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Post-merger restructuring and the boundaries of the firm ☆

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ABSTRACT

We examine how firms redraw their boundaries after acquisitions using plant-level data. We find that there is extensive restructuring in a short period following mergers and full-firm acquisitions. Acquirers of full firms sell 27% and close 19% of the plants of target firms within three years of the acquisition. Acquirers with skill in running their peripheral divisions tend to retain more acquired plants. Retained plants increase in productivity whereas sold plants do not. These results suggest that acquirers restructure targets in ways that exploit their comparative advantage.

1. Introduction

Mergers and acquisitions are a fast way for a firm to grow and reconfigure its asset portfolio. Through mergers, firms frequently acquire portfolios of assets spanning several industries. After the merger, the acquiring firm faces decisions on how to redraw its boundaries. The acquirer can keep all or most of the acquired assets or shed some of the acquired assets through sales or closure. Although there is a vast literature on mergers and acquisitions,[1] there is little empirical evidence on the extent to which acquirers reconfigure their newly

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[1] See Andrade, Mitchell, and Stafford (2001) for a survey, and Betton, Eckbo, and Thorburn (2008) for a more recent perspective.

acquired assets or the direction of restructuring that follows a merger. Do acquirers keep most of the assets they acquire or do they shed or close some of the acquired assets? Our study provides the first evidence on the short-term restructuring after a merger by following acquirers longitudinally after an acquisition. We characterize the extent and direction of post-merger restructuring and examine the performance changes consequent to the restructuring.

Our first finding is that acquiring firms do not passively retain the assets acquired in a merger. Rather, the merger starts a vigorous restructuring that involves a significant number of selloffs and closures of the target firm's assets. Within three years, firms sell or close 46% of the plants they purchase via whole-firm acquisitions or mergers. The extent of restructuring far exceeds benchmarks based on industry/year matched firms or assets in partial-firm acquisitions. If we expand the horizon to five years following the mergers, sales increase by only 3% points and closures by only 6.6% points in years 4 and 5.

We next examine two related questions about the post-merger restructuring process. First, are acquirers more likely to keep certain assets than others? Second, does the post-merger performance of the acquired assets depend on whether the asset is kept or sold? To answer these questions we examine the cross-sectional variation of the plant retention, closure, and sales decisions of acquirers and characterize the changes in productive efficiency of kept and sold plants over three years after merger completion. This evidence complements and extends the knowledge of post-merger restructuring beyond the (very) long-term divestitures after merger that are examined by Kaplan and Weisbach (1992) and Porter (1987).

We show that the readjustment of firm boundaries after acquisitions varies cross-sectionally in ways that are consistent with the view that acquirers exploit their comparative advantage across industries to restructure target firms. We find that acquirers are more likely to retain plants of firms they purchase if they already operate a plant in the same industry and acquirers are particularly likely to retain purchased plants that add to their largest divisions. Plants in the target's peripheral divisions, which are less likely to be the object of the acquisition, are significantly more likely to be sold. These findings suggest that even when acquirers buy whole firms, they are ex-ante interested in a subset of the target firm's assets.

Among the acquirer's asset-side characteristics, we find that acquirers are more likely to retain acquired plants if the pre-merger productivity of plants in their own *peripheral* segments is high. Productivity in peripheral businesses reflects the ability and capacity of an acquirer to operate businesses that add to a firm's scope. Low productivity of existing peripheral segments/plants indicates that the firm is likely stretched while high peripheral plant productivity indicates that a firm can absorb and add to its existing businesses. We find that peripheral productivity is a significant predictor of the probability of retention after a merger. A one-standard-deviation increase in the productivity of the acquirer's own marginal plants increases the probability that the acquirer retains a newly acquired target plant by 17–19%. Additionally, theories of firm scope based on comparative advantage predict a stronger multiplicative effect of skill when there are positive industry shocks. Positive shocks amplify the comparative advantage of keeping an asset with a more efficient producer relative to its ownership by a less efficient producer. Thus, positive industry return shocks should make an acquirer with greater marginal productivity especially less likely to sell assets in the industry. We find support for this prediction. The retention probability is higher when the acquirer is skilled and when the plant belongs to an industry that experiences a positive shock.

We investigate the effects of the method of payment and financing on restructuring using Securities Data Company (SDC) data and other financing-side variables that proxy for firm financial constraints.[2] We find some evidence that the method of payment is related to the asset sales decision. Acquirers that pay with cash are somewhat less likely to sell target plants. Payment method has virtually no correlation with plant closures, which continue to be driven mainly by plant fundamentals. On the other hand, the financial conditions of the acquirer are more robust determinants of restructuring. Firms with high leverage, low cash, and non-dividend payers are more likely to sell plants. Thus, while the results discussed earlier suggest that asset-side fundamentals drive retention decisions, this evidence indicates a role for debt and financial constraints in setting firms' boundaries.

Besides the rates of selloffs and closures and their cross-sectional determinants, we also study the performance of plants transferred in acquisitions. We show that there are very distinct differences between kept and sold plants. Plants transferred in the acquisition and subsequently kept by the acquirer tend to improve in performance with significant increases in productivity and operating margins. There are similar large changes in performance for plants acquired and kept in targeted purchases of partial firms. In contrast, the performance of sold plants tends to be flat. This is true in whole-firm mergers where plants are transferred and resold as well as the more limited sales that follow partial-firm acquisitions. The improvement in performance of kept plants is related to how well an acquirer runs its existing businesses. The result is consistent with the brand-level evidence of Fee, Hadlock, and Pierce (2010) that acquirers realize marketing synergies when the target has complementary brands. Our evidence is about the operating performance of newly acquired plants. When considering the effect of the method of payment from SDC and the financing-side liquidity variables, we find that changes in productivity are significantly related to proxies for acquirer financial constraints, but are unrelated to how the acquirer pays for the acquisition, consistent with some post-merger sales taking place to improve the financial liquidity of the purchaser.

[2] For early work on the method of payment, see Hansen (1987) or Fishman (1989). See Section 5 of Eckbo (2008) for a recent review of the method in payment effects in acquisitions. For work on financing constraints, see Kaplan and Zingales (1997), Almeida, Campello, and Weisbach (2004), or more recently, Denis and Sibilkov (2010) and Hadlock and Pierce (2010).