

1. Firm mergers and acquisitions (M&As)

1.1 Introduction

The large majority of US industries feature an organizational landscape that can be characterized neither as monopoly nor as perfect competition (see e.g. Shughart, 2008 for data on market concentration by US industry). Rather, the organization of most industries lies between these two polar cases. While firms of such industries are not monopolists, neither are they nameless, brandless purveyors of commodities. Such firms feature non-negligible and sometimes substantial market share and compete against firms with these same qualities. From the supply perspective, these industries are typically characterized as duopolistic, oligopolistic, or as monopolistically competitive. However, the exact organization of such industries is often in a state of flux, with M&As changing both the number and market power of industry firms. Both M&As are defined as “the combination of two or more companies into one new company or corporation” (Roberts, 2009, p. 3), where the term merger usually implies that a negotiation happened prior to companies combining. In the case of an acquisition, negotiation does not necessarily take place. For acquisitions, moreover, there is typically a dominant firm (the acquirer) and a lesser company (the target). Mergers do not necessarily feature such a hierarchy.

The literature on M&As is fairly well developed[1]. However, there remain important, unexplored areas of research within the field, unexplored industries to examine with respect to M&As and new issues arising given the dynamic nature of the field. In 2018, there were 14,856 mergers or acquisitions in the USA according to the Institute for Mergers, Acquisitions and Alliances. Commercial services (558), technology services (459) and finance (406) led all industries in terms of 2018 M&A count. For each of these sectors, it appears that the presence of an intermediate number of industry firms and intermediate market concentration levels was a contributing factor to the relatively high incidence of M&A activity. In this Special Issue on mergers, acquisitions and joint ventures, we seek to explore areas and industries that will shed light upon our theoretical and empirical understanding of M&A and joint venture activity in the USA and also globally. A joint venture is defined as “an arrangement between two or more people or companies to work together for a particular purpose or on a particular project” (Collins English Dictionary, 2019).

The remainder of the introductory paper is organized as follows. Section 2 discusses the economic effects and consequent regulatory practices for M&A and joint venture activity in the USA. Section 2 also defines the Herfindahl–Hirschman Index (HHI) of market concentration, which is used by the US Department of Justice toward the regulation of M&As (e.g. to decide whether a particular M&A will be approved). Section 3 provides a description and summary of the articles published in the Special Issue. These articles’ particular importance will be a discussion of how the articles relate to one another and to the broader literature on M&As. Section 4 concludes the paper.

2. The economic effects and regulatory practices for M&A activity in the USA

By definition, M&As increase market concentration within an industry. It is therefore the case that any merger or acquisition in the USA may (*a priori* to market analysis) represent a violation of US anti-trust law and is therefore subject to review by the US Department of Justice. If the Department of Justice deems a proposed M&A activity as being “presumed likely to enhance market power,” then it may block the activity (US Department of Justice Horizontal Merger Guidelines, 2018). Anti-trust law seeks to protect the public interest by



limiting the accumulation of market power in markets not deemed to possess a natural monopolistic market structure. Such regulation serves the public interest in that accumulation of market power leads to higher equilibrium prices and restricted equilibrium output. In turn, these equilibrium changes unambiguously decrease the total economic surplus generated by the market (see e.g. Church and Ware, 2000) for an overview as to the relationship between market structure and surplus). On the other hand, M&A activity is desirable from the perspective of many firms in that market power increases the rate of economic profit in a market for which scale economies remain on the margin (Church and Ware, 2000). Hence, the activity and regulation of M&As constitutes a tug-of-war between private firms and the US Department of Justice.

The regulation of M&As is somewhat transparent. If a market's level of firm market share concentration (i.e. its HHI) is above 2,500, then the US Department of Justice considers that market to be highly concentrated and thus subject to being blocked or otherwise regulated by the Department of Justice. What does an HHI Index value above 2,500 indicate? Let us consider the index's equation, as well as an example on the topic. The HHI is calculated as follows:

$$HHI_{i,t} = \sum_{j=1}^n s_{j,t}^2,$$

where $HHI_{i,t}$ represents the HHI index value for industry i at time t , $s_{j,t}$ is the (percentage) market concentration for firm j (of industry i) at time t , and $\sum_{j=1}^n s_{j,t}^2$ represents the sum of squared market concentrations for all firms j in industry i at time t . Across industries, the HHI must fall in the range $(0, 10,000]$, where a value near zero (of ϵ) indicates a perfectly competitive industry and a value of 10,000 indicates a textbook monopoly industry.

In the USA, the Justice Department monitors M&As closely to ensure that they do not “enhance market power” (US Department of Justice, 2019). Such an M&A activity is defined objectively as one in a market that already features an HHI greater than 2,500 and would further increase the HHI in that market by more than 200 additional units. To understand the types of market structure that this rule restricts, let us consider a simplified example in which firms are symmetric. In an industry of n symmetric firms, we can solve for the maximum number of firms such that the HHI remains greater than or equal to 2,500 (Table I).

