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The efficiency and market-power interpretations of the multinational enterprise: Two out of three ain't bad

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Abstract

***Research Summary*:** We contend that contemporary scholarship must embrace the foundational approach in global business and strategy to consider the relevance of both efficiency and market-power effects in factoring the implications of multinational activity. We empirically test the degree to which efficiency and market-power effects manifest in a comprehensive sample of 4,370 cross-border acquisitions materializing between 1986 and 2010. Specifically, we employ three different measurement approaches to distinguish efficiency enhancing from market-power increasing cross-border acquisitions. Empirical results indicate that efficiency enhancing transactions manifest in two-thirds and market-power increasing transactions manifest in one-third of our sampled activities. Accordingly, our results affirm the literature's focus on efficiency effects, yet market-power effects are sufficiently sizable to merit scholarly attention.

***Managerial Summary*:** Contemporary wisdom generally considers multinational activities to be characterized by efficiency properties. While it is understood that market power may manifest in multinational activity, most observers implicitly assume that anti-competitive effects are dominated by more-healthy efficiency effects. Yet, the justification behind the prior that efficiency effects

dominate market-power effects is not evident, as multinational activities conceivably involve substantial market power. Accordingly, we test the received wisdom regarding the dominance of efficiency effects in an extensive sample of cross-border investments. Our empirical results affirm prevailing assumptions as efficiency enhancing transactions constitute the majority of cross-border investment activities. However, market-power increasing transactions manifest as a sizable minority of cross-border investments; thus, market-power effects should not be neglected.

KEYWORDS

cross-border acquisition, FDI, market power, MNE, theory of FDI

1 | INTRODUCTION

Recent developments in the global economy are characterized by expressions of nativism, renewed populism and increased levels of protectionism (Cuervo-Cazurra, Mudambi, & Pedersen, 2017; Kobrin, 2017). These shifts in sentiment have been formalized into government policies (e.g., Brexit, immigration reforms, trade agreement repudiations, and increased tariff and non-tariff barriers) that have begun to challenge the authenticity of the multinational enterprise (MNE). Coupled with this rising skepticism toward the benefits of MNE globalization are heightened concerns with respect to rising industrial concentration and corporate market power over the last two decades (U.S. Council of Economic Advisers, 2016), which in turn potentially harms consumers (e.g., The Economist, 2018a, 2018b) and employees (e.g., Clougherty, Gugler, Sørgard, & Szücs, 2014). As a result of increased industrial concentration, a spate of recent scholarship has considered the pernicious effects of ineffective competition between businesses; for example, increased profit margins (De Loecker & Eeckhout, 2018), wages constituting a lower share of GDP wealth (Autor, Dorn, Katz, Patterson, & Van Reenen, 2017a, 2017b; Barkai, 2016), and substantial decreases in business dynamism (Akcigit & Ates, 2019). These findings have led to increased scrutiny of globalization and the MNE, as global firms represent the largest business entities with the scope to reduce competition and generate negative externalities in the cross-national environment (The Economist, 2017; Verbeke, Coeurderoy, & Matt, 2018).

Despite these escalated concerns regarding the pernicious effects of concentration and market power, it is fair to point out that the contemporary global business literature embraces an efficiency interpretation of the MNE that tends to neglect the relevance of market-power effects (Pitelis & Teece, 2018; Verbeke et al., 2018). Pitelis and Teece (2018, p. 528) succinctly capture the prevailing sentiment when they state that "the theory of the MNE—like IB generally—remains a champion of the efficiency (seen as antithetical to power) aspects of international operations and direct investment." Indeed for decades the prevailing interpretation of the MNE has been one that focuses on the efficiency-enhancing properties of cross-border investment activity (Buckley & Casson, 1976;

Dunning, 1981; Hennart, 1982; Kogut & Zander, 1993; Rugman, 1981; Teece, 1976, 1977, 2014). Under this perspective, MNEs arise as they are superior vehicles to economize on transaction costs and create value as compared to market-based transactions or other institutional arrangements (Dunning & Rugman, 1985). As a result, the literature in global business has tended to highlight the efficiency-enhancing benefits associated with cross-border investment activities: for example, economics of scale and scope, knowledge transfer, capability creation, learning, and synergies.

There exists, however, scholarship in global strategy (e.g., Forsgren, 2013; Ghemawat & Thomas, 2008; Oxley, Sampson, & Silverman, 2009; Tong & Reuer, 2010) that has recognized that focusing on the efficiency effects involved with strategic activities has somewhat blinded our discourse with respect to the negative dimensions of firm behavior. In particular, market-power motivations stand in stark contrast to efficiency motivations, as the establishment of market power can generate social harm via enhanced entry barriers, restricted output, reduced innovation, higher prices, and lower overall consumer welfare. As Buckley and Casson (2009, p. 1568) suggest, it is "a mistake to claim…that internalisation strategies are unambiguously *good* or *bad* from a welfare point of view"; rather, an MNE is more realistically "a two-edged sword, improving welfare by seeking and replacing imperfect external markets with more perfect internal ones, but potentially reaping rewards by reducing competition." Despite this recognition of dual effects, Oxley et al. (2009) observe that considering the potential for corporate investments—alliances in their context—to reduce competitive intensity has become "less-fashionable in strategy research" (p. 1321). In a similar vein, a significant portion of global business scholarship considers market-power effects to be a "little more than a distraction" (Teece, 2006, p. 226) when considering the economic function of the MNE. For these reasons, global business research has somewhat neglected the relevance of market-power effects and the link between market power and the rising skepticism toward globalization.

Yet by overemphasizing the efficiency interpretation at the neglect of the market-power interpretation of the MNE, our scholarship has potentially introduced a blind-spot that limits consideration of a wider range of pertinent MNE effects. For instance, Pitelis and Teece (2018) note that internalization theory's exclusive focus on efficiencies has diverted attention from the analysis of MNE competitive rivalry and market-power issues. We believe that this reality calls for a clarification and further consideration of the competitive practices and consequences of MNE strategic activities. In particular, we argue that in line with recent calls to consider the negative effects of large business entities and industrial concentration, our literature can no longer neglect market-power effects as a potentially prominent feature of MNE strategy. Narrowly focusing on the efficiency interpretation of the MNE is not sustainable in a contemporary global economy where the competitive practices and consequences of MNE strategic activities are under greater scrutiny.

Interestingly, the foundational literatures in both global strategy and international business fully recognized that firms attempt to attenuate competition through both natural and structural market imperfections. Stephen Hymer (1976 [1960]) viewed the MNE's primary purpose to be the exploitation and expansion of market-power advantages across national markets (Dunning & Pitelis, 2008, 2010; Dunning & Rugman, 1985; Pitelis, 2006). Other business scholars have also recognized that foreign investment can be used to attenuate competitive rivalry (e.g., Kogut, 1988; Porter & Fuller, 1986). Consistent with this approach, early strategy research considered market power—which was sometimes referred to as collusive synergy—as a primary rationale behind alliance and M&A activities (e.g., Chatterjee & Lubatkin, 1990; Lubatkin, 1983; McGahan & Porter, 1999; Seth, 1990; Walter & Barney, 1990). Despite these foundational works, recent decades have witnessed a shift away from market-power explanations in favor of efficiency explanations of the strategic investment activities undertaken by MNEs. We submit that this neglect of market-power effects has hindered

our literature's broader understanding of firm-level strategies and the potential anti-competitive implications of such strategic activities.

