in other words, in the presence of sample dependence, we kept the primary study with the larger sample size (e.g., Bergh et al., 2016; Geyskens et al., 2006). Despite that, sample dependence may still be an issue because primary studies may rely on the same large and accessible databases. However, our final sample includes articles published over more than two decades (1998-2021), covering a period of almost thirty years (1989-2018, based on the primary studies’ sample median year), and from different disciplines, thus reasonably increasing the variation in data sources at satisfactory levels (Bergh et al., 2016). Therefore, our final sample includes 87 primary studies (80 published and 7 unpublished) carried out from 1998 to 2021 and covering 49 countries.
Next, we read the sampled articles, developed a coding protocol (e.g., Lipsey & Wilson, 2001), and collected data concerning the relationships of interest as well as the study characteristics. Three authors collected all the data, while a fourth author checked the degree of agreement in the extracted information from the primary studies (e.g., Stanley & Doucouliagos, 2012). Differences were discussed until full agreement was reached.

**Meta-Analytic Procedures**

We used two meta-analytic procedures to address our research questions.

**HOMA procedure.** We used HOMA (Hedges & Olkin, 1985) to compute the meta-analytic mean correlation and the corresponding confidence interval for the relationship between board independence and firm internationalization. Moreover, we used this procedure to perform a sub-group analysis in which we estimated the mean correlation for each dimension of firm internationalization (i.e., depth and breadth).

In our HOMAs, we used the Pearson product-moment correlation $r$ and the partial correlation $r_{xy,z}$ as effect sizes, both easily interpretable and scale-free measures of linear association. The Pearson product-moment correlation $r$ is the most commonly used effect size statistic in management meta-analyses (e.g., Geyskens et al., 2009). The partial correlation $r_{xy,z}$ captures the linear association between two variables ($x$ and $y$), given a vector of $n$ control variables ($z$). Partial correlations can be computed from the $t$ statistics and degrees of freedom reported in the primary studies (e.g., Greene, 2018).\(^1\)

When multiple measurements of the focal relationships were reported in a primary study due different operationalizations of firm internationalization, all of them were included in our

\(^1\) Partial correlations were computed using the following formula: $\sqrt{\left(\frac{t^2}{t^2 + df}\right)}$, where $t$ is the $t$-value and $df$ is the degrees of freedom from the regression estimations in the primary studies. This formula always produces a positive number; we therefore converted the result into a negative number if the regression coefficient in the primary study is negative (Greene, 2018). The $t$-values are by definition standardized and scale-free.
estimation of the mean effect size. We performed our estimations using random-effects HOMA, which is more conservative than fixed-effects HOMA because it accounts for potential heterogeneity in the effect size distribution (e.g., Geyskens et al., 2009; Kisamore & Brannick, 2008). To account for differences in the precision of the effect sizes, we weighted each effect by its inverse variance weight, \( w \) (e.g., Hedges & Olkin, 1985). These weights were also used to compute the standard error of the mean correlations and their corresponding confidence intervals. When computing the weighted mean correlations, we used a 1.0 reliability estimate for all the variables. We used a 1.0 level of reliability because the variables of interest for our study are not particularly exposed to measurement error, since they do not leave much room for subjectivity to researchers carrying out a primary study. While a conservative 0.80 reliability estimate is recommended by some scholars (e.g., Aguinis et al., 2011), both Dalton and his colleagues (1998) and Bergh and his colleagues (2016) did not find any substantive difference in the results of their meta-analyses when using a 1.0 level of reliability instead of a 0.80 level.

**MARA procedure.** We used MARA (Lipsey & Wilson 2001) to test our hypotheses on the moderating effect of CEO duality, board size, protection of minority shareholders, and family-business legitimacy (H1-H4), and our hypothesis on the differential effect of board independence on depth and breadth of internationalization (H5). The dependent variable in our MARA models is the effect size, capturing the strength of the relationship between board independence and firm internationalization in a given sample. Therefore, the independent variables in the models represent moderators of the focal relationships (e.g., Gonzalez-Mulé & Aguinis, 2018; Lipsey & Wilson 2001). In our MARA, we used both the Pearson product-moment correlation \( r \) and the partial correlation \( r_{xy.z} \) as effect size estimates (e.g., Stanley & Doucouliagos, 2012). MARA is a weighted least squares technique and, as we did in the HOMA
procedure, we weighted each effect size by its inverse variance weight, \( w \), to account for differences in precision across effect sizes (e.g., Lipsey and Wilson, 2001). Following current standards in the meta-analytic literature (e.g., Aguinis et al., 2011; Geyskens et al., 2009), in the MARA we used random-effects models, which are more conservative than fixed-effects models. This yielded the following regression equation:

\[
    r_i = \alpha + \beta X_i + \gamma Z_i + u_i
\]  

(1)

where \( r_i \) is the correlation between board independence and firm internationalization, \( \alpha \) is the constant term, \( X_i \) is a vector including our focal moderators, \( Z_i \) is a vector of methodological and study artifacts, and \( u_i \) is the random component.

**Measures**

*Board independence.* Board independence (BI) reflects the degree to which the board of directors operates independently from powerful corporate actors and is measured as the ratio of outside directors to the total number of board members (e.g., Tihanyi et al., 2003; Singh & Delios, 2017).

