

BY SUSANNE TRIMBATH

“The economy goes through phases. So do markets. Just when people start thinking they’ll last forever, the phases are ready to change.”

— Michael Milken, *Forbes*, March 16, 1992.

Merger and acquisition activity is under constant scrutiny, and is alternately praised and vilified as an engine of corporate destruction, creative or not. But most studies have not considered the time period – and the general availability of capital – as a relevant variable.

Researchers have identified five distinct periods of high merger and acquisition activity during the past century or so. Each of these periods in American history was unique in its origins and the way it was limited by defensive behavior.

- The first period followed the depression of the late 19th century, and was fueled by economic growth and the development of domestic infrastructure, such as the trans-continental railroad. Targeted firms resisted this corporate control activity fiercely, adopting dual-class recapitalization schema to retain control in proxy contests.
- The second sprouted during the economic boom that followed the First World War and was driven by an abundant supply of investment capital. This time, targeted corporations used the tactic of eliminating cumulative voting as a means of preventing takeovers.

- The third period of high activity, in the late 1960s, appeared to be motivated by a corporate shift toward diversification. The economy was changing and firms adapted by buying into new industries and economic sectors. Targeted corporations resisted through legal maneuvers. Takeover activity in this period was also slowed by government restrictions on the use of convertible stock for financing.
- The fourth period – that of the 1980s – was marked by the restructuring of conglomerates and pressure on all firms to improve their use of resources. It began with the rise of new sources of financing, such as high-yield bonds sold to insurance companies, and ended when those sources were barred by law and regulation.
- The 1990s produced a fifth active period of corporate acquisitions. This time around, there was a trend toward consolidation of market share and the acquisition of technology, with syndicated lending as the primary source of financing.

Surprisingly, most of the research on takeovers over time focuses on the volume of activity. Mainstream studies by academic researchers concentrate on the causes and effects of takeovers on corporate performance, neglecting any systematic analysis

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of institutional differences between takeover periods.

TIME IS NOT ON THE ECONOMIST'S SIDE

Generally, empirical studies in both economics and finance that have examined corporate control activity fall into two broad categories. The first type examines the characteristics of the firms that are taken over. These studies measure the impact of performance and other firm characteristics on the probability that a firm will receive an offer and/or eventually be taken over. The second examines the effect of takeovers either on the share prices of firms at the announcement of the takeover, or on the performance of combined firms after the takeover.

Examples of conflicting results are numerous. Typically, researchers attribute differences between their own conclusions and those of earlier studies either to methodology or to the choice of performance measures. An unusual set of three studies, however, used the same process in three separate periods and reported different results.

Krishna Palepu found some corporate performance measures to be significant determinants of the probability of takeover during 1971-79 (*Journal of Accounting and Economics*, 1986). Six years later, Brent Ambrose and William Megginson updated the sample used by Palepu and applied the same methodology and performance measures. Their study covering 1981-86 (*Journal of Financial and Quantitative Analysis*, 1992) reported that "none of the variables in the simple Palepu update were significant, and the overall model had negligible explanatory power and was not significant." The third paper by Mike Cudd and Rakesh Duggal (*The Financial Review*, 2000), once again followed the Palepu methodology using activity from 1987-91.

Cudd and Duggal, like Palepu, reported several performance measures as statistically significant determinants of the probability of takeover. We can only conclude, then, that the effect of the Palepu measures – various estimates of size, growth of sales, financial liquidity and leverage – on the probability of

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takeover changed with the passage of time.

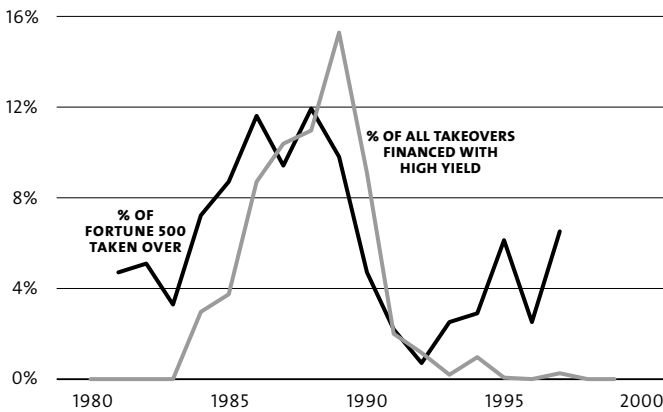
Size was a significant deterrent to the probability of takeover for the 1971-79 sample, not important for takeovers completed between 1981 and 1986, and important again for the 1987-91 takeovers. Other research buttresses the finding. Edward Herman and Louis Lowenstein (reprinted in *Knights Raiders and Targets*, edited by John Coffee, et al., Oxford University Press, 1988) measured firm size by the book value of assets in nominal dollars measured at the year prior to the takeover. Using a sample of firms from 1975-83, the average target had \$907 million in assets. However, breaking the sample into two periods showed substantial differences: the average target in 1975-78 had \$430 million in assets, while the average size of the sampled targets in 1981-83 was \$1,548 million.

