



Agricultural and Applied Economics Seminar

Temperature, Wages, and Agricultural Labor Productivity

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12:00 – 1:30 pm

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Agricultural laborers frequently work for piece rate wages – where they are paid per unit of output rather than per unit of time – based on the assumption that these wages incentivize productivity. In this paper, I provide the first quasi-experimental estimate of the elasticity of labor productivity with respect to piece rate wages by analyzing a high-frequency panel of over 2,000 blueberry pickers on two California farms over three years. To account for endogeneity in the piece rate wage, I use the market price for blueberries as an instrumental variable. I find that picker productivity is very inelastic on average, and I can reject even modest elasticities of up to 0.7. However, this average masks important heterogeneity across outdoor working conditions. Specifically, at temperatures below 60°F, I find that higher piece rate wages do induce increases in labor productivity. This is suggestive evidence consistent with a model where at moderate to hot temperatures, workers face binding physiological constraints that prevent them from exerting additional effort in response to higher wages. This insight has important implications for understanding how climate change will affect the agricultural labor sector.