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The Deterrent Effect of the Death Penalty – from an Econometric Point of View

The subject of capital punishment is one of the most controversial issues in the public's thinking that can be characterized by extremely polarized standpoints. Even from the matters of the justness, necessity and expediency of the death penalty does emerge the possible deterrent effect thereof that is deemed the *non plus ultra* of the issue by many. It is not by accident that the discussion about capital punishment principally deals with this subtopic, on different bases at that. On the one hand, there are formal logical, rational argumentations that attempt to reason either, from the retentionist¹ side, for, or, on abolitionist² ground, against the death penalty.³ On the other hand, there are also argumentations which try to draw conclusions not from strictly *a priori* logic but from empirical fact-finding investigations, that is, which attempt to verify that capital punishment really deters, or, on the contrary, does not really deter potential life-threatening perpetrators from their planned severe crimes. The latter reasons are based on facts resulting from statistical or econometric surveys' data aiming at explicitly establishing if capital punishment has deterrent effect on death-eligible offenses. Though we should expect at least these studies to be impartial and enjoy consensus in jurisprudence, criminology, and economics, in fact academic public opinion is as divided over this question as everyday people themselves are. These kind of surveys can be splitted into two parts: on the one part, there are the so-called 'early investigations' mostly from the sixties and seventies, and, on the other part, there are the 'modern' studies made in the late 1990's or in the 2000's. As, among the modern democratic countries, statistically relevant amount of

¹ Retentionist, in our essay, is a person who advocates the retention of capital punishment.

² Abolitionist is a person aiming to abrogate the death penalty.

³ See e.g.: Tóth J., Zoltán: The Issue of the Death Penalty from the Aspects of the Deterrence Effect and the Goals of the State Penalty [A halálbüntetésről az elrettentő hatás kérdése és a büntetési célok fényében]. *Belügyi Szemle*, 2003, Vol. 11-12, pp. 154-167.

death verdict and execution data originates exclusively from the United States, in the followings this paper deals solely with the American analyses about the occurrent deterrent effect of capital punishment in the USA, although the researchers whose statements will be introduced regard the results of their observations as generally valid.

1. The 'early' studies

The pioneer researches and controversies of whether the death penalty has a deterrent effect, basically centre round the establishments of two outstanding scholars, the criminologist Thorsten Sellin and the economist Isaac Ehrlich. According to Sellin, the single acceptable method to examine the existence of the deterrent impact is to compare those states with each other in pairs where the capital sanction is regulated in one member of the pair but not regulated in the other. Scilicet, alone from the comparison of the retentionist states' per capita death-eligible offenses to the abolitionist states' higher murder rates cannot be drawn the conclusion that in retentionist states the deterrent effect of the death penalty 'works', whilst in absence of the capital sanction in the abolitionist states it does not. Consequentially, there is a need to set the *neighbouring* states against each other in order to be able to exclude those impacts which derive not from the different legal culture of the retentionist and abolitionist countries but solely from the diverse social, political, economic or demographic conditions thereof. By the use of this method Sellin found that neighbouring states⁴ being similar in social, economic *etc.* characteristics have similar murder rates whether or not their penal codes allow the judges and juries to impose death sentences on capital criminals.⁵ Moreover, he revealed that the trends of committing capital crimes move parallel in the various states completely apart from if a certain state has just abolished, launched or reinstated this kind of legal consequence.⁶

The main critic of the soundness of Sellin's research methodology and, as a consequence thereof, the relevancy of his conclusions was Isaac Ehrlich who, besides attempting to point out the methodological fallacy of the inference of Sellin's studies, pursued an own research the deductions of which were sharply distinct from Sellin's implications.

⁴ Four groups did Sellin frame. In group I. he compared Maine (an abolitionist state) with New Hampshire and Vermont (retentionist states), in group II. Rhode Island (ab.) with Massachusetts and Connecticut (ret.), in group III. Minnesota and Wisconsin (ab.) with Iowa (ret.) and in group IV. Michigan (ab.) with Ohio and Indiana (ret.). See: Sellin, Thorsten: Capital Punishment, pp. 6-8. In: Federal Probation, 1961, Vol. 25, pp. 3-11.

⁵ Sellin: *op. cit.*, p. 6.

