Online Appendix

for

The Bright Side of Corporate Diversification: Evidence from Internal Labor Markets

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In this appendix, we provide robustness checks and additional evidence to support the analysis in the main text of the paper. Below we provide a brief description of each of the included tables. The discussion is organized into three sections: first, we discuss robustness checks of the firm-level regressions from Section II of the paper; second, we present robustness checks of the worker-level regressions from Section III of the paper and address alternative explanations of the evidence; third, we provide formal tests to accompany the discussion from Section IV of the paper which positions our analysis within the conglomerate literature.

Robustness Checks of Firm-level Evidence

In Table OA1, we present alternative specifications of the labor productivity regressions from Panels A and B of Table III in the main text. Here, instead of industry-year fixed effects, we include separate fixed effects for each firm and year. We observe a limited set of firm-level controls in the Census Bureau's Longitudinal Business Database (LBD). Thus, the firm fixed effects soak up any time invariant firm characteristics that might predict differences in labor productivity (or its relation to operations in high-skill industries) and that are not corrected by matching each plant of a diversified firm to plants of focused firms with similar age and employment levels operating in the same industry at the same time. We find qualitatively similar results. Whether we use the ratio of sales to employment or sales to payroll to measure labor productivity, we find that "excess sales" are significantly higher among diversified firms that operate more intensively in high-skill industries. Here, the magnitude and significance of the effect are stronger when we use sales to payroll as the productivity measure than the results in the main text. Though it remains positive and significant, the direct effect of diversification is more difficult to interpret in these regressions since it is identified using only the relatively small number of cases in which a firm changes from focused to diversified (or vice versa).

In Table OA2, we reconsider the labor allocation model from Table IV of the main text, but using an alternative measure of the relative prospects of the industry segments of diversified firms. Following Phillips and Zhdanov (2012) and Maksimovic and Phillips (2001), we construct a measure of the "vertical demand shock" (*vdshock*) to each industry in each sample quarter. *vdshock* captures shocks that occur "downstream" to the industry and therefore are likely to affect demand for the industry's output. Downstream industries are identified using the Bureau of Economic Analysis' input output table from the closest lagged Census year. Downstream industries are industries that use at least 1% of the industry's output. Shocks to downstream industries are identified using industrial production data from the Federal Reserve website. *vdshock* is the residual from a regression of the weighted average of the annual percentage change in production in the downstream industries on industry and year fixed effects. (This final step detrends the measure). We conduct the analysis at the 2-digit SIC code level, as we do when we use (changes in) Tobin's Q to measure industry prospects in the main text.

In Table IV of the main text, our variable of interest is the change in Q, measured from the year following closure (t+1) to three years following closure (t+3). Since downstream shocks are likely to hit the industry with a lag, we take the rolling average of *vdshock* for years t, t+1, and t+2. We then repeat the regressions from Table IV using this variable in place of the change in Q. We find again that future changes in opportunities to the worker's original industry negatively predict the probability of changing industries. Using the estimates in Table OA2, we estimate that a one standard deviation increase in *vdshock* reduces the probability of changing industries by 6.3 percentage points, similar to the estimated effect using the change in Q in the main text. Thus, our basic result holds even using a different measure of changes in expected opportunities in the worker's home industry. Moreover, the *vdshock* variable is unlikely to be subject to the specific measurement problems in Q highlighted by Whited (2001).

Robustness Checks of Worker-level Evidence

In Table OA3, we reestimate the main worker-level regressions from Table VII of the paper, but including two additional controls: interactions of an indicator for workers who originate in diversified firms with an indicator for workers who remain in the same firm

following displacement and with an indicator for workers who change 2-digit SIC codes following displacement. Including the two additional controls allows us to uniquely identify the relative wage changes associated with the eight job change categories reported in Figure 3 of the paper, net of the effects of the firm and worker controls. The baseline category is workers from focused firms who find a job in a new firm, but in their original industry. We compute the other wage changes in Figure 3 using the estimates from Column 1 as follows:

1. Focused/Same Firm/Same Industry	*Same_Firm*
2. Focused/Different Firm/Different Industry	*Different Industry*
3. Diversified/Same Firm/Same Industry	*Diversified + Same_Firm + Divers.*Same_Firm*
4. Diversified/Same Firm/Different Industry	*Diversified + Same_Firm + Different Industry + Same_Firm*Dif. Ind. + Dif. Ind.*Spanned Ind. + Divers.*Same_Firm + Divers.*Dif. Ind.*
5. Diversified/Different Firm/Same Industry	*Diversified*
6. Diversified/Different Firm/Spanned Industry	*Diversified + Dif. Ind. + Diversified*Dif. Ind. + Dif. Ind.*Spanned Industry*
7. Diversified/Different Firm/Unspanned Industry	*Diverisified + Dif. Ind. + Divers.*Dif. Ind.*

Notice that our coefficient of interest (*Different Industry*Spanned Industry*) – the estimate of the effect of moving to an industry "spanned" by the worker's pre-displacement diversified firm – remains virtually unchanged, relative to Table VII.

We also see some evidence in Table OA3 that workers who are displaced from diversified firms experience more negative wage changes when they move to "unspanned" new industries than workers from focused firms who change industries (coefficient estimate on *Diversified*Different Industry*). Much of the estimate appears to be a composition effect; i.e., workers from diversified firms making "unspanned" industry changes switch between

different industries than workers from focused firms. When we add fixed effects for the old and new industry pair to the regression, the estimate is no longer statistically significant. Nevertheless, we investigate whether there are similar patterns for this effect to the ones we observe in the main text for workers who make "spanned" industry changes. First, we test whether there is an interaction of the effect with tenure inside the diversified firm. For example, workers in diversified firms might make investments in industry-specific skills in "spanned" industries at the expense of general skills that enhance productivity in all industries. We report the results in Table OA4. As in Table IX, we find that workers with short tenures in the firm from which they are displaced experience smaller wage losses when they change to new industries (*Low_Tenure*Different Industry* is positive and significant). A possible explanation is that such workers accumulate less firm-specific capital prior to displacement which, by definition, will be more industry-specific. However, we do not see that this effect differs between workers who originate in focused and diversified firms (*Low_Tenure*Diversified*Different Industry* has different signs across specifications and is always insignificant). Second, we test whether the effect of moving to an "unspanned" new industry differs for workers originating in high- and low-skill industries. If the negative effect represents a failure to make certain human capital investments that workers in focused firms are able to make, then it may be more prominent among high-skill workers (compensation for skills requires their scarcity in the marketplace, as we argue in the main text for skills accumulated in spanned industries). We present the results in Table OA5. We find some evidence that the larger wage losses among workers who move to "unspanned" new industries from diversified firms are concentrated among workers from high skill industries (*High_Skill*Diversified*Different Industry* vs. *Low_Skill*Diversified*Different Industry*). However, when we control for industry pair fixed effects, the difference by worker skill completely disappears. This result stands in contrast to the result in Table IX for workers who move to "spanned" industries. There, the most pronounced difference between high- and low-skill workers comes when we compare workers who make such changes only to other workers who make the exact same industry change, but for whom the new industry is not spanned by the firm from which they are displaced.

In Columns 1 to 3 of Table OA6, we repeat the worker-level estimations from Table VII of the text, but on an expanded sample that includes workers displaced from all plants in

our sample of the LBD matched to LEHD data. The difference is that workers displaced from closing single-unit firms are included (by definition in the focused firm benchmarks). We also include an indicator for multi-unit firms to control for differences in average wage losses experienced by workers from single- and multi-unit firms. In Columns 4 to 6, we present the estimates including the two extra interactions that allow us to infer relative wage losses in all eight job change categories (as in Table OA3). Notice that in all cases, we continue to find that the marginal effect of moving to an industry "spanned" by the worker's pre-displacement diversified firm is positive and significant.

Next, we address several alternative interpretations of the worker-level tests we present in the main text. First, we directly address the possibility of nonrandom sorting of workers across the wage change categories considered above. For example, among the set of workers displaced from diversified firms who change industries, it is possible that the higher ability workers move to "spanned" industries while the lower ability workers move to "unspanned" industries and it is those differences in ability that explain the wage differences in Table VII (rather than the presence of specific skills suited to the new industries). In Table OA7, we compare the observable characteristics of workers displaced from diversified firms who move in the external labor market to "spanned industries" to those of other workers who make the same industry changes, separated into workers originating from focused and diversified firms. We first average across workers in each grouping of pre- and post-displacement industries (e.g., among workers who switch from SIC 25 to SIC 52) and then across groupings. We include only groupings that contain a worker from each category (diversified-spanned, diversified-unspanned, or focused). Thus, when we test cross-category differences in means, we are effectively removing an SIC-pair fixed effect. We do not see significant differences in the worker-level characteristics of workers from diversified firms who move to "spanned" industries and workers from diversified firms who move between the same industries, but for whom the new industry is "unspanned." The sole exception is the percentage of Hispanic workers, which is significant at the 10% level. At the firm level, we do see, not surprisingly, that workers in the former set come from larger firms (which have larger sets of "spanned" industries), but not from larger plants. Given the similarity of observables, it is unclear why there would be unobservable differences in ability across groups, particularly

since pre-closure wages (which are not significantly different) should proxy for such differences.

