Title: Selection and Sorting of Heterogeneous Firms through the Procompetitive Effect

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Abstract:

We study how an increase in market size causes selection and sorting of firms with different productivity by intensifying competitive pressures. To this end, we introduce the procompetitive effect into the Melitz (2003) model of monopolistic competition with heterogeneous firms, using H.S.A. (Homothetic with a Single Aggregator) demand systems. Relative to the linear-demand system used by Melitz and Ottaviano (2008), this class of demand systems has many advantages.

First, it is homothetic. This means that the composition of market demand does not matter, hence market size can be defined unambiguously. It also helps to isolate the effects of variable markups from those of nonhomotheticity. Furthermore, the homotheticity makes it straightforward to use H.S.A. as a building block in multi-sector settings.

Second, it is nonparametric, and flexible enough to allow for Marshall's Second Law, which implies incomplete pass-through, as well as what we call (the weak and strong forms of) Marshall's Third Law, which implies that the pass-through rate is no lower (under the weak Third Law) or strictly higher (under the strong Third Law) for less efficient firms. Furthermore, since H.S.A. contains CES (as well as translog) as a special case, this class can be used to check which results obtained in the Melitz model are robust.

Third, because its single aggregator serves as a sufficient statistic for competitive pressures, it is simple to establish the existence and uniqueness of equilibrium and retains much of the tractability of CES for comparative statics, most of which can be conducted by means of simple diagrams, and the key qualitative results are free of any further parametric restrictions on the demand system and productivity distribution.

In a one-sector setting, we show, among others, that an increase in competitive pressures, -- whether it is caused by an increase in market size, a lower entry cost, or a first-order stochastically dominant improvement in productivity distribution--, leads to a tougher selection of firms, larger dispersion of profit across surviving firms under the Second Law (and of revenue across firms under the weak Third Law), and smaller dispersion of markup rates under the strong Third Law. We also show that an increase in market size leads to higher (lower) profits for the more (less) efficient among the surviving firms.

Then, in a multi-sector/region setting, we show that more efficient firms sort themselves into sectors/regions with larger market sizes, which are characterized by stronger competitive pressures.

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