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The Merger Mystery

Why Spend Ever More on Mergers When So Many Fail?

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Digital material and resources associated with this volume are available at https://doi.org/10.11647/OBP.0309#resources

ISBN Paperback: 9781800647794
ISBN Hardback: 9781800647800
ISBN Digital (PDF): 9781800647817
ISBN Digital ebook (EPUB): 9781800647824
ISBN Digital ebook (AZW3): 9781800647831
ISBN XML: 9781800647848
ISBN HTML: 9781800647855
DOI: 10.11647/OBP.0309

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Cover design by Katy Saunders and J. Gay Meeks.

Appendix 1: Measuring Success or Failure

Chapter 1 used a standard accounting framework to identify potential sources of gain from merger. For the acquirer's shareholders these included:

A. higher prices because the merger leads to improved products or services

B. higher prices because the merger leads to increased monopolistic power

C. lower costs because of net synergies—e.g. economies of scale

D. lower costs because the merger leads to increased monopsonistic power

But part or all of these gains will be partly offset by:

E. extra pay for executives

F. merger transaction costs, including advisers' fees

The sum of items A to F will appear in the change in operating profit, P.

The acquirer's shareholders may also gain from merger because of:

G. borrowing to fund the merger on terms made favourable by limited liability

H. privileged tax treatment of borrowing, capital gains, etc.

The overall private merger gains to the acquirer's shareholders will then appear in earnings, Q, operating profit minus interest and tax.

From a social—whole economy—point of view, B, D, G and H are just transfers from other interest groups and don't represent any gain to the

 https://doi.org/10.11647/OBP.0309.13

economy. Also, a social calculus would include a cost not represented in the firm's accounts:

I. consumer surplus, the loss to customers priced out of the market.

In general, of the readily available measures, P comes closest to reflecting the social, economy-wide gains from merger, although it will typically be upward-biased, overstating the social gains. This is because it includes the gains at customers' and suppliers' expense arising from the merged firm's increased market power. And it excludes losses of consumer surplus. Q is further upward-biased as a measure of social gains because it includes benefits at others' expense arising from limited liability and tax privileges.

Many of the studies of merger success have been concerned just with the shareholders' interests. Such accounting studies have focused on measures based on Q (earnings). An alternative approach—feasible only for companies listed on a stock exchange—has instead deployed a measure R, related to Q. R comprises share price appreciation plus dividends: how much a shareholder gains if she buys a share at the beginning of the year, receives dividends during the year and sells the share at the end of the year. Over time, R is expected to be closely linked to Q: current dividends appear in both measures, and share price appreciation reflects expectations of future dividends.

Research in the finance literature has largely been based on R—a shareholder perspective; in the accounting literature on P and Q; and in the industrial organisation literature on P—a societal perspective (though, as explained above, typically an upward-biased measure of social gains).

Time Frames

Accounts-based studies typically compare P or Q achieved in the years following merger with the corresponding numbers achieved by the participants before they combined. Studies employing share prices follow two different approaches. One, the event study, reports R in the weeks leading up to the deal announcement and completion—on the argument that the stock market will impound in share prices the earnings gains expected after the merger. The other, longer-run approach traces R over the years surrounding the merger. The event studies have tended to record more successes than the long-run ones, prompting Jensen and Ruback (1983) to comment:

> these post-outcome negative abnormal returns are unsettling because they are inconsistent with market efficiency and suggest that changes in stock prices during takeovers overestimate the future efficiency gains from merger. (p. 20)

Chapter 8 above discussed such issues around market efficiency.

Caves (1989) pointed out a similar divergence between stock market event studies and longer-run accounting analyses. The former report 'a bundle for the target's shareholders plus zero for the bidder's [...] supporting the conclusion that mergers create value and accordingly are economically efficient'; whilst recent accounting studies 'are resoundingly negative on the average productivity of merger and sharply at variance with the findings of the event studies' (pp. 153, 158).

And this contrast between *ex ante* and *ex post* assessments is congruent with comparisons of managers' forecasts of post-merger earnings with the actual out-turns—discussed in Chapter 9.

Another strand of performance measurement, pioneered by Healy et al. (1992), develops a hybrid measure, mixing accounting data with stock market data. An income measure from the accounts is used in the numerator, and a stock market measure of the firm's assets is used as the denominator. If—as Jensen and Ruback commented above—share prices typically decline after merger ('post outcome negative abnormal returns'), unchanged accounting income will translate into an improvement in the value of the ratio, simply because the denominator is shrinking. Amel-Zadeh (2020) explores and illustrates in detail the biases in such measures. Because of the potential biases we have not included these studies in Table A.1.[1] The majority of them report a positive result for post-merger returns.

1 Such studies (some negative, more positive) include, in date order, Healy et al. (1992), Cornett and Tehranian (1992), Switzer (1996), Harford (1999), Ghosh (2001), Linn and Switzer (2001), Megginson et al. (2004), Powell and Stark (2005). Healy et al. is included in Table A.1.

Acquirer and Target

A convenient feature of the event studies is that they are able to distinguish the gains for the acquirer's shareholders from those for the target's. Stock market data are available for the target up to the moment it is acquired. For example, Moeller et al. (2005) were able to conclude that, although target firm shareholders gained, 'the losses of bidders exceed the gains by targets [...] by $134 billion'.