We also test the differences between workers making "spanned" industry changes and workers from focused firms changing between the same industries. The results are generally similar. The fractions of "other minorities" in the two samples are different at the 5% level. Again, we see differences in firm size (here, even less surprisingly since focused firms tend to be smaller than diversified firms). Notably, pre-closure wages also differ at the 5% level. To be sure that our main results do not depend on comparisons of workers who are far apart in the wage distribution, we reestimate the regression specification from Column 3 of Table VII, but interacting the SIC pair fixed effects with fixed effects for categories of pre-closure wages. Thus, only workers who are sufficiently close in the wage distribution contribute to the estimates. We find that this approach strengthens our results; for example, using four wage groupings (≤$25K, $25K-$50K, $50K-$100K, >$100K) the estimated benefit of moving to a "spanned" industry is 4.4%, significant at the 1% level. The results are even stronger using finer partitions. We take a similar approach to ensure that the differences in firm size do not somehow interact with the effects of interest. We find that comparing workers from firms that are close together in the size distribution only strengthens our results. Summing up, we find few differences between the observable characteristics of the workers we compare in our key tests, indicating that worker sorting is unlikely to be a major concern. Moreover, our regressions control for these observables, which should absorb any differences in wage losses predicted by these few differences. And, we confirm in additional tests that the success of these controls is not dependent on the functional form of our main regressions. For completeness, we also present worker summary statistics in all eight job change categories from Figure 3 of the text. In Panel B, we present within category means; in Panel C, we remove a firm effect by first averaging within each closing plant and then averaging across plants for the subset of plants which contain a worker in each category.

A related sorting story is that diversified firms employ smarter workers than focused firms and that this higher ability level, instead of skills accumulated inside the firm, explains why they experience relatively smaller wage losses when they make job changes to "spanned" industries. Diversified firms might attract such workers by paying higher initial wages, using cost savings due to synergies from their organizational form to finance them. This story,

however, is not consistent with several pieces of evidence from our main analysis. First, we do not find that workers displaced from diversified firms experience smaller wage losses than workers displaced from focused firms for all types of job changes, as this story would predict. For example, workers from diversified firms (if anything) do worse than workers from focused firms when the move to a new firm in an "unspanned" new industry (see the discussion of this effect above). Second, all of our estimates control for the worker's wage prior to displacement to control for differences in ability levels across workers. Third, we find that the smaller wage losses experienced by workers from diversified firms who move to spanned industries increase with the worker's tenure inside the diversified firm, which is inconsistent with higher ability prior to the initial hire as the driver of our result. As a final test to address this possibility, we consider the organizational structure of the firms in which workers accept jobs following displacement. Under both our story and the alternative hypothesis, workers from diversified firms should be more likely to accept new jobs in other diversified firms. However, a distinguishing prediction of our hypothesis is that the new diversified firms should overlap in industry composition with the diversified firms from which the workers are displaced. Under our story, it is not general ability, but specific industry skills that explain why workers are more attractive to firms operating in spanned industries. To perform this test, we compare the organizational structures of the new and former firms among workers from diversified firms who switch industries in the external market. We compare the industry compositions of the diversified firm pairs among workers who exit and are reemployed by diversified firms. To eliminate potential biases introduced by small peripheral industries operated by large diversified firms, we consider the top five industries that contain at least 10% of the firm's total employment. We find that about 56% of the old-new firm pairs share at least one common 2-digit SIC industry among their top five industries. To form a benchmark, we choose a 1% random sample of diversified firms in our sample years from the LBD and compute the same measure using all diversified firm pairs in this random sample. We find that among any random pair of diversified firms in the same year, only 18% of the pairs share at least one common 2-digit SIC industry, a percentage that is significantly lower than pairs chosen by workers in transitions after establishment closures. Formally, the *t*-statistics for comparing the mean of these two samples is 50.55.

In Table OA8, we present regression results to address several other alternative explanations of the worker-level evidence. First, we consider the possibility that diversified firms operate plants in systematically different geographic locations from focused firms. Suppose, for example, that diversified firms are more likely to operate in urban centers or in areas with more active local markets (at a finer level than the state, for which we have already controlled) and that firms operating in the same industries tend to cluster together. Then, the better outcomes among workers from diversified firms who move to "spanned" industries might reflect these better local opportunities and not skills obtained through work experience in the diversified firms. We test this hypothesis in two ways. First, we measure the distance between each displaced worker's old and new jobs. Since we know the county in which each job is located, we compute distance as the number of miles between the center of the two counties. In Columns 1 to 3, we report the results of re-estimating the regression specifications from Table VII, including the natural logarithm of the distance between the old and new jobs and its interaction with the indicator for industry changes as additional controls. For brevity, we do not report the estimates of the demographic and firm controls; however, the estimates are not materially different from those reported in Table VII. We find some evidence that workers who move greater distances to their new jobs experience relative wage losses, though the significance of the estimate is weak. Perhaps surprisingly, the marginal effect of the interaction of distance and industry changes is positive, implying a zero marginal effect of distance among workers who change industries (note these workers still experience sizable overall wage losses). Most importantly, controlling for distance has no impact on our variable of interest.

Second, we control for the availability of jobs in the county in which the worker's closing plant operates. In Columns 4 to 6, we report the results of re-estimating the regressions from Table VII, but including the natural logarithms of the total number of plants operating in the county, the number of plants in the worker's original SIC operating in the county, and the number of plants in the worker's SIC after displacement operating in the county. All three variables are measured in the year prior to the plant closure. We also interact all three measures of local opportunities with the indicator for industry changes. We again find little impact on the effect of interest. As a robustness check, we reestimate the regression controlling for total employment, rather than the number of plants, in the county and old and

new SICs (and interactions with the indicator for industry changes). The results are qualitatively unchanged.

Another potential alternative explanation of our results is that workers in diversified firms have better information about available opportunities in the industries in which their diversified firms operate (but no skills that are better suited for those industries than the typical worker who makes the same industry switch in the external market). In this case, workers in diversified firms should time their industry changes better than other workers. That is, the wage advantage relative to other workers who make the exact same industry change comes from making the change when opportunities in the new industry are better (or, equivalently, opportunities in the old industry are worse). To test this hypothesis, we re-estimate the regression specification from Column 3 of Table VII, but interacting the industry pair fixed effects with the year fixed effects. Thus, we compare only the changes in wages for displaced workers who switch between the same two industries at the same time. Though our estimates are less powerful, the coefficient of interest is similar in magnitude (0.033, p-value = 0.109). Thus, better timing of the job change does not appear to explain our results. In Columns 7 to 9 of Table OA8, we report the results of reestimating the regressions from Table VII, including an indicator for whether the displaced worker's former firm operates in the same county as his or her new firm in his or her post-displacement industry and its interaction with the indicator for industry changes. If the advantage is due to information, then these controls should capture much of the effect of moving to "spanned" industries. In this case, it is more likely that workers from the two firms would interact and that workers who make "spanned" industry changes might do so through referrals made by their co-workers in those industries. However, we find similar effects regardless of the location of the new firm relative to the old one.

Finally, we address the possibility of input-output relations between the industry pairs involved in "spanned" industry switches, using data from the Bureau of Economic Analysis. These relations could be problematic if they are stronger for units collocated in diversified firms than for units within the same industries in the open market. Then, again, our results might pick up ease of movement due to referrals from contacts in the new industry. In Columns 10 to 12, we address this concern directly by controlling for an indicator of an input/output relationship between the displaced worker's pre- and post-displacement

industries. Since this implicitly requires the worker to change industries, we need not also control for an interaction with the industry change indicator. We again find that these controls have little effect on our estimates of interest.

Building on this discussion, another possible concern is that the meaning of particular industry classifications differs across focused and diversified firms. For example, consider a diversified firm that operates in SIC codes 24 (lumber and wood products) and 25 (furniture and fixtures). The firm's operations in SIC 24 may be more similar to the typical firm operating in SIC 25 than in 24 if there is an input-output relation between the two units. In this case, the workers classified in SIC 24 might be classified in SIC 25 were they not in the diversified firm, explaining their relative mobility to SIC code 25. Note, however, that this story also implies that intra-industry changes for workers from diversified firms are measured with error. In particular, we should see not only that workers from diversified firms experience smaller wage losses when they switch to industries in which the diversified firms operate, but also that they do worse when they move to a new firm operating in the same industry. We see no evidence of the latter effect in our data (note the estimates in Figure 4 of the paper). The misclassification story also is most plausible for closely related industries. As another way to test the hypothesis, we reestimate the regressions from Table VII, but considering only changes between 1-digit SIC codes. In Table OA9, we report the results. If anything, we find that our results are stronger using this more restrictive definition of industry changes. We continue to find a relative wage advantage among workers who move to a new firm in a different industry, but in which their old firm also operates.

In Table OA10, we test for differences in the rate of reemployment following displacement for workers originating in focused and diversified firms. If, for example, workers displaced from diversified firms have a harder time rejoining the workforce, then comparisons of displaced workers from focused and diversified firms would be more difficult to interpret since the workers might come from different parts of the distribution (suppose, e.g., that higher quality workers get reemployed first). In Columns 1 to 3, we report estimates of logit regressions on the sample of workers displaced from multi-unit firms. The sample is the same as Table VII, except that it also includes the roughly 24% of displaced workers who do not have new jobs three quarters following displacement. The dependent variables indicate that the displaced worker is reemployed by quarter *t+4*, *t+8*, and *t+12* following

displacement, respectively. Among the control variables, we find that high wage workers are more likely to be reemployed at all three horizons. Older workers are less likely to be reemployed. Workers with longer tenure in the firm are more likely to be reemployed (perhaps because of retention in the internal labor market). Managers, on the other hand, are less likely to be reemployed, controlling for the effect of their higher wages. We see no evidence, however, that diversification matters for the likelihood of reemployment at any horizon. In Column 4, we report estimates from a Cox proportional hazard model in which the dependent variable indicates that the worker obtained a new job during the quarter. Again, we find no evidence that diversification affects the length of the unemployment spell following displacement.

