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Policy strategies when individual risk taking causes external effects – An empirical examination of data from Austrian ski resorts

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Every peak season in winter the ski resorts in the Austrian Alps face the same phenomenon. Thousands of people, mostly ski enthusiast, surge in the small resorts to indulge theirs passion. The adverse effects are increasing density and heterogeneity of skills resulting in around 60.000 accidents on Austrian ski runs every year. Out of these 60.000 accidents around 7.000 are collision accidents involving two or more people. From an economist's perspective the former type of accidents results in private costs (fully) beard by the skier himself. Regarding the latter type external costs occur for at least one additional individual. However, in the case of negative externalities (e.g. the probability of causing an accident) a socially sub-optimal amount of the good is demanded, in our case risk-taking behaviour. In this context risk taking behaviour can be defined as an activity, which contains for example riding with high-speed, riding on ski runs with a higher difficult level than normally chosen and ignoring the fading out of their personal skills. This work is divided into three parts. The first section deals with the question, why individuals from an economic point of view are doing such a high risk sport. Although survey evidence suggests that skiers tend to overestimate the risk of being involved in an accident, they are still willing to undertake certain risks. This could imply that the benefit of the risk taking behaviour actually outweighs - at least private - costs of a possible accident. The hypothesis is examined that the utility a person derives from such a risk taking behaviour is equal or greater than the costs, which can arise from such behaviour. We specify a hedonic pricing model for ski lift

tickets in order to isolate the feature ”possibility to enjoy risk-taking behaviour” and estimate the individual willingness to pay (WTP) for this attribute. To our knowledge this is the first attempt to monetize the individual utility from risk-taking using econometric techniques. In the second part of this work the external effect of such behaviour is being investigated. Using data on collision accidents in 61 major Austrian ski resorts we estimate the marginal effect of one additional skier on the amount of collision accidents using standard OLS-methods. The estimated parameter is used to monetize the external effects of individual risk-taking. Based on these estimates appropriate policy implications for the relevant decision makers such as the insurance industry, local politicians and the tourism agencies are formulated and evaluated.