*Firm internationalization.* Firm internationalization (INT) refers to the size of a firm’s foreign footprint, i.e., the extent to which value chain activities are performed abroad. This construct has been operationalized in a number of ways (e.g., Lu & Beamish, 2004; Sullivan, 1994; Thomas & Eden, 2004). Herein, we used the following measures: foreign sales to total sales (e.g., Tallman & Li, 1996), foreign assets to total assets (e.g., Gomes & Ramaswamy, 1999), foreign employees to total employees (e.g., Brock & Yaffe, 2008), foreign subsidiaries to total subsidiaries (e.g., Gomez-Mejia & Palich, 1997), total exports to total sales (e.g., Lu & Beamish, 2001), number of countries (e.g., Delios & Beamish, 1999), number of regions (e.g.,
Kim et al., 2004), dispersion across countries (e.g., Goerzen & Beamish, 2003), and dispersion across regions (e.g., Hitt et al., 1997).

We also differentiate between depth and breadth of internationalization. Depth of internationalization, i.e., the scale of the activities that are conducted outside the home country (e.g., Thomas & Eden, 2004) is measured as foreign sales to total sales, foreign assets to total assets, foreign employees to total employees, foreign subsidiaries to total subsidiaries, and total exports to total sales. Breadth of internationalization, i.e., the geographic scope of a firm’s foreign operations (e.g., Thomas & Eden, 2004) is measured as number of countries, number of regions, dispersion across countries, and dispersion across regions. Based on this, in our MARA we included the dummy *breadth of internationalization* (taking value of 1 if the effect size in the primary study captures the strength of the relationship between board independence and breadth of internationalization, and 0 otherwise) and the dummy *other measures of internationalization* (taking value of 1 if the effect size in the primary study captures the strength of our focal relationship using measures of firm internationalization other than depth or breadth, and 0 otherwise), with depth of internationalization representing the base category.

**CEO duality.** CEO duality is measured as a dummy variable taking value of 1 if the same person holds both the CEO and chairman titles, and 0 if these two positions are held by different board members (e.g., Boyd, 1995; Ellstrand et al., 2002). To include this variable in our MARA, we used the sample mean of this variable reported in the primary study.

**Board size.** Board size is measured as the number of directors sitting on the firm’s board (e.g., Yermack, 1996; Guest, 2009). To include this variable in our MARA, we used the sample mean of this variable reported in the primary study.
**Protection of minority shareholders.** To measure the degree of minority shareholder protection at the country level, we used the Minority Shareholder Protections index developed by Guillén and Capron (2016). This index covers 78 developed and emerging countries over the 1970-2016 period. To develop this cross-national, comparative measure, the authors (a) collected information on the ten key legal provisions identified by legal scholars as most relevant for the protection of minority shareholder rights, (b) coded each of those legal provisions between 0 and 1 for any covered country, based on the strength of the provision in protecting minority shareholders, and (c) totaled the scores for each of the ten legal provisions. The index therefore ranges from 0 (lowest) to 10 (highest).\(^2\)

**Family business legitimacy.** To measure the degree of family business legitimacy, we used the Family Business Legitimacy Index developed by Berrone and colleagues (2020). This index covers 83 developed and emerging countries. This formative index is composed of 20 items grouped in five dimensions: intergenerational survival orientation, continuity orientation, network-based relations, in-group solidarity, and patriarchal domination. The index ranges from 0 (lowest) to 1 (highest).\(^3\)

**Control variables.** To account for differences in research design across primary studies, we controlled for several methodological artifacts in our MARA models. We included the median year in the primary study to account for time effects (e.g., Schommer et al., 2019). We used dummy variables to control for whether panel data is used in the primary study (as opposed to cross-sectional data) and whether the primary study controls for endogeneity. We also

\(^2\) For the multi-country primary studies included in our meta-analysis, we computed a weighted average based on the distribution of firms across the countries covered in the primary study’s sample.

\(^3\) Similar to what we did for minority shareholder protection, we computed a weighted average for the multi-country primary studies included in our meta-analysis, based on the distribution of firms across the countries covered in the primary study’s sample.
included a dummy variable taking value of 1 if the effect size is a \textit{partial correlation}, and 0 if it is a bivariate correlation.

At the country level, we controlled for \textit{home-country outward FDI} (OFDI) flows adjusted by gross domestic product (GDP) and GDP per capita based on purchasing power parity (PPP) (e.g., Cuervo-Cazurra et al., 2018), since home-country openness to international markets and economic development may affect firm internationalization. We collected data on OFDI flows from UNCTAD Statistics and data on GDP per capita (PPP) from the World Bank’s World Development Indicators.\textsuperscript{4}

4. RESULTS

HOMA Results

Table 1 reports the HOMA results based on $r$ and $r_{xy,z}$. The mean correlation between board independence and firm internationalization based on the bivariate effect sizes is positive and marginally significant ($r$-based mean $= 0.021$, $p = 0.095$). Moreover, the mean correlation based on the partial effect sizes is positive and significant ($r_{xy,z}$-based mean $= 0.062$, $p = 0.000$). This provides support for the agency- and resource-dependence-based arguments that board independence positively influences firm internationalization. Subgroup analyses based on $r$ show a positive and marginally significant effect of board independence on depth of internationalization, but no effect on breadth ($r$-based mean for depth $= 0.026$, $p = 0.084$; $r$-based mean for breadth $= 0.005$, $p = 0.854$). Subgroup analyses based on $r_{xy,z}$ show a positive and significant effect on both depth and breadth of internationalization ($r_{xy,z}$-based mean for depth $= 0.065$, $p = 0.001$; $r_{xy,z}$-based mean for breadth $= 0.080$, $p = 0.045$). Additional subgroup analyses based on $r_{xy,z}$ show that the meta-analytic mean for studies using endogeneity corrections is

\textsuperscript{4} In our MARA estimations, we used the natural logarithm of both variables.
positive and significant ($r_{xy,z}$-based mean = 0.058, $p = 0.027$), and slightly lower than the overall meta-analytic mean.