In Table OA11, we revisit the regressions from Section III.B of the paper, using a worker-level measure of skill: pre-closure wages. Instead of estimating separate marginal effects of moving to a "spanned" industry for workers originating in high- and low-skill industries, we estimate separate marginal effects for workers from four different portions of the wage distribution: wage<\$25K, \$25K≤wage<\$50K, \$50K≤wage<\$100K, and wage≥\$100K. For brevity, we report the coefficient estimates on the indicator for workers originating in diversified firms, the indicator for workers who stay in their original employer, and all interactions with the indicator for changing industries. But, the regressions include all the other controls from Table VIII. Mirroring the results in Table VIII, we find that the positive marginal effect of moving to a "spanned" industry among workers from diversified firms generally increases moving from the bottom to the top of the wage distribution. The largest estimates occur among the highest wage (or highest skill level) workers. However, the cross group differences in the estimates are not statistically significant.

Wage Levels and the Diversification Discount

In Tables OA12 and OA13, we provide formal estimates to accompany the discussion provided in Section IV of the paper which positions our human capital hypothesis within the existing conglomerate literature. First, in Table OA12, we examine differences in wage levels across diversified and focused firms. When we consider wage levels, focusing on workers in closing plants no longer provides an identification advantage. Thus, we consider the random

sample of 251,440 worker-quarters described in Section I of the paper. (All of the results from Table VII also replicate on this sample, despite the uncorrected endogeneity of job changes.)

We estimate a standard wage regression. The dependent variable is the natural logarithm of the real annual wage. As independent variables, we include the natural logarithms of worker age and tenure, four separate race indicators (Black, Hispanic, Asian, and other minority), and indicator variables for managers and women. We also include the number of plants in the firm, an indicator for multi-unit firms, and the natural logarithms of employment in the worker's SEIN (or, firm-unit) and employment in the firm. We include state, year, and 2-digit SIC code fixed effects and cluster standard errors at the firm-level.

We report the results in Column 1 of Table OA12. The estimates of the controls conform to the usual patterns in the literature. More experienced workers earn higher wages (age, tenure). Workers in larger units and in firms with multiple plants also earn higher wages (Oi and Idson (1999)). We also estimate a significant gender wage gap of 28%. Turning to the effect of interest, we find that workers in diversified firms earn a 2.1% premium over workers in other firms. Thus, the finding in Schoar (2002) of higher supplementary labor costs among diversified firms does extend to wages in a regression with careful controls for worker heterogeneity.

Given the correlation of diversification and firm size – most notably that all of the largest firms are diversified – we take additional steps to separate the effects to the greatest degree possible. The reported estimate appears to be a lower bound of the effect of diversification: We find no additional loss of explanatory power if we include the square of firm size (as the sole additional control or in addition to the squares of the number of plants and plant size) or if we control for size less parametrically by including, for example, dummies for each decile of the size distribution. Thus, we conclude that workers in diversified firms indeed enjoy a wage premium relative to peers in focused firms.

We also test whether the higher wage bills in diversified firms are correlated with the fraction of workers in high-skill industries, using industry-level variation in SOC codes to define high- and low- skill industries as described in Section II of the paper. We find higher wages among diversified firms operating more intensively in high-skill industries (Column 2). Moreover, the effect of diversification turns negative once we include the interaction of the diversification indicator with the fraction of workers in high-skill industries. Thus, a

diversified firm with only low-skill workers can pay lower wages than a focused firm. In this case, workers accept a net discount. A likely explanation is that the "insurance effect" provided by the internal labor market of the diversified firm dominates the effect of the skills they acquire in the firm. Our analysis, then, suggests that higher wages are not a product of inefficient rent dissipation since they occur exactly among the workers who benefit most from skills they can acquire in the internal labor markets of the diversified firm. Our results in Table VII, Table VIII, and Figure 3 demonstrate that these workers can also obtain heightened relative wages outside the diversified firm.

Finally, in Table OA13, we relate our finding that the firm-specific capital workers acquire in the internal labor markets of diversified firms enables greater mobility across spanned industries than other workers in the same home industries to the diversification discount. Many papers measure a "diversification discount" (e.g., Lang and Stulz (1994) and Berger and Ofek (1995). That is, diversified firms trade at a discount relative to a portfolio of stand-alone firms operating in the same industries. We find that diversified firms generate higher cash flows than focused counterparts. However, the risk of those cash flows may be quite different from the risk of cash flows in focused firms. The skills workers develop in diversified firms are a form of organization capital. Since workers can transfer a fraction of that capital to a new firm, they must be paid wages in accordance with their outside options. Eisfeldt and Papanikolaou (forthcoming), building on Atkeson and Kehoe (2005) and Lustig, Syverson and Van Niewerburgh (2011), argue that these outside options can have a systematic component if the productivity of organization capital in new firms is subject to a common technology shock. Firms that invest more heavily in organization capital are more exposed to these shocks which change the division of surplus between shareholders and workers and their shareholders will demand a risk premium. If this risk effect is stronger than the cash flow effect from the heightened productivity of diversified firms, then we will observe a diversification discount. But, if the cash flow effect dominates we will not. In fact, this tradeoff can produce a cyclical pattern in the discount.

To provide some suggestive evidence for this story, we test for a link between the diversification discount and worker mobility. To conduct this test, it is necessary to restrict our sample to publicly traded firms, for which we observe equity prices. We also require a measure that captures differences in the external mobility of workers across diversified firms.

One way to measure mobility would be to measure actual worker movements in the data: are the firms that experience greater worker exits also the ones with the highest discounts? The obvious problem with this test is that changes in wages can preempt such movement, thwarting the test. A second approach would be to look at wages: do the diversified firms that pay the highest wages have the highest discount? But, the obvious problem here is that the test does not separate our story of efficient development of organization capital from a cash-flow channel in which diversified firms dissipate rents by overpaying workers (see, e.g., Schoar, 2002). As an alternative, we use our proxies for high- and low-skill industries from Section II of the paper to capture differences across firms in worker mobility. In particular, we ask whether diversified firms that hold a higher proportion of their assets in business segments operating in high-skill industries have higher discounts than firms that operate more intensively in low-skill industries. Our story, unlike the rent dissipation story, predicts that the discount should be associated with skilled labor: workers must have some market power with respect to their skills in order to be able to bargain with the firm over the rents it creates.

In Panel A of Table OA13, we measure excess value using Tobin's Q as the industry multiple, following Lang and Stulz (1994). We consider the sample of firms in the Compustat segment data with at least $10 million of assets over the period from 1992 to 2004. We compute excess value as the natural logarithm of the ratio of the actual market value of the firm to its imputed value, calculated by multiplying the industry median value of Tobin's Q times the book value of assets for each industry segment and then summing across segments. We also exclude firm-quarters for which we cannot calculate industry Q for all of the firm's segments. In Column 1, we report the estimates from regressing excess value on an indicator for diversification (or, operation of segments in multiple 2-digit SIC codes). We cluster standard errors at the firm level. Confirming prior results, we find a negative and significant effect of diversification. In Column 2, we add a continuous measure for the percentage of firm assets in high-skill industries, measured as in Section II.A of the main text, and its interaction with the diversification indicator. In general, more intensive operations in high-skill industries increase excess value. However, among diversified firms, excess value is significantly lower among firms operating more intensively in high-skill industries (or, the diversification discount is larger). Economically, a firm operating 100% in high-skill industries would have a discount roughly twice as large as a firm operating 100% in low-skill industries. In Column 3,

we add several firm-level controls to the regression. To control for differences in the discount driven by differences in profitability we include firm ROA. We also include firm size, asset tangibility, investment, cash holdings, book leverage, and an indicator for dividend payers to capture differences in opportunities and the ability to access capital markets. Finally, we include year fixed effects to capture macroeconomic patterns in firm composition and stock prices. We find little impact on the magnitude of our estimate of the effect of worker skill on the discount. Finally, in Column 4, we eliminate all firms which operate a business segment in the financial industry (1-digit segment SIC = 6). Again, our results are virtually unchanged.

In Panel B of Table OA13, we repeat the analysis, but using industry market to sales multiples instead of Tobin's Q to compute excess value, following Berger and Ofek (1995). This robustness check addresses the concern that segment-level data on assets may be unreliable following changes to reporting rules in 1998, which falls in the middle of our sample period. We also recompute the intensity of operations in high-skill industries using segment sales as weights rather than assets. Qualitatively, we find similar results. Notably, the economic magnitude of the effect of operations in high-skill industries on excess sales is substantially larger. However, the interaction of high-skill operations with diversification is also substantially larger. Thus, a diversified firm with 100% of its operations in high-skill industries would still experience a discount roughly twice the size of the discount for a diversified firm operating only in low-skill industries. Overall, we find that diversified firms that operate in industries that employ more high-skilled, highly mobile workers receive a larger discount in the cross-section (relative to the median stand-alone firm operating in their industries). Taken together, our results suggest that a diversification discount need not reflect inefficient operation of the diversified firm. To the contrary, diversified firms can generate higher cash flows, yet carry a risk premium due to larger stocks of organization capital.

