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An institutional comparison of risk transfer mechanisms against floods between Europe and U.S.A.: A dynamic panel data approach.

P. A. Raschky

alpS - Centre for Natural Hazard Management, Grabenweg 3, A-6020 Innsbruck, Austria. (Tel.:+43-512-39-29-29 13; Fax: +43-512-39-29-29 39; Email:raschky@alps-gmbh.com)

An analysis of the effects of natural hazards on society does not solely depend on a region's topographic or climatic exposure to natural processes, but the region's institutional resilience to natural processes that ultimately determines whether natural processes result in a natural hazard or not. An appropriate method for an international institutional comparison in the field of natural hazard management is still missing. The focus in this paper is on the institutional design of the societal risk transfer mechanisms mitigating the effects disasters. Dynamic panel estimates using growth data from a) 199 European regions (NUTSII) from 1990 to 2004 and b) 3.050 U.S. counties between 1970-2003 reveal a significant negative impact of historical flood events on regional economic development. The application of GIS-data further allows to control for a regions expsure to floods. It also shows that ex ante regulation regarding risk transfer (mandatory insurance in Europe, National Flood Insurance Program (NFIP) in th U.S.) have a mitigating effect that almost absorbs the negative effect of a flood disaster. The results provide empirical foundation for the proposition that ex-ante risk transfer policies is more efficient than ex-post disaster relief.