*Strategic Management Journal*
*Strat. Mgmt. J.*, **38**: 645–656 (2017)
Published online EarlyView 22 April 2016 in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/smj.2513
*Received 1 March 2013*; *Final revision received 27 December 2015*

# WHO NEEDS EXPERTS MOST? BOARD INDUSTRY EXPERTISE AND STRATEGIC CHANGE — A CONTINGENCY PERSPECTIVE

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***Research summary:*** *We analyze the effects of board industry expertise on corporate strategic change and the moderating role of institutional quality. We suggest that country-level contingency factors mitigate the effect of experienced boards on strategy formation by providing alternative sources of information and control in strategic matters. We develop institutional quality as institutional information provision and institutional control provision to test our hypotheses on a sample of firms from MSCI Europe and the S&P 500. Our findings confirm that industry expertise is a salient driver of strategic change across countries. The strength of the effect, however, depends on the institutional quality. We submit that weak institutions require greater board industry expertise as an alternative channel of information and control.*

***Managerial summary:*** *This study provides new empirical evidence that experience in the firms' industries enables directors to increase strategic change. Our findings show that this effect is even stronger in countries with weak regulatory environments. We hereby provide guidance for multiple stakeholders. First, shareholders seeking a more active adjustment of their firms' strategies may want to compose boards that leverage such experienced directors. Second, directors can use their industry experience to control and to challenge managers better to move beyond the status quo. Third, managers lacking access to information on potential strategic change can use such experienced directors for strategic advice and as a source of information. Overall, we add to the understanding of the corporate board's role in shaping strategy and the influence of weak regulations.* 

## INTRODUCTION

Recent research stresses the beneficial effects of board members' individual expertise on the strategy formation process (Golden and Zajac, 2001; Westphal and Fredrickson, 2001). Their deeper understanding of strategic processes enables experienced directors to monitor and advise managers better on strategic issues (Haynes and Hillman, 2010). We strive to add to this research by challenging the effectiveness of these two board functions in different institutional environments. Drawing on a conjoint view of the agency and resource dependence (RD) perspectives set forth by Hillman and Dalziel (2003), we contend that industry expertise drives strategic change across countries. However, we find that institutional differences as moderating effects modify the board expertise–strategy relation. Specifically, we propose that a high-quality institutional environment that facilitates strategic deciders' access to required information and provides stakeholders legal means for exerting a controlling influence on managers reduces the need for experienced directors to provide counsel and monitoring.

Keywords: board expertise; corporate governance; institutional differences; resource-based view; strategic change
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Our work contributes to the current research in several ways. First, we add to the understanding of the role of industry experts on boards in strategic decision processes with our two measures of institutional quality (i.e., institutional information provision and institutional control provision) that shape the need for experienced boards. By using an institutional lens to show the relevance of counseling and monitoring managers in the board–strategy relation, our results complement Hillman and Dalziel's (2003) approach to supplementing board functioning by jointly considering aspects of RD and agency theory. Second, we add an institutional contingency perspective to the resource-based view of boards, which has predominantly focused on industry uncertainty, growth, and complexity (e.g., Kroll, Walters, and Wright, 2008). Third, with the introduction of this institutional dimension in strategic management research, we respond to the general request for further corporate governance research that considers country-specific, contextual factors (Yoshikawa and Rasheed, 2009) and challenge the proclaimed universality of theories applied to the U.S. context in different institutional settings (Bruton *et al.*, 2010). Overall, we advocate that a joint consideration of board expertise and national contingencies is required to capture fully the role of boards in strategy formation.

## THEORY AND DEVELOPMENT OF HYPOTHESES

### Industry expertise and strategic change

The board of directors—specifically, the board members' levels of skill and expertise—as a repository of resources and a conduit of information has recently taken center stage in the discussion about strategic decisions (Diestre, Rajagopalan, and Dutta, 2015; Haynes and Hillman, 2010; McDonald, Westphal, and Graebner, 2008). Whereas many scholars have argued using an either/or presumption of the RD and agency perspectives to describe director involvement, a rapidly growing research stream is integrating both theories to capture a more comprehensive picture of boards and is advocating that experienced boards "may be better at both providing resources and monitoring" (Hillman and Dalziel, 2003: 384).

Strategic change enables researchers to look more closely at directors' influence than firm performance. We rely on the definition of strategic change as a "[change in the] fundamental pattern of present and planned resource deployments" (Hofer and Schendel, 1978: 25). The active alteration of this fundamental pattern enables a firm to adapt to changes in the environment (Carpenter, 2000), align the firm's organizational focus with the current situation (van de Ven and Poole, 1995), and differentiate itself from competitors (Porter, 1996).