By the same token, Ronan Powell reported

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a statistically significant, negative relationship between size and the probability of takeover using a sample of U.K. firms from 1984-91 (*Queens University [Belfast] Working Paper*, 1994). Breaking the sample of takeovers into periods, size is not significant for the sub-

TAKEOVER VOLUME AND THE AVAILABILITY OF FINANCING FOR LARGE TAKEOVERS



sample from 1984-87 – but significant and negative for 1988-91.

In a sample of takeovers in the United Kingdom from 1967 to 1970, Ajit Singh found that the smallest quintile of firms faced a 3 percent risk of takeover, while the largest quintile had a 4.5 percent probability of takeover. This was a relatively active period of corporate control activity in the U.K. In a less active period, 1955-66, Singh reports takeover probabilities for the smallest and largest quintiles as 3.6 percent and 2.5 percent respectively. In other words, it would appear that the probability of takeover is higher for larger firms only during the more active period of corporate control activity. In addition, Roger Clarke and Christos Ioannidis (*Cardiff Business School Discussion Paper*, 1994) show that takeover volume in the U.K. is linked to

the availability of “excess deposits” in the financial sector.

AS TIME GOES BY

These findings support the view that changes in the risk-size relationship of takeovers are driven by changes in the availability of financing. The dynamics are explained in the Milken Institute Policy Brief, *High Yield Securities and Efficiency Enhancing Takeovers*.

For much of the 1980s, big firms proved juicier takeover targets. But around 1988, the statistical relationship evaporated – by no coincidence, when merger and acquisition activity financed with high-yield securities dried up. The exhibit shows a startling correlation between takeovers financed by high-yield debt and the percentage of Fortune 500 takeovers completed between 1981 and 1997

There are not such clear-cut examples of temporal changes in studies of the post-takeover performance of newly combined firms. However, in a 1997 study, Alan Gregory reproduced the methodology of six different studies using one sample of United Kingdom firms (*Journal of Business Finance and Accounting*). Measuring performance by stock returns, he found that the bidders in takeovers where the target firm was in a related industry did worse than those in unrelated takeovers in the 1960s, about the same in the 1970s, and better in the 1980s. The gap between returns for related and unrelated takeovers widened in the 1988-92 period.

Of course, stock returns more accurately measure changes in shareholder wealth than in firm performance. The Milken Institute Policy Brief, *A Tale of Two Decades*, examined

activity that occurred between 1985 and 1997. Because these dates include activity from two different periods of mergers and acquisitions activity, the authors performed separate analyses for each decade. Tender offers in takeover contests during the 1985-89 period clearly created shareholder value, though this value was transferred to shareholders of the acquired firm. Bidding shareholders experience a slight, though insignificant, value loss – that is, they paid a bit too much. The 1993-97 period exhibited greater gains to shareholders, and while most of these gains still ended up in the pockets of the shareholders of acquired firms, bidding firm shareholders received positive returns as well. The mergers and acquisitions environment of 1993-97 appears to be more profitable for all parties involved when compared to that of 1985-89. Bidding firms in particular have shifted from slight losers to clear winners in the market for corporate control.

TIME IN A BOTTLE

Ronald Reagan was a great source for economist jokes. In my favorite, the economist is asked “how much is two plus two?” The response: “how much would you like it to be?”

It is simply too easy to get the answers we want from the data we collect, using the theories we design. For this reason, it is especially important for economists to apply rigorous statistical methods. In the last 10 years, dynamic modeling techniques, which incorporate consideration of temporal changes in activity, have become easier to use. Software costing just a few hundred dollars and that run on desktop computers have made advanced statistical techniques accessible. And sometimes, the more complex the methodology, the simpler the interpretation.

If temporal differences are not accounted for, their presence can bias the estimators

used for the effect of performance measures. For three decades, most empirical studies reported that the probability of takeover was negatively related to firm size. Researchers concluded that large firms were less vulnerable, regardless of their performance. This called into question the ability of the market

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to discipline large, inefficient firms with changes in corporate control.

But this generalization masked a subtler reality. Size became more of a deterrent after restrictions were placed on the use of debt for financing takeovers. When financing was readily available, changes in corporate control for even the largest U.S. firms brought with them enhancements in efficiency through the reduction of costs. Responding to market pressures to become more efficient in the 1980s, corporations sought to enhance revenue opportunities through changes in the control over the resources employed. Takeovers in the 1990s created even more value than takeovers in the 1980s. Economists cannot cling to the explanations based on the statistics of one point in time. **M**