

A DARKER SIDE OF KNOWLEDGE TRANSFER FOLLOWING INTERNATIONAL ACQUISITIONS

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We consider a knowledge flow that dominates the international acquisition context but can actually harm foreign acquired firms' performance: non-location-specific knowledge transfer from acquirers to acquired firms (*N*-LSKT). Considering its behavioral consequences, we argue that such knowledge transfer often may destabilize existing power structures in foreign acquired firms prompting conflict and power struggles, and as a result negatively affects their performance. We find support for this adverse knowledge transfer effect. Only at very high levels of *N*-LSKT, when acquirers are likely to extend their own capabilities and associated power structures more completely, do the performance effects improve. Further, predeal success of acquirers and post-deal functional integration amplify, while acquirers' strategic control over the acquired firm alleviates the generally negative effects of *N*-LSKT. Copyright © 2015 John Wiley & Sons, Ltd.

INTRODUCTION

International mergers and acquisitions (M&A) frequently fail to meet expectations, and regularly lead to losses for acquired firms (e.g., Bertrand and Zitouna, 2008; Moeller and Schlingemann, 2005). Problematic outcomes often are ascribed to integration challenges (e.g., Björkman, Stahl, and Vaara, 2007) and intense uncertainty among acquired members (e.g., Chatterjee *et al.*, 1992). Challenges go beyond blending two disparate firms, and also relate to liabilities of foreignness, where acquirers may lack knowledge of foreign contexts and their honed practices may be less applicable

(e.g., Barkema, Bell, and Pennings, 1996; Kostova, 1999).

Therefore, international M&A success often is assumed to depend on knowledge transfer (e.g., Bresman, Birkinshaw, and Nobel, 1999). Yet, while numerous studies have considered antecedents to cross-border knowledge transfer (e.g., Bresman *et al.*, 1999; Lord and Ranft, 2000), its performance effects rarely have been studied empirically.¹ This gap is important because, when considering their behavioral consequences (e.g., Cyert and March, 1963), knowledge flows may cause power shifts that can have adverse effects. Mudambi and Navarra (2004), for example, argued that some knowledge flows can lead foreign subsidiaries to exploit their power.

Like other scholars (e.g., Schulz, 2001), we view organizational knowledge as knowledge held

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¹ In fact, meta-analyses of the knowledge transfer–performance relationship could not include a single M&A study and had to use very broad interpretations of the variables (Van Wijk *et al.*, 2008).

by all or parts of a firm (Huber, 1991) stored in organizational routines or standard operating procedures (Cyert and March, 1963; Levitt and March, 1988; Nelson and Winter, 1982). From the behavioral theory of the firm, knowledge elements fight for attention (Hansen and Haas, 2001) and through transfer, they support or extend, but also challenge or contradict other knowledge elements (Levitt and March, 1988). Therefore, we argue that such transfer can stabilize but also destabilize quasi-resolved conflict in foreign acquired firms with related performance effects.

We focus on a knowledge flow that often dominates international M&As: *non-location-specific knowledge transfer* (N-LSKT).² Non-location-specific knowledge relates to firm-specific knowledge, such as expertise in management practice, product and process design and research and development. After international M&As, such knowledge usually is transferred from acquirers to their foreign acquired firms because acquiring managers consider it to be *location-free* and attempt to transfer it throughout their networks of foreign subsidiaries to extend their advantages (e.g., Buckley and Casson, 1976; Vernon, 1966).

However, N-LSKT from acquirers to acquired firms reveals a darker side of knowledge transfer that has received scant attention thus far. While interference is unlikely among *location-specific* knowledge elements of the combining firms because they are associated with distinct local markets, the firms' *non-location-specific* knowledge elements tend to fight for attention following international M&As. Because transfer of the latter often is imposed by acquirers (Bresman *et al.*, 1999), Verbeke (2010) referred to it as the *dominant logic dimension* of knowledge transfer—it "requires [a foreign acquired firm] to institutionalize some of [the acquirer's] routines" (38), and more generally its preferred procedures and practices. Thus, N-LSKT involves piecemeal replacements of acquired firms' capabilities, which may often disrupt acquired firms' power structures, elevating uncertainty, and ultimately affecting their performance negatively. Our results show

that only at very high levels of N-LSKT, when acquirers transfer their capabilities and associated power structures completely, may such transfer help to restore stability in acquired firms and diminish adverse performance effects (cf. Verbeke and Kenworthy, 2008). Thus, we argue that even if N-LSKT may be an attempt to extend acquirers' firm-specific advantages, it often happens at the detriment of acquired firms' performance, particularly when acquirers show strong predeal success (reducing acquirers' adaptability of routines), engage in more functional integration of the acquired firm (deepening destabilization), and provide little strategic control over the acquired firm (constraining restabilization).

This study primarily contributes to the knowledge transfer literature by detailing that apart from a bright side that is often stressed, there is a darker side, at least in the fragile international M&A context. By exploring this darker side, we add to an emergent research stream (e.g., Empson, 2001; Haas and Hansen, 2005; Reus *et al.*, 2009) that places critical boundary conditions to the general claim that knowledge transfer is always good for performance.