Scholars have been increasingly examining the effects of directors' individual sets of experiences on corporate strategy (Golden and Zajac, 2001; Haynes and Hillman, 2010; Westphal and Fredrickson, 2001). At the core of these studies is the idea that individual experiences enhance the quality with which the board fulfills its functions: (1) providing counsel about organizational matters and (2) monitoring executives' actions (Forbes and Milliken, 1999).

Regarding the provision of counsel, industry expertise (defined as role-specific industry experience) enhances directors' ability to assess strategy-related topics in the industry. To change a firm's current profile, a firm must understand the peculiarities and challenges endemic to the industry in which the firm operates (Porter, 1996). Experienced directors who possess first-hand, industry-specific knowledge serve as important conduits of counsel (Kor and Misangyi, 2008). Successful counseling that initiates strategic change involves identifying and prioritizing threats and opportunities (Rajagopalan and Spreitzer, 1997), providing information (Smith *et al.*, 1991), interpreting the information (Thomas, Clark, and Gioia, 1993), and finally applying the insights to derive actions (Rajagopalan and Spreitzer, 1997). Industry expertise enables directors to identify and prioritize better potential threats and opportunities because directors are familiar with industry trends and competitors' strategic moves. Industry expertise also enables directors to provide more insightful information for the strategic analyses by building on a repository of network ties to retrieve trustworthy, industry-specific information (Kor and Sundaramurthy, 2009). Furthermore, directors with industry expertise better understand the context, which allows them to interpret better the information and to apply the insights either by following competitors' strategies or refocusing the strategic scope in other directions.

Moreover, directors' responsibility for monitoring executives is based on an agency-grounded



DOI: 10.1002/smj

understanding of board expertise and builds upon the idea that directors help to reduce agency costs by disciplining managers (Mizruchi, 1983). Since changing the current strategic scheme involves uncertainty, chief executive officers (CEOs) often exhibit a general reluctance to initiate change (Geletkanycz, 1997). Following Haleblian and Rajagopalan (2006), we identify three iterative steps for successful monitoring: perception of strategic weaknesses, attribution and interpretation, and action to initiate strategic change. Industry expertise enables directors to perceive strategic weaknesses because within-industry comparisons can help recognize how effectively and successfully the firm currently operates in its environment. Furthermore, these directors are prepared to make the causal attribution for strategic weaknesses since they can use their industry expertise to understand whether the weakness is caused by opportunistic managers. Finally, industry expertise enables directors to initiate strategic change because they are familiar with a wide range of punishments such as CEO dismissal or adjustments in compensation that are likely to persuade opportunistic managers to change. Collectively, these arguments lead to the first hypothesis:

*Hypothesis 1: Greater board industry expertise is associated with more strategic change.*

### Industry expertise and institutional differences

A contingency perspective can provide deeper insight into the effectiveness of board expertise in fulfilling the two board functions of counseling and monitoring. In general, "contingencies refer to how corporate governance interrelates with variations in internal and external strategic resources that shape a firm's interdependence with market, sectoral, regulatory, or institutional environments" (Aguilera *et al.*, 2008: 476). In this study, we argue that the requirement for boards to carry out these specific tasks is subject to institutional contingency. Institutions involve regulative, normative, and cultural-cognitive constraints (Moore, Bell, and Filatotchev, 2010; Scott, 2008) that affect organizational behavior. Weaker institutions generate an institutional void that increases the need for effective firm-level mechanisms to compensate for institutional shortcomings (Carney *et al.*, 2011).

We translate the classic board functions of counseling and monitoring in the institutional dimension to identify the institutional conditions that enhance the effects of industry-specific board expertise. Following the argumentation of Rajagopalan and Spreitzer (1997), the ideal rational manager would be able to initiate change autonomously. In reality, however, managers may lack the ability and motivation to initiate strategic change (Karaevli and Zajac, 2013), since they are unable to recognize threats and opportunities in dynamic environments (Rajagopalan and Spreitzer, 1997) and because risk aversion and opportunistic behavior reduce their motivation to promote change (Carpenter, 2000). By providing counsel and by monitoring managers, experienced board members can tackle managers' missing ability and motivation to initiate change. We argue that institutional environments that (1) provide better access to information (institutional information provision) and (2) reduce agency conflicts between managers and owners (institutional control provision) decrease the need for experienced board members' counseling and monitoring of managers to implement change.

We reason that weak institutional quality, i.e., low institutional information provision and low institutional control provision, increases the counseling effect and the monitoring effect of the industry experts on the board. Following recent institutional literature, we define environments with low institutional information provision as countries with a weak disclosure standard (La Porta, Lopez-de-Silanes, and Shleifer, 2006). Weak disclosure standards impair access to information about the firm's environment and situation. Additionally, we define institutional control provision as the legal preconditions of a country's environment, such as the degree of creditor protection, prevention of director self-dealing activities, and laws on shareholder protection, that provide means for indirectly controlling executives' behavior (La Porta *et al.*, 1998). Thus, strong institutional control provision facilitates company stakeholders' monitoring of managers.