With the above in mind, we subject the opposing interpretations of the MNE to empirical scrutiny. In compiling a comprehensive sample of up to 4,370 cross-border acquisitions materializing between 1986 and 2010, we consider the degree to which the efficiency and market-power interpretations of the MNE characterize cross-border investment activity. We employ three different measurement procedures to identify whether cross-border acquisitions are primarily efficiency enhancing or market-power increasing in nature. The three different approaches to differentiate transaction types help establish the robustness of our empirical results, and allow drawing stronger inferences with respect to the efficiency-enhancing and market-power-increasing tendencies characteristic of our sampled activities. Our empirical results indicate that efficiency effects generally prevail, as efficiency-enhancing transactions are present in about two-thirds of sampled activities. However, market-power effects also exhibit considerable presence, as market-power increasing transactions manifest in about one-third of sampled activities. Accordingly, the results support the literature's convergence on the efficiency interpretation of the MNE, but also highlight that market-power effects should not be neglected in future scholarly efforts.

The rest of the paper is organized as follows to support our core contention regarding the need for scholarship that balances efficiency and market-power effects. We begin by reviewing the debate between the market-power and efficiency interpretations of the MNE within the global business literature, tracing the ontological evolution through the literature, and elaborating on its contemporary relevance. The following section sets the conceptual foundations and empirical aims behind the current study. Next, we describe the methodology and data employed in our empirical analysis, while the subsequent section reports results. The last section concludes by discussing the wider implications, directions for future research, and limitations of our study.

2 | MARKET-POWER VERSUS EFFICIENCY EFFECTS

The main points of historical divergence between the market-power and efficiency interpretations derive from fundamental differences in two dimensions underpinning the theory of the MNE: (a) the nature of the market imperfection being internalized; and (b) the source of ownership advantage enabling firms to execute foreign direct investment (FDI) (Pitelis, 2002). We explore the theoretical foundations of each interpretation with these dimensions in mind before turning to a more-contemporary consideration of market-power and efficiency effects.

2.1 | MNEs as creatures of market power

The market-power interpretation began from the premise that deviation from perfect competition represents a distortion which generates firm-specific ownership advantages that lead to market power for firms who limit and collude competition to capture supra-normal profits (Bain, 1956). The type of imperfection internalized in this scenario was traditionally considered structural, as it occurs to the extent that final-product market structures deviate from perfect competition (Dunning & Rugman, 1985; Hennart, 2000). Extending this logic to the international context, the market-power interpretation avers that MNEs are devices through which ownership advantages—based on home-market dominance—are projected across borders to internalize structural imperfections in foreign markets (Hymer, 1976 [1960]; Kindleberger, 1969). Internationalizing firms must possess sufficiently strong ownership advantages to compensate for the costs of doing business abroad. Hence, market power

explains why MNEs arise in the first place (home-market dominance enables firms to develop the initial capabilities necessary to overcome the costs of going abroad) as well as why MNEs expand internationally (firms remove rivals and erect entry barriers to strengthen their competitive position).

More generally, the market-power interpretation focuses on MNEs' ability to expropriate consumer surplus and strengthen market dominance across national borders (Dunning & Pitelis, 2008; Pitelis, 2002). Thus from a welfare perspective, MNE growth increases industry concentration, reduces competition, compromises allocative efficiency, and decreases consumer welfare (Hymer, 1971). While Hymer (1979 [1968]) was aware that MNEs offer superior internal markets for certain types of transactions thereby increasing welfare, he predicted that MNEs ultimately collude and approach anti-competitive market structures that maximize profits at the expense of consumers. Closer to our empirical context, FDI in the form of cross-border acquisitions directly eliminates competition between the merging firms and leads to softer overall competitive rivalry in the market.

The market-power interpretation accordingly prescribes that governments control MNE activities via policy measures. Without such interventions, MNEs collude, erect entry barriers and stifle competition to extend and maintain market dominance. In sum, the market-power interpretation associates the spread of MNE activities with reduced welfare due to the MNE's ability to foreclose competition, reduce output, increase prices, and limit consumer choices.

2.2 | MNEs as vehicles for efficient coordination and innovation

The efficiency interpretation of the MNE starts from the position that market imperfection is a natural rather than a structural feature of economic transactions (Dunning & Pitelis, 2008). Market imperfections are inherent—particularly in global business—since economic agents face "inadequacies in market pricing arising from uncertainty, small-numbers bargaining, bounded rationality, and opportunism" (Forsgren, 2013, p. 43). Such natural imperfections are internalized when the transaction costs stemming from these inadequacies are minimized within firm boundaries (Coase, 1937; Williamson, 1985). Accordingly, the source of ownership advantage rests not in the firm's market power, but in its ability to organize transactions efficiently (Buckley & Casson, 1976; Rugman, 1981), mitigate contractual hazards (Hennart, 2000), generate innovation (Hennart, 1982), create/transmit organizational knowledge (Kogut & Zander, 1993) and orchestrate the value creation process (Pitelis & Teece, 2018). Under this view, market power derives from firm growth and is a simple externality not a primary cause of ownership advantage, as inefficiencies are merely brief interruptions on a path toward dynamic efficiency (Dunning & Pitelis, 2010; Penrose, 1959; Teece, 2014).

Following the above principles, MNEs can arise when the price system does not allow firm-specific assets to be traded efficiently across borders (Buckley & Casson, 1976) or when firm-specific tacit knowledge is best created and transmitted via the MNE (Hennart, 1982; Kogut & Zander, 1993). Instead of focusing on industry market structure (as in the market-power interpretation), the focus turns to considering the natural imperfections inherent in intermediate-goods markets as well as the organizational dynamics which allow MNEs to efficiently transmit and create knowledge across borders (Buckley & Strange, 2011). For instance, Pitelis and Teece's (2018) review of the internalization literature identifies technology transfer, superior management, coordination of cross-border resources, and the public-good nature of intangible intermediate assets as among the various properties via which MNE exploitation of ownership advantages is preferable to market-based options.

Since MNEs are efficient at minimizing cross-border transaction costs and information asymmetries as well as creating/transmitting valuable tacit knowledge across borders, the welfare implications of FDI are generally considered to be positive. For instance, Caves (1974) argues that MNEs are pro-competitive as they disrupt collusive tranquilities, disenable the persistence of inefficiency, and pressure rivals to compete. Furthermore, by replacing and upgrading inefficient incumbents, MNEs generate positive spillovers as superior technologies and practices are diffused throughout a host nation (e.g., Clougherty et al., 2014). In sum, the efficiency interpretation associates the spread of MNE activities with enhanced welfare due to the MNE's efficient transmission of innovations across borders, substantial reduction of societal inefficiencies, creation of innovative value, and transaction-cost minimization.

2.3 | Market power, efficiency, and contemporary relevance

The market-power interpretation of the MNE played a prominent role in shaping the early foundations of the global business literature. Its key features are laid out in Hymer's (1976 [1960]) dissertation where he explicated the link between the MNE, ownership advantage, and structural-market imperfections. In later work, Hymer (1970, 1971, 1979 [1968]) shifted attention toward the political-economic implications of MNEs and predicted that the spread of MNE activities would lead to collusion, entry barriers, and decreased local competition. Such pessimism regarding the MNE was widely shared in the 1970s when prominent scholars were actively engaged in these discussions and analyzing the societal consequences of MNEs—and FDI in general—was considered integral to the field's construction (Caves, 1974; Johnson, 1970; Lall, 1978, 1979; Vernon, 1972, 1973).