HYPOTHESES

The knowledge-based view emphasizes that knowledge is one of the most valuable resources for firms (e.g., Grant, 1996), and multinationals are a superior organizational form for transferring knowledge across borders (e.g., Kogut and Zander, 1993). Following international M&As, N-LSKT from acquirers to their acquired firms should benefit the latter as they can tap into the former's firm-specific knowledge. However, when considering behavioral consequences, building up such benefits for acquired firms seems very difficult, and often comes with breaking down preexisting capabilities of acquired firms, with adverse effects for its performance.

From the behavioral theory of the firm, conflict within firms is a normal state of affairs, where at best it is only temporarily resolved through negotiated agreements between parties with disparate motivations (Cyert and March, 1963; March and Simon, 1958). To avoid uncertainty related to this fragile quasi-resolved conflict, dominant coalitions impose order by adhering to familiar routines (March and Simon, 1958; Prahalad and Bettis, 1986), that reinforce the negotiated order and stabilize power

² Other flows can be identified. For example, *location-specific knowledge transfer* (LSKT) from foreign acquired firms often is important because it allows acquirers to tap into market knowledge, marketing expertise, and distribution capabilities that are needed to be able to commit to foreign markets (e.g., Johanson & Vahlne, 1977). While our focus is on N-LSKT to acquired firms, we control for other knowledge flows in our analyses.

Table 1. Relationship between N-LSKT_{to} and acquired firm performance from no transfer to high levels of transfer

N-LSKT _{to}	Value from acquirer's capabilities for acquired firms	Effect on acquired firm's stability	Performance acquired firm
<i>No transfer</i>	No benefits from acquirer's capabilities	Little threat to preexisting capabilities from which benefits can accrue post-M&A	<i>Positive</i>
	No costs of transfer	Preexisting power structures continue to provide stability in acquired firm	
<i>Increasing levels of transfer</i>	Benefits are unlikely because capability extension requires complete bundles of knowledge	Increasing levels of threat to acquired firm's preexisting capabilities and power structures	<i>Declining</i>
	Biased search for problems: acquirer likely blames acquired firm for problems	Increasing levels of uncertainty, conflict and destabilization	
<i>High levels of transfer</i>	Benefits more likely as more complete bundles of knowledge are transferred	Allows for regaining stability by facilitating complete power shift, and aligning acquired firm to acquirer's power structure	<i>Improving</i>
	Acquirer more open to negative feedback as it becomes more difficult to blame acquired firm		

structures (Cyert and March, 1963). M&As often stir the quasi-resolved conflict, increasing uncertainty and upsetting power structures, particularly for acquired firms (e.g., Empson, 2001; Graebner, 2009; Shrivastava, 1986), and even more so for foreign acquired firms because diverging national cultures increase the likelihood of clashes (Barkema *et al.*, 1996; Cartwright and Cooper, 1992; Vaara *et al.*, 2012). Under such conditions, where holding preacquisition dominant coalitions together loses value and long-held routines are contested, one would expect coalition realignments and politics to prevail (Cyert and March, 1963; March and Simon, 1958). Acquired firms' performance thus may depend particularly on whether acquired firms' power structures destabilize or restabilize.

We expect N-LSKT to acquired firms to play a contradictory role in this process (summarized in Table 1). Without N-LSKT, acquired firms may gain little from acquirers' non-location-specific knowledge, such as management, R&D and product design capabilities, but there are limited costs. Foreign acquired firms and their managers continue to rely on their own preexisting knowledge, with only marginal supplements from the acquirer's pool of knowledge. There is little threat to the acquired firms' power holders because preexisting routines maintain their importance following the acquisition. As a result, acquired firm's preexisting capabilities can continue to provide stability within the acquired

firm. It allows associated power holders to retain their power and provide value with the capabilities, and in the context, they know best.

With N-LSKT, acquirers attempt to extend their capabilities onto foreign acquired firms. Due to overreliance on learned routines and myopic search (Cyert and March, 1963; March and Simon, 1958), this N-LSKT likely entails redeploying knowledge that is honed from past experience and embedded in the acquirers' routines. It is difficult to know *a priori* the extent to which this knowledge will be applicable to the foreign acquired firms (Jensen and Szulanski, 2004). Yet, many acquirers are unable to resist the temptation to impose their "ways of doing things" (Verbeke, 2010) "that they know works" (Zander and Zander, 2010) on acquired firms.