To understand the influence of institutional information provision on experienced director counseling, we look at the four counseling steps for initiating strategic change that we outlined above: identification and prioritization of threats and opportunities, information provision, information interpretation, and application of insights to derive actions. Weak institutional information provision affects the relationship of board expertise and strategic change because it alters the effectiveness



DOI: 10.1002/smj

of directors' industry experience during the first three counseling steps.

First, weak institutional information provision makes it more difficult to identify threats and opportunities. For example, managers are less able to evaluate threats and opportunities if competitors do not disclose comprehensive risk reports and details of the financial success of divisions and product segments. In such cases, directors with industry expertise are an even more valuable resource for identifying trends that affect the industry and informing the firms how competitors typically prioritize their resources to meet threats and opportunities.

Second, the institutional environment hinders firms' information gathering for strategic analyses because weak information provision reduces the number of publicly available observation points for thorough within-industry comparisons between firms. Thus, firms depend on the informal network ties of directors with industry-specific expertise to collect trustworthy, industry-specific information. In addition, due to their expertise, they are expected to be knowledgeable about common key industry figures such as typical R&D expense structures. Thus, directors with industry-specific expertise can provide strategically relevant information that is not publicly available in weak institutional information provision environments and thus affect strategic change even more compared to settings with strong institutional information provision where such information is readily available in annual reports.

Third, directors with industry expertise are also more urgently needed to interpret information when institutional information provision is weak. In institutional environments with less coverage of information-processing institutions such as stock analysts and fewer in-depth business press and market reports, experienced directors' knowledge is a rare resource that can help make sense of competitor information and apply it to the firm's context. For example, they can determine how to react to competitors' increasing R&D investments, how to judge industry innovations, and how to counter other firms' strategic moves. Therefore, their industry expertise fills the gap in the counseling process that exists under weak institutional information provision.

To understand the influence of weak institutional control provision on experienced board members' monitoring effects, we reassess the three steps of the monitoring process: perception of strategic weaknesses, attribution and interpretation, and action to initiate strategic change. Weak institutional control provision influences the effect of experienced directors on strategic change because it affects the last step of the monitoring process. Weak institutional control provision makes it more difficult for firms to push for action and thus initiate strategic change because it reduces the number of institutional actors who can act as potential monitors. For instance, weak institutional control provision environments suspend the mechanisms that empower owners to monitor and control managers: While strong institutions enable shareholders (even minority shareholders) to articulate their interest at annual meetings and to exert pressure to dismiss managers who do not act in shareholders' interest, weak institutional control provision diminishes owner influence. Thus, weak institutional control provision creates a liability gap that the credible thread of punishment by experienced directors has to fill to avoid opportunistic manager behavior. To initiate strategic change, directors must persuade opportunistic managers to change. Industry expertise makes directors more convincing: In addition to being familiar with a wide range of punishments such as CEO dismissal or adjustments in compensation, industry experience allows directors to build a reputation of being strict monitors and increases their credibility. Therefore, directors with industry expertise are even more important in environments with weak institutional control provision compared to environments with high institutional control provision since these directors fill the void of missing control mechanisms at the institutional level.

In summary, in an environment with weak institutional quality, experienced directors can contribute in particular to the strategy process by using their expertise to identify and prioritize threats and opportunities, capture information about competitor behavior, set this information in a context needed as the premise for deriving specific strategic decisions, and persuade opportunistic managers to initiate strategic change. Therefore, with weak institutional quality, director expertise is a more powerful lever in counseling and monitoring managers in initiating strategic change. Therefore, we submit that the merits of, and the need for, experienced directors are decreased in countries with better institutions:

*Hypothesis 2: Institutional factors that facilitate access to information and provide means of*



DOI: 10.1002/smj

*control will negatively moderate the relationship between board industry expertise and strategic change.*

## DATA AND METHOD

### Sample

Our study examined all firms listed on MSCI Europe and Standard & Poor's (S&P) 500 Index for the period 2005–2010, excluding double-listed securities, firms headquartered in countries other than the country of the primary stock listing, and financial service firms (SIC codes 6000–6999). We obtained financial data from Thomson Financial DataStream and board data from the BoardEx database. The missing attributes of board structure and all ownership variables were hand-collected from firms' annual reports and DEF 14A proxy statements. The final sample, excluding firms with incomplete data, includes 2,944 firm-year observations from 17 countries, namely, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States. This focus on developed markets might lead to less variation in institutional variables (compared to emerging market countries), which results in a more conservative method for testing our hypothesized institutional effects.