The 1980s, however, saw the pendulum swing away from radical critique as liberalization emerged as the zeitgeist driving global economic transformation. Intellectual trends shifted concurrently as the internalization (Buckley & Casson, 1976), eclectic paradigm (Dunning, 1980), and evolutionary (Kogut & Zander, 1993) theories of the MNE—all rooted in the efficiency interpretation—came to dominate. Consequently, global business research gravitated toward firm-level issues such as innovation, entry mode, internationalization strategy, and the performance implications of multinationality, while the societal implications of MNEs came to occupy a fairly marginal position within the field (Ghauri & Yamin, 2009). Pitelis and Teece (2018, p. 526) capture these shifts well when they state that "over time, the rivalry element of Hymer's theory was gradually almost forgotten" in the literature. Taken together, it is fair to characterize the ontological foundations as having taken a turn to embrace the efficiency interpretation while neglecting the relevance of the market-power interpretation of the MNE.

Such imbalance, however, can hardly be justified from a theoretical standpoint as there is no a priori rationale which suggests which effect dominates (Buckley, 1990). As recognized by Buckley and Casson (1976), MNEs arise when firms attempt to maximize profits by internalizing imperfections across borders up to the margin where the costs and benefits of internalization are equalized. Such internalization occurs in response to externalities that arise in the final-product and intermediate-goods markets (Rugman, 1980). Whether and to what extent that margin is reached by internalizing structural-market imperfections via oligopolistic advantages (as in the market-power interpretation) or by internalizing natural-market imperfections through superior capabilities (as in the efficiency interpretation) should be an empirical question rather than a default assumption (Hennart, 1982).

In addition to the above cautions from the global business literature, a number of influential economists (e.g., Akerlof & Shiller, 2015; Stiglitz, 2010, 2015, 2017) have recently noted that

competitive advantage may no longer be based on efficiency, productivity, and innovation ability. These scholars argue that competitive advantage is increasingly based on the ability to establish and exploit market power and distort competition (e.g., the creation of entry barriers and raising of rival costs). Moreover, the market-power enhancing strategies involving anti-competitive practices have become more sophisticated in the contemporary global economy. Specifically, Stiglitz (2017) observes that firms now employ novel anti-competitive practices and adapt their market-power enhancing strategies to mitigate or exploit government constraints so as to gain competitive advantage over competitors (e.g., via bundling products, predatory pricing, and pre-emptive mergers for example), over suppliers (e.g., via monopsonies, contract restrictions, and network advantages), and over customers (e.g., via reducing rights to privacy, requiring private arbitration rather than traditional legal proceedings in the case of disputes). Such anti-competitive practices have arguably resulted in substantial increases in firm-level market power in the last few decades leading to welfare losses via higher consumer prices, greater income inequality, and a slowdown in productivity growth (Akerlof & Shiller, 2015; Stiglitz, 2010, 2015, 2017). Accordingly, the relative neglect of market-power effects in the global business literature has not kept pace with wider understandings concerning the relevance of anti-competitive strategies and their implications. Such realities beg the question as to whether the focus in our literature on the efficiency interpretation of the MNE is fully warranted.

3 | THE CURRENT STUDY

Our current study is motivated by the lack of theoretical and empirical justification behind the premise that efficiency effects necessarily dominate market-power effects. As Buckley (1990) points out, focusing on efficiency and neglecting market power cannot be justified from a theoretical standpoint. Furthermore, empirical reviews have not established which effect dominates in cross-border investment activities (e.g., Blomström & Kokko, 1999; Lall, 1978; Meyer, 2004; UNCTAD, 1997, 2006). Given the lack of clear theoretical and empirical priors, a logical conclusion is that both market-power and efficiency effects co-exist and that each effect will vary in strength in different contexts (Buckley & Casson, 2009; Siegel, Licht, & Schwartz, 2013). A comprehensive empirical evaluation of the market-power and efficiency effects involved with MNE activities is thus required to verify whether the fundamental assumptions underpinning the modern study of the MNE and FDI rest on solid ground.

We aim to uncover whether the embrace of the efficiency interpretation by the literature and the consequent neglect of market power is based in empirical reality. It is imperative to ensure that the prevailing nature of FDI is indeed in line with the efficiency interpretation of the MNE. If market-power effects were to be the equal of efficiency effects, this would be a sobering reality to reconcile in light of the common assumptions regarding the welfare-enhancing features of MNEs. Pitelis and Teece (2018, p. 528) point out that such a contradictory "situation can continue only at a cost for IB scholarship and indeed for the reputation and even the soul of the field." Accordingly, we investigate the degree to which the efficiency and market-power interpretations of the MNE characterize foreign investment activities.

Specifically, we analyze the mean tendencies across our full sample of cross-border acquisition activities by employing three measurement approaches to differentiating between transaction types. Our empirical aim is to establish the prevalence of both efficiency enhancing and market-power increasing transactions in the global environment for cross-border acquisition activities. The analysis must also appreciate that the general tendencies we detect in our sample of cross-border acquisitions

might involve heterogeneity. Thus, we breakdown these general tendencies and consider whether the general findings hold up across different sub-samples. First, we consider sub-samples of both horizontal and non-horizontal transactions, as the market-power effects in horizontal activities (where direct competition is eliminated) will be conceivably larger than in non-horizontal activities (where only anti-competitive effects based on foreclosure and conglomeration are potentially present; Viscusi, Vernon, & Harrington, 1995). Prior research suggests then that market-power increasing transactions should present at higher rates in sub-samples of horizontal transactions as compared to sub-samples of non-horizontal transactions.

Second, we consider a sub-sample of cross-border acquisitions where a U.S. firm takes part in the transaction, and a sub-sample of cross-border acquisitions where a U.S. firm does not take part in the transaction. While Clougherty and Duso (2011) find that mergers involving Anglo-Saxon firms are characterized by greater efficiency effects and lesser market-power effects, we do not have strong a priori expectations regarding the prevalence of efficiency enhancing and market-power increasing transactions in these two sub-samples. Instead, our motivation here derives from the fact that the Thomson data involve systematic deficiencies, as firms from some nations (e.g., the United States) are less prone to consistently report certain measures. Accordingly, we consider whether the tendencies vary between the U.S. and non-U.S. samples to gauge the robustness of our empirical results to these sample-selection issues.

Third, we consider a sub-sample of cross-border transactions undertaken by developed-market acquirers and a sub-sample of transactions undertaken by emerging-market acquirers. A number of scholars (e.g., Globerman & Shapiro, 2003; Kobrin, 2005; Sethi, Guisinger, Phelan, & Berg, 2003) have found it important to differentiate between developed and emerging markets when considering FDI, as foreign investments undertaken by emerging-market MNEs might be characterized by substantial efficiency effects. Indeed, the prior that emerging-market MNEs generate substantial pro-competitive benefits extends back to Hymer (1970) and finds recent empirical support (Clougherty, Kim, Skousen, & Szücs, 2017). Such contrasts are also in line with studies that highlight different expansion motives (e.g., exploiting vs. learning) for MNEs based in developed and emerging markets (Benito, 2015; Cuervo-Cazurra, Narula, & Un, 2015). Hence, prior research suggests that efficiency enhancing transactions occur at higher rates in the cross-border transactions undertaken by emerging-market acquirers, and that market-power increasing transactions occur at higher rates in the cross-border transactions undertaken by developed-market acquirers.