Increasing levels of N-LSKT from acquirers increases the threat on acquired firms' preexisting knowledge, and associated power holders. As Verbeke (2010) noted, this transfer "*de facto* demands the (costly) destruction of preexisting, diverging routines in [acquired firms]" (40) which comes with many costs, such as demotivated, disoriented, disaffected workforces. Because jobs, careers, and status often are tied to the dwindling power structures, turmoil within acquired firms likely is mirrored in conflict between the combining firms as well (Graebner, 2009; Meyer and Altenborg, 2008). Acquirers likely intend to adapt capabilities to feedback from acquired members during implementation (Jensen

and Szulanski, 2004; Kostova, 1999; Vaara *et al.*, 2012). Yet, forthright cooperation is unlikely when it involves replacing acquired firms' routines with those from acquirers (cf. Brannen and Peterson, 2007; Empson, 2001). Moreover, feedback is unlikely to be genuine, as communication reflects unresolved conflict between the firms, and may be largely unidirectional from the acquirer to the acquired, given the power imbalance (Bastien, 1987). When the transfer does not provide benefits, acquirers likely search locally and blame acquired firm's routines where problems appear to reside (cf. Cyert and March, 1963).

Thus, as N-LSKT increases, the greater will be the destabilization in acquired firms. A few things change, however, at high levels of such transfer. First, scholars have emphasized that knowledge needs to be coordinated and managed *in its entirety* (Verbeke and Kenworthy, 2008) because it requires a shared common ground about complete bundles of knowledge to be able to apply it to commercial ends (Kogut and Zander, 1992; Verbeke, 2010). At high levels of N-LSKT, transfer of bundles of knowledge becomes more likely. Second, acquirers' power structures may become so dominant that it facilitates complete power shifts in acquired firms. Restabilization may occur as acquired firms' existing power holders adapt to acquirers' power structures or new power holders emerge who adhere to acquirers' power structures. Moreover, at high levels of N-LSKT it becomes harder for acquirers to blame problems on acquired firms' preexisting routines, making acquirers more susceptible to negative performance feedback (Cyert and March, 1963; Levitt and March, 1988). Then, acquirers are more likely rely on acquired members to help adapt the knowledge to local contexts, providing an overall better learning context. Thus:

Hypothesis 1: N-LSKT from an acquirer to a foreign acquired firm has a predominantly negative, concave upward relationship with the acquired firm's performance.

To further explore the role of N-LKST, we consider factors that influence acquirers' likelihood to adapt routines, and acquired firms' likelihood to de- and restabilize.

Success increases a firm's reliance on preexisting capabilities without adaptation (e.g., Greve, 1998), constrains decision-makers' perceptions of knowledge gaps in foreign markets (Petersen,

Pedersen, and Lyles, 2008), and limits responding to performance feedback when managing M&As (e.g., Chuang and Baum, 2003; Greve, 1998). Firms performing above aspiration levels are slow to consider change, and rarely in organizationally vulnerable areas (Greve, 1998; Levinthal and March, 1993). Acquirers then more likely transfer their knowledge without alteration to a foreign context, and rely on biased search for sources of problems within the acquired firms. Even at high levels of N-LSKT, where it would be difficult to attribute problems to the acquired firm, the confidence of the high-performing acquirer is still likely to limit attention to negative performance feedback (Greve, 1998). As such, strong predeal success of acquirers makes N-LSKT an even greater threat to acquired firms' cherished capabilities.

In contrast, lower performing acquirers that still believe they have non-location-specific knowledge that could benefit acquired firms, would be more cautious in the transfer process, and more accepting of disconfirming feedback (Chuang and Baum, 2003; Levinthal and March, 1993). They would be more open to learning from acquired firms, thereby better engaging acquired managers and employees, and adapting knowledge to the foreign context. While it is still likely that acquirers would search for problems in acquired firms' adoption and application, the engagement of acquired firms' employees in the process should help avoid blind applications of acquirers' routines to the acquired firms (cf. Ellis *et al.*, 2011). Thus, acquirers' predeal success should set the stage for more maladaptive N-LSKT for higher performing acquirers, and, at least partially, adaptive N-LSKT for lower performing acquirers.

Hypothesis 2: An acquirer's predeal success moderates the curvilinear relationship between N-LSKT and a foreign acquired firm's performance, such that the relationship will be more negative with higher levels of an acquirer's predeal success.

Functional integration refers to the extent to which the practices, policies, and structures concerning activities within a range of functional areas of acquired firms are combined with those of acquirers (e.g., Larsson and Finkelstein, 1999). At the low end, little structural change is needed and acquired firms remain quite autonomous (Haspeslagh and Jemison, 1991). Higher levels call

for more structural change throughout acquired firms. Integrating diverse activities requires coordinating functions, monitoring these functions so that they are performed as intended, and dealing with dispersed interests of people and departments (Shrivastava, 1986). Functional integration and the associated restructuring throughout acquired firms are often the root of anxiety and uncertainty (Seo and Hill, 2005), and as such the root of destabilization.

N-LSKT puts into play how, and to a lesser extent by whom, activities are done within acquired firms. With functional integration a wider range of practices are in flux, and more acquired members are threatened by the restructuring and elimination of roles and positions (e.g., Björkman *et al.*, 2007; Haspeslagh and Jemison, 1991), causing the disruptive impact of N-LSKT to spread more throughout the acquired firms where related tasks are performed (Shrivastava, 1986). Given the destabilizing effects of N-LSKT to foreign acquired firms, when it is coupled with functional integration, the ensuing conflict, power struggles, and misdirected communication would be far more ubiquitous, making maladaptive knowledge transfer only worse. Also, high levels of functional integration are likely to tax the restabilizing effects of high N-LSKT, thereby making matters worse across the full range of N-LSKT, albeit at a declining rate.