### Dependent variable

We calculated *strategic change* as the change in a firm's financial resource allocation profile (Finkelstein and Hambrick, 1990; Quigley and Hambrick, 2012; Zhang and Rajagopalan, 2010). For a composite measure, we use (1) plant and equipment newness (net P&E/gross P&E); (2) nonproductive overhead (selling, general, and administrative expenses/sales); (3) inventory levels (inventories/sales); and (4) financial leverage (total debt/equity). A change in these ratios across years indicates a departure from a firm's prior profile and suggests strategic change. We calculated the absolute value of the differences between two subsequent years in these ratios. Then, we standardized each resulting value by year across all firms and calculated the average across the four standardized values to obtain our composite variable of strategic change.

### Independent variables

We constructed *board industry expertise* by identifying individual industry experts among the nonexecutive directors on the board. We captured the positions of each director over the past four years in which he/she served as either a nonexecutive or executive director (excluding focal firm positions), resulting in a comprehensive record of the history of 17,764 directors. To qualify as an industry expert, a person must have experience in the industry of the focal firm. To each prior position, we thus allocated the firm's primary four-digit standard industrial classification (SIC) code. We identified the maximum of coinciding, consecutive SIC digits between prior positions and the focal firm (starting from the first SIC digit) and assigned an experience value between zero and four to each director accordingly. *Industry expertise* is the proportion of nonexecutive directors with experience values at a minimum of three.

### Moderator variables

Our measures of institutional quality are the disclosure requirements index (*DRI*) (La Porta *et al.*, 2006) as proxy for institutional information provision and the anti-self-dealing index (*ASD*) as proxy of institutional control provision. The ASD is a country-level index that captures the degree of shareholder protection laws against insider expropriation; great values denote insiders' limited ability to extract private benefits against minority shareholders (Djankov *et al.*, 2008).

### Controls

We included the following variables as controls: performance as industry-adjusted *return on equity*, *firm size* as the natural log of total assets, financial *leverage* as long-term debt divided by total assets, *risk* as the coefficient of the variation of the three-year return on equity, one-year *sales growth*, prior *strategic change*, and *diversification*, operationalized as an entropy index provided by Palepu (1985). Additionally, we included industry volatility (average coefficient of variation of firm performance over the last five years) to control for the *functionality of change*.

Understanding the effect of boards on strategic change requires examining aspects of the intersection of the firm's board of directors, the CEO,



DOI: 10.1002/smj

and the firm's shareholders. Board-level controls include *board size*, *board age*, average *board tenure*, *board busyness* (average number of directorships), and *board independence.* Furthermore, we accounted for *CEO tenure*, *CEO age*, and *CEO power* (measured according to Zajac and Westphal, 1996). We also controlled for the percentage of voting rights held by the largest shareholder (*% of largest owner*), a dummy variable to indicate if the largest shareholder is an insider (*largest owner is insider*), and *widely held 10* percent, which takes the value of one if no shareholder exceeded equity holdings of 10 percent of the firm's outstanding shares. Models include industry-, year-, and country dummies.

### Analytical model

The structure of our dataset suggests the use of dynamic panel estimation techniques. We estimated our empirical models using system generalized methods of moments (GMM) estimators (Arellano and Bond, 1991). The system GMM estimator reduces problems of endogeneity (possible correlation between the explanatory variables and the error term), produces dynamic estimates that consider lagged realizations of the dependent variable, allows controlling for unobserved firm-specific heterogeneity, and provides enhanced estimates in the presence of autocorrelation and heteroscedasticity (Greene, 2008). To reduce potential problems of collinearity, we centered the interaction term variables at their means (Aiken and West, 1991).

## RESULTS

Table 1 reports the correlations and central summary statistics. The correlation between the *DRI* and the *ASD* (0.67) shows a significantly positive relationship. To provide credibility for the idea that our two institutional measures account for mutually exclusive effects, we reran all calculations with the index of accounting standards (*IAS*) and the strength of investor protection index (*SIP*), which have a correlation of only 0.44 across the sample.

Table 2 displays the estimation results of the system GMM estimations. We performed diagnostic tests to confirm the validity of using the system GMM estimation. All models are well-fitted (chi-square $< 0.001$), and the Arellano-Bond tests for first-order (*II1*) and second-order (*II2*) autocorrelations of disturbances and Sargan/Hansen test for overidentifying restrictions suggest that all models are appropriate for use with system GMM (significant *II1*, nonsignificant *II2*; nonsignificant Hansen's *J*).