Finally, we consider a sub-sample of cross-border transactions where developed-market firms acquire emerging-market targets. We consider this particular sub-sample as adherents of the market-power interpretation have argued that emerging markets are most vulnerable with respect to MNE market power (e.g., Lall, 1978, 1979). Hymer (1971) was particularly concerned that emerging-market governments would be at a substantial disadvantage with respect to developed-market MNEs due to the low competitiveness of emerging-market firms and the limited bargaining power of these governments. In this vein, Meyer and Peng (2016) observe that the quality of institutions varies substantially when comparing developed with emerging markets. Hence, prior research would suggest that market-power increasing transactions would be more common in the cross-border acquisitions flowing from developed to emerging markets.

4 | DATA AND RESEARCH DESIGN

We examine a large sample of cross-border acquisitions for evidence in line with the efficiency and market-power interpretations of the MNE. Beyond cross-border acquisitions constituting a

substantial share of contemporary FDI, acquisitions yield a particularly appropriate context—a sort of "quasi-experiment" in the view of Dunning and Lundan (2008, p. 521)—to examine the prevalence of efficiency and market-power effects. Acquisition-based FDI is characterized by pre-investment information which can act as a benchmark in considering post-investment performance, whereas Greenfield FDI does not involve pre-investment information for comparison purposes. Thus, the nature of acquisition activities allows acquiring firms to gain control over target-firm resources, thereby providing an empirical context in which to directly examine the field's core assumptions regarding the rationale behind the MNE's existence via comparisons between the pre- and post-investment periods.

Our data on cross-border acquisition activities were collected from Thomson's "Worldwide Mergers & Acquisitions" series database. Thomson covers a variety of corporate transactions for both private and public firms that are valued over one million dollars. We retain all cross-border acquisitions in the database occurring from 1986 to 2010. To compile our three measurement approaches to identify and differentiate between efficiency enhancing and market-power increasing transactions, we collected firm-level measures (i.e., number of employees, sales, profits, total assets, salaries) on the consolidated accounts for each merging firm (acquirer & target) over our sampled period from Thomson's Worldscope database.

Our principal methodological challenge involves designing a measurement procedure that identifies whether a particular cross-border acquisition is dominantly efficiency enhancing or dominantly market-power increasing in nature. To ensure robustness in transaction type identification, we employ three different approaches to separate efficiency enhancing from market-power increasing transactions. The following passages describe in detail how we compiled three measurement approaches, though they all share some commonalities. First, the three approaches take advantage of the typical practice by merging firms in cross-border transactions to continue to report separate financial data for both the acquirer and target over a period of up to 5 years after the transaction. Second, the three approaches all take advantage of the "antithetical" nature of efficiency and market-power effects.

The antithetical nature of market-power and efficiency effects—with both manifesting in each and every cross-border transaction—deserves further discussion. As observed by Pitelis and Teece (2010, 2018), a degree of value capture (i.e., market power) is necessary for firms to engage in a degree of value creation (i.e., efficiencies). This intertwining of efficiency and market-power effects is also common in the economics literature where it is understood that both effects occur simultaneously in M&A activities, and where the ultimate aim is to uncover which effect dominates in a particular transaction (e.g., Kim & Singal, 1993; Viscusi et al., 1995). Thus, the presence of substantial efficiency (market-power) effects indicates the realization of an efficiency enhancing (market-power increasing) transaction, while the lack of substantial efficiency (market-power) effects indicates the realization of a market-power increasing (efficiency enhancing) transaction. This simple identification procedure takes into account that efficiency and market-power effects are both present in cross-border acquisitions, and allows formulating our three different measurement approaches to differentiating efficiency enhancing from market-power increasing transactions.

4.1 | Labor-productivity upgrading

Our first measurement procedure considers whether the joining of two firms from different nations (i.e., the forming or deepening of MNE status) ultimately yields beneficial outcomes in terms of substantial efficiency effects. Successful scale and scope economies, knowledge transfer, knowledge

creation, capability learning, rationalization, and synergies—what Pitelis and Teece (2018) envelope within the orchestration theory of the MNE—should ultimately involve enhanced efficiency for the merging firms. For instance, the best technologies and practices will be seemingly shared by the merged entities once common ownership substitutes for the potentially less-efficient market mechanism. Moreover, increasing the overall productivity of the less-efficient merging firm would appear to be the most obvious barometer of successful knowledge transfer, as the more-efficient merging firm will be incentivized to transfer these best practices to the less-efficient merging firm (Makaew, 2010). We consider then whether cross-border acquisitions involve improvements in labor productivity—measured as total sales per employee—for the less-efficient merging firm. To do so, we identify whether the less-efficient firm is able to enhance its productivity toward the level of the more-efficient merging firm (a phenomenon that can be referred to as "labor-productivity upgrading"). Such an upgrading in the less-efficient merging firm represents a natural result if MNEs are primarily institutional vehicles that enhance efficiency.

To create our measure of labor-productivity upgrading, we take advantage of the fact that the merging firms in cross-border transactions continue to separately report post-transaction financial data for a period of up to 5 years. Since our data captures the full operations of the two merging firms, it allows identifying the productivity gap between the merging firms in both the pre- and post-investment periods. Labor-productivity upgrading would consequently be represented as a narrowing of this gap between the merging firms, and focusing on the gap also adjusts for the fact that firms exhibit annual productivity increases irrespective of M&A behavior. We do so by calculating the labor-productivity difference between the merging firms and then normalizing this difference with respect to the more-productive merging firm. That labor-productivity gap for the merging firms can be measured as follows:

$$\text{Labor}-\text{Productivity Gap}_{x,t} = \frac{(\text{Sales}/\text{Labor})_{m,t} - (\text{Sales}/\text{Labor})_{l,t}}{(\text{Sales}/\text{Labor})_{m,t}} \quad (1)$$

where x indexes the cross-border acquisition, t indexes time (both pre- and post-investment), m indexes the more-productive merging firm, and l indexes the less-productive merging firm.

In order to both identify efficiency enhancing and market-power increasing transactions, we must consider how this productivity gap changes between the pre- and post-investment periods. We use the labor productivities at period 0 (the transaction year) to estimate the pre-investment productivity gap for the merging firms, as this gap constitutes the benchmark gap. Furthermore, we use the labor productivities at 5 years subsequent to the transaction ($t + 5$) to estimate the post-investment productivity gap for the merging firms, as this gap provides ample scope for efficiency effects to manifest in a dynamic sense.[1] Accordingly, cross-border acquisitions that involve (do not involve) a narrowing of the labor-productivity gap between the merging firms when considering the pre- and post-investment periods are identified as efficiency enhancing (market-power increasing) transactions.

4.2 | TFP upgrading

Our second measurement procedure also considers whether the joining of two firms from different nations ultimately yields beneficial outcomes in terms of substantial efficiency effects. This approach, however, involves TFP analysis as opposed to labor-productivity analysis, as TFP represents a substantial improvement as compared to labor productivity (Hayes, Wheelwright, & Clark,

1988). TFP captures the residual growth in firm output that cannot be explained by the accumulation of the traditional inputs; for example, labor and capital. In support of TFP analysis, Balasubramanian (2011: 555) notes that TFP represents the most natural productivity measure for organizations as efficiency-enhancing investments ultimately improve the firm's ability to turn inputs into outputs which is best captured by TFP.