Hypothesis 3: Functional integration moderates the curvilinear relationship between N-LSKT and a foreign acquired firm's performance, such that the relationship will be more negative at higher levels of functional integration.

Strategic control refers to the extent to which acquirers set performance goals and strategic plans of acquired firms, thereby providing broad guidelines and aligning acquired firms' strategic agendas within the acquirers (e.g., Calori, Lubatkin, and Very, 1994; Shrivastava, 1986). Although functional integration and strategic control may covary for certain integration approaches (e.g., absorption), they often are independent choices (Haspeslagh and Jemison, 1991; Ranft and Lord, 2002). Shrivastava (1986) clarifies the distinction: whereas functional integration requires restructuring at the departmental and individual levels, strategic control happens at the business unit level and involves aligning a newly acquired firm within an acquirer's corporate

structure, without necessarily warranting changes at the functional level.

Important to our theorizing, we expect functional integration and strategic control to have opposing effects on the consequences of N-LSKT. With strategic control, acquirers set priorities that are more clearly shared. This helps to restabilize the power structure in the acquired firm by reducing the opportunity for coalition battles in contesting goals within the acquired firm (Haspeslagh and Jemison, 1991). With goals and priorities set by the acquirer, goal conflict between the two firms should be reduced along with the goal conflict within the acquired firm over competing priorities. Further, strategic control clarifies the desired ends without dictating means, thereby giving both firms benchmarks to judge progress of N-LSKT, with built-in feedback mechanisms for more adaptive learning (Cyert and March, 1963). With generally shared goals and strategic priorities for the acquired firm in place, its employees likely have fewer disincentives to work with the acquirer in the adaptation of the new business practices in the acquired firm (Björkman *et al.*, 2007; Kane, Argote, and Levine, 2005). As such, we expect that with higher levels of strategic control, the acquirer's power structure is more readily adopted in the acquired firm, increasing the value and restabilizing effects of N-LSKT for the acquired firm.

Hypothesis 4: Strategic control moderates the curvilinear relationship between N-LSKT and a foreign acquired firm's performance, such that the relationship will be more positive at higher levels of strategic control.

DATA AND METHODS

We used SDC to identify transactions where U.S. firms purchased 100 percent of foreign firms in the M&A peak period of 1998–2000 (Shimizu *et al.*, 2004), yielding 3,592 deals of which 504 remained after deleting multiple M&As by the same firm and deals where acquirers went private or bankrupt, divested acquired units, were acquired themselves, or had corporate policies or time limitations preventing participation. In 2003, we surveyed top managers from the acquirers with a response rate of 24 percent (121 respondents). Due to missing data, our final sample consisted of 99 deals. No significant differences between

Table 2. Descriptive statistics and correlations^a

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Acquired firm performance	11.75	3.46																		
2. N-LSKT _{to} ²	9.72	2.97	0.07																	
3. N-LSKT _{to} ²	103.17	51.97	0.08	0.98																
4. Strategic control	4.12	0.95	-0.27	0.06	0.07															
5. Functional integration	20.41	7.88	0.11	0.41	0.36	0.20														
6. Acquirer predeal success	-0.03	0.22	0.24	0.20	-0.24	0.07														
7. Relatedness	7.78	8.33	-0.07	0.06	0.06	0.15	0.06	0.10												
8. Cultural distance	0.80	0.56	-0.02	-0.10	-0.06	0.05	-0.15	0.12	-0.02											
9. Relative size	5.27	2.11	-0.02	-0.10	-0.05	-0.10	-0.09	0.21	-0.05	0.04										
10. Acquisition experience	4.27	6.12	0.15	-0.06	-0.05	-0.09	0.06	0.16	0.05	0.03	0.17									
11. Target industry acquisition activity	101.03	354.10	0.03	0.05	0.03	0.09	0.05	-0.10	-0.12	-0.15	-0.18	0.05								
12. Target public status dummy	0.13	0.34	0.06	0.17	0.15	0.20	0.32	0.02	0.26	-0.15	-0.26	-0.01	0.25							
13. Target predeal success dummy	0.68	0.47	0.04	-0.07	-0.05	0.07	0.14	-0.09	-0.08	-0.08	0.23	0.11	-0.09	-0.05						
14. Key employee retention	19.10	5.37	0.40	0.12	0.09	-0.40	0.00	0.14	-0.01	-0.10	-0.04	-0.05	-0.14	-0.10	0.01					
15. Product expansion motive dummy	0.46	0.50	-0.00	-0.06	-0.07	-0.06	0.00	-0.09	0.06	-0.13	0.10	0.04	-0.06	-0.00	0.08	0.04				
16. Inverse mill ratio	0.43	0.09	0.04	0.02	0.02	-0.07	-0.12	-0.34	-0.02	-0.12	-0.31	0.01	-0.14	-0.17	-0.06	-0.02				
17. LSKT _{to}	8.30	3.00	0.08	0.50	0.44	0.20	0.43	0.10	-0.05	-0.12	-0.01	0.14	0.22	-0.06	-0.07	0.13	-0.12			
18. N-LSKT _{from}	7.76	2.52	0.04	0.36	0.33	0.21	0.38	0.09	0.07	-0.15	0.07	0.18	0.20	0.04	0.08	0.24	-0.02	0.32		
19. LSKT _{from}	8.10	2.73	0.27	0.42	0.39	-0.04	0.37	0.18	0.03	0.06	-0.19	-0.03	-0.01	0.14	-0.15	0.20	-0.25	-0.09	0.34	0.17