⁶ Sellin: *ib.*

Ehrlich's chief problem with Sellin's research method was that the Swedish-born criminologist did not take into account the fact whether a so-called 'retentionist' state actually conducted executions. Namely, even if a state renders capital punishment possible for the state judges or juries to impose on capital offenders this does not mean this kind of legal sanction *in deed* is used by the judicature. The deterrent effect of the death penalty, even in principle, can only exist if this most severe legal consequence is not only imposed, but is carried out as well. That is, if a state penal code regulates capital punishment, but the authorities do not apply it, or though they do apply it, but this kind of sentences or jury verdicts are never *de facto* executed, then capital punishment can deter nobody from committing capital crimes. Viz., the actual enforcement of capital sentences is far more deterrent than the pure existence of the death penalty, or expressly is the only real deterrent factor. However, according to Ehrlich, in a certain part of the 'retentionist' states inquired into by Sellin the capital sanction has existed but has never or so rarely been implemented that this seldom application could not have resulted in significant deflection between the different 'retentionist' states. Accordingly, in several, either 'abolitionist' or 'retentionist', states the murder rates of which Sellin empirically investigated, executions were not in the least performed, therefore, capital punishment could have deterrent impact in neither types.⁷ Moreover, much as Sellin attempted to exclude the other affecting factors from his investigation, of the neighbouring states paired by him several were notably distinct from each other. This was the case, for example, in the instances of Michigan and Indiana, or Massachusetts and Rhode Island.⁸ On the same basis did Ehrlich find fault with William J. Bowers's analyses, too. In his book published in 1974,⁹ Bowers erected nine analytical groups in all of which he placed one or more 'abolitionist' as well as one or more 'retentionist' states. His findings were similar to his 'master's', Sellin's, and Ehrlich did extremely sharply criticize these results since, according to him, in eight of the nine groups there was not such a state at all where executions actually occur, and what is more, in the ninth group consisting of New York, New Jersey and Pennsylvania the former one was labelled as abolitionist, while the latter ones were classed as retentionists by Bowers, though New York ceased the practice

⁷ See: Ehrlich, Isaac: Deterrence: Evidence and Inference. In: Yale Law Journal, 1975-1976, Vol. 85, pp. 209-227, and Ehrlich, Isaac: The Deterrent Effect of Capital Punishment: A Question of Life and Death, p. 415. In: American Economic Review, June 1975, pp. 397-417.

⁸ See: Ehrlich: Deterrence: Evidence and Inference, *op. cit.*, p. 223.

⁹ Bowers, William J. (*et al.*): Executions in America. Lexington Books, D. C. Heath and Company, Lexington, Massachusetts, 1974.

of executions at the very same time, in 1963, as New Jersey, and Pennsylvania abolished this kind of sanction earlier, in 1962, than the abolitionist-tagged New York.¹⁰

Nevertheless, Ehrlich, as mentioned above, not only criticized but pursued an own empirical investigation of the possible deterrent effect of capital punishment by right of the so-called 'economic paradigm' as well. The logical consequences inferred from this thesis were then checked up by him with the results emerged from a statistical analysis having been conducted in the early seventies. The essence of the 'economic paradigm' is that people are rational animals who weigh the potential advantages and disadvantages of all their activities with each other including legal and illegal actions as well. The (potential) criminals are also rational people responding to incentives when they consider whether to partake in illegitimate activities or a particular type of illegal act or to earn money by righteous work. According to this theory, people choose not to commit crimes if the incentives motivating decent thriving or discouraging criminal lifestyle outweigh the stimulations to participate in unauthorized activities. These incentives driving for or against criminality can be the scope of legal and illegal earning possibilities in the neighbourhood of the possible criminals' residence, the expected net gain from either the legal or the illegal activities available and, in the end, the 'price' of the criminal behaviour.¹¹ This 'price' consists of, on the one hand, the contingent magnitude of the penalty to be imposed on the offender caught and, on the other hand, the probability of the apprehension and conviction of the perpetrator. The more plausible a criminal will be apprehended and convicted and the more severe the punishment that is to be inflicted upon culprits, the less crime is expected to be committed. In addition, at least in Ehrlich's opinion, this is also true for hate and passion crimes.¹² According to Ehrlich, criminal law enforcement deters offenders from committing crimes in three ways: by apprehension of perpetrators, by condemnation of criminals arrested and by executing those sentences passed on the convicted. Murders and capital punishment, from this aspect, do not differ from other (*e.g.* property) crimes and forms of state penalties. Therefore, in order to ascertain whether criminal law enforcement, and particularly the death penalty, has any

¹⁰ Cf.: Ehrlich: Deterrence: Evidence and Inference, *op. cit.*, p. 223.