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Table OA1

Productivity and Cash Flows in Diversified Firms with Firm Fixed Effects

The sample consists of all firms for which we can match each individual segment (defined by 2-digit SIC codes) to a focused firm benchmark, excluding firms with a segment with a one-digit SIC of 0 (agriculture), 4 (utilities), 6 (financials) or 9 (public sector). For each segment, we select matched focused firms based on 2-digit industry, year, size and age. The cutoffs to define size groups are <25, 25-50, 50-100, 100-250, 250-500, and >500 employees, respectively; and the cutoffs to define age groups are <5, 5-10, 10-15, 15-20 and >20 years, respectively. In Panel A (B), we use the median sales employment (payroll) ratio of the matched group multiplied by the actual employment of the segment to compute the predicted sales for the segment. Total predicted sales for a diversified firm is the sum of predicted sales of all segments. The dependent variable is the difference between actual sales and predicted sales in natural logarithms. Diversified is an indicator variable equal to one if the firm operates establishments in at least two distinct 2-digit SIC codes. % Emp. in High Skill Ind. is the percentage of firm employment in 2-digit SIC codes in which the percentage of workers with 2-digit SOC codes less than 29 exceeds the median. The standard errors are clustered by industry-year and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

	Panel A. Sales/Employment		Panel B. Sales/Payroll	
	(1)	(2)	(3)	(4)
Ln(Firm Age)	0.032 ***	0.032 ***	0.046 ***	0.046 ***
	(0.005)	(0.005)	(0.004)	(0.004)
Ln(Firm Employment)	-0.572 ***	-0.572 ***	-0.180 ***	-0.180 ***
	(0.014)	(0.014)	(0.006)	(0.006)
Diversified	***0.259*** ***	***0.221*** ***	***0.057*** ***	***0.023***
	(0.016)	(0.023)	(0.013)	(0.020)
% Emp. in High Skill Ind.		-0.087 **		0.055 **
		(0.039)		(0.028)
Diversified * % Emp. in High Skill Ind.		***0.094*** ***		***0.090*** ***
		(0.029)		(0.025)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
R^2	0.837	0.837	0.754	0.754
N	3,601,677	3,601,677	3,601,677	3,601,677

Table OA2
Labor Redeployment - Diversified Firms

The sample consists of workers displaced from closing establishments of diversified firms. Column (1) presents coefficient estimates from a probit regression. Column (2) is the second stage of a Heckman Selection Model with the regression in Column (1) serving as the first stage. The second stage is estimated as a linear probability model. The dependent variable is indicated in the column header. Same Firm equals one if the worker remains in the same firm after the establishment closure and zero otherwise. Industry Change equals one if the new job in quarter t+4 is in a different two-digit SIC from the lost job. Ln(Wage) is the natural log of the annualized wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of establishments owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of establishment employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Native to State is an indicator variable which equals one if the worker was born in the state in which the closing establishment is located. Ln(# of Firms in CT & SIC2) is the natural log of the number of establishments that operate in the same 2-digit SIC code and county as the closing establishment. Ln(# of Firms in CT) is the natural log of the number of establishments that operate in the same county as the closing establishment. Vertical Demand Shock is the weighted average of total shipments by industries downstream to the industry of the closing establishment, measured using the Bureau of Economic Analysis' input-output matrix. We take the rolling average of the downstream shock during years t, t+1, and t+2. Firm_Q is the payroll weighted average of industry-median Q measured in year t for the establishments of the firm that remain in year t+1. We use the two-step procedure from Heckman (1979) to compute consistent coefficient and standard error estimates. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable:	Heckman Selection Model	
	Same Firm	Industry Change
	(1)	(2)
Ln(Wage)	0.282 ***	0.097 ***
	(0.020)	(0.010)
Ln(Age)	0.016	0.007
	(0.035)	(0.014)
Race = Black	0.045	-0.023 **
	(0.029)	(0.011)
Race = Asian	0.214 ***	0.047 **
	(0.045)	(0.018)
Race = Hispanic	0.135 ***	0.024 *
	(0.033)	(0.013)
Race = Other Minorities	0.067	0.006
	(0.042)	(0.017)
Female	0.146 ***	0.042 ***
	(0.021)	(0.009)
Ln(Tenure)	-0.020	-0.001
	(0.013)	(0.005)
Manager	-0.171 *	0.008
	(0.088)	(0.037)
N_Estabs	0.008 ***	0.012 ***
	(0.002)	(0.001)
Ln(EstabEmp)	0.243 ***	0.006
	(0.014)	(0.009)
Ln(FirmEmp)	-0.055 ***	-0.014 ***
	(0.008)	(0.004)
Native to State	-0.002	-0.025 ***
	(0.020)	(0.008)
Ln(# of Firms in CT & SIC2)	0.823 ***	0.230 ***
	(0.030)	(0.022)
Ln(# of Firms in CT)	-0.582 ***	-0.080 ***
	(0.029)	(0.019)
Vertical Demand Shock	-0.504	***-1.503*** ***
	(0.555)	(0.259)
Firm_Q	***0.686*** ***	
	(0.033)	
State Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Lambda		0.399 ***
N	36,244	8,025

Table OA3

Wage Changes Identifying all Categories of Job Change

The table reports coefficient estimates from OLS regressions on a sample of workers in closing establishments of multi-unit firms. The dependent variable is the change in the annual real wage from quarter (t-2) to (t+4). t is the quarter of establishment closure. Ln(Wage) is the natural log of the annual real wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of establishments owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of establishment employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are the differences between the old and new firm in N_Estabs, establishment employment, and firm employment, respectively. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes and zero otherwise. Same_Firm is an indicator variable that equals one if the worker is retained within the firm (firmid) and zero otherwise. Different Industry is an indicator variable that equals 1 if the job in quarter t+4 has a different SIC than the job in quarter t-2 and zero otherwise. Spanned Industry is an indicator variable equal to one if the SIC of the (new) job in quarter t+4 is an SIC in which the worker's quarter t-2 firm operates excluding the worker's own industry and zero otherwise. All independent variables except Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are measured at t-2. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable: $\Delta_{t+4,t-2}$ln(Wage)	(1)	(2)	(3)
Ln(Wage)	-0.112 ***	-0.138 ***	-0.121 ***
	(0.009)	(0.009)	(0.008)
Ln(Age)	-0.117 ***	-0.098 ***	-0.104 ***
	(0.010)	(0.009)	(0.009)
Race = Black	-0.040 ***	-0.045 ***	-0.035 ***
	(0.008)	(0.006)	(0.007)
Race = Asian	0.002	0.002	-0.006
	(0.014)	(0.011)	(0.015)
Race = Hispanic	-0.025 ***	-0.029 ***	-0.028 ***
	(0.008)	(0.006)	(0.007)
Race = Other Minorities	-0.015 *	-0.022 ***	-0.019 **
	(0.008)	(0.007)	(0.007)
Female	-0.041 ***	-0.051 ***	-0.035 ***
	(0.005)	(0.005)	(0.005)
Ln(Tenure)	-0.020 ***	-0.018 ***	-0.020 ***
	(0.005)	(0.004)	(0.004)
Manager	-0.001	0.043 **	0.008
	(0.020)	(0.021)	(0.020)
N_Estabs	-0.003 ***		-0.002 ***
	(0.001)		(0.001)
Ln(EstabEmp)	-0.002	0.012	0.000
	(0.007)	(0.009)	(0.006)
Ln(FirmEmp)	0.007 **		0.011 ***
	(0.004)		(0.004)
Chg (N_Estabs)	-0.003 ***	-0.003 ***	-0.002 ***
	(0.000)	(0.001)	(0.001)
Chg (EstabEmp)	-0.002	-0.006 *	0.001
	(0.003)	(0.003)	(0.003)
Chg (FirmEmp)	0.016 ***	0.019 ***	0.014 ***
	(0.002)	(0.002)	(0.003)
Diversified	0.018		-0.023 *
	(0.016)		(0.014)
Same_Firm	0.026	0.012	-0.021
	(0.019)	(0.025)	(0.020)
Different Industry	***-0.095*** ***	***-0.086*** ***	
	(0.014)	(0.014)	
Same_Firm * Different Industry	0.051 *	0.070 *	0.068 *
	(0.026)	(0.039)	(0.036)
Different Industry * Spanned Industry	***0.116*** ***	***0.107*** ***	***0.039*** **
	(0.018)	(0.019)	(0.016)
Diversified * Same_Firm	0.016	(0.001)	0.080 ***
	(0.024)	(0.031)	(0.027)
Diversified * Different Industry	-0.066 ***	-0.054 *	-0.021
	(0.025)	(0.031)	(0.020)
State Fixed Effects	Yes		Yes
Industry Fixed Effects	Yes		
Year Fixed Effects	Yes		Yes
Establishment Fixed Effects		Yes	
SIC Pair Fixed Effects			Yes
R^2	0.112	0.200	0.260
N	42,354	42,354	42,354

Table OA4

Tenure in a Diversified Firm and Moves to "Unspanned" New Industries

The table reports coefficient estimates from OLS regressions on a sample of workers in closing establishments of multi-unit firms. The dependent variable is the change in the annual real wage from quarter (t-2) to (t+4). t is the quarter of establishment closure. Ln(Wage) is the natural log of the annual real wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of establishments owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of establishment employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are the differences between the old and new firm in N_Estabs, establishment employment, and firm employment, respectively. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes. Same_Firm is an indicator variable that equals one if the worker is retained within the firm (firmid) and zero otherwise. Different Industry is an indicator variable that equals 1 if the job in quarter t+4 has a different SIC than the job in quarter t-2 and zero otherwise. Spanned Industry is an indicator variable equal to one if the SIC of the (new) job in quarter t+4 is an SIC in which the worker's quarter t-2 firm operates excluding the worker's own industry and zero otherwise. Low_Tenure is an indicator variable that equals one for workers who have spend two years or less in the closing establishment. All independent variables except Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are measured at t-2. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable: $\Delta_{t+4,t-2}$ln(Wage)