^a Correlations greater than |0.20| are significant at $p < 0.05$, and greater than |0.26| are significant at $p < 0.01$.

responding and nonresponding firms, and early and late respondents allayed concerns of nonresponse bias, and insignificant differences between 1998 and 2000 deals suggested retrospective bias had no influence. Also, Harman's one-factor test indicated seven interpretable factors, one for each multi-item construct, together explaining 71 percent of the total variance with the first factor explaining less than 23 percent (Eigenvalue = 6.24),³ suggesting common method bias is not a concern.

Variables

Following prior research (e.g., Capron, 1999), *acquired firm's performance* was measured using the sum of four items gauging profitability, market share, sales volume, and new product development. Principal component extraction with Varimax rotation showed a single factor (Eigenvalue = 2.80; explaining 70% of the variance; $\alpha = 0.86$).

To assess knowledge transfer from and to acquired firms, respondents assessed transfer in six areas (cf., Capron, 1999; Gupta and Govindarajan, 2000). An exploratory factor analysis using principal components extraction and Varimax rotation yielded a four-factor solution explaining almost 70 percent of the variance. Transfer of managerial capabilities, product and process design expertise, and research and development capabilities captured N-LSKT in two directions: $N\text{-LSKT}_{to}$, i.e. *to the acquired firm* ($\alpha = 0.79$) and $N\text{-LSKT}_{from}$, i.e. *from the acquired firm* ($\alpha = 0.66$). The other two factors reflected location-specific knowledge transfer (i.e., transfer of local market knowledge, marketing and sales expertise, and distribution expertise): $LSKT_{to}$ ($\alpha = 0.74$) and $LSKT_{from}$ ($\alpha = 0.73$). $N\text{-LSKT}_{to}$ was used as the independent variable, and the others as controls.

For *acquirer's predeal success* we used industry-adjusted average return on asset (ROA) during the three years before the deal (e.g., Ramaswamy, 1997). *Functional integration* was measured with six survey items ($\alpha = 0.90$) gauging the extent to which key functional areas of the acquired firm were integrated with those of the acquirer (Ranft and Lord, 2000). For *strategic control*, we used a survey item (1 = acquired firm decides; 5 = parent firm decides) assessing the extent to which the acquirer made decisions about setting performance

³ Complete results for this and other factor analyses are available from the authors upon request.

goals and competitive strategies of the acquired firm following the M&A (Calori *et al.*, 1994).

Beyond the three knowledge flows mentioned above, we also controlled for combining firms' *relatedness* using Halebian and Finkelstein's (1999) operationalization, *cultural distance* using practices data from House *et al.* (2004), *relative size* using a survey item that gauged sales of the acquired firm relative to the acquirer, the acquirer's *acquisition experience* measured by the number of M&As in the four years before the focal deal (e.g., Ellis, Reus, and Lamont, 2009) and its motivation captured by a *product expansion motive dummy* coded 1 if the primary reason of the M&A was access to new or complementary product offerings or product line expansion. To capture target characteristics, we included a *target public status dummy* (e.g., Dikova, Sahib, and Witteloostuijn, 2010), a *target predeal success dummy*,⁴ *target key employee retention* in six functional areas ($\alpha = 0.78$), and *target industry acquisition activity* measured by number of deals in the target's home industry in the five years (i.e., -2 to +2 years) around the focal deal year.

RESULTS

Table 2 presents the descriptive statistics and correlation matrix, indicating that the bivariate correlation between $N\text{-LSKT}_{to}$ and acquired firm's performance is not significant. To examine whether the relationship is curvilinear, we considered the following regression equation:

$$Y = b_0 + b_1 X + b_2 X^2 \quad (1)$$

where b_1 indicates the overall linear term of the relationship (hypothesized to be negative), and b_2 the direction of the curvature (hypothesized to be positive, i.e. concave upward). Table 3 presents the regression results: M1 includes controls only; M2 adds the terms from Equation 1. The linear term of $N\text{-LSKT}_{to}$ is negative (M2: $\beta = -0.67$), and the

⁴ Target pre-deal success was derived from press releases and articles. Two raters coded if prior to the deal acquired firms had a market leadership position, high-quality product or service offering, or similar indicators often associated with success. Raters agreed in 92 percent of the cases, and easily reached consensus on the remaining cases after brief discussions involving a third rater.