Model 1 in Table 2 provides the regression results with all controls and the main effect of industry expertise. Consistent with hypothesis 1, the coefficient of industry expertise in Model 1 is positive and significant ($b = 0.206$, $p < 0.001$). Hypothesis 2 suggested that *DRI* would have a moderating effect on the relationship between *industry expertise* and *strategic change*. As anticipated, the coefficient on *industry expertise* × *DRI* in Model 2 is negative and statistically significant ($b = -0.976$, $p < 0.01$); moreover, the coefficient of the main effect remains positive ($b = 0.287$, $p < 0.001$). Thus, the positive effect of industry expertise on strategic change is mitigated when more information is provided. Model 3 tested the moderating effect of *ASD*. The interaction term (*industry expertise* × *ASD*) and the main effect (*industry expertise*) are statistically significant ($b = -0.983$, $p < 0.01$ and $b = 0.294$, $p < 0.001$). The positive effect of industry expertise on change is mitigated in countries that provide stronger monitoring control to outside shareholders. Models 2 and 3 hence support our hypothesis 2 that institutional quality reduces firms' dependence on the counseling and monitoring role of experienced directors.

Our results remained robust when (1) we replicated the study on a European subsample excluding U.S. firms, (2) we replaced the measure of strategic change with alternative measures of resource allocation including R&D intensity (R&D expenses/sales) as well as additional measures of strategic change (change in diversification; change in acquisition behavior), (3) we replaced industry expertise with the average value of individual industry experiences across the group of nonexecutive directors (*avg. industry expertise*), and (4) we replaced the institutional moderators with the *IAS* (La Porta *et al.*, 1998) as an alternative proxy for institutional information provision and *SIP*, developed by the World Bank as a new proxy for institutional control provision. To account for potential issues of endogeneity and reverse causality, we first replicated our results employing country-adjusted measures of board expertise. Second, we calculated reverse logit regressions that explain the growth of boards and the substitution of less experienced board members with industry



DOI: 10.1002/smj

Table 1. Descriptive statistics

| Variables | Mean | S.D. | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **(1) Strategic change** | 0.17 | 0.21 | | | | | | | | | | | |
| **(2) Return on equity** | 0.01 | 0.20 | 0.06** | | | | | | | | | | |
| **(3) Size** | 15.86 | 1.23 | −0.09*** | −0.09*** | | | | | | | | | |
| **(4) Leverage** | 0.23 | 0.15 | 0.13*** | 0.06*** | 0.19*** | | | | | | | | |
| **(5) Risk** | 0.18 | 1.68 | −0.01 | 0.05** | −0.02 | −0.03† | | | | | | | |
| **(6) Sales growth** | 0.04 | 0.18 | −0.04* | 0.05** | −0.02 | −0.11*** | 0.00 | | | | | | |
| **(7) Diversification** | 0.75 | 0.52 | −0.02 | −0.01 | 0.22*** | 0.07*** | 0.01 | −0.06*** | | | | | |
| **(8) Functional** | 0.34 | 10.27 | 0.04* | −0.04* | 0.00 | −0.02 | −0.01 | −0.01 | 0.03 | | | | |
| **(9) Board size** | 9.04 | 2.58 | −0.06** | −0.04* | 0.50*** | 0.13*** | 0.00 | −0.06*** | 0.13*** | −0.01 | | | |
| **(10) Board age** | 4.12 | 0.06 | −0.06** | −0.09*** | 0.21*** | −0.04* | −0.04* | −0.02 | 0.01 | 0.01 | 0.22*** | | |
| **(11) Board tenure** | 2.09 | 0.41 | −0.11*** | 0.07*** | −0.05** | −0.08*** | −0.01 | −0.01 | −0.01 | −0.02 | 0.09*** | 0.40*** | |
| **(12) Board busyness** | 1.98 | 0.98 | 0.03 | 0.00 | −0.02 | −0.01 | 0.04* | 0.01 | −0.04† | −0.02 | −0.01 | 0.03† | 0.00 |
| **(13) Board independence** | 0.49 | 0.29 | −0.06** | −0.05** | 0.06** | −0.02 | −0.02 | −0.05** | −0.05* | 0.03 | 0.17*** | 0.13*** | 0.19*** |
| **(14) CEO age** | 4.02 | 0.12 | −0.09*** | −0.01 | 0.18*** | 0.00 | −0.01 | −0.04* | 0.06** | −0.02 | 0.19*** | 0.22*** | 0.11*** |
| **(15) CEO tenure** | 2.46 | 0.82 | −0.06** | 0.10*** | 0.01 | −0.04† | 0.03 | 0.01 | 0.04* | −0.02 | 0.00 | 0.14*** | 0.38*** |
| **(16) CEO power** | 0.25 | 2.28 | −0.02 | 0.02 | 0.05* | −0.01 | 0.02 | −0.03 | 0.01 | −0.03† | 0.08*** | 0.09*** | −0.06** |
| **(17) % of largest owner** | 0.15 | 0.15 | 0.05** | 0.03† | −0.08*** | 0.04* | 0.00 | 0.05* | −0.02 | 0.05** | −0.08*** | −0.13*** | −0.04* |
| **(18) Largest owner is insider** | 0.08 | 0.27 | 0.03 | −0.03† | −0.05** | −0.05** | 0.01 | 0.05* | 0.00 | 0.01 | −0.05** | −0.05** | 0.07*** |
| **(19) Widely held 10%** | 0.49 | 0.50 | −0.09*** | 0.02 | 0.14*** | 0.02 | 0.01 | −0.05* | 0.06** | −0.02 | 0.10*** | 0.10*** | 0.03 |
| **(20) Industry expertise** | 0.13 | 0.18 | 0.04* | −0.07*** | −0.02 | −0.09*** | −0.03† | 0.06** | −0.11*** | 0.00 | −0.02 | 0.04* | −0.05** |
| **(21) Information provision (DRI)** | 0.88 | 0.19 | −0.03 | −0.02 | −0.04* | −0.11*** | −0.06** | −0.06*** | −0.12*** | 0.02 | 0.10*** | 0.26*** | 0.19*** |
| **(22) Control provision (ASD)** | 0.60 | 0.18 | 0.03† | 0.04* | −0.08*** | −0.05** | 0.00 | −0.07*** | −0.11*** | 0.07*** | −0.14*** | 0.04* | −0.06** |