¹¹ Cf.: Ehrlich, Isaac: The Deterrent Effect of Criminal Law Enforcement, pp. 259-267. In: Journal of Legal Studies, 1972, No. 1, pp. 259-276; and Ehrlich: The Deterrent Effect of Capital Punishment: A Question of Life and Death, *op. cit.*, p. 415.

¹² See: Ehrlich: The Deterrent Effect of Criminal Law Enforcement, *op. cit.*, p. 274; and Ehrlich, Isaac: On Positive Methodology, Ethics, and Polemics in Deterrence Research, p. 128. In: British Journal of Criminology, 1982, Vol. 22, pp. 124-139.

deterrent, and not only pure preventive, effect¹³ Ehrlich analyzed the aggregate crime rate,¹⁴ the probability of arrest of murderers (and, of course, nonnegligent manslaughter¹⁵),¹⁶ the conditional probability of conviction in cases of murder,¹⁷ the conditional probability of execution¹⁸ and other factors between the years 1933 and 1969.¹⁹ He used the so-called regression analysis with a logarithmic format, which means that he measured firstly the effect of convictions considering a given number of murders in the year investigated, secondly, separating from the first point, the *marginal* effect of death sentences considering only those murders the perpetrators of which were caught and sentenced to death in the same year examined and thirdly, setting apart from both the first two points, the *marginal* effect of the real executions regarding only the level of death sentences passed in the previous year. From the statistical data analyzed by him, Ehrlich drew the conclusion that real enforcement of capital punishment does significantly reduce the murder rate. As per him, each additional execution saves seven or eight lives specifically by the conditional probability of putting to death,²⁰ that is, the marginal deterrent effect of executions considering the sum of death verdicts returned per previous year. But, as he elaborates, this does not equal to the necessity of the death penalty, because there may be causes or considerations that affect against the use of this legal consequence. Thus, he states, on the one hand, this study also involves the conclusion that "[t]he rate of murder and other related crimes may also be reduced through increased employment and earning opportunities",²¹ and, on the other hand, the "[e]fforts to

¹³ The presumed preventive or incapacitating effect means that, if it is true, the incarcerated or executed convict is unable to commit further crimes because of being precluded from recidivism. If the sentence is of imprisonment, this effect is temporary, but if it is of death, this is necessarily permanent. (Cf.: Ehrlich: *The Deterrent Effect of Capital Punishment: A Question of Life and Death*, *op. cit.*, pp. 398 and 413; and Ehrlich: *The Deterrent Effect of Criminal Law Enforcement*, *op. cit.*, pp. 260, 268 and 275.)

¹⁴ The ground for it was the FBI *Uniform Crime Report (UCR)*. Ehrlich computed the number of murders and nonnegligent manslaughter from the raw data contained in the *UCR*.

¹⁵ See *supra* note 14.

¹⁶ Percent of murders (and nonnegligent manslaughter) cleared.

¹⁷ Percent of those charged who were condemned with murder (and nonnegligent manslaughter) to death.

¹⁸ The number of executions for murder (and nonnegligent manslaughter) in the year $t+1$ as a percent of the total number of death sentences in year t .

¹⁹ *E.g.* labor force participation, unemployment rate, per capita expenditures and per capita real expenditures specifically on police, fraction of residential population in the age group 14-24, fraction of nonwhites in residential population (which latter proved later irrelevant), *etc.*

²⁰ In Ehrlich's own words: "[o]n the average the tradeoff between the execution of an offender and the lives of potential victims it might have saved was of the order of magnitude of 1 for 8 for the period 1933–67 in the United States". (In the last two years investigated by Ehrlich, 1968 and 1969 there were no executions at all, so in these two years by no means might executions have any effect, deterrent or not deterrent. [Remark by the author.]) And: "Evaluated at the mean values over that period, [...] the marginal tradeoffs [...] are found to be 7 or 8 [...] Put differently, an additional execution per year over the period in question may have resulted, on average, in 7 or 8 fewer murders." (In: Ehrlich: *The Deterrent Effect of Capital Punishment: A Question of Life and Death*, *op. cit.*, pp. 398 and 414.)