	(1)	(2)	(3)
Ln(Wage)	-0.112 ***	-0.138 ***	-0.120 ***
	(0.009)	(0.009)	(0.008)
Ln(Age)	-0.117 ***	-0.098 ***	-0.104 ***
	(0.010)	(0.009)	(0.009)
Race = Black	-0.041 ***	-0.045 ***	-0.035 ***
	(0.008)	(0.006)	(0.007)
Race = Asian	0.001	0.002	-0.007
	(0.013)	(0.011)	(0.015)
Race = Hispanic	-0.026 ***	-0.029 ***	-0.028 ***
	(0.008)	(0.006)	(0.007)
Race = Other Minorities	-0.015 *	-0.022 ***	-0.018 **
	(0.008)	(0.007)	(0.007)
Female	-0.041 ***	-0.050 ***	-0.035 ***
	(0.006)	(0.005)	(0.005)
Ln(Tenure)	-0.027 ***	-0.011 *	-0.024 ***
	(0.008)	(0.006)	(0.007)
Manager	0.000	0.044 **	0.009
	(0.020)	(0.021)	(0.020)
N_Estabs	-0.003 ***		-0.003 ***
	(0.001)		(0.001)
Ln(EstabEmp)	-0.003	0.013	0.000
	(0.007)	(0.008)	(0.006)
Ln(FirmEmp)	0.007 **		0.011 ***
	(0.004)		(0.004)
Chg (N_Estabs)	-0.003 ***	-0.003 ***	-0.002 ***
	0.000	(0.001)	(0.001)
Chg (EstabEmp)	-0.002	-0.006 **	0.001
	(0.003)	(0.003)	(0.003)
Chg (FirmEmp)	0.016 ***	0.019 ***	0.014 ***
	(0.002)	(0.002)	(0.003)

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	(1)	(2)	(3)
Diversified	0.015		-0.031 **
	(0.017)		(0.015)
Same_Firm	0.030	0.019	-0.017
	(0.019)	(0.026)	(0.019)
Different Industry	-0.120 ***	-0.125 ***	
	(0.019)	(0.016)	
Same_Firm * Different Industry	0.052 **	0.068 *	0.070 *
	(0.026)	(0.038)	(0.037)
Diversified * Same_Firm	0.013	-0.006	0.076 ***
	(0.025)	(0.031)	(0.026)
Diversified * Different Industry	***-0.073 ******	***-0.041***	***-0.006***
	(0.034)	(0.042)	(0.026)
Different Industry * Spanned Industry	0.147 ***	0.130 ***	0.063 ***
	(0.027)	(0.029)	(0.021)
Low_Tenure	-0.032 *	-0.007	-0.033 **
	(0.017)	(0.014)	(0.016)
Low_Tenure * Diversified	0.002	0.004	0.016
	(0.017)	(0.015)	(0.016)
Low_Tenure * Different Industry	0.043 *	0.067 ***	0.065 ***
	(0.024)	(0.019)	(0.023)
Low_Tenure * Dif. Ind. * Span. Ind.	-0.064 **	-0.045	-0.046 **
	(0.029)	(0.030)	(0.023)
Low_Tenure * Diversified * Dif. Ind.	***0.024***	***-0.014***	***-0.024***
	(0.034)	(0.037)	(0.029)
State Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes		
Year Fixed Effects	Yes	Yes	Yes
Establishment Fixed Effects		Yes	
SIC Pair Fixed Effects			Yes
R^2	0.12	0.191	0.223
N	42,354	42,354	42,354

Table OA5

Worker Skill and Moves to "Unspanned" New Industries

The table reports estimated coefficents from OLS regressions on a sample of workers in closing establishments of multi-unit firms. The dependent variable is the change in the annual real wage from quarter (t-2) to (t+4). t is the quarter of establishment closure. Ln(Wage) is the natural log of the annual real wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of establishments owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of establishment employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are the differences between the old and new firm in N_Estabs, establishment employment, and firm employment, respectively. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes. Same_Firm is an indicator variable that equals one if the worker is retained within the firm (firmid) and zero otherwise. Different Industry is an indicator variable that equals 1 if the job in quarter t+4 has a different SIC than the job in quarter t-2 and zero otherwise. Spanned Industry is an indicator variable equal to one if the SIC of the (new) job in quarter t+4 is an SIC in which the worker's quarter t-2 firm operates excluding the worker's own industry and zero otherwise. High_Skill is an indicator variable equal to one if the percentage of workers in the 2-digit SIC in occupations with 2-digit SOC codes less than 29 exceeds the median. Low_Skill is the complement of High_Skill. All independent variables except Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are measured at t-2. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable: $\Delta_{t+4,t-2}$ln(Wage)	(1)	(2)	(3)
Ln(Wage)	-0.112 ***	-0.138 ***	-0.121 ***
	(0.009)	(0.009)	(0.008)
Ln(Age)	-0.117 ***	-0.098 ***	-0.104 ***
	(0.010)	(0.009)	(0.009)
Race = Black	-0.04 ***	-0.045 ***	-0.035 ***
	(0.008)	(0.006)	(0.007)
Race = Asian	0.002	0.002	-0.005
	(0.013)	(0.011)	(0.014)
Race = Hispanic	-0.025 ***	-0.029 ***	-0.028 ***
	(0.008)	(0.006)	(0.007)
Race = Other Minorities	-0.015 *	-0.022 ***	-0.018 **
	(0.008)	(0.007)	(0.007)
Female	-0.041 ***	-0.051 ***	-0.035 ***
	(0.005)	(0.005)	(0.005)
Ln(Tenure)	-0.02 ***	-0.018 ***	-0.02 ***
	(0.005)	(0.004)	(0.004)
Manager	-0.001	0.043 **	0.009
	(0.020)	(0.021)	(0.020)
N_Estabs	-0.003 ***		-0.003 ***
	(0.001)		(0.001)
Ln(EstabEmp)	-0.002	0.012	0.001
	(0.007)	(0.009)	(0.006)
Ln(FirmEmp)	0.007 **		0.01 ***
	(0.004)		(0.004)
Chg (N_Estabs)	-0.003 ***	-0.003 ***	-0.002 ***
	(0.000)	(0.001)	(0.000)
Chg (EstabEmp)	-0.001	-0.006 *	0.001
	(0.003)	(0.003)	(0.003)
Chg (FirmEmp)	0.016 ***	0.019 ***	0.014 ***
	(0.002)	(0.002)	(0.003)

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	(1)	(2)	(3)
Diversified	-0.001		-0.040 **
	(0.018)		(0.019)
Same_Firm	0.026	0.015	-0.021
	(0.019)	(0.026)	(0.020)
Different Industry	-0.113 ***	-0.114 ***	
	(0.017)	(0.017)	
Same_Firm * D_DIFSIC	0.051 *	0.069 *	0.066 *
	(0.026)	(0.038)	(0.036)
Diversified * Same_Firm	0.016	-0.003	0.079 ***
	(0.025)	(0.031)	(0.027)
High_Skill * Diversified	0.031		0.030
	(0.024)		(0.022)
High_Skill * Different Industry	0.027	0.047 *	
	(0.026)	(0.026)	
High_Skill * Dif. Ind. * Spanned Industry	0.122 ***	0.121 ***	0.050 ***
	(0.025)	(0.027)	(0.018)
Low_Skill * Dif. Ind. * Spanned Industry	0.099 ***	0.081 ***	0.006
	(0.022)	(0.022)	(0.030)
High_Skill * Diversified * Dif. Ind.	***-0.074 **	***-0.085 *	***-0.020***
	(0.036)	(0.044)	(0.028)
Low_Skill * Diversified * Dif. Ind.	***-0.049 *	***-0.009***	***-0.020***
	(0.026)	(0.024)	(0.026)
State Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes		
Year Fixed Effects	Yes	Yes	Yes
Establishment Fixed Effects		Yes	
SIC Pair Fixed Effects			Yes
R^2	0.119	0.190	0.222
N	42,354	42,354	42,354