| Variables | Mean | S.D. | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **(1) Strategic change** | 0.17 | 0.21 | | | | | | | | | | |
| **(2) Return on equity** | 0.01 | 0.20 | | | | | | | | | | |
| **(3) Size** | 15.86 | 1.23 | | | | | | | | | | |
| **(4) Leverage** | 0.23 | 0.15 | | | | | | | | | | |
| **(5) Risk** | 0.18 | 1.68 | | | | | | | | | | |
| **(6) Sales growth** | 0.04 | 0.18 | | | | | | | | | | |
| **(7) Diversification** | 0.75 | 0.52 | | | | | | | | | | |
| **(8) Functional** | 0.34 | 10.27 | | | | | | | | | | |
| **(9) Board size** | 9.04 | 2.58 | | | | | | | | | | |
| **(10) Board age** | 4.12 | 0.06 | | | | | | | | | | |
| **(11) Board tenure** | 2.09 | 0.41 | | | | | | | | | | |
| **(12) Board busyness** | 1.98 | 0.98 | | | | | | | | | | |




DOI: 10.1002/smj

Table 1. Continued

| Variables | Mean | S.D. | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **(13) Board independence** | 0.49 | 0.29 | −0.05* | | | | | | | | | |
| **(14) CEO age** | 4.02 | 0.12 | 0.01 | −0.13*** | | | | | | | | |
| **(15) CEO tenure** | 2.46 | 0.82 | 0.02 | −0.23*** | 0.23*** | | | | | | | |
| **(16) CEO power** | 0.25 | 2.28 | 0.02 | −0.19*** | 0.30*** | 0.34*** | | | | | | |
| **(17) % of largest owner** | 0.15 | 0.15 | 0.00 | −0.12*** | −0.06** | −0.03† | −0.10*** | | | | | |
| **(18) Largest owner is insider** | 0.08 | 0.27 | 0.05** | −0.07*** | −0.04* | 0.06*** | 0.02 | 0.29*** | | | | |
| **(19) Widely held 10%** | 0.49 | 0.50 | −0.01 | 0.06*** | 0.05* | 0.03† | 0.08*** | −0.58*** | −0.20*** | | | |
| **(20) Industry expertise** | 0.13 | 0.18 | 0.06** | −0.02 | −0.02 | −0.10*** | 0.02 | 0.05* | −0.03 | −0.06*** | | |
| **(21) Information provision (DRI)** | 0.88 | 0.19 | 0.02 | 0.21*** | 0.06*** | 0.10*** | 0.28*** | −0.33*** | 0.03 | 0.23*** | 0.05** | |
| **(22) Control provision (ASD)** | 0.60 | 0.18 | 0.01 | 0.01 | −0.07*** | 0.02 | 0.10*** | −0.29*** | −0.02 | 0.20*** | −0.01 | 0.67*** |

n = 2.944; significance levels: ***p < 0.001, **p < 0.01, *p < 0.05, †p < 0.1

experts to contend that firms undergoing change do not alter the board's composition to increase their level of expertise. To save space, the robustness results are not presented in the paper, but are available upon request from the authors.

## DISCUSSION AND CONCLUSIONS

In this paper, we examined the effects of board industry expertise on strategic change and the moderating role of institutional quality. Drawing on a combined RD and agency perspective of boards, we suggested that higher expertise would be associated with more strategic change. Consistent with this proposition, the results indicate that industry expertise is a significant predictor of strategic change across countries. The strength of the effect, however, is contingent upon institutional differences. Our results indicate that higher regulatory transparency (i.e., information provision) and legal means of shareholder participation (i.e., control provision) reduce the effect of board industry expertise on change. These effects build on the idea that a lack of institutional information provision increases managers' need for experienced directors' counsel to initiate change and that weaker institutional control creates a void of stakeholder monitoring power that increases the need for experienced directors to act as vigilant monitors.