²¹ In: Ehrlich: *The Deterrent Effect of Capital Punishment: A Question of Life and Death*, *op. cit.*, p. 417.

apprehend and convict offenders generally have a greater effect on the crime rate than the adjustment of the severity of punishments [...]”.²²

Ehrlich’s methodology and findings were challenged by many scholars. Lots of studies dealt with the correctness of the logarithmic calculation of the regression analysis, the creditability of the data used, the factual existence of the viewpoints of the economic paradigm *etc.* One of the first critiques of Ehrlich’s survey was William J. Bowers and Glenn L. Pierce’s writing²³ in which the authors accused Ehrlich of three things. Firstly, that the FBI Uniform Crime Report on whose data Ehrlich’s findings were grounded is incomplete, therefore the data from before 1958 are absolutely unsteady, and, consequently, they suggested that the ‘willful homicide’ statistics compiled by the Bureau of the Census should be employed instead.²⁴ Secondly, that Ehrlich might not have adopted the murder and execution data after 1964 since in the years between 1965-1969 there were so few executions that from these statistical data relevant conclusions are simply impossible to draw.²⁵ And, thirdly, the logarithmic format, at least as per Bowers and Pierce, is trustworthy only in cases when a variable is at a lower range, but if the execution risk multiplies, measures become unreliable.²⁶ Ehrlich himself, of course, disputed the pertinence of Bowers and Pierce’s critique. He argued that the FBI database is in deed reliable, but, on the contrary, the Census itself is insecure because it contains all types of intentional life-takings including murders, suicides and others unseparated and because the legal status of the different deliberate life-takings are also fuzzy.²⁷ Furthermore, murder rates in the years before 1960 showed little variability, hence, if executions really have a deterrent effect, this can be measured especially

²² In: Ehrlich: *The Deterrent Effect of Criminal Law Enforcement*, *op. cit.*, p. 266. Ditto: “[t]he probability of arrest [...] had a proportionally larger impact on the murder rate than the conditional probability of conviction [...] and that the conditional probability of execution had the least effect.” (In: Ehrlich: *Deterrence: Evidence and Inference*, *op. cit.*, pp. 213-214. *Cp.*: Ehrlich, Isaac – Liu, Zhiqiang: *Sensitivity Analyses of the Deterrence Hypothesis: Let’s Keep the Econ in Econometrics*, pp. 482 and 486. In: *Journal of Law and Economics*, 1999, Vol. 42, April, 455-487; item: Ehrlich, Isaac: *Fear of Deterrence*, p. 309. In: *Journal of Legal Studies*, 1977, pp. 293-316.)

²³ Bowers, William J. – Pierce, Glenn L.: *The Illusion of Deterrence in Isaac Ehrlich’s Research on Capital Punishment*. In: *Yale Law Journal*, 1975-1976, Vol. 85, pp. 187-208.

²⁴ *Cf.*: Bowers – Pierce: *The Illusion of Deterrence in Isaac Ehrlich’s Research on Capital Punishment*, *op. cit.*, pp. 188-192.

²⁵ *Cf.*: Bowers – Pierce: *The Illusion of Deterrence in Isaac Ehrlich’s Research on Capital Punishment*, *op. cit.*, pp. 197-199 and 203-204.

²⁶ *Cf.*: Bowers – Pierce: *The Illusion of Deterrence in Isaac Ehrlich’s Research on Capital Punishment*, *op. cit.*, pp. 200-203.