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Insert Table 1 about here
------------------------------------

**MARA Results**

The results of the MARA, which focuses on the moderators of our focal relationship, are presented in Table 2. The dependent variable for each model is the correlation between board independence and firm internationalization. In Model 1, the effect of the control variables on our focal relationship is examined. CEO duality and board size are included in Models 2 and 3, respectively, to test Hypotheses 1 and 2. Model 4 contains protection of minority shareholders, family business legitimacy, and breadth of internationalization to test Hypotheses 3, 4, and 5.

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Insert Table 2 about here
------------------------------------

*Internal corporate governance moderators.* Hypotheses 1 and 2 predict that CEO duality and board size negatively moderate the relationship between board independence and firm internationalization. The results for Models 2 and 3 in Table 2 show that the coefficient estimate for CEO duality (Model 2: $\beta = 0.106$, $p = 0.388$) and board size (Model 3: $\beta = -0.005$, $p = 0.447$) are not statistically significant. Therefore, we do not find support for the moderating effect of these two internal corporate governance mechanisms on our focal relationship.

---

5 Since we have a lower number of observations for CEO duality and board size (31 and 77 observations, respectively), we estimated separate MARA models for each of these two moderators.
Institutional moderators. Hypotheses 3 predicts that protection of minority shareholders positively moderates the relationship between board independence and firm internationalization, while Hypotheses 4 predicts that family business legitimacy negatively moderates our focal relationship. The results for Model 4 in Table 2 show that the coefficient estimate for protection of minority shareholders is positive and statistically significant (Model 4: $\beta = 0.029, p = 0.043$) and the coefficient estimate for family business legitimacy is negative and statistically significant (Model 4: $\beta = -0.192, p = 0.017$). We therefore find support for the moderating effect of these two institutional factors on our focal relationship.

Breadth vs depth of internationalization. Hypothesis 5 predicts that the positive effect of board independence on firm internationalization is stronger for breadth than for depth of internationalization. The results for Model 4 in Table 2 show that the coefficient estimate for breadth of internationalization is not statistically significant (Model 4: $\beta = -0.009, p = 0.803$). Hypothesis 5 is therefore not supported.

Post-Hoc Analysis: Direction of Causality in the Board Independence-Firm Internationalization Relationship

In our study, the focus is on the effect of board independence on firm internationalization. However, the extant literature has provided evidence also for the opposite direction of causality (e.g., Sanders & Carpenter, 1998; Singla et al., 2014). Indeed, the agency and information-processing perspectives stress that firm internationalization increases firm complexity, thereby heightening the information asymmetries and information-processing demands within the firm. In turn, higher firm complexity may trigger the adoption of corporate governance mechanisms—including board independence—enabling more effective monitoring and information processing (e.g., Luo, 2005; Sanders & Carpenter, 1998). Moreover, the institutional perspective suggests
that, as a result of a process of transnational institutionalization, internationalized firms may adopt globally recognized corporate governance practices—including board independence (e.g., Misangyi & Acharya, 2014)—in order to establish and maintain legitimacy in the meta-institutional field and avoid the sanctions resulting from deviant behavior (e.g., Kostova et al. 2008).

Based on this we tested the relative explanatory power of the two directions of causality. In order to do that, we used meta-analytic structural equation modeling (MASEM; Carney et al., 2011; Viswesvaran & Ones, 1995), since this technique allows pitting alternative models against one another (Bergh et al., 2016). Building on the extant body of empirical research, we therefore assessed the explanatory power of the direct effects model linking board independence to firm internationalization relative to that of the direct effects model linking firm internationalization to board independence.

In the first step of the two-stage procedure, we computed mean correlations between the variables of interest through separate HOMAs. The meta-analytic matrix of mean correlations provided the data to run, in the second step, structural equation modeling (SEM) using the maximum-likelihood estimator. We based our SEM estimation of the coefficients on the harmonic mean of the sample sizes. This allowed us to deal with the sample size differences and reduce the concern that larger samples might affect the estimation more than smaller samples (Bergh et al., 2016). The equations that we estimated are reported below:

\[
\text{Firm Internationalization} = \beta \text{Board Independence} + \gamma \text{Controls} + \varepsilon \quad (1)
\]

where Controls is a vector of control variables, including firm size, firm age, debt-to-equity ratio, and other corporate governance mechanisms. The inclusion of board size, CEO duality, CEO tenure, ownership concentration, institutional ownership, inside ownership as controls allowed us
to examine the effect of board independence while accounting for its interdependencies with other relevant corporate governance mechanisms.

\[
\text{Board Independence} = \beta \text{Firm Internationalization} + \gamma \text{Controls} + \varepsilon \quad (2)
\]

where Controls is a vector of control variables, including firm size, firm age, debt-to-equity ratio, and other firm strategy variables. The inclusion of product diversification and R&D intensity as controls allowed us to examine the effect of firm internationalization while accounting for its interdependencies with other relevant strategy variables.

Table 3 presents the meta-analytic correlation matrix. Cells below the diagonal represent separate HOMAs and report the meta-analytic mean correlation for each relationship. Cells above the diagonal report the number of observations (N) and the number of effect sizes (k) on which the meta-analytic mean is based.