Our paper contributes to the literature in several ways. First, it adds to the understanding of boards as conduits of knowledge and monitors to induce strategic change across different governance systems. Our results emphasize that a joint consideration of board resources and institutional contingencies can help to understand further the drivers of strategic change. We provide additional evidence for the simultaneous importance of both board functions—RD theory-based counsel provision and agency-driven monitoring of managers—in the board–strategy relation. To the best of our knowledge, ours is the first study to illustrate empirically the relevance of a combined agency and resource-based view on institutional prerequisites in this context. Second, though largely incorporated in the resource-based literature (e.g., Peng, 2001), national contingencies in the board–strategic change relationship have not been discussed. By identifying country-specific contingency factors germane to strategic change, we address this gap, go beyond investigating the

Table 2. Estimation results of board industry expertise on strategic change

| Method | Model 1 System GMM | Model 2 System GMM | Model 3 System GMM |
|---|---|---|---|
| Sample | Full sample | Full sample | Full sample |
| Dependent variable | Strategic change | Strategic change | Strategic change |
| Constant | 0.639 | 0.808 | 1.091 |
| | (1.219) | (1.244) | (1.161) |
| *Controls* | | | |
| Return on equity$_{(t-1)}$[a] | −0.011 | −0.010 | −0.012 |
| | (0.029) | (0.030) | (0.029) |
| Size$_{(t-1)}$ | −0.019 | −0.019 | −0.020 |
| | (0.023) | (0.023) | (0.022) |
| Leverage$_{(t-1)}$[a] | 0.167† | 0.153† | 0.174* |
| | (0.088) | (0.085) | (0.087) |
| Risk$_{(t-1)}$[a] | 0.001 | 0.001 | 0.001 |
| | (0.002) | (0.002) | (0.002) |
| Sales growth$_{(t-1)}$[a] | −0.018 | −0.017 | −0.019 |
| | (0.025) | (0.024) | (0.024) |
| Strategic change$_{(t-1)}$ | 0.279*** | 0.276*** | 0.261*** |
| | (0.033) | (0.032) | (0.032) |
| Diversification$_{(t-1)}$ | 0.031 | 0.032 | 0.039† |
| | (0.024) | (0.023) | (0.023) |
| Functionality of change | 0.001*** | 0.001*** | 0.001*** |
| | (0.000) | (0.000) | (0.000) |
| Board size | 0.022*** | 0.022*** | 0.021*** |
| | (0.005) | (0.005) | (0.005) |
| Board age | −0.463† | −0.495† | −0.485† |
| | (0.273) | (0.279) | (0.266) |
| Board tenure | 0.008 | 0.022 | 0.007 |
| | (0.039) | (0.037) | (0.037) |
| Board busyness | 0.013*** | 0.013*** | 0.013*** |
| | (0.004) | (0.003) | (0.004) |
| Board independence | 0.204* | 0.180* | 0.169* |
| | (0.089) | (0.086) | (0.083) |
| CEO age | 0.289* | 0.276* | 0.216 |
| | (0.141) | (0.138) | (0.137) |
| CEO tenure | 0.036 | 0.024 | 0.024 |
| | (0.022) | (0.021) | (0.022) |
| CEO power | 0.005 | 0.004 | 0.003 |
| | (0.005) | (0.005) | (0.004) |
| % of largest owner | 0.017 | 0.022 | −0.006 |
| | (0.110) | (0.107) | (0.109) |
| Largest owner is insider | 0.023 | 0.025 | 0.022 |
| | (0.027) | (0.025) | (0.026) |
| Widely held 10% | −0.033** | −0.032** | −0.032* |
| | (0.013) | (0.012) | (0.013) |
| *Predictors* | | | |
| Industry expertise | 0.206*** | 0.287*** | 0.294*** |
| | (0.062) | (0.071) | (0.070) |
| Institutional quality: Information provision (DRI) | | −0.082 | |
| | | (0.152) | |
| Institutional quality: control provision (ASD) | | | −0.069 |
| | | | (0.254) |
| *Interactions* | | | |
| Industry expertise × DRI | | −0.976** | |
| | | (0.368) | |
| Industry expertise × ASD | | | −0.983** |
| | | | (0.372) |