Table OA6

Wage Changes: Both Single- and Multi-Unit Workers

The table reports coefficient estimates from OLS regressions on a sample of workers in closing establishments of multi-unit and single-unit firms. The dependent variable is the change in the annual real wage from quarter (t-2) to (t+4). t is the quarter of establishment closure. Ln(Wage) is the natural log of the annual real wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of establishments owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of establishment employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are the differences between the old and new firm in N_Estabs, establishment employment, and firm employment, respectively. Multi-unit is an indicator variable equal to one if the firm operates at least two establishments and zero otherwise. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes. Same_Firm is an indicator variable that equals one if the worker is retained within the firm (firmid) and zero otherwise. Different Industry is an indicator variable that equals 1 if the job in quarter t+4 has a different SIC than the job in quarter t-2 and zero otherwise. Spanned Industry is an indicator variable equal to one if the SIC of the (new) job in quarter t+4 is an SIC in which the worker's quarter t-2 firm operates excluding the worker's own industry and zero otherwise. All independent variables except Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are measured at t-2. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Ln(Wage)	-0.097 ***	-0.134 ***	-0.108 ***	-0.097 ***	-0.134 ***	-0.108 ***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Ln(Age)	-0.105 ***	-0.082 ***	-0.103 ***	-0.105 ***	-0.082 ***	-0.103 ***
	(0.004)	(0.003)	(0.004)	(0.004)	(0.003)	(0.004)
Race = Black	-0.053 ***	-0.045 ***	-0.052 ***	-0.053 ***	-0.045 ***	-0.052 ***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Race = Asian	-0.003	-0.008 *	-0.007	-0.002	-0.008 *	-0.007
	(0.006)	(0.005)	(0.006)	(0.006)	(0.005)	(0.006)
Race = Hispanic	-0.041 ***	-0.033 ***	-0.041 ***	-0.041 ***	-0.033 ***	-0.042 ***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Race = Other Minorities	-0.015 ***	-0.017 ***	-0.016 ***	-0.015 ***	-0.017 ***	-0.016 ***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Female	-0.043 ***	-0.053 ***	-0.041 ***	-0.043 ***	-0.053 ***	-0.041 ***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Ln(Tenure)	-0.013 ***	-0.011 ***	-0.013 ***	-0.013 ***	-0.011 ***	-0.014 ***
	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)
Manager	-0.024 ***	0.024 ***	-0.014 *	-0.024 ***	0.024 ***	-0.014 *
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
N_Estabs	-0.002 ***		-0.002 ***	-0.002 ***		-0.002 ***
	(0.001)		(0.001)	(0.001)		0.000
Ln(EstabEmp)	0.001	0.015 **	0.003	0.001	0.016 **	0.003
	(0.003)	(0.008)	(0.003)	(0.003)	(0.008)	(0.003)
Ln(FirmEmp)	0.009 ***		0.008 ***	0.008 ***		0.008 ***
	(0.003)		(0.003)	(0.003)		(0.003)
Chg (N_Estabs)	-0.003 ***	-0.003 ***	-0.002 ***	-0.003 ***	-0.003 ***	-0.002 ***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
Chg (EstabEmp)	0.001	-0.004 ***	0.008 ***	0.001	-0.004 ***	0.008 ***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Chg (FirmEmp)	0.013 ***	0.015 ***	0.01 ***	0.013 ***	0.015 ***	0.01 ***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Multi-unit	(0.023) **		(0.018) **	(0.021) **		(0.015) *
	(0.009)		(0.009)	(0.010)		(0.009)
Diversified	-0.01		-0.012	0.015		-0.002
	(0.013)		(0.012)	(0.015)		(0.014)
Same_Firm	0.051 ***	0.044 ***	0.039 ***	0.019	0.042 *	0.009
	(0.014)	(0.015)	(0.014)	(0.020)	(0.025)	(0.017)
Different Industry	-0.092 ***	-0.093 ***		-0.086 ***	-0.088 ***	
	(0.004)	(0.005)		(0.004)	(0.004)	
Same_Firm * Different Industry	0.027	0.045	0.054 **	0.05 **	0.064 *	0.063 **
	(0.024)	(0.036)	(0.027)	(0.025)	(0.038)	(0.028)
Different Industry * Spanned Industry	***0.071*** ***	***0.085*** ***	***0.026*** *	***0.118*** ***	***0.107*** ***	***0.052*** ***
	(0.013)	(0.013)	(0.014)	(0.018)	(0.018)	(0.016)
Diversified * Same_Firm				0.014	-0.023	0.026
				(0.024)	(0.031)	(0.022)
Diversified * Different Industry				-0.080 ***	-0.050 *	-0.042 ***
				(0.020)	(0.028)	(0.015)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes			Yes		
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Establishment Fixed Effects		Yes			Yes	
SIC Pair Fixed Effects			Yes			Yes
R^2	0.074	0.173	0.121	0.075	0.173	0.121
N	305,954	305,954	305,954	305,954	305,954	305,954

Table OA7

Summary Statistics: Worker Characteristics

Panel A separates workers who change industries into three groups - workers who originated in focused firms ("Focused Switchers"), workers who originate in diversified firms and moved to a spanned industry ("Spanned Switchers"), and workers who origianted in diverisfied firms and moved to an unspanned industry ("Unspanned Switchers") within each industry pair based on 2-digit SIC codes. Then for each industry pair, we compute the mean statistics for all three groups, and report the average of all industry pairs. *, **, *** indicate the significance level of 1%, 5%, and 10%, respectively, when comparing spanned switchers or unspanned switchers with focused switchers. [a, b, c] indicate the significance level of 1%, 5%, and 10%, respectively, when comparing spanned switchers with unspanned switchers. Panel B presents the mean statistics for all eight possible groups based on the existing firm (focused or diversified), whether a worker was retained in the same firm (same or diff firm), and whether a worker joined a new industry (same or diff ind). Panel C again presents the mean statistics for all eight possible job change categories, but first averaging characteristics within each firm and then averaging across firms.

		Diversified Switchers			
Panel A	Focused Switchers	Spanned Industries		Unspanned Industries	
Worker Characteristics					
ln(Wage)	10.02	10.14	**	10.08	
Age	38.39	39.03		37.94	
Race = Black	0.110	0.088		0.070	**
Race = Asian	0.075	0.037		0.045	
Race = Hispanic	0.094	0.080		0.121	c
Race = Other Minorities	0.032	0.061	**	0.049	
Female	0.416	0.419		0.410	
Tenure (in yrs)	10.98	10.15		10.07	
Manager	0.012	0.009		0.006	
Firm Characteristics					
Firm Employment	678	31,416	***	10,134	***, a
Plant Employment	185	247		264	**
# of Establishments	6.7	401.3	***	169.3	***, a

Panel B	Workers from Focused Firms			Workers from Diversified Firms				
	Same Firm Same Ind	Diff Firm Same Ind	Diff Firm Diff Ind	Same Firm Same Ind	Same Firm Diff Ind	Diff Firm Same Ind	Diff Firm Spanned Ind	Diff Firm Unspanned Ind
% of all workers	11%	49%	40%	17%	6%	45%	10%	22%
ln(Wage)	10.25	10.07	9.94	10.13	10.36	10.22	10.18	10.06
Age	39.70	40.39	38.04	39.72	40.84	41.71	39.97	39.27
Race = Black	0.075	0.138	0.132	0.169	0.078	0.089	0.112	0.105
Race = Asian	0.039	0.046	0.059	0.046	0.069	0.022	0.033	0.051
Race = Hispanic	0.099	0.114	0.096	0.102	0.133	0.079	0.078	0.091
Race = Other Minorities	0.055	0.056	0.045	0.045	0.059	0.048	0.048	0.042
Female	0.322	0.465	0.430	0.454	0.396	0.377	0.451	0.409
Tenure (in yrs)	2.80	3.04	2.53	3.39	2.93	3.40	2.61	2.57
Manager	0.016	0.017	0.012	0.008	0.013	0.010	0.009	0.007

Panel C	Workers from Focused Firms			Workers from Diversified Firms				
	Same Firm Same Ind	Diff Firm Same Ind	Diff Firm Diff Ind	Same Firm Same Ind	Same Firm Diff Ind	Diff Firm Same Ind	Diff Firm Spanned Ind	Diff Firm Unspanned Ind
ln(Wage)	10.30	10.14	9.97	10.46	10.42	10.36	10.32	10.21
Age	39.84	39.35	38.255	40.08	40.11	38.361	38.96	35.26
Race = Black	0.058	0.077	0.069	0.113	0.049	0.115	0.075	0.121
Race = Asian	0.065	0.075	0.102	0.094	0.019	0.063	0.058	0.094
Race = Hispanic	0.077	0.166	0.062	0.050	0.063	0.061	0.060	0.066
Race = Other Minorities	0.033	0.033	0.065	0.034	0.026	0.045	0.068	0.034
Female	0.274	0.459	0.392	0.299	0.276	0.265	0.487	0.449
Tenure (in yrs)	2.48	2.33	2.24	2.54	2.82	2.88	3.00	2.21
Manager	0.063	0.041	0.022	0.058	0.063	0.011	0.000	0.005
Education (in yrs)	14.0	13.7	13.2	14.0	13.8	13.9	14.0	13.6