Given symmetric firms, the market HHI is greater than 2,500 if the number of firms is less than 4. For the $n = 4$ case, the HHI just equals 2,500. As such, we also know that HHI is greater than 2,500 for any four-firm market in which market concentrations are not symmetric. That is to say, the symmetric case strictly minimizes HHI for any n . Consider the symmetric case. As market shares must sum to 100, any departure from the symmetric case must involve a gain (gains) for some firms above a share of $1/n$ and an equal loss (losses) for

Number of symmetric firms	Market share of each firm	HHI
1	100	$100^2 = 10,000$
2	50	$2 \times 50^2 = 5,000$
3	33.33	$3 \times 33.3^2 = 3,333.33$
4	25	$4 \times 25^2 = 2,500$
5	20	$5 \times 20^2 = 2,000$
...	...	...
10	10	$10 \times 10^2 = 1,000$
...	...	...
n (large)	$1/n$	$n \times (1/n)^2 = (1/n) \approx \epsilon$

Table I.

another firm. We know that such share reallocations will increase HHI due to the convexity of $s_{j,t}^2$. If we begin with a case in which $s_{1,t} = s_{2,t} = \dots = s_{n,t}$. Without loss of generality, consider a reallocation of share away from symmetry such that Firm 1 gains ε share units from Firm 2 (and all other firms remain the same). Given the convexity of $s_{j,t}^2$, we know that $((1/n) + \varepsilon)^2 + ((1/n) - \varepsilon)^2$ is greater than $(1/n)^2 + (1/n)^2$. As such, we know that – for a given n – the symmetric market concentration case minimizes HHI. As such, we can summarize US Department of Justice M&A regulation as follows: for $n < 4$, HHI is greater than 2,500 for all possible market share distributions. For $n = 4$, HHI is greater than 2,500 for all possible market share distributions other than the symmetric case.

It is less tractable to summarize the conditions under which an M&A activity would raise the market HHI value by more than 200 points. For example, any industry with HHI greater than 2,500 may have a firm that is sufficiently small that an M&A activity involving this firm would not substantially raise HHI. However, we can summarize from the market HHI analysis that the Department of Justice pays particular (and less equivocal) attention to M&A activity in industries for which $n \leq 4$. These ground rules and regulatory effects will be relevant as we consider the market M&A and joint venture activity studied in this Special Issue.

3. A characterization of Special Issue articles

3.1 *Market effects of M&A activities*

Walia and Boudreaux (2019) examine the market effects of M&A activities. Specifically, they systematically review the literature on hospital M&A events. The authors find that, while somewhat mixed, the literature largely supports market effects from hospital M&A events that are consistent with economic theory (i.e. higher price, restricted output, accumulation of market power and lower costs). Thus, it appears that hospital M&A events lead to adverse market outcomes for consumers. They discuss the role of price cap regulation to diminish the price and output implications of hospital M&A events. The article raises the point that there is often economic (market surplus) cause to regulate proposed M&A events.

3.2 *Firm and market value implications of M&A activities*

Several papers in the present issue address topics of firm market value and the effect of M&A activities upon this value. Tutuncu (2019) studies the effect of pre-acquisition earnings on financial performance of management buyouts. Studying 291 private firms in the UK and using cross-sectional discretionary accrual modeling, the authors find that management buyouts are preceded by earnings overstatement. Subsequently, then, there is found to be financial performance deterioration. As such, the authors find that estimates of value creation from M&A activity can be affected by this activity (e.g. if one looks only at immediate valuation consequences). Mohil *et al.* (2019) study the relationship between options availability and occurrence of informed trading prior to an M&A action. The authors examine 864 M&A announcement in India and find that option listing status increases the likelihood and extent of informed trading prior to an M&A event there. As such, there are potential market efficiency issues surrounding M&A activities in such cases. Ibrahimi and Meghouar (2019) use accounting variables to find sources of value creation or destruction during M&A events in France. They find that control of operating expense fluctuations throughout the event is a key indicator of value creation from the M&A event.

Wonder and Lending (2019) examines the effect of acquisitions upon the acquiring company's shareholder base. In a sample of 348 US acquisition events, they find statistical evidence of large increases to shareholder base for acquisitions completed at least partly in stock. These increases sustain over a four-year period. The magnitude of this effect is

diminished in the case of cash acquisitions in the USA. Anagnostopoulos and Rizeq (2019) use a neural network approach to study M&A events in the US technology sector. They find that such an approach provides more explanatory power than a traditional regression in predicting valuation effects of M&A events in this sector. Aggarwal and Garg (2019) examines the effect of spin-off announcements upon the share price of the parent firm using an event study methodology. They find that spin-offs positively affect parent firm share price in the weeks following the announcement. This is potentially due to the adverse selection issues surrounding which divisions a parent firm would select to be spun-off (e.g. possibly those that do not complement other divisions of the firm).

3.3 Implementation of M&A activities

Two papers in this issue consider issues of implementation for M&A activities. Sulkowski *et al.* (2019) examines mergers in higher education, presenting an inductive conceptual model of said activity. The model is meant to determine the value and optimal implementation of a potential merger activity (i.e. to render a more viable institution). The authors conclude that mergers often render greater institutional value if key principles are identified and (case) studied. Cheng (2019) studies the impact of the post-merger integration period on firm capital structure. The author finds that managers in the acquiring firm are forward looking when considering the financing of a potential M&A event, factoring in integration characteristics of the post-M&A firm.

4. Conclusion

This Special Issue addresses an important topic in managerial finance: that of M&A events. The topic is addressed using multiple empirical and theoretical methodologies. Moreover, key issues surrounding M&A events are considered. For example, the Special Issue addresses issues of value creation and destruction from M&A events, as well as issues of overall market (power) effects and of implementation issues surrounding these events. Collectively, these articles consider the issue of market value from M&A events from the often contrasting perspectives of shareholders, firm managers and consumers. As such, the Special Issue is able to collectively consider the myriad effects of M&A events upon societies.

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Note

1. For a recent survey, see Galpin (2014) or Joash and Njangu (2015).

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