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Effectiveness of CCTV Systems in Crime Reduction: A Quasi Experimental Study in Eight Polish Cities

Video monitoring systems (video surveillance, CCTV) has developed in many countries around the world in last 20 years. It is a technical tool instrumental in the execution of social norms relating to public order. However, studies show that effectiveness of CCTV systems crime prevention is ambiguous (Lim et al. 2016; Welsh and Farrington 2002; Gill and Spriggs 2005; Piza et al. 2014). Assessment of crime prevention function of CCTV systems appears methodologically difficult, due to data limitations, and complexity of the topic. In our paper we present results of the investigation on CCTV effectiveness in crime prevention in eight Polish cities. Cities chosen for the analysis have at least 100 cameras and are relatively big (more than half a million inhabitants on average). The period of 2005-2015 was taken for analysis. Data on crime (six categories: car theft, car damage, burglary, robbery, fight and assault) were obtained from the Police. The study follows the experimental scheme, with installation of cameras treated as the experimental intervention. The experimental areas (where cameras were installed) and control areas (without cameras) areas were determined via spatial, GIS based analysis taking into account socio-economic criteria, such as: size of the area, number of inhabitants, dwellings type.

The analysis is based on the relative change of the crime rates in experimental areas in the years prior and after CCTV implementation. To our knowledge it is the first study applying quasi experimental method to several locations in parallel, and measuring long time series (10 years).