Mostly, neither of the long-run measures—using R or P—is able to distinguish the contribution of the target to the amalgamation's results after merger. One exception for R was in China, where acquired companies retained separate stock market listings after merger (Song and Meeks 2020). And an exception for P was possible for Ravenscraft and Scherer (1987) who analysed lines of business data which were collected by government for a limited period. They concluded:

> [...] one third of all acquisitions were subsequently sold off [...] On average merged lines later sold off had a negative operating income during the last year before they were resold. Among the survivors, profitability also tended to decline...

Other Things Equal

It goes without saying that no serious study is based on the raw accounting or share price data. Gains are measured relative to benchmarks: matched samples or peer groups, so that industry-wide or stock market-wide fluctuations in performance are not attributed to merger.

And the data are scaled—expressed in ratio form: profits to assets, stock market returns relative to initial stock market value of the business.

Examples

Table A.1 lists peer-reviewed studies of the impact of merger on performance published in the last half-century. Although it includes over fifty works, it is not comprehensive. The members of the list are drawn largely from reviews/surveys by various writers of the academic literatures of accounting, economics and finance. These will have missed some work in these and related areas, but we see no reason to fear any selection bias.

One valuable related strand of literature not included in Table A.1 explores whether particular subsets of deals achieve better results than others. These studies include Chatterjee and Meeks (1996), Healy et al. (1997), Rau and Vermaelen (1998), Capron (1999), Capron and Pistre (2002), and Gregory (2005).

Obviously it is impossible to do justice in the table to the rich analyses and nuances and caveats in these many thousands of published pages. Further discussion of measurement methods can be found in Caves (1989), Chatterjee and Meeks (1996), Conn et al. (1985), Healy et al. (1992), Jensen and Ruback (1983), Scherer (1988), and the chapters by Meeks and Meeks, Amel-Zadeh, and Song and Meeks in Amel-Zadeh and Meeks (2020).

As well as reporting for each study listed in Table A.1 the publication date and the country (if it is not the US), we note the type of data used (stock market returns unless otherwise specified). The final column marks as positive those studies which report clear gains for the acquirer—eleven of the fifty-five. Note our contention above that measures based on P are likely to overstate overall gains to the economy, Q and R even more so.

Table A.1 Statistical studies of the impact of M&A on performance.

Author(s)	**Pub'n**	**Country**	**Data**	**Impact**
	Date	note 1	note 2	note 3
Singh	1971	UK	Acc	
Lev/Mandelker	1972		Acc	
Ryden	1972	Sweden		positive
Mandelker	1974			
Utton	1974	UK	Acc	
Meeks	1977	UK	Acc	
Langetieg	1978			
Firth	1979	UK		
Cable et al.	1980	Germany	Acc	
Cosh et al.	1980	UK	Acc	positive

Author(s)	**Pub'n**	**Country**	**Data**	**Impact**
Dodd	1980			
Firth	1980	UK		
Kumps et al.	1980	Belgium	Acc	
Jenny/Weber	1980	France	Acc	
Peer	1980	Netherlands	Acc	
Ryden/Edberg	1980	Sweden	Acc	
Mueller	1980		Acc	
Asquith/Kim	1982			
Asquith	1983			
Malatesta	1983			
Eckbo	1983			
Asquith et al.	1983			positive
Kumar	1984	UK	Acc	
Dennis/McConnell	1986			
Ravenscraft/Scherer	1987		Acc	
Bradley et al.	1988			positive
Franks/Harris	1989	UK		positive
Lahey/Conn	1990			
Limmack	1991	UK		
Agrawal et al.	1992			
Healy et al.	1992		Acc	positive
Dickerson et al.	1997	UK	Acc	
Gregory	1997	UK		
Loughran/Vijh	1997			
Dickerson et al.	2000	UK	Acc	
Andrade et al.	2001			positive
Desbriere/Schatt	2002	France	Acc	positive
Sudarsanam/Mahate	2003			
Diaz et al.	2004	Europe	Acc	positive
Andre et al.	2004	Canada		
Moeller et al.	2005			
Rahman/Limmack	2004	Malaysia	Acc	positive
Knapp et al.	2005		Acc	
Guest et al.	2010	UK		

Author(s)	**Pub'n**	**Country**	**Data**	**Impact**
Gu/Lev	2011			
Duchin/Schmidt	2013			
Zhou et al.	2015	China		positive
Dargenidou et al.	2016	UK		
Ma et al.	2016	China	Acc	
Boateng et al.	2017	China	Acc	
Cuypers et al.	2017			
Malmendier et al.	2018			
Amel-Zadeh	2020		Acc	
Amel-Zadeh/Meeks	2020			
Song/Meeks	2020	China		

Notes: See the discussion in Appendix 1 of contributions to this literature not included in this table. See the reference list for full publication details. 1. US unless otherwise specified. 2. Stock market data unless otherwise specified (Acc = company accounts). 3. Positive if clear gains, consistent across measures (impact relates to acquirer where target also studied).