Table OA8

Wage Changes: Alternative Explanations

The table reports estimated coefficients from OLS regressions on a sample of workers in closing establishments of multi-unit firms. The dependent variable is the change in the annual real wage from quarter t-2 to t+4. t is the quarter of establishment closure. Demographic and firm controls are indicator variables for female, black, Asian, Hispanic, and other minority workers; Ln(Wage); Ln(Age); Ln(Tenure); an indicator for the unit manager; N_Estabs; Ln(EstabEmp); Ln(FirmEmp); Chg(N_Estabs); Chg(EstabEmp); and Chg(FirmEmp). See Table VII for additional details on the definitions of these variables. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes. Same_Firm is an indicator variable that equals one if the worker is retained within the firm (firmid) and zero otherwise. Different Industry is an indicator variable that equals 1 if the job in quarter t+4 has a different SIC than the job in quarter t-2 and zero otherwise. Spanned Industry is an indicator variable equal to one if the SIC of the (new) job in quarter t+4 is an SIC in which the worker's quarter t-2 firm operates excluding the worker's own industry and zero otherwise. Distance is the number of miles from the center of the county of the worker's t-2 job to the center of the county of the worker's t+4 job. Ln(# of Firms in CT & SIC2) is the natural log of the number of plants operating in the county and 2-digit SIC of the closing establishment; Ln(# of Firms in CT) is the natural log of the number of establishments operating in the county of the closing establishment; Ln(# of Firms in CT & $SIC2_{t+4}$) is the natural log of the number of establishments operating in the county of the closing establishment in the 2-digit SIC code in which the workers works in quarter t+4. Related is an indicator variable equal to one if the worker's pre- and post-displacement industries have an input-output relation. Original Firm Operates in CT_{t+4} and SIC_{t+4} is an indicator variable equal to one if the firm's pre-displacement employer also operates in the same industry and county in which the worker finds a new job. All independent variables except Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are measured at t-2. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable: $\Delta_{t+4,t-2}$ln(Wage)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Diversified	-0.006		-0.019	-0.011		-0.016	-0.006		-0.019	-0.006		-0.018
	(0.013)		(0.012)	(0.012)		(0.012)	(0.013)		(0.012)	(0.013)		(0.012)
Same_Firm	0.039 **	0.015	0.042 ***	0.042 ***	0.014	0.046 ***	0.045 ***	0.026	0.046 ***	0.043 ***	0.017	0.045 ***
	(0.015)	(0.022)	(0.016)	(0.015)	(0.019)	(0.015)	(0.014)	(0.017)	(0.015)	(0.015)	(0.021)	(0.015)
Different Industry	-0.152 ***	-0.133 ***		-0.28 ***	-0.180 **		-0.204 ***	-0.245 ***		-0.145 ***	-0.13 ***	
	(0.018)	(0.026)		(0.064)	(0.072)		(0.053)	(0.046)		(0.017)	(0.023)	
Same_Firm * Different Industry	0.054 **	0.07 *	0.074 **	0.04	0.067 *	0.063 *	0.043 *	0.050	0.065 *	0.049 *	0.066 *	0.070 *
	(0.026)	(0.038)	(0.035)	(0.025)	(0.036)	(0.034)	(0.026)	(0.036)	(0.036)	(0.027)	(0.039)	(0.036)
Different Industry * Spanned Industry	***0.101*** ***	***0.099*** ***	***0.031*** **	***0.103*** ***	***0.110*** ***	***0.030*** **	***0.104*** ***	***0.107*** ***	***0.026***	***0.101*** ***	***0.098*** ***	***0.032*** **
	(0.015)	(0.016)	(0.015)	(0.015)	(0.016)	(0.015)	(0.021)	(0.024)	(0.017)	(0.016)	(0.016)	(0.016)
Distance	-0.007 **	-0.002	-0.005 *									
	(0.003)	(0.004)	(0.002)									
Distance * Different Industry	0.008 **	0.004	0.007 **									
	(0.003)	(0.004)	(0.003)									
Ln(# of Firms in CT & SIC2)				0.015	-6.401 ***	-0.019						
				(0.013)	(0.488)	(0.015)						
Ln(# of Firms in CT)				0.004	5.163 ***	0.009						
				(0.010)	(0.403)	(0.011)						
Ln(# of Firms in CT & $SIC2_{t+4}$)				-0.017 ***	-0.021 ***	0.014						
				(0.005)	(0.005)	(0.010)						
Ln(# of Firms in CT & SIC2) * Different Industry				0.01	0.012	0.034 *						
				(0.010)	(0.015)	(0.020)						
Ln(# of Firms in CT) * Different Industry				0.009	-0.001	-0.024						
				(0.011)	(0.016)	(0.020)						
Original Firm Operates in CT_{t+4} & $SIC2_{t+4}$							-0.070	-0.138 ***	0.061 *			
							(0.049)	(0.044)	(0.034)			
(Orig. Firm Op. in CT_{t+4} & $SIC2_{t+4}$) * Different Industry							0.074	0.142 ***	-0.038			
							(0.048)	(0.042)	(0.046)			
Related										0.033 **	0.045 ***	0.069
										(0.016)	(0.016)	(0.051)
Demographic and Firm Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes
Year Fixed Effects	Yes		Yes	Yes		Yes	Yes		Yes	Yes		Yes
SIC Fixed Effects	Yes			Yes			Yes			Yes		
Establishment Fixed Effects		Yes			Yes			Yes			Yes	
SIC Pair Fixed Effects			Yes			Yes			Yes			Yes
R^2	0.120	0.205	0.262	0.126	0.210	0.262	0.120	0.206	0.261	0.120	0.207	0.262
N	42,354	42,354	42,354	42,354	42,354	42,354	42,354	42,354	42,354	42,354	42,354	42,354

Table OA9
Wage Changes Identifying Industries at the 1-digit SIC Level

The table reports estimated coefficents from OLS regressions on a sample of workers in closing establishments of multi-unit firms. The dependent variable is the change in the annual real wage from quarter (t-2) to (t+4). t is the quarter of establishment closure. Ln(Wage) is the natural log of the annual real wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of establishments owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of establishment employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are the differences between the old and new firm in N_Estabs, establishment employment, and firm employment, respectively. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes. Same_Firm is an indicator variable that equals one if the worker is retained within the firm (firmid) and zero otherwise. Different SIC1 is an indicator variable that equals 1 if the job in quarter t+4 has a different 1-digit SIC than the job in quarter t-2 and zero otherwise. Spanned Industry is an indicator variable equal to one if the 1-digit SIC of the (new) job in quarter t+4 is an SIC in which the worker's quarter t-2 firm operates excluding the worker's own industry and zero otherwise. All independent variables except Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are measured at t-2. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable: $\Delta_{t+4,t-2}$ln(Wage)	(1)	(2)	(3)
Ln(Wage)	-0.109 ***	-0.137 ***	-0.121 ***
	(0.009)	(0.010)	(0.008)
Ln(Age)	-0.116 ***	-0.096 ***	-0.104 ***
	(0.010)	(0.009)	(0.009)
Race = Black	-0.039 ***	-0.044 ***	-0.035 ***
	(0.008)	(0.006)	(0.007)
Race = Asian	0.002	0.002	-0.003
	(0.014)	(0.011)	(0.014)
Race = Hispanic	-0.023 ***	-0.029 ***	-0.028 ***
	(0.008)	(0.006)	(0.007)
Race = Other Minorities	-0.016 **	-0.023 ***	-0.018 **
	(0.008)	(0.007)	(0.007)
Female	-0.040 ***	-0.050 ***	-0.035 ***
	(0.005)	(0.005)	(0.005)
Ln(Tenure)	-0.020 ***	-0.017 ***	-0.020 ***
	(0.005)	(0.004)	(0.004)
Manager	-0.002	0.044 **	0.010
	(0.021)	(0.021)	(0.020)
N_Estabs	-0.003 ***		-0.003 ***
	(0.001)		(0.001)
Ln(EstabEmp)	-0.004	0.012 *	-0.001
	(0.008)	(0.007)	(0.006)
Ln(FirmEmp)	0.011 ***		0.013 ***
	(0.004)		(0.004)
Chg (N_Estabs)	-0.003 ***	-0.003 ***	-0.002 ***
	(0.000)	(0.000)	(0.000)
Chg (EstabEmp)	-0.003	-0.006 *	0.000
	(0.003)	(0.004)	(0.003)
Chg (FirmEmp)	0.018 ***	0.020 ***	0.016 ***
	(0.002)	(0.002)	(0.003)
Diversified	-0.002		-0.018
	(0.013)		(0.012)
Same_Firm	0.037 ***	0.017	0.031 *
	(0.014)	(0.020)	(0.016)
Different SIC1	***-0.140*** ***	***-0.122*** ***	
	(0.016)	(0.019)	
Same_Firm * Different SIC1	0.069 **	0.062	0.083 **
	(0.035)	(0.044)	(0.041)
Different SIC1 * Spanned Industry	***0.100*** ***	***0.092*** ***	***0.047*** ***
	(0.019)	(0.019)	(0.018)
State Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes		
Year Fixed Effects	Yes	Yes	Yes
Establishment Fixed Effects		Yes	
SIC Pair Fixed Effects			Yes
R^2	0.115	0.204	0.260
N	42,354	42,354	42,354

Table OA10

Probability of Finding a Job

We estimate the probability of finding a job for workers in closing establishments. Column (1) - (3) report estimates from Logit models in the form of log odds ratios. The dependent variable equals one if a worker from the closing establishment was employed (with wage information) four, eight, or twelve quarters follwing the establishment closure, respectively. Column (4) is estimated using a Cox Proportional Hazard model. The dependent variable is the length of time (in quarters) that it takes for a worker from the closing establishment to be employed again. Ln(Wage) is the natural log of the annual real wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of establishments owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of establishment employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes and zero otherwise. Standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

	Logit Model			Hazard Model
	Job(t+4)	Job(t+8)	Job(t+12)	
	(1)	(2)	(3)	(4)
Ln(Wage)	0.262 ***	0.211 ***	0.169 **	0.045 ***
	(0.066)	(0.078)	(0.078)	(0.014)
Ln(Age)	-0.502 ***	-0.845 ***	-1.047 ***	-0.183 ***
	(0.070)	(0.084)	(0.104)	(0.019)
Race = Black	-0.097	-0.057	-0.044	-0.012
	(0.059)	(0.064)	(0.064)	(0.013)
Race = Asian	0.156 *	0.096	0.066	0.020
	(0.082)	(0.083)	(0.080)	(0.016)
Race = Hispanic	0.068	0.150 **	0.193 ***	0.030 **
	(0.064)	(0.065)	(0.072)	(0.013)
Race = Other Minorities	-0.008	-0.102 *	-0.166 ***	-0.025 **
	(0.052)	(0.054)	(0.056)	(0.013)
Female	0.019	0.102 ***	0.114 ***	0.017 **
	(0.035)	(0.035)	(0.037)	(0.007)
Ln(Tenure)	0.170 ***	0.168 ***	0.163 ***	0.038 ***
	(0.030)	(0.029)	(0.030)	(0.007)
Manager	-0.529 ***	-0.565 ***	-0.598 ***	-0.150 ***
	(0.106)	(0.120)	(0.123)	(0.030)
N_Estabs	0.003	0.008	0.009 **	0.002 *
	(0.004)	-0.005	(0.005)	(0.001)
Ln(EstabEmp)	0.064	0.062	0.048	0.016 *
	(0.052)	(0.048)	(0.045)	(0.010)
Ln(FirmEmp)	-0.036	-0.059 **	-0.054 **	-0.011 **
	(0.028)	(0.027)	(0.025)	(0.006)
Diversified	***0.001***	***0.024***	***0.007***	***0.001***
	(0.108)	(0.106)	(0.104)	(0.023)
State Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Pseudo R-Square	0.050	0.046	0.051	
Chi Square				52,518
N	66,111	66,111	66,111	66,111

