Appendix A: Measuring expected reallocation

Assume that each firm $i$ has an operating profit function for a given horizon $h$ (omitted here):

$$\pi_i = z_i k_i^\alpha$$

that depends on its capital stock $k$ and productivity $z_i$

Assume fixed leverage $l = \frac{d_i}{k_i}$ and cost of debt $r$. Then, shareholders maximize $z_i k_i^\alpha - rl k_i$ with respect to the capital stock. Optimal operating profits are this given by:

$$\pi^*_i \propto z_i^{1-\alpha} \propto k_i^*$$

so earnings, which are operating profits net of interest payments, $\pi^*_i - r l k^*_i$ are proportional to capital stock $k_i^*$ in this model. Taking logs of the above, forecasts and differencing leads to:

$$\log FE_{i,t,h} - \log E_{i,2019} = \log Fk_{i,t,h} - \log k_{i,2019}$$

where $FE_{i,t,h}$ is the forecast of earnings of firm $i$, $k_{i,2019}$ is the capital stock as of 2019, and $Fk_{i,t,h}$ the corresponding forecast of the firm’s capital stock.

Under the model, if analysts expect a 10% EPS growth between 2019 and 2022, it means they also expect a capital stock of 10% too over the same horizon.

So now, we can compute the percent of expected reallocated capital as:

$$R_{t,h} = \frac{\sum_i |Fk_{i,t,h} - k_{i,2019}|}{\sum_j k_{j,2019}}$$

$$\approx \frac{\sum_i \left(\frac{k_{i,2019}}{\sum_j k_{j,2019}}\right) |Fk_{i,t,h} - k_{i,2019}|}{k_{i,2019}}$$

$$\approx \sum_i w_i |\log Fk_{i,t,h} - \log k_{i,2019}|$$

$$\approx \sum_i w_i |\log FE_{i,t,h} - \log E_{i,2019}|$$

which is the equation used in the paper. The weighted average of the absolute expected earnings growth is equal to the expected percentage of capital that will be reallocated across firms between 2019 and year $h$.

Note that in this model, labor and capital reallocation are the same. Assume for instance the profit function is given by $\pi_i = z_i \left( k_i^\alpha l_i^{1-a} \right)^\theta$. Then, assuming the wage level is constant, one can show that the amount of labor reallocation is the same as capital reallocation. This is due to Cobb Douglas technology and fixed price assumption. Both assumptions should be relaxed in future research.
Appendix B: Additional Tables and Figures

Figure B.1. Analyst forecasts vs realizations at various horizons

This Figure shows the forecasted and realized earnings growth at various horizons. We restrict ourselves to the 1,000 largest firms by market capitalization as of Dec 31 of the previous year. Then, we further restrict the sample to firms whose earnings are positive in the previous year, fiscal year end is in December, and forecast is available in IBES. For each firm, we calculate the forecasted and realized earnings growth as:

$$FG_{i,t,h} = \frac{1}{h} \left( \frac{F_t EPS_{t+h}}{EPS_t} - 1 \right)$$

and

$$G_{i,t,h} = \frac{1}{h} \left( \frac{EPS_{t+h}}{EPS_t} - 1 \right)$$

where EPS stands for earnings per share and $F_t EPS_{t+h}$ is the consensus forecast in April of $t$ for horizon $t+h$ about firm $i$. Panels A, B and C report median forecasts at horizons $h=1,2,$ and $3$. 

Panel A: 1 year growth forecasts

Panel B: 2 year growth forecasts

Panel C: 3 year growth forecasts
Figure B.2. Expected and Realized Reallocation over 1990-2018

This Figure calculates the index of expected reallocation described in Equation (1). We restrict ourselves to the largest 1000 firms by stock market capitalization as of December of year t-1. We further require that these firms have positive earnings in t-1, and fiscal year ends in December. Every year t, in April, we calculate horizon h expected reallocation as:

\[ R_{t,h} = \sum_i w_i |FG_{i,t,h}|, \text{ with } FG_{i,t,h} = (F_{t}EPS_{i,t+h}/EPS_{i,t}) - 1 \]

We also compute realized reallocation using ex post realizations \( EPS_{i,t+h} \) instead of its forecast. We report both for horizons 1,2,3 in Panels A, B and C.

Panel A: 1 year reallocation

Panel B: 2 year growth reallocation

Panel C: 3 year reallocation
Figure B.3. Loan Chargeoffs and the Unemployment Rate
This figure displays historical and forecasted charge-off rates for commercial and industrial (C&I) loans. Data on charge-offs come from bank call reports. Forecasts of charge-off rates are based on historical unemployment rate (BLS) and unemployment rate forecasts (SPF), using the regression: \( Rate_t = \alpha + \beta_1 Rate_{t-1} + \beta_2 Unemployment Rate_t + \epsilon_t \).
Figure B.4. Rent to asset Ratio by Firm Size
This Figure uses 2013 SOI data to measure the ratio of annual rent to asset ratio.
Table B.1. Forecasted Bankruptcy Filings by Size of Firm

This table uses monthly data from the FJC Integrated Database to correlate business bankruptcy filings and the national unemployment rate. Each row shows the coefficient on the unemployment rate for a separate time series regression. The dependent variable is the number of bankruptcies per month of firms in the corresponding size bucket, defined as the total liabilities of the firm at the time of bankruptcy. All regressions also include calendar month fixed effects. Newey-West standard errors that account for up to 12 months of serial correlation are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. The final column displays the total number of predicted bankruptcies in each size bucket over the course of a year if the unemployment rate were 9.2%.

<table>
<thead>
<tr>
<th>Size Bucket</th>
<th>Coefficient on Unemployment Rate</th>
<th>Forecasted bankruptcies @ 9.2% unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - $50K</td>
<td>23.863*** (4.373)</td>
<td>3,155</td>
</tr>
<tr>
<td>$50K - $100K</td>
<td>23.948*** (4.067)</td>
<td>2,898</td>
</tr>
<tr>
<td>$100K - $500K</td>
<td>205.341*** (31.957)</td>
<td>21,166</td>
</tr>
<tr>
<td>$500K - $1M</td>
<td>196.739*** (25.866)</td>
<td>17,326</td>
</tr>
<tr>
<td>$1M - $10M</td>
<td>460.237*** (46.133)</td>
<td>37,780</td>
</tr>
<tr>
<td>$10M - $50M</td>
<td>77.112*** (7.917)</td>
<td>6,283</td>
</tr>
<tr>
<td>$50M - $100M</td>
<td>10.267*** (2.647)</td>
<td>1,027</td>
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<tr>
<td>$100M - $500M</td>
<td>6.929 (5.057)</td>
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</tr>
<tr>
<td>$500M - $1B</td>
<td>-2.754 (2.583)</td>
<td>189</td>
</tr>
<tr>
<td>$1B+</td>
<td>2.401 (5.532)</td>
<td>310</td>
</tr>
</tbody>
</table>