1157-91-400 **Gu Wang***, Department of Mathematical Sciences, 100 Institute Road, Worcester, MA 01609, and **Paolo Guasoni**. *Sharing Profits in the Sharing Economy.*

A monopolist platform (the principal) shares profits with a population of affiliates (the agents), heterogeneous in skill, by offering them a common nonlinear contract contingent on individual revenue. The principal cannot discriminate across individual skill, but knows its distribution and aims at maximizing profits. This paper identifies the optimal contract, its implied profits, and agents' effort as the unique solution to an equation depending on skill distribution and agents' costs of effort. If skill is Pareto-distributed and agents' costs include linear and power components, closed-form solutions highlight two regimes: If linear costs are low, the principal's share of revenues is insensitive to skill distribution, and decreases as agents' costs increase. If linear costs are high, the principal's share is insensitive to the agents' costs and increases as inequality in skill increases. (Received February 03, 2020)