Thus, we again consider whether cross-border acquisitions involve substantial efficiency improvements for the merging firms in line with the efficiency interpretation of the MNE, though this measurement approach concentrates on TFP efficiency. Calculating firm-level TFP measures based on the standard Cobb–Douglas production function involves a procedure where we first estimate regressions of firm-level sales on firm-level capital and labor expenditures (where all variables are logged) at the three-digit sector level. This sector-level approach to estimating the coefficient estimates of the production function allows for cross-sector heterogeneity in production technologies. The sector-specific coefficient estimates for the production factors (capital and labor) are then used to create firm-level TFP measures: where firm-level TFP is calculated as the residual from a production function that combines sector-specific coefficient estimates with firm-level measures for total sales, capital expenditures and labor expenditures—see Van Beveren (2012) for more details.

The TFP residual allows identifying whether the less-efficient merging firm is able to enhance productivity toward the level of the more-efficient merging firm (a phenomenon we can refer to as "TFP-upgrading"). Such an upgrading in the less-efficient merging firm would again represent a natural result of MNEs primarily being institutional vehicles that enhance efficiency. To estimate the post-investment change in productivities, we again take the difference between the pre- and post-investment productivity gaps: where the pre-investment gap is again calculated at period 0 (the transaction year), while the post-investment gap is calculated 5 years subsequent to the transaction ($t + 5$) when data is available. Akin to Equation (1), the TFP-gaps can be formally represented as follows:

$$\text{TFP}-\text{Gap}_{x,t} = \frac{(\text{TFP})_{m,t} - (\text{TFP})_{l,t}}{(\text{TFP})_{m,t}} \tag{2}$$

where x indexes the cross-border acquisition, t indexes time (both pre- and post-investment), m indexes the more-productive merging firm, and l indexes the less-productive merging firm.

Thus, we again identify whether the less-efficient merging firm enhances productivity by narrowing the gap—in this case, the TFP gap—with the more-efficient merging firm in the post-investment period. Accordingly, cross-border acquisitions that involve a narrowing (widening) of the TFP-gap between the merging firms when considering the pre- and post-investment periods are identified as efficiency enhancing (market-power increasing) transactions.

4.3 | Gugler, Mueller, Yurtoglu, and Zulehner (2003): Decreased sales and increased profits

Our third measurement procedure to differentiate between transaction types takes its inspiration from the market-power interpretation of the MNE. In line with Hymer (1970, 1971), market power is evident when merged firms have the ability to better dictate final-product prices in the years subsequent to the transaction. We capture this concept with Gugler et al.'s (2003) methodological approach for identifying market-power based acquisitions via the consideration of post-investment changes in total sales and total profits. In particular, acquisitions where the merged firms are able to lower total sales and increase total profits in the post-investment period are considered to be market-power based. It is

this ability of merged firms to simultaneously contract total output and increase total profits that indicates an enhanced ability to dictate prices and dominate a market. While we motivate market-power analysis with Hymer's (1970, 1971) foundational work, this means to identifying market-power increasing acquisitions is robust across the standard theoretical models—Cournot and Bertrand with differentiated goods—of oligopolistic competition (Deneckere & Davidson, 1985; Farrell & Shapiro, 1990). Moreover, the basic insight from the Gugler et al. (2003) approach can be gleaned by considering a scenario where the merged firms face a downward-sloping demand function. If sufficient efficiencies arise in such a context, then the merged firms will be able to enhance total sales and thus be identified as efficiency enhancing—not market-power increasing—transactions. Yet, if total sales decrease in combination with increased total profits, then the merged firms exhibit the ability to contract quantity and enhance profitability: the essence of market power.

While the merged firms' ability to decrease sales and increase profits indicates the presence of substantial market-power effects and negligible efficiency effects, empirically capturing this type of scenario requires adjusting the measurement approach to industry-level trends that might influence the profitability and sales of all firms in a sector. Accordingly, we adjust these measures of sales and profits when operationalizing the Gugler et al. (2003) approach to identifying transaction types. Specifically, we calculate the weighted-average annual change in post-investment total sales and total profits for the two merging firms over the 5 years subsequent to the acquisition (i.e., for years $t + 1$ through $t + 5$); furthermore, we normalize this average with respect to industry averages over the same period.[2] Thus, the average changes in sales and profits for the firms sharing the same four-digit SIC code represent the counterfactuals via which we establish whether the post-investment changes in total sales and total profits for the merging firms are either positive or negative. Establishing the performance of the industry's average firm as a benchmark represents an appropriate estimation practice, as this adjusts for industry-level trends that might otherwise lead to false inferences with respect to changes in total sales and total profits for the merging firms.

Accordingly, we consider whether or not the merging firms can both increase total profits and lower total sales in the post-investment period to differentiate market-power increasing from efficiency enhancing transactions. Indeed, Gugler et al. (2003) support such an approach when they deem all of the transactions that simultaneously increase profits and decrease sales as involving substantial market-power effects, while the transactions not meeting these conditions are characterized by various degrees of efficiency. Taking the above into account, cross-border acquisitions that involve (do not involve) both lower total sales and increased total profits for the merging firms in the post-investment period are identified as market-power increasing (efficiency enhancing) transactions.

To set the empirical foundations for all three of the above methodological procedures, Table 1 reports basic descriptive statistics—observation numbers (*N*), mean, and standard deviations (*SD*)—for the relevant components of these measures. For the labor-productivity upgrading approach, we report average labor productivities in the $t - 3$ to $t + 5$ time span for the firms involved in the 1,848 cross-border transactions in which we have available data for this methodological approach. Specifically, we report average labor productivities for the merging firms, acquiring firms, target firms, more-productive merging firms, and less-productive merging firms in these transactions. The results from these diagnostics are intuitive as acquirers tend to be more productive as compared to targets, and acquirers tend to be the more-productive firm in the transaction. However, there are observations where target firms are more productive than acquiring firms—what are sometimes referred to as explorative or reverse-transfer acquisitions (Hitt, Li, & Xu, 2016). Second, we report average TFP productivities across the $t - 3$ to $t + 5$ time span for the firms involved in the 893 cross-border

TABLE 1 Descriptive statistics

	N	Mean	*SD*
Labor productivity (LP)			
LP (average for merging firms)	1,848	432.19	365.68
LP (average for acquirers)	1,848	504.75	499.42
LP (average for targets)	1,848	353.91	432.11
LP (average for more-productive merging firm)	1,848	596.43	560.63
LP (average for less-productive merging firm)	1,848	262.22	278.11
Total factor productivity (TFP)			
TFP (average for merging firms)	893	0.03	0.28
TFP (average for acquirers)	893	0.04	0.31
TFP (average for targets)	893	0.01	0.50
TFP (average for more-productive merging firm)	893	0.20	0.35
TFP (average for less-productive merging firm)	893	−0.14	0.40
Gugler et al. (2003) approach components			
Sales growth[2]	4,370	−0.04	0.17
Net income growth[3]	4,370	−0.33	26.85

Post-investment average sales growth for merging firms: differenced with respect to industry average, and then weighted average for the merging firms over the five post-transaction years.
Post-investment average net income (profit) growth for merging firms: differenced with respect to industry average, and then weighted average for the merging firms over the five post-transaction years.

transactions in which we have available data for the TFP-upgrading approach. Thus, we again report average TFP productivities for the merging firms, acquiring firms, target firms, more-productive merging firms, and less-productive merging firms in these transactions. The results from these diagnostics again indicate that acquirers tend to be more productive as compared to targets, and tend to be the more-productive firm in the transaction. Third, we report average sales growth and net income growth in the $t + 1$ to $t + 5$ time span for the two merging firms involved in the 4,370 cross-border transactions in which we have available data for the Gugler et al. (2003) methodological approach. These two constructs represent the building blocks for operationalizing this approach, and the reported averages in sales growth and net income growth are with respect to industry averages.

