

# AN APPROACH TO THE STUDY OF HOMOGENEOUS CLASSES OF FIRM CAPITAL VALUES

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## **Abstract**

We introduce a novel methodology to study the dynamics of homogeneous classes of returns on firm value (i.e. groups of returns with joint likelihood function invariant w.r.t. exchange of firms). To model the exposure of each return on firm value to systematic and unsystematic risks of the class, the return is expressed as a parametric function of time-varying firm-specific characteristics and common factors. Some common factors are observable, while others, including the volatility of the return on firm value, are latent. We describe a methodology to estimate model parameters, factors and factor loadings that is nonparametric w.r.t the historical dynamics of the firm-specific characteristics and common factors.

Important contributions to the related literature are the articles “Panel Data Models With Interactive Fixed Effects” (by J. Bai, *Econometrica*, 2009), “Approximate Derivative Pricing for Large Classes of Homogeneous Assets with Systematic Risk” (by P. Gagliardini and C. Gouriéroux, *Journal of Financial Econometrics*, 2011) and references therein.

I am a Swiss National Foundation fellow, visiting post-doc at CBS.

Last June I received the PhD title from the University of Lugano (Switzerland), my PhD research was in financial econometrics.

Two papers taken from my PhD thesis: <http://ssrn.com/author=983638>

More on the Swiss National Foundation: <http://www.snf.ch/E/Pages/default.aspx>

More on my ex-group <http://www.nccr-finrisk.uzh.ch/project.php?pid=3>