Insert Table 3 about here

Tables 4 presents the MASEM results. The fit of the direct effects model linking board independence to firm internationalization (Model 1, \( \chi^2 \)-square (6) = 140.79, \( p \)-value = 0.000; GFI= 0.99; CFI = 0.93; NFI = 0.93; RMR = 0.021) is better than the fit of the direct effects model linking firm internationalization to board independence (Model 2, \( \chi^2 \)-square (24) = 674.14, \( p \)-value = 0.000; GFI= 0.97; CFI = 0.64; NFI = 0.65; RMR = 0.045). The difference in fit between the two models is statistically significant (\( \Delta \chi^2 \)-square (18) = 533.35, \( p \)-value = 0.000).

This suggests that corporate governance, including board independence, explains the variation of firm strategy, including firm internationalization, better than the other way around, supporting our focus on the board independence \( \rightarrow \) firm internationalization causality direction.
5. DISCUSSION AND CONCLUSION

Despite agency theory and resource dependence theory suggesting that—through different mechanisms—board independence positively influences firm internationalization, empirical evidence on this relationship has been mixed and inconclusive. Based on this, the purpose of this study was twofold: first, to analyze and synthesize the existing empirical literature and, second, to develop new theoretical insights on the effect of board independence on firm internationalization.

Regarding our empirical synthesis objective, we provide meta-analytic evidence that higher board independence is associated with greater firm internationalization. These results support the agency and resource-dependence arguments established in the extant literature (e.g., Aguilera et al., 2019; Filatotchev & Wright, 2011). From an agency perspective, powerful corporate actors are typically characterized by risk aversion—in the context of our study, reflected in sub-optimal levels of firm internationalization. Outside directors, by restraining—through monitoring—the effect of such risk aversion, positively affect firm internationalization (e.g., Lu et al., 2009). From a resource dependence perspective, outside directors provide better access to external resources (international experience, professional networks, etc.) that are valuable for foreign expansion, therefore increasing firms’ propensity to undertake internationalization (e.g., Singh & Delios, 2017).

Through these findings, our study contributes to the literature on the linkages between corporate governance and firm internationalization. The evidence of a positive effect of board
independence on firm internationalization confirms the role that the structure and composition of
the board plays in firms’ foreign direct investment decisions (e.g., Aguilera et al., 2019;
Filatotchev & Wright, 2011). Scholars have long debated on the actual implications of board
independence for firms’ behavior and performance (e.g., Dalton et al., 2007), with an emerging
consensus in recent years on the need—on the one hand—to perform a more fine-grained
examination of the intricacies of board monitoring (see, for example, the discussion on board
barriers to information processing in Boivie et al., 2016) and—on the other hand—to go beyond
board independence in itself and consider bundles of corporate governance mechanisms (e.g.,
Aguilera et al., 2012; Misangyi & Acharya, 2014). Our meta-analytic evidence of a (direct)
positive effect of outside directors on the level of foreign expansion may represent a firm
stepping-stone to continue along those avenues the investigation of the relationship between
board independence and firm internationalization. More generally, our study contributes to the
stream of literature examining how board independence affects—through monitoring and
resource provision—firms’ strategic (e.g., Deutsch, 2005) and organizational (e.g., Neville et al.,
2019) decisions. Moreover, we add to the broad literature on the firm- and group-level
antecedents of firm internationalization (e.g., Hitt et al., 2006; Kirca et al., 2012), by further
showing that board composition—and specifically board independence in the context of this
study—does matter for the geographic expansion of firms (e.g., Barroso et al., 2011).

Aside from the evidence regarding the effect of board independence on firm
internationalization, our main contribution is the bridge between the agency and institutional
perspectives with respect to our focal relationship. We show that formal and informal institutions
in a firm’s home-country moderate the effect of board independence on firm internationalization.
Therefore, our findings support the argument that the ability of outside directors to restrain the
risk aversion of powerful corporate actors and thus curb the associated agency problem is not homogeneous across countries; rather, it changes depending on the institutional framework within which they operate (e.g., Kim et al., 2007). Put differently, the strength of our focal relationship varies under different home-country institutional conditions, as these may enhance or worsen the monitoring by the board typically associated with outside directors. Based on this, our study lies at the intersection of the literatures on corporate governance and firm internationalization and on comparative corporate governance of the multinational firm (e.g., Aguilera et al., 2019; Aguilera & Jackson, 2010; Strange et al., 2009), shedding further light on the role played by institutional environments in determining the effectiveness of corporate governance mechanisms (e.g., Aguilera et al., 2008; Doidge et al., 2007; La Porta et al., 1998; Neville et al., 2019).

Regarding the formal institutional conditions, we examined the moderating effect of minority shareholder protection (e.g., Claessens et al., 2002; Doidge et al., 2007; Guillen & Capron, 2016; La Porta et al., 1998) and found—as predicted—that a better protection of minority shareholders strengthens the relationship between board independence and firm internationalization. Our results are therefore consistent with the bundle perspective on corporate governance, which underscores the need to move beyond an atomistic view of corporate governance mechanisms and, relatedly, the formulation of universal prescriptions on ‘good governance’ (e.g., Aguilera et al., 2012; García-Castro et al., 2013; Rediker & Seth, 1995). This perspective focuses on configurations of corporate governance mechanisms, interacting with each other based on relationships of complementarity and substitution. By showing that the legal protection of minority shareholders influences the effectiveness of outside directors (i.e., complements board independence) in addressing sub-optimal levels of firm internationalization,
we add to the stream of research emphasizing the interaction between internal and external
corporate governance mechanisms (e.g., Aguilera et al., 2015)—an in particular between internal
governance mechanisms and regulatory institutions (e.g., Bell et al., 2014; Filatotchev et al.,
2013; Kim et al., 2007). Interestingly, while previous studies find that the complementarity
between the protection of minority shareholders and board independence affects outside director
representation on the board (e.g., Kim et al., 2007), we show the implications of such
complementarity in terms of strength of monitoring by the outside directors.

