Peers at Work
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Abstract. In this paper we explore how and why the productivity of a worker varies as a function of the productivity of her co-workers in a group production process. In theory, if workers influence each other, they can do so in either a negative or positive direction. The return to introducing a high-productivity worker to a work group may be greater than her individual contribution because of social norms, social pressure, or learning. The return may be lower than her individual contribution because of possible free riding of incumbent workers. Using scanner level data, we measure high frequency, worker-level measure of productivity of checkers for a large grocery chain. Our analysis suggests that (i) social interactions affecting productivity exist and are well approximated by a linear-in-means specification in co-worker productivity, (ii) a 10% increase in average co-worker permanent productivity is associated with 1.7% increase in a worker's effort, (iii) most of this peer effect arises from low productivity workers benefiting from the presence of high productivity workers, (iv) the introduction of highly productive workers into a shift boosts the productivity of incumbent workers that are directly in the line-of-sight of the new workers, but not incumbent workers that are not in their line-of-sight, and (v) workers are unresponsive to the presence of co-workers who they infrequently overlap with. These findings suggest that there are positive spillovers from introducing highly productive personnel into a group production process and that these spillovers may be arising from social pressure and mutual monitoring. Based on our estimates, we calculate that if this employer mixed workers optimally, the wage bill would decline by approximately $2 million per year, holding output constant. Since optimizing shifts may result in higher labor costs, this finding does not imply that the firm is not maximizing profits.