Table OA11
Worker Skill: Wage Splits

The table reports estimated coefficents from OLS regressions on a sample of workers in closing establishments of multi-unit firms. The dependent variable is the change in the annual real wage from quarter (t-2) to (t+4). t is the quarter of establishment closure. Demographic and firm controls are indicator variables for female, black, Asian, Hispanic, and other minority workers; Ln(Wage); Ln(Age); Ln(Tenure); an indicator for the unit manager; N_Estabs; Ln(EstabEmp); Ln(FirmEmp); Chg(N_Estabs); Chg(EstabEmp); and Chg(FirmEmp). See Table VII for additional details on the definitions of these variables. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes. Same_Firm is an indicator variable that equals one if the worker is retained within the firm (firmid) and zero otherwise. Different Industry is an indicator variable that equals 1 if the job in quarter t+4 has a different SIC than the job in quarter t-2 and zero otherwise. Spanned Industry is an indicator variable equal to one if the SIC of the (new) job in quarter t+4 is an SIC in which the worker's quarter t-2 firm operates excluding the worker's own industry and zero otherwise. x ≤ Wage < y are indicator variables equal to 1 if the worker's real annual wage in quarter t-2 falls in the indicated range. All independent variables except Chg(N_Estabs), Chg(EstabEmp), and Chg(FirmEmp) are measured at t-2. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable: $\Delta_{t+4,t-2}$ln(Wage)	(1)	(2)	(3)
Diversified	-0.009		-0.022 *
	(0.012)		(0.012)
Same_Firm	0.024	0.007	0.026
	(0.015)	(0.023)	(0.016)
Same_Firm * Different Industry	0.050 *	0.048	0.059
	(0.030)	(0.041)	(0.038)
Different Industry * (Wage < 25K)	***-0.128*** ***	***-0.103*** ***	0.024
	(0.013)	(0.015)	(0.065)
Different Industry * (25K ≤ Wage < 50K)	***-0.163*** ***	***-0.147*** ***	0.000
	(0.027)	(0.032)	(0.065)
Different Industry * (50K ≤ Wage < 100K)	***-0.134*** ***	***-0.144*** ***	-0.021
	(0.022)	(0.028)	(0.068)
Different Industry * (Wage ≥ 100K)	***-0.134*** **	***-0.181*** ***	
	(0.063)	(0.067)	
Dif. Industry * (Wage < 25K) * Spanned Industry	***0.097*** ***	***0.083*** ***	***0.017***
	(0.017)	(0.018)	(0.017)
Dif. Industry * (25K ≤ Wage < 50K) * Spanned Industry	***0.117*** ***	***0.117*** ***	***0.041*** *
	(0.025)	(0.024)	(0.022)
Dif. Industry * (50K ≤ Wage < 100K) * Spanned Industry	***0.094*** ***	***0.127*** ***	***0.068*** **
	(0.028)	(0.025)	(0.031)
Dif. Industry * (Wage ≥ 100K) * Spanned Industry	***0.159*** **	***0.210*** ***	***0.109***
	(0.075)	(0.077)	(0.082)
Demographic and Firm Controls	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes		
Year Fixed Effects	Yes	Yes	Yes
Establishment Fixed Effects		Yes	
SIC Pair Fixed Effects			Yes
R^2	0.112	0.197	0.253
N	42,354	42,354	42,354

Table OA12
Wages in Focused and Diversified Firms

OLS regressions on a random sample of workers from the LEHD data. The dependent variable is the natural log of the annual real wage. Ln(Age) is the natural log of the worker's age. Race = 'x' is an indicator variable that equals one for workers of race 'x' and zero otherwise. Female is an indicator variable that equals one for female workers and zero otherwise. Ln(Tenure) is the natural log of the number of quarters that a worker has spent in the SEIN. Manager is an indicator variable equal to one for the highest paid employee in the SEIN and zero otherwise. N_Estabs is the number of plants owned by the firm, divided by 100. Ln(EstabEmp) is the natural log of aggregate SEIN employment. Ln(FirmEmp) is the natural log of aggregate firm employment. Multi-Unit is an indicator variable equal to one if the firm operates at least two establishments and zero otherwise. Diversified is an indicator variable equal to one for firms that operate in at least two distinct two-digit SIC codes and zero otherwise. % Emp. in High Skill Ind. is the percentage of firm employment in 2-digit SIC codes in which the percentage of workers with 2-digit SOC codes less than 29 exceeds the median. All standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively.

Dependent Variable: ln(Wage)		
	(1)	(2)
Ln(Age)	0.352 ***	0.348 ***
	(0.009)	0.009
Race = Black	-0.221 ***	-0.219 ***
	(0.005)	(0.005)
Race = Asian	-0.068 ***	-0.069 ***
	(0.009)	(0.009)
Race = Hispanic	-0.314 ***	-0.309 ***
	(0.006)	(0.006)
Race = Others	-0.044 ***	-0.044 ***
	(0.007)	(0.007)
Female	-0.289 ***	-0.289 ***
	(0.005)	(0.005)
Ln(Tenure)	0.090 ***	0.091 ***
	(0.003)	(0.003)
Manager	1.113 ***	1.115 ***
	(0.027)	(0.027)
N_Estabs	-0.001 **	-0.001 *
	(0.001)	(0.001)
Ln(EstabEmp)	0.016 ***	0.019 ***
	(0.003)	(0.003)
Ln(FirmEmp)	0.026 ***	0.022 ***
	(0.003)	(0.003)
Multi-Unit	0.006	-0.002
	(0.008)	(0.008)
Diversified	***0.022*** **	***-0.017*** *
	(0.009)	(0.010)
% Emp. in High Skill Ind.		0.088 ***
		(0.013)
(% Emp. High Skill)*(Div.)		***0.074*** ***
		(0.014)
State Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
R^2	0.324	0.327
N	251,440	251,440

Table OA13

Worker Skill and the Diversification Discount

The table reports estimated coefficients from OLS regressions for the sample of firms in the Compustat segment database with overall firm assets of at least $20 million during the sample period 1992-2004. The dependent variable in Columns 1 - 4 is the natural logarithm of the ratio of the firm's actual market-to-book ratio to the imputed market-to-book ratio. The imputed market-to-book ratio is the asset-weighted average of the median market-to-book ratio among single-segment firms operating in each of the firm's 2-digit SIC codes. The dependent variable in Columns 5 - 8 is the natural logarithm of ratio of the actual market value of the firm's assets to the imputed value of its assets. The imputed value of its assets is the sum of the sales in each 2-digit SIC in which the firm operates times the median multiple of market value to sales among single-segment firms operating in that 2-digit industry. Diversified is an indicator variable that equals one if the firm reports segments in at least two distinct 2-digit SIC codes. % Assets (Sales) in High Skill Ind. is the percentage of the firm's assets (sales) in segments which operate in 2-digit SIC codes in which the percentage of workers with 2-digit SOC codes less than 29 exceeds the median. Firm Size is the natural logarithm of assets. ROA is operating income before depreciation scaled by beginning-of-fiscal-year assets. Asset Tangibility is net property, plants, and equipment scaled by beginning-of-fiscal-year assets. Investment is capital expenditures. Investment and Cash are scaled by beginning-of-fiscal-year assets. Dividend Payer is an indicator vairable equal to 1 if the firm payed a positive dividend during the fiscal year. Book leverage is long term debt plus the current portion of long term debt scaled by the numerator plus common equity. Finance Firms are any firm with a business segment that has a 1-digit SIC code of 6. The standard errors are clustered at the firm level and are reported in parentheses. *, **, and *** represent significance at 10%, 5%, and 1% level, respectively. Columns 1, 2, 5, and 6 incude a constant term.

	Panel A. Asset Multiples				Panel B. Sales Multiples			
	All Firms	All Firms	All Firms	No Finance Firms	All Firms	All Firms	All Firms	No Finance Firms
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Diversified	***-0.169*** ***	***-0.094*** ***	***-0.098*** ***	***-0.099*** ***	***-0.276*** ***	***-0.124*** ***	***-0.111*** ***	***-0.085*** ***
	(0.011)	(0.020)	(0.021)	(0.022)	(0.018)	(0.031)	(0.031)	(0.033)
Divers. * % Assets in High Skill Ind.		-0.112 ***	-0.107 ***	-0.102 ***				
		(0.026)	(0.026)	(0.028)				
% Assets in High Skill Ind.		0.03 **	0.029 **	0.021				
		(0.013)	(0.014)	(0.014)				
Divers. * % Sales in High Skill Ind.						-0.220 ***	-0.253 ***	-0.300 ***
						(0.040)	(0.041)	(0.044)
% Sales in High Skill Ind.						0.134 ***	0.125 ***	0.137 ***
						(0.021)	(0.022)	(0.022)
Firm Size			0.004	0.008 **			0.044 ***	0.039 ***
			(0.003)	(0.004)			(0.005)	(0.006)
ROA			0.004 ***	0.003 ***			-0.004	-0.004
			(0.001)	(0.001)			(0.004)	(0.005)
Asset Tangibility			-0.002 **	-0.002 **			-0.005 **	-0.005 *
			(0.001)	(0.001)			(0.002)	(0.003)
Investment			0.004 **	0.004 **			0.017 ***	0.018 **
			(0.002)	(0.002)			(0.006)	(0.007)
Cash			0.007 **	0.007 **			0.019 **	0.019 **
			(0.003)	(0.003)			(0.009)	(0.009)
Dividend Payer			0.000	-0.010			-0.210 ***	-0.236 ***
			(0.012)	(0.012)			(0.017)	(0.019)
Book Leverage			0.000	0.000			0.000	0.000
			(0.000)	(0.000)			(0.001)	(0.001)
Year Fixed Effects			Yes	Yes			Yes	Yes
R^2	0.012	0.013	0.018	0.017	0.011	0.014	0.037	0.041
N	63,803	63,803	59,492	52,788	63,002	63,002	58,897	52,248