Helsingin yliopisto - Helsingfors universitet - University of Helsinki ID 2008-171 Laitos-Institution-Department Tiedekunta-Fakultet-Faculty Department of Economics Faculty of Social Sciences Tekijä-Författare-Author Miettunen, Antti Tvön nimi-Arbetets titel-Title On the optimal novelty requirement in patent protection Oppiaine-Läroämne-Subject **Economics** Työn laji-Arbetets art-Level Aika-Datum-Month and year Sivumäärä-Sidantal-Number of pages 2008-04-04 Licentiate thesis 76 s. Tiivistelmä-Referat-Abstract This Licentiate Thesis belongs to the area of economics of immaterial property rights. The aim of the Thesis is to study one of the legal patentability requirements, namely the novelty requirement, in a theoretical general equilibrium model. We study the novelty requirement under the assumption that both an idea as well as research and development investments are needed for an innovation. We assume that ideas are a scarce resource, they are generated via an exogenous process, and that R&D activity is costly. In order to invest in R&D activity, firms must have sufficient incentives to do so. We equate the novelty value of an innovation with the economic value, or utility, it produces. We consider four different versions of this basic setup. In the most satisfactory version there are three parameters: the number of ideas, the survival probability of innovations, and the patent strength. The patent strength is modeled as the probability that the innovator gets to keep the returns from the innovation to her. The model successfully captures the tension between the objectives of the society and an individual innovator, changes in parameters can be traced to aggregate measures, the model is well-behaved both analytically and numerically and the results are intuitive. We show that in this kind of a general setting, the scarcity of research ideas is sufficient to make non-zero novelty requirement optimal. This is a noteworthy result since scarcity is an important element in many optimal patent policy models in the literature. We also study the relationship between novelty requirement and equilibrium investments and show that as a function of the novelty requirement the equilibrium investment takes an inverse-U-shaped form. We also consider novelty both under perfect and imperfect patent regimes. Getting analytical results in a model of cumulative innovations where there are simultaneously two endogenous policy instruments, novelty requirement and patent strength, is left for future research. The current model is also limited in that it is a model of perfect information where strategic behavior is abstracted away. Avainsanat-Nyckelord-Keywords patents innovations novelty requirement patentit innovaatiot

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