Regarding the informal institutional conditions, we examined the moderating effect of
family business legitimacy (e.g., Berrone et al., 2020) and found—as predicted—that a higher
degree of legitimacy for family businesses weakens the relationship between board independence
and firm internationalization. These results are aligned with the findings by Berrone and
colleagues (2020) that family business legitimacy positively influences the prevalence of family
firms in a country and their level of strategic deviance in terms of risk-taking (i.e., the extent to
which they avoid risk). Moreover, they add to the cumulative evidence of the corporate
governance idiosyncrasies of family firms (e.g., Gomez-Mejia et al., 2011)—and in particular of
the weaker monitoring by outside directors due to lower ability and/or willingness to protect the
interests of minority shareholders versus those of the controlling family shareholders (e.g.,
Anderson & Reeb, 2004; Luo & Chung, 2013). Overall, our study supports the argument that the
substitution between family ownership and board independence is institutionally driven (e.g.,
Filatotchev et al., 2013; Yoshikawa et al., 2014) and, hence, that the ability of outside directors
to address the lower levels of firm internationalization pursed by the controlling family varies
depending on the home-country institutional conditions. In doing so, our study contributes to the
research emphasizing institutionally embedded bundles of corporate governance mechanisms
Indirectly, we also add to the stream of studies examining the role of ownership identity in firm internationalization (e.g., Tihanyi et al., 2019), by providing additional support for the ‘restrictive’ perspective on family firms’ internationalization (e.g., Arregle et al., 2017).

Our results do not support our theoretical prediction that the relationship between board independence and firm internationalization is negatively moderated by CEO duality. From a managerial power perspective, CEO duality increases the power of the CEO over the board, weakening the ability and/or willingness of outside directors to monitor and thus their effect on firm internationalization. To explain the lack of support for our prediction, we conjecture that CEO duality represents only one determinant of CEO power and hence should not be considered in isolation. Indeed, Lewellyn & Fainshmidt (2017) advance and provide evidence for the argument that CEO duality is a part of CEO power bundles, which are characterized by relationships of complementarity among a set of formal and informal sources of power—with CEO duality representing a source of CEO formal structural power. Based on this, CEO duality per se may not adequately capture whether the CEO controls the board relative to the outside directors (e.g., Lewellyn & Fainshmidt, 2017; Westphal & Zajac, 1995). Future research could test the effect of bundles of CEO power on the relationship between board independence and firm internationalization.

From a managerial power perspective, we also predicted that board size negatively moderates the relationship between board independence and firm internationalization, but we did not find support for such prediction. We conjecture that board size may have two opposite influences that offset one another: a negative effect resulting from the more dysfunctional group dynamics associated with a larger board—as pointed out by organizational research on group
dynamics (e.g., Shaw, 1981) and predicted in our Hypothesis 2—and a positive effect stemming from the greater access to resources granted by a larger number of directors—as suggested by the resource dependence perspective (e.g., Boivie et al., 2016). Indeed, previous research on board size has warned from formulating universal prescriptions in the form of ‘one size fits all’ (e.g., Coles et al., 2008). Future research could investigate the circumstances under which the group dysfunctions more than offset the resource provision benefits—and vice versa—in the context of the board independence-firm internationalization relationship.

Contrary to our theoretical prediction, we did not find that board independence has a stronger effect on the breadth of internationalization than on the depth. While greater breadth of internationalization may be potentially associated with a higher heterogeneity of the host-country political, institutional, and economic environments, this is not necessarily the case. As suggested by the Uppsala model of internationalization (e.g., Barkema et al., 1996; Johanson & Vahlne, 2009), firms increasing the geographical scope of their operations enter (at least in the first stages of the process) countries characterized by lower distance from the home country (e.g., Ghemawat, 2001). In such cases, what matters in the context of the board independence-firm internationalization relationship is indeed the depth of internationalization. Furthermore, from a financial perspective, powerful corporate actors may value the diversification of risk associated with a higher breadth of firm internationalization (e.g., Denis et al., 2002; Morck & Yeung, 1991), therefore weakening the effect of board independence on the breadth relative to the depth of internationalization.

Lastly, our finding that corporate governance (including board independence) explains firm strategy (including firm internationalization) better than the other way around suggests, from a theoretical perspective, the primary ex-ante (as opposed to ex-post) nature of corporate
governance mechanisms. While these results emphasize board independence as a driver of firm internationalization, we acknowledge the theoretical and practical relevance of the effect of firm internationalization on board independence. In particular, we believe that our understanding of whether and how firm internationalization contributes to the diffusion of corporate governance practices could be deepened (e.g., Aguilera et al., 2019), similar to what previous research has done, for example, with respect to corporate social responsibility practices (e.g., Marano et al. 2017). Moreover, we believe that the question of how firm internationalization affects board independence as a part of bundles of corporate governance remains, at least in part, unanswered in the extant literature (e.g., Bell et al., 2014). We see these as fruitful avenues for further research on the firm internationalization→board independence causality direction.
REFERENCES


Hymer, S. H. (1960), "The international operations of national firms, a study of direct foreign investment", Massachusetts Institute of Technology.