Table 3. Ordinal regression results

	M1	M2	M3	M4	M5	M6	M7	M8
Relatedness	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)
Cultural distance	0.20 (0.34)	0.05 (0.35)	-0.04 (0.37)	0.07 (0.36)	0.04 (0.35)	-0.03 (0.35)	-0.04 (0.35)	-0.00 (0.36)
Relative size	-0.04 (0.10)	-0.07 (0.10)	-0.06 (0.10)	-0.07 (0.10)	-0.03 (0.10)	-0.05 (0.10)	-0.02 (0.10)	-0.02 (0.10)
Acquisition experience	0.06* (0.03)	0.06* (0.03)	0.07* (0.03)	0.06* (0.03)	0.06* (0.03)	0.06* (0.03)	0.06* (0.03)	0.06* (0.03)
Product expansion motivation dummy	0.51 (0.42)	0.43 (0.42)	0.61† (0.44)	0.67† (0.43)	0.41 (0.42)	0.44 (0.42)	0.42 (0.42)	0.66† (0.44)
Target public status dummy	0.95† (0.63)	0.90† (0.63)	1.00† (0.64)	0.67 (0.63)	1.16* (0.63)	1.09* (0.64)	1.28* (0.64)	1.04* (0.64)
Target predeal success dummy	0.52 (0.43)	0.48 (0.43)	0.31 (0.44)	0.37 (0.43)	0.51 (0.43)	0.34 (0.43)	0.39 (0.43)	0.22 (0.44)
Target employee retention	0.16** (0.04)	0.17** (0.04)	0.18** (0.05)	0.16** (0.04)	0.17** (0.04)	0.17** (0.04)	0.17** (0.04)	0.16** (0.04)
Target industry M&A activity	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Inverse mills ratio	6.65** (2.66)	6.75** (2.70)	10.52** (2.88)	7.06** (2.71)	8.45** (2.78)	7.47** (2.73)	8.85** (2.80)	9.18** (2.81)
N-LSKT _{from}	-0.10 (0.09)	-0.07 (0.09)	-0.09 (0.09)	-0.12 (0.09)	-0.09 (0.09)	-0.05 (0.09)	-0.07 (0.09)	-0.11 (0.09)
LSKT _{to}	0.04 (0.07)	0.12† (0.08)	0.07 (0.09)	0.09 (0.08)	0.13† (0.08)	0.11† (0.08)	0.12† (0.08)	0.09 (0.08)
LSKT _{from}	0.16* (0.08)	0.16* (0.09)	0.24** (0.09)	0.18* (0.09)	0.19** (0.09)	0.18* (0.09)	0.21** (0.09)	0.23** (0.09)
Acquirer predeal success	2.34** (1.01)	2.46** (1.03)	1.08 (1.18)	2.34** (1.03)	0.91 (1.16)	2.38** (1.03)	0.81 (1.16)	0.86 (1.17)
Functional integration	0.01 (0.03)	0.02 (0.03)	0.03 (0.03)	0.02 (0.03)	0.01 (0.03)	0.03 (0.03)	0.02 (0.03)	0.03 (0.03)
Strategic control	-0.15 (0.24)	-0.25 (0.24)	-0.40† (0.25)	-0.31† (0.25)	-0.24 (0.24)	-0.31† (0.24)	-0.32† (0.24)	-0.42* (0.25)
N-LSKT _{to}		-0.67* (0.36)	-1.57** (0.52)	-0.80* (0.42)	-0.72* (0.36)	-1.08** (0.43)	-1.14** (0.43)	-1.45** (0.45)
N-LSKT _{to} ²		0.03* (0.02)	0.08** (0.03)	0.04* (0.02)	0.04* (0.02)	0.05** (0.02)	0.05** (0.02)	0.07** (0.02)
N-LSKT _{to} × acquirer predeal success			2.32 (2.10)		-0.65** (0.28)		-0.63** (0.28)	-0.58* (0.30)
N-LSKT _{to} × functional integration			0.02 (0.05)			-0.02* (0.01)	-0.02* (0.01)	-0.03** (0.01)
N-LSKT _{to} × strategic control			1.24** (0.45)	0.80* (0.42)				1.03** (0.43)
N-LSKT _{to} ² × acquirer predeal success			-0.18† (0.13)					
N-LSKT _{to} ² × functional integration			-0.00 (0.00)					
N-LSKT _{to} ² × strategic control			-0.07** (0.03)	-0.04† (0.03)				-0.05* (0.03)
Pseudo R ²	0.33	0.36	0.50	0.41	0.40	0.39	0.43	0.48
Chi-square	40.13**	44.18**	68.76**	52.43**	50.52**	49.14**	54.88**	64.69**
ΔR ²		0.03	0.17	0.08	0.07	0.06	0.10	0.15

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$

N = 99; Unstandardized coefficients with standard errors in parentheses.

