

countercyclical employment risk, we estimate the following equation

$$Y_{i,t} = \gamma_t + \beta_1 educ_i + \beta_2 educ_i \times X_t + \epsilon_{i,t}, \quad (11)$$

where  $Y_{i,t}$  is either the (net) hire or separation rate,  $X_t$  is the cyclical component of GDP,<sup>14</sup>  $educ_i$  is workers' educational attainment,  $\gamma_t$  are time dummies to control for common shocks, and  $\epsilon_{i,t}$  is the residual term. What we are interested in is the coefficient on the interaction term, which measures the differential responsiveness - across education groups - of net hiring rate to a business cycle. Note that results have to be interpreted relative to the highest education group.<sup>15</sup>

Table 8: Worker flows over the business cycle

VARIABLES	(1) Net hires	(2) Hires	(3) Separations
Less than high school	0.000 (0.000)	0.030*** (0.001)	0.030*** (0.001)
High school or equivalent, no college	-0.001*** (0.000)	0.011*** (0.000)	0.012*** (0.000)
Some college or Associate degree	-0.001** (0.000)	0.006*** (0.000)	0.007*** (0.000)
Less than high school $\times$ GDP cycle	0.123*** (0.036)	0.079** (0.037)	-0.018 (0.056)
High school or equivalent, no college $\times$ GDP cycle	0.070*** (0.024)	0.018 (0.019)	-0.044 (0.029)
Some college or Associate degree $\times$ GDP cycle	0.037 (0.025)	0.003 (0.020)	-0.031 (0.032)
Time FE	X	X	X
Observations	272	276	276
R-squared	0.9028	0.9713	0.9468

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Notes:** (Net) hires, and separations are rates and are expressed as a share of an average employment within the education group.

Table 8 reports the results from estimating Equation 11. Column 1 shows that the net hiring rate of less educated workers is more sensitive to business cycles than the net hiring rate of workers with the highest level of educational attainment. This implies that (countercyclical) employment risk is the largest for the least educated workers, and it falls with increasing educational attainment. Results are in line with [Haltiwanger et al. \(2018\)](#), who find that during recessions, workers with lower education are more likely to exit to nonemployment. They also find that conditional on firm productivity groups, hires and separations are more cyclically sensitive for less educated workers. In columns 2 and 3, we separate the net hiring

<sup>14</sup>We obtain it after applying the Hodrick-Prescott filter to a logarithm of seasonally adjusted real GDP. In Appendix B.2, we also consider other business cycle measures, i.e. NBER recession episodes and the cyclical component of the level of unemployment. The results do not materially change.

<sup>15</sup>That is, relative to workers with a bachelor's degree or an advanced degree.