

HOW PERSISTENTLY DO FIRMS PATENT? AN EVOLUTIONARY VIEW. AN EMPIRICAL APPLICATION OF DURATION MODELS.

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How does the propensity to stop patenting evolve over time (or in statistical words, what is the shape of the hazard function of patenting firms)? What are the determinants of the persistency of the patenting behaviour of firms?

We show in a first section that the economic literature suggests specific hypothesis concerning these questions. In an evolutionary perspective and if patents are used as a proxy of the innovative behaviour, we expect a learning effect resulting over time in a decrease in the propensity to stop patenting. To study these questions we use data about patent granted to French firms by the US patent office for two decades: 1969-84 and 1985-1994. Based on UK data and using a Weibull specification, previous work by Geroski et al., [1997], conclude to an increase in the hazard function over time. In our case, we try in a second part to discuss the use of the Weibull specification. We show that it tends to produce inappropriate estimation of the baseline hazard function in comparison to Gompertz or Cox models. Concerning the estimated coefficients of covariates we do not obtain strong departures from those of Geroski et al. [1997].