DOI: 10.1002/smj

Table 2. Continued

| Method | Model 1 System GMM | Model 2 System GMM | Model 3 System GMM |
|---|---|---|---|
| Sample | Full sample | Full sample | Full sample |
| Dependent variable | Strategic change | Strategic change | Strategic change |
| *Model fit* | | | |
| Wald $\chi^2$−statistic[b] | 344.30 | 309.86 | 347.88 |
| | (70) | (71) | (71) |
| Arellano-Bond test ($\Pi_1$)[c] | −6.37 | −6.28 | −6.18 |
| | [0.000] | [0.000] | [0.000] |
| Arellano-Bond test ($\Pi_2$)[c] | −1.35 | −1.35 | −1.40 |
| | [0.176] | [0.176] | [0.162] |
| Hansen J-statistic[c] | 101.35 | 104.92 | 106.53 |
| | [0.309] | [0.349] | [0.309] |

[a] Winsorized at the 1st and 99th percentile levels.
[b] Degrees of freedom in parentheses.
[c] Significance levels in brackets.
n = 2.944 firm-years; significance levels: ***p < 0.001, **p < 0.01, *p < 0.05, †p < 0.1 (two-tailed tests); heteroscedasticity consistent standard errors in parentheses; dummies for industry, country, and time effects are included, but not reported.

conventional contingency factors at the industry level, and elevate the merits of board function fulfillment from the firm to the national level. Third, our study responds to the growing demand for multi-country corporate governance studies. Ongoing globalization and the multilateral interweavement of international businesses demand deeper insight into country-specific contextual factors in the corporate governance literature (Yoshikawa and Rasheed, 2009) and the strategic decisions literature (Peng and Heath, 1996). Our multi-country focus enabled us to refine existing theoretical constructs, such as Hillman and Dalziel's (2003) concept of board capital by integrating institutional perspectives as an important moderator. Our results also add to the academic discussion about the potential complementary effects of institutions and internal governance mechanisms. Scholars such as Abdi and Aulakh (2012), who find a complementary relationship between formal institutions and organization-level governance, propose that weak institutions might also weaken the influence of internal governance mechanisms. For the case of board experience effects on strategic decisions, our results provide no indication of such a complementary relationship; instead, they demonstrate that weak institutions create a void that results in a greater need for internal mechanisms.

In addition, our study has implications for practice. Foremost, we hope to raise awareness of the benefits embodied in directors' expertise in terms of shifting strategy. Since our regressions indicate that the benefits of board industry expertise are more prominent in countries with lower institutional quality, we potentially provide new evidence of how board experience adds to firm adaptation in difficult environments. Firms operating in emerging markets and uncertain settings might profit in particular from appointing industry experts to their boards.

The results of our study have limitations that, if addressed, might provide fruitful avenues for future research. The general assumption that strategic change is a major driver of competitive advantage and a corrective measure for inertia has been challenged by previous studies (e.g., Kelly and Amburgey, 1991). Despite the intuitive appeal and proximity to the influence of boards, the empirical conceptualization of strategic change does not address whether change is appropriate in a given situation or whether the change is undertaken in the correct direction. Thus, we cannot corroborate the plausibility of the quality of the change pursued. In a specific context, firms might benefit from strategic stability instead of strategic change (Venkatraman and Prescott, 1990). Future studies could build on our results to develop a set of contingencies in measuring strategic quality. Drawing on considerations of fuzzy sets (Fiss, 2011) could help explain the different conduits of resources and their interdependence with different context variables at the individual, group, firm, and country levels to produce a set of configurations of beneficial strategic change. Another limitation refers to the degree of board



DOI: 10.1002/smj

involvement in strategic processes. The literature discusses the role of boards versus the top management team (TMT) and their respective contributions to strategy (e.g., McNulty and Pettigrew, 1999). Although researchers have shown the increasingly important role that boards play in advising and monitoring strategic options, researchers have suggested strategic change is a matter of board–TMT interaction (Haynes and Hillman, 2010; Kor, 2006). Whereas our study relies on the direct effects of board expertise, considering how the TMT structure affects the influence of expertise across systems might be fruitful. This study is also limited to formal institutional contingencies. Future research could add the informal dimensions to the presented bundle of institutional conditions of strategic change. Additionally, considering contingency dimensions from a multilevel perspective might advance research. Although our study is limited to the country level, future research could add an industry dimension and, for example, investigate the effects of disclosure regulations per industry and country.

Overall, our findings provide further evidence of the interactive nature of the internal and external aspects of corporate governance. We hope that researchers will further investigate the rationale of national heterogeneity and firm-level governance.

## ACKNOWLEDGEMENTS

We thank Editor Will Mitchell and the two reviewers for their excellent guidance. We also thank Nikolaos Kavadis, Timurs Umans, Dorothee Feils, Alexander Schult, Laura Jacobey, and Franz Maybuechen for their helpful comments. Additionally, we are grateful for feedback from participants at the European International Business Academy (EIBA) Conference 2012, the 2013 Academy of International Business (AIB) Annual Meeting as well as at the 2013 Academy of Management (AOM) Annual Meeting.

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