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Technological Synergies, Heterogeneous Firms, and Idiosyncratic Volatility

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This paper shows the importance of technological synergies among heterogeneous firms for aggregate fluctuations. First, we document six novel empirical facts using microdata that suggest the existence of important technological synergies between trading firms, the presence of positive assortative matching among firms, and their evolution during the business cycle. Next, we embed technological synergies in a general equilibrium model calibrated on firm-level data. We show that frictions in forming trading relationships and separation costs explain imperfect sorting between firms in equilibrium. In particular, an increase in the volatility of idiosyncratic productivity shocks significantly decreases aggregate output without resorting to non-convex adjustment costs.