²⁷ *Cf.*: Ehrlich: *Deterrence: Evidence and Inference*, *op. cit.*, pp. 211-214.

by the sharp changes in the number of executions between 1960-1969.²⁸ In the end, according to Ehrlich, the critiques of the logarithmic form are based on the misunderstanding thereof.²⁹

Nevertheless, besides the critiques mentioned a short while ago, Bowers and Pierce put forth the 'brutalization effect' theorem meaning that capital punishment not only does not deter potential murderers but expressly induces them to commit more homicides. The cause of it, pursuant to this thesis, is the sound assumption that people take samples from others' conduct. If someone sees that even the state does not esteem its citizens as people then he or she could think human life is not worth appreciating more than the state itself does. Bowers and Pierce carried out a research project in 1980 in which they investigated the murder and execution statistics monthly in the states of the USA for the period from 1907 to 1963. They found that two more persons were murdered after each execution than would have been in the case of the condemned not having been executed, that is, than would have happened otherwise.³⁰ (William C. Bailey conducted a similar research in which he analyzed the Chicago homicide and execution statistics between 1915 and 1921 and drew the same conclusion as Bowers and Pierce, that is, that the 'brutalization effect' exists.)³¹ However, Ehrlich regards this inference as improper because he deems Bowers and Pierce (and, certainly, Bailey) confused causes with consequences. According to him, it is not the executions which raise the number of murders but it is the murders that increase the quantity of executions.³² In addition, Ehrlich criticises his critics (Bowers and Pierce) on the ground that, apart from the pure negations, they did not tested their statements against alternative hypotheses,³³ including that capital punishment does not have any deterrent effect,³⁴ and that

²⁸ Cf.: Ehrlich: Deterrence: Evidence and Inference, *op. cit.*, pp. 214-217.

²⁹ Cf.: Ehrlich: Deterrence: Evidence and Inference, *op. cit.*, pp. 217-221 *Cp.*: Ehrlich, Isaac – Gibbons, Joel C.: On the Measurement of the Deterrent Effect of Capital Punishment and the Theory of Deterrence, p. 40. In: Journal of Legal Studies, 1977, pp. 35-50.; and Ehrlich – Liu: Sensitivity Analyses of the Deterrence Hypothesis: Let's Keep the Econ in Econometrics, *op. cit.*, pp. 471-478.

³⁰ Bowers, William J. – Pierce, Glenn L.: Deterrence or brutalization: what is the effect of executions? In: Crime and Delinquency, October, 1980, pp. 453-484.

³¹ Bailey, William C.: Disaggregation in deterrence and death-penalty research: the case of murder in Chicago. In: Journal of Criminal Law and Criminology, 1983, Vol. 74, No. 3, pp. 827-859. For further, logical and empirical, arguments, see: Passell, Peter – Taylor, John B.: The Deterrent Effect of Capital Punishment: Another View. In: American Economic Review, Vol. 67, No. 3, June, 1977, pp. 445-451; *item*: Friedman, Lee S.: The Use of Multiple Regression Analysis to Test for a Deterrent Effect of Capital Punishment: Prospects and Problems. In: Dept. of Econ., University of California at Berkeley, Working Paper No. 38, January 1976, pp. 39-41; Peck, Jon K.: The Deterrent Effect of Capital Punishment: Ehrlich and His Critics. In: Yale Law Journal, 1975-1976, Vol. 85, pp. 359-367.

³² See this argument in detail: Ehrlich – Gibbons: On the Measurement of the Deterrent Effect of Capital Punishment and the Theory of Deterrence, *op. cit.*, pp. 35-50.; *item*: Ehrlich, Isaac: Rejoinder. In: Yale Law Journal, 1975-1976, pp. 368-369.

³³ Cf.: Ehrlich: On Positive Methodology, Ethics, and Polemics in Deterrence Research, *op. cit.*, p. 125.

³⁴ Cf.: Ehrlich: Deterrence: Evidence and Inference, *op. cit.*, pp. 209-210 and 226.

those few positive results presented by them in their paper, were identical with his findings.³⁵ Furthermore, answering the critics castigating the economic paradigm applied as a starting point during all of his research, he pointed out that both *a priori* logic and everyday experience support that people, especially potential criminals, are really influenced by such motivations as the severity of different kinds of punishment and the probability of infliction thereof.³⁶ In the end, he rejected the supposition that he conducted his research for the very purpose of verifying his preconception of the deterrent effect of capital punishment,³⁷ on the contrary, he accused his opponents of the same, that is, that solely their philosophical hostility against the 'deterrence theorem' did lead them to attempt to discredit or simply ignore the otherwise conclusive results.³⁸