Shaw, M. E. (1981), Group dynamics: The psychology of small group behavior, McGraw-Hill.


**TABLE 1.** Hedges and Olkin-Type Meta-Analysis (HOMA) Results: Board Independence to Firm Internationalization.

<table>
<thead>
<tr>
<th>PANEL A</th>
<th>Pearson Product-Moment Correlation ($r$) Coefficients</th>
<th>[95% CI]</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$k$</td>
<td>$N$</td>
<td>Mean ($p$ value)</td>
<td>$SE$</td>
<td>Low</td>
</tr>
<tr>
<td>Board independence to internationalization</td>
<td>113</td>
<td>357,689</td>
<td>0.021 (0.095)</td>
<td>0.013</td>
<td>-0.004</td>
</tr>
<tr>
<td>Measurement of internationalization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Depth of internationalization</td>
<td>83</td>
<td>283,188</td>
<td>0.026 (0.084)</td>
<td>0.015</td>
<td>-0.003</td>
</tr>
<tr>
<td>- Breadth of internationalization</td>
<td>15</td>
<td>49,714</td>
<td>0.005 (0.854)</td>
<td>0.029</td>
<td>-0.051</td>
</tr>
<tr>
<td>- Other measures</td>
<td>15</td>
<td>24,787</td>
<td>0.009 (0.812)</td>
<td>0.039</td>
<td>-0.067</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>PANEL B</th>
<th>Partial Correlation ($r_{xy,z}$) Coefficients</th>
<th>[95% CI]</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$k$</td>
<td>$N$</td>
<td>Mean ($p$ value)</td>
<td>$SE$</td>
<td>Low</td>
</tr>
<tr>
<td>Board independence to internationalization</td>
<td>52</td>
<td>414,961</td>
<td>0.062 (0.000)</td>
<td>0.015</td>
<td>0.032</td>
</tr>
<tr>
<td>Endogeneity-controlled studies</td>
<td>22</td>
<td>69,415</td>
<td>0.058 (0.027)</td>
<td>0.026</td>
<td>0.006</td>
</tr>
<tr>
<td>Measurement of internationalization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Depth of internationalization</td>
<td>39</td>
<td>336,341</td>
<td>0.065 (0.001)</td>
<td>0.019</td>
<td>0.028</td>
</tr>
<tr>
<td>- Breadth of internationalization</td>
<td>7</td>
<td>14,482</td>
<td>0.080 (0.045)</td>
<td>0.040</td>
<td>0.002</td>
</tr>
<tr>
<td>- Other measures</td>
<td>6</td>
<td>64,138</td>
<td>0.024 (0.273)</td>
<td>0.022</td>
<td>-0.019</td>
</tr>
</tbody>
</table>

*Note: $k =$ number of effect sizes; $N =$ total sample size; $SE =$ standard error of mean correlation; $Q =$ Cochran’s $Q$ statistic; $I^2 =$ scale-free index of heterogeneity.*
TABLE 2. Meta-Analytic Regression Analysis (MARA) Results.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median year</td>
<td>0.001</td>
<td>0.005</td>
<td>-0.003</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.006)</td>
<td>(0.003)</td>
<td>(0.002)</td>
</tr>
<tr>
<td></td>
<td>[0.462]</td>
<td>[0.388]</td>
<td>[0.281]</td>
<td>[0.244]</td>
</tr>
<tr>
<td>Panel data</td>
<td>0.028</td>
<td>0.030</td>
<td>-0.103</td>
<td>-0.020</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.112)</td>
<td>(0.069)</td>
<td>(0.029)</td>
</tr>
<tr>
<td></td>
<td>[0.309]</td>
<td>[0.791]</td>
<td>[0.133]</td>
<td>[0.482]</td>
</tr>
<tr>
<td>Endogeneity</td>
<td>0.015</td>
<td>-0.013</td>
<td>-0.032</td>
<td>-0.011</td>
</tr>
<tr>
<td></td>
<td>(0.028)</td>
<td>(0.058)</td>
<td>(0.048)</td>
<td>(0.030)</td>
</tr>
<tr>
<td></td>
<td>[0.591]</td>
<td>[0.823]</td>
<td>[0.501]</td>
<td>[0.715]</td>
</tr>
<tr>
<td>Partial effect size</td>
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<td>-0.002</td>
<td>0.0526</td>
<td>0.037</td>
</tr>
<tr>
<td></td>
<td>(0.024)</td>
<td>(0.038)</td>
<td>(0.034)</td>
<td>(0.024)</td>
</tr>
<tr>
<td></td>
<td>[0.112]</td>
<td>[0.959]</td>
<td>[0.122]</td>
<td>[0.115]</td>
</tr>
<tr>
<td>Home-country OFDI flows</td>
<td>-0.003</td>
<td>0.021</td>
<td>0.009</td>
<td>-0.013</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.018)</td>
<td>(0.011)</td>
<td>(0.008)</td>
</tr>
<tr>
<td></td>
<td>[0.678]</td>
<td>[0.263]</td>
<td>[0.410]</td>
<td>[0.120]</td>
</tr>
<tr>
<td>Home-country GDP (PPP)</td>
<td>0.019</td>
<td>-0.038</td>
<td>-0.028</td>
<td>-0.014</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.033)</td>
<td>(0.022)</td>
<td>(0.018)</td>
</tr>
<tr>
<td></td>
<td>[0.160]</td>
<td>[0.252]</td>
<td>[0.212]</td>
<td>[0.450]</td>
</tr>
<tr>
<td>CEO duality</td>
<td>0.106</td>
<td></td>
<td>(0.123)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[0.388]</td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>-0.005</td>
<td></td>
<td>(0.006)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>[0.447]</td>
<td></td>
</tr>
<tr>
<td>Minority shareholder protection</td>
<td></td>
<td>0.029</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.014)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>[0.043]</td>
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<tr>
<td>FBL</td>
<td>-0.192</td>
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<td>(0.080)</td>
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<tr>
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<td>[0.017]</td>
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<tr>
<td>Breadth of INT</td>
<td>-0.009</td>
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<td>(0.036)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>[0.803]</td>
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<tr>
<td>Other measures of INT</td>
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<td>(0.025)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>[0.462]</td>
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</tr>
<tr>
<td>Constant</td>
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<td>-10.57</td>
<td>6.554</td>
<td>-5.319</td>
</tr>
<tr>
<td></td>
<td>(3.613)</td>
<td>(12.230)</td>
<td>(5.800)</td>
<td>(3.880)</td>
</tr>
<tr>
<td></td>
<td>[0.445]</td>
<td>[0.387]</td>
<td>[0.258]</td>
<td>[0.170]</td>
</tr>
</tbody>
</table>