The sample size differences across the different methodological practices are due to data availability and the varying data requirements for the different approaches. The Gugler et al. (2003) approach is the least data intensive measurement procedure (only requiring data on total sales and total profits) and yields 4,370 cross-border acquisitions where we can differentiate between transaction types. The labor-productivity upgrading approach only requires data on total sales and total employment, yet employment numbers are not reported as consistently as total profits. Accordingly, the sample drops to 1,848 cross-border acquisitions where we can differentiate between transaction types with the labor-productivity upgrading approach. The TFP-upgrading approach is the most data intensive measurement procedure as it requires data on total sales, total capital expenditures and total labor expenditures; thus, it yields 893 cross-border acquisitions where we can differentiate between transaction types. We should also note that categorization of merging firms as either developed-market or emerging-market is based on whether the firm's headquarters is in an OECD (or non-OECD) member country.

5 | EMPIRICAL RESULTS

Table 2 reports the empirical results from compiling our three methodological approaches to differentiating between efficiency enhancing and market-power increasing transactions in our sample of cross-border investment activities. We begin by considering the empirical results for the full sample of cross-border acquisitions where all of the available transaction observations are employed. Striking from the table of empirical results is that the three measures yield consistent findings with respect to the manifestation of efficiency enhancing and market-power increasing transactions. With respects to efficiency enhancing transactions, the labor-productivity approach suggests that they present in 63.9% of cross-border acquisitions, the TFP approach suggests that they present in 60.0% of cross-border acquisitions, and the Gugler et al. (2003) approach suggests they present in 64.9% of cross-border acquisitions. Furthermore, market-power increasing transactions arise in 36.1% of cross-border acquisitions based on the labor-productivity approach, 40.0% of cross-border acquisitions based on the TFP approach, and 35.1% of cross-border acquisitions based on the Gugler et al. (2003) approach. Considering these empirical results as a whole suggests that efficiency enhancing (market-power increasing) acquisitions manifest in roughly two-thirds (one-third) of our sampled cross-border transactions.

While the above testifies to the general dominance of efficiency effects in cross-border investments, we should consider whether these tendencies holdup under heterogeneous conditions. Since market-power effects are expected to be larger in horizontal activities as compared to non-horizontal activities, we consider two sub-samples based on different definitions of horizontalness (two-digit and four-digit overlap in merging firms business operations), and a sub-sample of non-horizontal cross-border acquisitions (where merging firms lack two-digit overlap in business operations). The empirical results across these different sub-samples (four-digit horizontal, two-digit horizontal, and non-horizontal) and the three different measurement approaches (labor-productivity upgrading, TFP upgrading, and Gugler et al. (2003)) to differentiating between transaction types again yield consistent results. Specifically, the evidence indicates that efficiency enhancing (market-power increasing) acquisitions occur in roughly two-thirds (one-third) of our sampled activities. That said, there is some evidence that market-power transactions manifest at higher rates in the sub-samples reflecting more-horizontalness. For instance, the Gugler et al. (2003) methodological approach indicates that market-power increasing mergers present in 34.5% of the non-horizontal transactions, 35.5% of the more-loosely defined two-digit horizontal transactions, and 36.0% of the more-tightly defined four-digit horizontal transactions.

We also explore whether our general tendencies regarding the manifestation of efficiency enhancing and market-power increasing cross-border acquisitions hold in a sub-sample involving U.S. firms and a sub-sample not involving U.S. firms. The results from these two sub-samples and across the three different measurement approaches again generally support that efficiency enhancing (market-power increasing) acquisitions appear in roughly two-thirds (one-third) of our sampled activities. However, the sub-sample involving U.S. firm transactions indicates a substantial and disproportionate drop in observation numbers. Specifically, U.S.-firm transactions constitute 45.7% of all transactions (1,991 of 4,370 observations) when employing the less-data-demanding Gugler et al. (2003) approach, 35.3% of all transactions (652 of 1,848 observations) when employing the more-data-demanding labor-productivity approach, and only 9.9% of all transactions (85 of 893 observations) when employing the most-data-demanding TFP approach. U.S. firms are clearly prone to underreport the employment, labor expenditure, and capital asset measures that go into compiling the productivity measures. As such, the TFP approach results for the U.S.-firm sub-sample—where 56.8% of the

TABLE 2 Three approaches to differentiating between efficiency enhancing and market-power increasing cross-border acquisitions

	Labor-productivity upgrading approach		TFP upgrading approach		Gugler et al. (2003) approach	
	Efficiency enhancing	**Market-power increasing**	**Efficiency enhancing**	**Market-power increasing**	**Efficiency enhancing**	**Market-power increasing**
Full sample of cross-border acquisitions	63.9% (1,848 obs.)	36.1%	60.0% (893 obs.)	40.0%	64.9% (4,370 obs.)	35.1%
Horizontal cross-border acquisitions (four-digit)	63.2% (680 obs.)	36.8%	63.7% (347 obs.)	36.3%	64.0% (1,454 obs.)	36.0%
Horizontal cross-border acquisitions (two-digit)	63.8% (1,052 obs.)	36.2%	60.1% (514 obs.)	39.9%	64.5% (2,373 obs.)	35.5%
Non-horizontal cross-border acquisitions	63.8% (796 obs.)	36.2%	59.9% (379 obs.)	40.1%	65.5% (1,997 obs.)	34.5%
Cross-border acquisitions involving a U.S. firm	67.5% (652 obs.)	32.5%	56.8% (88 obs.)	43.2%	64.3% (1,991 obs.)	35.7%
Cross-border acquisitions not involving a U.S. firm	61.9% (1,196 obs.)	38.1%	60.4% (805 obs.)	39.6%	65.4% (2,379 obs.)	34.6%
Developed-market acquirer transactions	64.0% (1,781 obs.)	36.0%	60.5% (847 obs.)	39.5%	64.2% (4,098 obs.)	35.8%
Emerging-market acquirer transactions	61.2% (67 obs.)	38.8%	50.0% (46 obs.)	50.0%	75.7% (272 obs.)	24.3%
Developed-market acquisitions of emerging-market targets	64.4% (292 obs.)	35.6%	58.0% (174 obs.)	42.0%	60.4% (687 obs.)	39.6%

transactions present as efficiency enhancing and 43.2% of the transactions present as market-power increasing—merit discounting, as this sub-sample only consists of 88 observations.