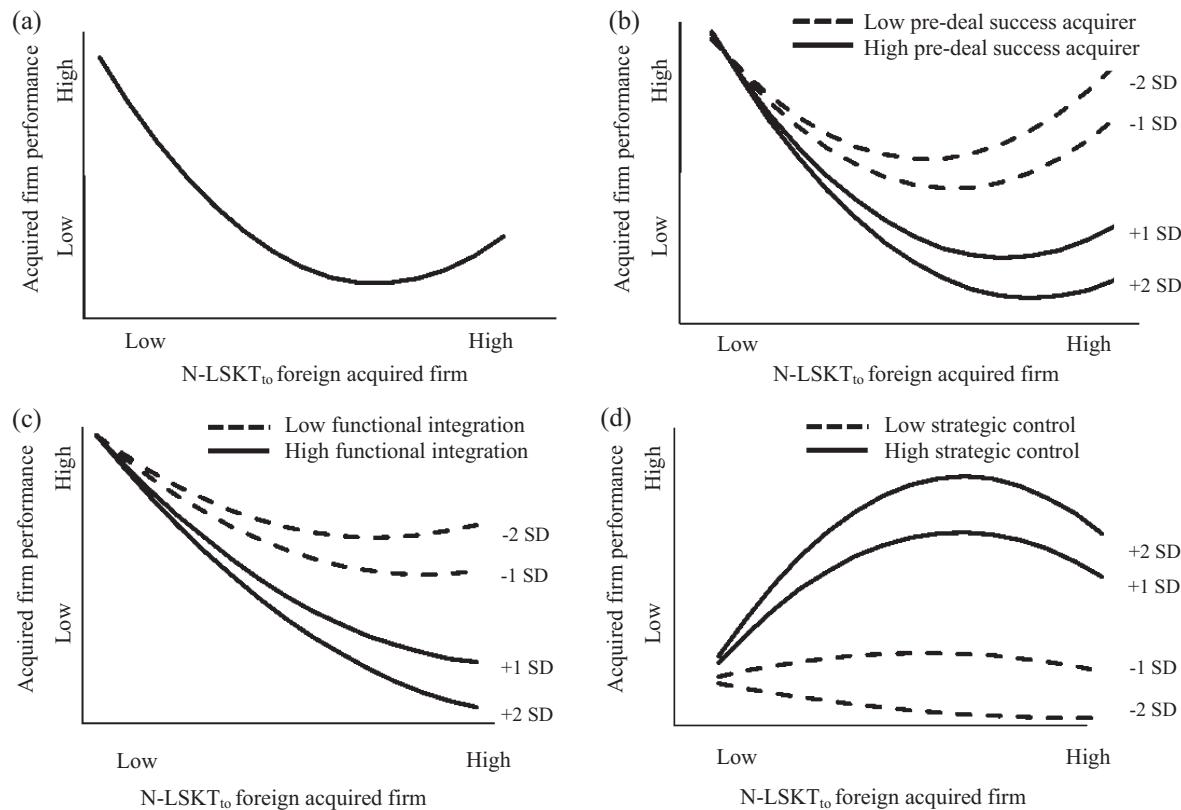


Figure 1. Plots for the (a) non-linear relationship between N-LSKT_{to} and foreign acquired firm performance, and moderating effects of (b) predeal success of the acquirer, (c) functional integration, and (d) strategic control of the acquirer on this relationship

direction of the curvature is positive (M2: $\beta = 0.03$), confirming Hypothesis 1. Figure 1(a) shows that the inflection point, when the relationship turns upward, only comes at very high levels of knowledge transfer (N-LSKT_{to} = 12). The shape is what Aiken and West (1991) describe as predominantly negative, concave upward.

We then followed Aiken and West (1991) to examine the hypothesized moderators of the curvilinear relationship. They explain that such moderation can take two forms (p69–70):

$$Y = b_0 + b_1 X + b_2 X^2 + b_3 M_i + b_4 X M_i \quad (2)$$

$$Y = b_0 + b_1 X + b_2 X^2 + b_3 M_i + b_4 X M_i + b_5 X^2 M_i \quad (3)$$

In Equation 2, the moderator (M_i) influences the linear term of the curve only; the curve will have different slopes but similar curvatures across different levels of M_i . In Equation 3, M_i influences the linear and quadratic terms—i.e., affecting the

slope and concavity of the curve. Since moderators tend to affect curves as a whole (an effect on the slope generally also implies an impact on the curvature), we follow Equation 3 first (e.g., Dawson, 2014).⁵ The results show the interaction of strategic control with the linear and squared terms of N-LSKT_{to} are both significant (M3: $\beta = 1.24$, $\beta = -0.07$; M4: $\beta = 0.80$, $\beta = -0.04$), confirming Hypothesis 4: N-LSKT_{to} generally benefits acquired firm performance when acquirers take on more strategic control (see Figure 1d).