\[K = 159\] \[31\] \[77\] \[159\]

\[Q-Model \ [p \ value] = 8838.40 \ [0.000] \ 269.23 \ [0.000] \ 5589.74 \ [0.000] \ 6927.07 \ [0.000]\]

\[F = 98.42 \ 97.06 \ 98.54 \ 98.33\]

**Note:** The dependent variable is the correlation between board independence and firm internationalization in a given primary sample. Standard errors and \(p\) values are reported in parentheses and square brackets respectively. \(k = \) the number of effect sizes; \(Q-Model = \) multivariate homogeneity statistic; \(I^2 = \) scale-free index of heterogeneity.
Table 3. Meta-Analytic Correlation Matrix.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Firm size</td>
<td>1.000</td>
<td>264,443 (36)</td>
<td>87,989 (23)</td>
<td>64,989(23)</td>
<td>30,899(13)</td>
<td>504,634(91)</td>
<td>326,769(74)</td>
</tr>
<tr>
<td>2. Firm age</td>
<td>0.135 (0.037)</td>
<td>1.000</td>
<td>86,068(13)</td>
<td>31,174(8)</td>
<td>26,664(4)</td>
<td>329,984(50)</td>
<td>140,642(35)</td>
</tr>
<tr>
<td>3. Debt to equity</td>
<td>0.030 (0.024)</td>
<td>0.135 (0.037)</td>
<td>1.000</td>
<td>29,042(5)</td>
<td>195(3)</td>
<td>177,729(25)</td>
<td>53,252(23)</td>
</tr>
<tr>
<td>4. R&amp;D expenditure</td>
<td>0.015 (0.020)</td>
<td>0.008(0.015)</td>
<td>0.086(0.028)</td>
<td>1.000</td>
<td>1,683(3)</td>
<td>77,802(30)</td>
<td>64,989(23)</td>
</tr>
<tr>
<td>5. Product diversification</td>
<td>0.227 (0.048)</td>
<td>0.079(0.083)</td>
<td>-0.104(0.115)</td>
<td>0.045(0.070)</td>
<td>1.000</td>
<td>28,879(12)</td>
<td>30,899(13)</td>
</tr>
<tr>
<td>6. Firm internationalization</td>
<td>0.139 (0.023)</td>
<td>0.042(0.020)</td>
<td>0.016(0.012)</td>
<td>0.112(0.021)</td>
<td>0.112(0.030)</td>
<td>1.000</td>
<td>357,689(113)</td>
</tr>
<tr>
<td>7. Board independence</td>
<td>0.076 (0.012)</td>
<td>0.0045(0.021)</td>
<td>0.028(0.014)</td>
<td>0.010(0.011)</td>
<td>0.074(0.025)</td>
<td>0.021(0.011)</td>
<td>1.000</td>
</tr>
<tr>
<td>8. Board size</td>
<td>0.270 (0.025)</td>
<td>0.082(0.032)</td>
<td>0.080(0.022)</td>
<td>-0.022(0.014)</td>
<td>0.121(0.069)</td>
<td>0.066(0.012)</td>
<td>0.034(0.048)</td>
</tr>
<tr>
<td>9. CEO duality</td>
<td>-0.017(0.025)</td>
<td>-0.044(0.048)</td>
<td>0.047(0.042)</td>
<td>-0.037(0.031)</td>
<td>0.034(0.019)</td>
<td>0.005(0.013)</td>
<td>0.042(0.022)</td>
</tr>
<tr>
<td>10. CEO tenure</td>
<td>0.021(0.019)</td>
<td>0.107(0.021)</td>
<td>-0.119 (n/a)</td>
<td>-0.020(0.022)</td>
<td>0.040(0.036)</td>
<td>0.017(0.023)</td>
<td>-0.035(0.024)</td>
</tr>
<tr>
<td>11. Ownership concentration</td>
<td>0.019(0.040)</td>
<td>-0.045(0.044)</td>
<td>-0.021(0.009)</td>
<td>0.027(0.026)</td>
<td>-0.136(0.025)</td>
<td>-0.043(0.015)</td>
<td>-0.074(0.044)</td>
</tr>
<tr>
<td>12. Institutional ownership</td>
<td>0.101(0.034)</td>
<td>0.042(0.037)</td>
<td>0.022(0.014)</td>
<td>0.013(0.014)</td>
<td>0.042(0.050)</td>
<td>0.031(0.034)</td>
<td>0.037(0.010)</td>
</tr>
<tr>
<td>13. Inside ownership</td>
<td>-0.092(0.026)</td>
<td>-0.104(0.042)</td>
<td>-0.031(0.036)</td>
<td>-0.013(0.079)</td>
<td>-0.028(0.026)</td>
<td>0.027(0.020)</td>
<td>-0.064(-0.009)</td>
</tr>
</tbody>
</table>