We also explore whether our general tendencies regarding the manifestation of efficiency enhancing and market-power increasing cross-border acquisitions hold in a sub-samples of transactions strictly involving developed-market acquirers and strictly involving emerging-market acquirers. These empirical results again generally support our main finding that efficiency enhancing (market-power increasing) acquisitions arise in roughly two-thirds (one-third) of the sampled activities. The results for the sub-sample involving emerging-market acquirers require a bit of elaboration, as these measures indicate some sample selection issues akin to the results involving U.S. firms. Specifically, emerging-market acquirer transactions constitute 6.2% of all transactions (272 of 4,370 observations) when employing the less-data-demanding Gugler et al. (2003) approach, only 3.6% of all transactions (267 of 1,848 observations) when employing the labor-productivity approach, and 5.2% of all transactions (46 of 893 observations) when employing the TFP approach. Thus, the Gugler et al. (2003) approach again yields a measure with the best data coverage at 272 observations, and this procedure indicates that 75.7% (24.3%) of the transactions are efficiency enhancing (market-power increasing). Accordingly, this particular methodological approach yields evidence in support of the prior that cross-border acquisitions undertaken by emerging-market MNEs are less characterized by market-power effects and more characterized by efficiency effects.

Finally, our sub-sample of transactions involving developed-market acquisitions of emerging-market targets considers whether market-power increasing transactions disproportionately manifest. As previously noted, the developed to emerging market context is one where scholars have expressed concern that market-power effects dominate due to the relative bargaining power of developed-market MNEs and the compromised institutional context of emerging markets (Hymer, 1971; Lall, 1978, 1979; Meyer & Peng, 2016). Interestingly, the results for this sub-sample of activity from the labor-productivity and TFP upgrading approaches are in line with the results from the full sample of cross-border acquisitions. Specifically, the labor-productivity approach indicates that market-power increasing (efficiency enhancing) transactions arise in 35.6% (64.4%) of the sampled developed-market acquisitions of emerging-market targets—results which conform to the full sample where market-power increasing (efficiency enhancing) transactions arise in 36.1% (63.9%) of cross-border acquisition activities. Furthermore, the TFP approach indicates that market-power increasing (efficiency enhancing) transactions occur in 42.0% (58.0%) of the sampled developed-market acquisitions of emerging-market targets—results which again conform to the full sample where market-power increasing (efficiency enhancing) transactions occur in 40.0% (60.0%) of cross-border acquisition activities.

While the above indicate that market-power increasing transactions do not disproportionately manifest in the acquisitions undertaken by developed-market MNEs in emerging markets, the Gugler et al. (2003) approach yields some evidence in line with these priors. Specifically, this approach indicates that market-power increasing (efficiency enhancing) transactions arise in 39.6% (60.4%) of the sampled cross-border acquisitions. Thus, these results suggest more-prominent market-power effects when benchmarking the full-sample results where market-power increasing (efficiency enhancing) transactions arise in 35.1% (64.9%) of the cross-border acquisitions. Moreover, the Gugler et al. (2003) approach to differentiating transaction types in the developed-market to emerging-market context involves a healthy sample of observations (687), whereas the labor-productivity and TFP upgrading approaches only yield samples of 292 and 174 observations respectively. Thus, our results yield tentative evidence in support of the prior that developed-market MNEs exert strong market-power effects when undertaking investments in emerging markets.

Considering our empirical findings as a whole, two core results are apparent: (a) efficiency-enhancing cross-border acquisitions arise in roughly two-thirds of our sampled transactions; (b) market-power increasing cross-border acquisitions arise in roughly one-third of our sampled transactions. First, the majority of transactions across the different sub-samples are best characterized as efficiency enhancing in nature. Employing the labor-productivity upgrading measurement approach to identifying transactions yields empirical results that indicate efficiency enhancing acquisitions arise in 63.9% of the full sample and somewhere between 61.2 and 67.5% across the different sub-samples. Employing the TFP-upgrading approach to identifying transactions yields empirical results that indicate efficiency enhancing acquisitions arise in 60.0% of the full sample and somewhere between 50.0 and 63.7% across the different sub-samples. Employing the Gugler et al. (2003) approach to identifying transactions yields empirical results that indicate efficiency enhancing acquisitions arise in 64.9% of the full sample and somewhere between 60.4 and 75.7% across the different sub-samples. Accordingly, the empirical results are in line with the prevailing efficiency interpretation of the MNE, as efficiency-based transactions constitute the majority of cross-border acquisition activities taking place in the global business environment.

Second, the empirical results suggest that market-power effects are not negligible in foreign-investment activities. Employing the labor-productivity upgrading approach to identifying transactions yields empirical results that indicate market-power acquisitions arise in 36.1% of the full sample and somewhere between 32.5 and 38.8% across the different sub-samples. Employing the TFP upgrading approach to identifying transactions yields results that indicate market-power acquisitions arise in 40.0% of the full sample and somewhere between 36.3 and 50.0% across the different sub-samples. Employing the Gugler et al. (2003) approach to identifying transactions yields empirical results that indicate market-power acquisitions arise in 35.1% of the full sample and somewhere between 24.3 and 39.6% across the different sub-samples. Accordingly, the empirical results suggest the relevance of the market-power interpretation of the MNE, as market-power increasing transactions constitute a significant minority of the cross-border acquisitions taking place in the global business environment.

In addition to the core results, our estimations also yield tentative empirical findings. First, there is some evidence—based on the Gugler et al. (2003) approach—that the cross-border acquisitions undertaken by emerging-market MNEs involve more efficiency effects and less market-power effects as compared to the cross-border acquisitions undertaken by developed-market MNEs. These results are in line with Hymer's (1970) priors regarding the beneficial nature of cross-border investments by emerging-market firms and related conceptualizations regarding the nature of emerging-market FDI in more recent scholarship (e.g., Benito, 2015; Cuervo-Cazurra et al., 2015). Second, there is some evidence—again, based on the Gugler et al. (2003) methodological approach—that the cross-border acquisitions undertaken by developed-market acquirers of emerging-market targets involve disproportionate market-power effects. Finding market-power increasing transactions to disproportionately manifest in the cross-border investments flowing from developed to emerging markets conforms to the idea that less-advanced institutions and lower-firm competitiveness in emerging markets might allow developed-market MNEs to exploit these situations so as to reap substantial market-power effects (Hymer, 1971; Lall, 1978, 1979).

6 | DISCUSSION AND CONCLUSIONS

Our aim was to subject the taken-for-granted efficiency interpretation of the MNE to rigorous empirical scrutiny by comprehensively factoring whether market-power or efficiency effects dominate in

cross-border acquisition activity. The striking finding from our empirics is that efficiency enhancing cross-border acquisition activity dominates market-power based activity. Roughly, two-thirds of our sampled cross-border acquisitions are characterized as efficiency-enhancing transactions, while only around one-third of our sampled cross-border acquisitions are characterized as market-power increasing transactions. The empirical results accordingly support the core tenets of the efficiency interpretation of the MNE, as the evident and substantial upgrading of less-efficient merging firms indicates that MNEs generally engage in efficiency enhancing activities. Such findings are comforting to the pre-existing literature, as the convergence on the efficiency interpretation of the MNE appears to be a reality founded on—at least two-thirds of the time—solid empirical ground.

