Endowment-regarding preferences

- **Van Quy Nguyen** (Centre d'Economie de la Sorbonne, Université Paris 1 Panthéon - Sorbonne)

Keywords: Endowment externalities, other-regarding preferences, regular economy, general equilibrium.

Abstract: We consider a general equilibrium model of pure exchange economies with endowment externalities. Consumers' behaviors depend not only on their own consumption but also on the endowments of the other consumers.

First, we extend results in [2] about wealth externalities when consumer behavior is described by demand functions. The author considered the case where demand functions depend on price and on the wealth of all consumers. We consider the more general case where the demand function depends on the endowments of others and the wealth of only one consumer. This asymmetric dependence allows us to obtain the same results as the one in [2] using the same method of analysis. We show that under very general assumptions on individual demand functions, the following properties of equilibrium remain unchanged: the equilibrium manifold is smooth, the economy exhibits a ramified properness of the natural projection, and regular economies are generic. Moreover, regular economies have a finite (and odd) number of equilibria and possess local continuity of equilibrium selection mappings.

The second contribution generalizes the form of externalities in terms of endowments, which encompass the wealth concerns. In this part, consumers are characterized by utility functions which depend on the endowments of all consumers. We take a different approach, the so-called extended approach where the equilibria are characterized by first-order conditions and market clearing conditions. This is based on the seminal work by [6] and [7]. As shown in an example by [3], an additional assumption on utility functions is necessary to carry out this type of analysis. Precisely, we assume that the first-order effects of the endowments on the marginal rate of substitution are small enough (and vanishing) along the direction which keeps wealth constant. With this assumption, we are able to derive the following properties of general equilibrium: the equilibrium set is a smooth manifold and the set of regular economies is an open and full Lebesgue measure subset of the parameter space. Moreover, we identify a natural relationship with the aggregate excess demand approach. This makes it possible to study genericity properties in the model with endowment externalities by applying the aggregate excess demand approach.

Finally, we generalize our new assumption to include both endowments and consumption externalities and derive genericity of regular economies in the more general setting.

References:

[1] Balasko, Yves. *Foundation of the Theory of General Equilibrium*, Academic Press, Boston, 1998.

[2] Balasko, Yves. Wealth concerns and equilibrium. *Journal of Mathematical Economics*, 59:92–101, 2015.

[3] Bonnisseau, J.-M, del Mercato, E.L. Externalities, consumption constraints and regular economies. *Economic Theory*, 44:123–147, 2010.

[4] Guillemin, V., and Pollack, A. *Differential topology*, Prentice-Hall, Englewood Cliffs, New Jersey, 1974.

[5] Mas-Colell, A. *The theory of general economic equilibrium. A Differentiable Approach*, Cambridge University Press, London, 1985.

[6] Smale, S. Global analysis and economics. IIA: Extension of a theorem of Debreu. *Journal of Mathematical Economics* 1:1–14, 1974.

[7] Villanacci, A., Carosi, L., Benevieri, P., Battinelli, A. *Differential Topology and General Equilibrium with Complete and Incomplete Markets*, Kluwer Academic Publishers, 2002.