Cells below the diagonal contain mean correlations and standard errors. Cells above the diagonal contain total number of observations (N) and number of effect sizes (k)
### Table 3. Meta-Analytic Correlation Matrix (continued).

<table>
<thead>
<tr>
<th>Variable</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Firm size</td>
<td>273,888(35)</td>
<td>77,075 (21)</td>
<td>18,576 (12)</td>
<td>53379(22)</td>
<td>202289(25)</td>
<td>21249(20)</td>
</tr>
<tr>
<td>2. Firm age</td>
<td>105,151(18)</td>
<td>17,081(4)</td>
<td>137,98(4)</td>
<td>18,487(8)</td>
<td>169,124(14)</td>
<td>9,905(6)</td>
</tr>
<tr>
<td>3. Debt to equity</td>
<td>51,499(12)</td>
<td>565(4)</td>
<td>135(1)</td>
<td>12,358(5)</td>
<td>37,357(14)</td>
<td>3,206(9)</td>
</tr>
<tr>
<td>4. R&amp;D expenditure</td>
<td>44,811(10)</td>
<td>26,355(8)</td>
<td>3,512(6)</td>
<td>27,055(20)</td>
<td>35,727(8)</td>
<td>10,816(9)</td>
</tr>
<tr>
<td>5. Product diversification</td>
<td>5,279(3)</td>
<td>18,117(5)</td>
<td>1,364(1)</td>
<td>1,539(3)</td>
<td>804(3)</td>
<td>5,815(5)</td>
</tr>
<tr>
<td>6. Firm internationalization</td>
<td>295,926(51)</td>
<td>83,855(4)</td>
<td>25,567(17)</td>
<td>59,962(24)</td>
<td>77,060(22)</td>
<td>31,095(23)</td>
</tr>
<tr>
<td>7. Board independence</td>
<td>184,122(40)</td>
<td>68,566(21)</td>
<td>21,689(13)</td>
<td>54,349(24)</td>
<td>202,289(25)</td>
<td>21,249(20)</td>
</tr>
<tr>
<td>8. Board size</td>
<td>1.000</td>
<td>63,293(17)</td>
<td>2,385(5)</td>
<td>42,389(11)</td>
<td>197,360(13)</td>
<td>12,114(6)</td>
</tr>
<tr>
<td>9. CEO duality</td>
<td>-0.065(0.027)</td>
<td>1.000</td>
<td>13,421(4)</td>
<td>31,506(9)</td>
<td>31,127(6)</td>
<td>12,018(8)</td>
</tr>
<tr>
<td>10. CEO tenure</td>
<td>-0.059(0.036)</td>
<td>0.220(0.116)</td>
<td>1.000</td>
<td>1,945(4)</td>
<td>1,392(3)</td>
<td>3,041(6)</td>
</tr>
<tr>
<td>11. Ownership concentration</td>
<td>-0.035(0.044)</td>
<td>-0.042(0.015)</td>
<td>-0.030(0.024)</td>
<td>1.000</td>
<td>8,192(5)</td>
<td>12,764(8)</td>
</tr>
<tr>
<td>12. Institutional ownership</td>
<td>0.160(0.024)</td>
<td>-0.039(0.033)</td>
<td>0.036(0.063)</td>
<td>-0.106(0.103)</td>
<td>1.000</td>
<td>11,634(12)</td>
</tr>
<tr>
<td>13. Inside ownership</td>
<td>-0.074(0.034)</td>
<td>0.064(0.025)</td>
<td>0.181(0.042)</td>
<td>-0.011(0.044)</td>
<td>0.117(0.079)</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Cells below the diagonal contain mean correlations and standard errors. Cells above the diagonal contain total number of observations (N) and number of effect sizes (k).
Table 4. Meta-Analytic Structural Equation Modelling (MASEM) Results: BI→INT vs. INT→BI.

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 1 vs. Model 2</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BI→INT</td>
<td>INT→BI</td>
<td></td>
</tr>
<tr>
<td>Harmonic mean N</td>
<td>3570</td>
<td>3570</td>
<td></td>
</tr>
<tr>
<td>(firm-years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\chi^2) (df)</td>
<td>140.79 (6)</td>
<td>674.14 (24)</td>
<td></td>
</tr>
<tr>
<td>GFI</td>
<td>0.99</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>CFI</td>
<td>0.93</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>NFI</td>
<td>0.93</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>RMR</td>
<td>0.021</td>
<td>0.045</td>
<td></td>
</tr>
<tr>
<td>(\Delta \chi^2) (df)</td>
<td></td>
<td>533.35 (18)</td>
<td></td>
</tr>
</tbody>
</table>

GFI = goodness-of-fit index; CFI = comparative fit index; NFI = normed fit index; RMR = root mean square residual