It should, nevertheless be underscored that market-power increasing acquisitions manifest in the global-business context. The fact that one-third of our sampled cross-border acquisitions are characterized as dominantly market-power increasing suggests that we cannot neglect the potential for anti-competitive effects. These findings are consistent with Buckley and Casson's (2009) observation that MNEs are appropriately conceptualized as double-edged swords driven by a profit-maximization logic; hence, foreign investments possibly replace imperfect markets with efficient internal mechanisms, but also possibly lead to substantial market-power effects via attenuated competition. There is nothing inherent in cross-border investment activity that definitively indicates whether beneficial or harmful welfare effects result. Despite efforts to address the societal implications of MNE activities (e.g., Buckley, 2009; Buckley & Casson, 2001; Dunning, 2000), a number of studies (e.g., Eden & Lenway, 2001; Forsgren, 2013; Ghauri & Yamin, 2009; Meyer, 2004) have expressed the concern that global business research has not fully factored how MNEs affect social welfare. We have implicitly argued that one reason behind such neglect is the efficiency interpretation's hold on the literature. Indeed, the potential for MNEs to dominate markets and capture supra-normal profits at the expense of competition has generally been neglected in the global business literature (Clougherty et al., 2017; Oxley et al., 2009; Pitelis & Teece, 2018).

Our findings accordingly support the claim by scholars (e.g., Blomström & Kokko, 1999; Buckley, 1990; Buckley & Casson, 2009) that MNE activities can impose anti-competitive implications on society via market-power effects. Evidence in support of the efficiency interpretation of the MNE should not be confused with the idea that market-power effects are irrelevant to modern study of the MNE (e.g., Pitelis & Teece, 2018; Teece, 2006, 2014). Our findings call for a more serious consideration of market-power effects by the global business literature, as neglecting such effects can blind our scholarship from a comprehensive understanding of MNE behavior. In essence, the appreciation of both efficiency and market-power effects that is characteristic of early international business (e.g., Hymer, 1970, 1971; Johnson, 1970; Kogut, 1988; Lall, 1978; Porter & Fuller, 1986) and global strategy scholarship (e.g., Chatterjee & Lubatkin, 1990; Lubatkin, 1983; McGahan & Porter, 1999; Seth, 1990; Walter & Barney, 1990) should be emulated by contemporary scholarship.

The impact of FDI on welfare is potentially more uncertain in the contemporary global economy (Rodrik, 2018). Inward FDI traditionally took place in host-country industries that were insulated from global markets, thus injecting competition into protected markets and involving the transfer of new technologies and practices to the host economy. But with significant reductions in the costs of doing global business (Dunning, 1995; Verbeke et al., 2018), firm assets now diffuse more readily across borders via contracts (e.g., licensing, alliances) or other mechanisms not involving direct managerial control. As Pitelis and Teece (2018) highlight, the value creation mechanisms of the modern MNE span far beyond simple make-or-buy decisions, as these mechanisms encompass entrepreneurship, learning, co-opetition, open innovation, market creation and more. Since the contemporary global economy involves a number of alternative mechanisms via which MNEs create value, market-

power effects might be relatively more salient in contemporary acquisition-based FDI as compared to previous decades when foreign investment represented a unique means to transfer firm competencies and knowledge-intensive assets across borders. These patterns are consistent with Stiglitz's (2017) view that competitive advantages may no longer be based on efficiency, productivity, and innovative ability; but are instead increasingly based on a firm's ability to establish and exploit market power. By re-invigorating our literature's appreciation that market power represents a valid rationale behind—and byproduct of—cross-border investment activity, we hope to engender a fuller and more-balanced understanding of MNE strategies and their consequences.

Our study, nevertheless, involves a number of limitations which provide scope for future work. First, we recognize that future research should assemble data covering the post-2010 period to engage in contemporary empirical testing. Second, alternative measurement approaches to differentiate between transaction types should be adopted by future work. For instance, Clougherty and Duso (2011) employ stock-price data on merging and non-merging rival firms to identify market-power increasing transactions. Interestingly, their data indicates that 29% of their sampled cross-border acquisitions are market-power increasing. While in line with our finding market-power increasing transactions to manifest in about one-third of foreign investments, we envisage future studies employing a variety of methodological approaches to discern the competitive nature of cross-border activities. Finally, substitute forms of FDI—for example, Greenfield FDI, and alliances—exist beyond acquisitions; thus, we foresee work that considers the balance between efficiency and market-power effects in alternative forms of cross-border investment. Such efforts, however, must be combined with novel methodological practices, as cross-border acquisitions yield a particularly appropriate empirical context (a setting with pre- and post-investment periods) to examine the prevalence of efficiency and market-power effects in FDI.

Despite the above limitations, our study makes an important contribution to the global strategy literature by empirically evaluating in a comprehensive manner the field's assumptions regarding the efficiencies involved with cross-border investment activity, and by drawing implications for research on MNE strategies. We demonstrate that MNE expansion yields both efficiency and market-power effects; yet, potentially comforting to the literature is the fact that efficiency effects tend to dominate market-power effects in line with the prevailing efficiency interpretation of the MNE. Nevertheless, it is important to underscore that there is still strength left in the "old bones" of the hitherto neglected market-power interpretation of the MNE, as market-power increasing acquisitions manifest in the global business environment. As a whole, our empirical findings provide support for the presence of both efficiency and market-power effects which suggests that both effects are pertinent in studying MNE strategic behavior and FDI in general. We hope this study rekindles interest in the ontological foundations of our literature and prompts researchers to consider the presence of both efficiency and market-power effects so as to yield more accurate theoretical underpinnings and a fuller factoring of global strategies and their implications in the cross-national context for investment activities.

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ENDNOTES

[1] For transactions where data for year $t + 0$ are unavailable, we calculate the pre-investment gap as the maximum gap identified in the pre-investment period (i.e., the maximum gap in the pre-transaction years $t - 1$, $t - 2$, or $t - 3$). For transactions where data on year $t + 5$ are unavailable, we calculate the post-investment gap based on the furthest possible year; that is, year $t + 4$, year $t + 3$. Transactions where data on $t + 1$ and beyond are unavailable are omitted.

[2] To calculate our measure of total sales and total profits, we consider each merging firm's deviation from the four-digit industry average for sales and profits (where the industry average is based on all available Thomson data and is irrespective of country). We then take the weighted average of this deviation for the merging firms (the acquirer and the target) using their respective sales and profit for weighting purposes. More specifically, we first calculate the yearly percentage change in sales [$\%\Delta\text{Sales} = ((\text{Sales}_t - \text{Sales}_{t-1})/\text{Sales}_{t-1})$] and profits [$\%\Delta\text{Profit} = ((\text{Profit}_t - \text{Profit}_{t-1})/\text{Profit}_{t-1})$] at both the firm and industry level for each post-investment period; then, we calculate the yearly difference between the firm and the industry's percentage change in sales and profits for both merging firms over the post-investment period. Focusing on sales for example purposes, this can be represented as follows: "Difference in Sales" = Firm %ΔSales – Industry %ΔSales. The resulting firm-based differential per year is then multiplied—or weighted—by the firm's respective sales in that year; that is, the "Weighted Difference in Sales" = "Difference in Sales" * Firm Sales)/(Total Sales of Acquirer & Target). The "Weighted Difference in Sales" is then summed for the acquirer and target ($\sum$ Total Weighted Differences) to create the merged entities annual measure for each available year. Finally, we add up the "Total Weighted Differences" over the post-investment period and calculate an average for the merged entity to create a comprehensive total sales measure for the merging firms.

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