Model M3 provides no support that acquirer's predeal success and functional integration moderate both the slope and concavity of the curve. To examine whether these moderators influence the slope of N-LSKT_{to} without affecting the curvature, we interacted them with the linear term only, following Equation 2. As M5–M7 show, the interactions with

⁵ We are grateful for the advice received from Jeremy Dawson to help us approach the moderation analyses.

the linear term of N-LSKT_{to} are negative for both acquirer's predeal success (M5: $\beta = -0.65$; M7: $\beta = -0.63$) and functional integration (M6 and M7: $\beta = -0.02$). Results are depicted in Figure 1(b, c), and confirm Hypotheses 2 and 3: N-LSKT_{to} is more detrimental to foreign acquired firm's performance when acquirers showed stronger predeal success, and with higher levels of functional integration. Model M8—including predeal success and functional integration interacting with the linear term only, and strategic control interacting with the linear and quadratic term—shows the best fit with the data.⁶

We conducted a number of endogeneity and robustness checks (see Appendix S1). For example, to address sample selection bias, we compared our sample with a sample of firms that expanded internationally without acquiring, and calculated the inverse mills ratio that is statistically significant in the models of Table 3, supporting its inclusion as a control. We followed several procedures that revealed remaining sources of endogeneity have little influence on the results. Moreover, findings were robust when conducting the moderating analyses with alternative measures for various nonsurvey variables, and after removing controls.

CONCLUSIONS

While M&A research has stressed the disruptive nature of post-merger integration on the acquired firm and its knowledge base (e.g., Capron, 1999; Paruchuri, Nerkar, and Hambrick, 2006), the findings from this study suggest that, at least in part, non-location-specific knowledge from the acquirer may itself be the root of disruption. By emphasizing behavioral consequences (Cyert and March, 1963), this study places important boundary conditions on the bright side assumption of knowledge transfer, at least when considered in the fragile period following international M&As. N-LSKT may destabilize power structures, at the detriment of foreign acquired firms' performance, particularly for acquirers with strong predeal success, and with more post-deal functional integration. Only at very

high levels of N-LSKT, when acquirers transfer their capabilities completely, or with more strategic control from the acquirer, can such transfer facilitate extending the acquirer's own power structure to help regain a quasi-resolution of conflict within the acquired firm. While results suggest the relationship between N-LSKT and acquired firm's performance curves upward, benefits from N-LSKT seem rare and generally those acquirers that limit N-LSKT see better performance in their acquired firms.

A number of studies foreshadowed this darker side. For example, Bresman *et al.* (1999) emphasized that acquirers' knowledge often is imposed on their acquired firms, and Capron, Dussauge, and Mitchell (1998) showed that such transfer mostly consists of managerial resources, which we found to be a key factor of N-LSKT. Indeed, Capron (1999) emphasized that "managers from the acquiring firm will often colonize the target by providing it with their own management tools and controlling the implementation of these tools." Capron, Mitchell, and Swaminathan (2001) also point to the disruptive nature of more general resource redeployments to acquired firms, leading to more divestitures. We contribute to this stream by providing evidence that knowledge transfer to acquired firms often is detrimental to acquired firms' performance, and under which conditions.

The study's limitations provide important opportunities for future research. For example, while the executives we surveyed had a top-level perspective and were closely involved in the deals, it will be important to consider the observed relationships through multiple respondents, and from different perspectives, in particular those of acquired managers, which could reveal diverging views on knowledge transfer and its consequences. In addition, the role of N-LSKT may depend on a *national heritage* effect, since U.S. firms tend to use more formal controls in international M&As than firms from other nations (Calori *et al.*, 1994). Moreover, future research could take a closer look at the causality of the relationship between knowledge transfer and acquired firm's performance over time, and whether performance consequences of knowledge transfer diverge for other interorganizational projects, such as alliances or domestic M&As.

Future research also could explore other factors that help firms prevent or overcome the unsettling effects of knowledge transfer, and how firms vary in their knowledge transfer approach. Considering acquirers may place specific emphasis on efficiency

⁶ One of the reviewers suggested a sub-sample analysis to confirm whether for firms with scores of N-LSKT_{to} below the inflection point the moderators interact with the negative linear relationship. Results (see Appendix S1 point no. 3, Table S1) are consistent with those presented here.

gains through acquired firms, destabilization of acquired firms may be essential when engaging in restructuring initiatives required to achieve cost-based synergies (cf. Capron, 1999). As such, the negative impacts on acquired firm performance may not translate to weaker performance of the acquirer. N-LSKT may be a necessary evil for acquirers to do well in the long run.

The lack of research on the performance consequences of knowledge transfer is reflective of the more general knowledge transfer literature. Kotabe *et al.* put it most succinctly: "there is a conspicuous dearth of empirical work that tests the value of knowledge transfer to a firm" (2007: 260). Clearly, this field is rife with opportunities for more research to increase our understanding of the brighter as well as darker sides of knowledge transfer.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix S1. A darker side of knowledge transfer following international acquisitions.