However, the most important and most cited rebuttal attempt was that of the *Panel on Research on Deterrent and Incapacitative Effects* established by the *US National Academy of Sciences* in 1975. The report made by this commission³⁹ in 1978⁴⁰ challenged the conclusions about the deterrent effect of capital punishment drawn by Ehrlich. It criticized the logarithmic calculation method offering the linear analysis instead, missed some factors from Ehrlich's study (*e.g.* the number of the members of the National Rifle Association), stated that the increasing number of executions raises the quantity of murders, and blamed Ehrlich for not introducing the impact of the crime, the morals, the values of society and the economic factors in a complex system. Nevertheless, since this project was not able to effectively contest the validity of his findings on the whole Ehrlich regards the outcome of the Panel's examination as proof for not having any faults in his inferences and results. Moreover, the facts stated by the Panel itself expressly reinforce the achievements of Ehrlich's research.⁴¹ In addition, as per him, this investigation suffers from methodological errors.⁴² Hence his end conclusion is that the authors of this commission were engaged in finding faults with his study much rather

³⁵ Cf.: Ehrlich: *Deterrence: Evidence and Inference*, *op. cit.*, pp. 210-211.

³⁶ Cf.: Ehrlich: *On Positive Methodology, Ethics, and Polemics in Deterrence Research*, *op. cit.*, pp. 124-129 and 136.

³⁷ Cf.: Ehrlich: *On Positive Methodology, Ethics, and Polemics in Deterrence Research*, *op. cit.*, pp. 126 and 137.

³⁸ Cf.: Ehrlich: *Fear of Deterrence*, *op. cit.*, p. 295.

³⁹ The chief members of this commission were Walter Vandae, Lawrence R. Klein, Brian Forst, Victor Filatov, Franklin M. Fisher and Daniel Nagin, all of them are well-known as abolitionists.

⁴⁰ *Panel on Research on Deterrent and Incapacitative Effects: Deterrence and Incapacitation: Estimating the Effects of Criminal Sanctions on Crime Rates*.

⁴¹ Cf.: Ehrlich: *Fear of Deterrence*, *op. cit.*, p. 311.

⁴² Cf.: Ehrlich: *Fear of Deterrence*, *op. cit.*, p. 312.

than evaluating the evidences of the deterrence thesis pro and contra on objective and rational grounds.⁴³

In the end, it seems proper to finish the debate over Ehrlich's findings with quotes from himself. These citations better illuminate his own actual standpoint in this matter and correct those misunderstandings that are frequently, but erroneously, attributed to him adding political overtones to this purely academic controversy and, either deliberately or out of neglect, misinterpreting him by his scholarly rivals. Namely, he merely testified the existence of those incentives, including the severity and certainty of state penalties, that affect the potential perpetrators' behavior, that is, positively proved with statistical analyses that, among other factors, the death penalty does deter a certain proportion of potential offenders from committing premeditated murders and, what is more, from hate and passion crimes as well. However, it has already been declared by him in his paper published in 1975 that "[t]hese results do not imply that capital punishment is necessarily a desirable form of punishment",⁴⁴ and not far later, in 1977, he explicitly, and again, stressed that "[e]ven if effective as a deterrent, capital punishment may not be socially desirable".⁴⁵ In the end, in 1982, he wrote as follows: "[i]t certainly does not imply that there is a need to treat offenders inhumanely. [...] I have repeatedly stated that the efficacy and desirability of capital punishment are separate issues. [...] A set of alternative sanctions, or a higher probability of convictions could be used as alternatives to capital punishment if the latter sanction were deemed socially undesirable on other grounds."⁴⁶

2. The 'modern' studies and the debates thereon

As for the latest researches concerning the contingent deterrent effect of the death penalty, they can be, by virtue of their magnitude, that is, spatial or temporal volume and, thus, the soundness of their statements, categorized into two groups. To the first class belong those studies that cover the murder and execution rates of only one or another certain state or that comprise a relatively short interval in which such a change occurred in the death sentencing and/or execution statistics of these state(s) that, at least according to the authors of these studies, is suitable for drawing conclusions about the existence or non-existence of the

⁴³ Cf.: Ehrlich: Fear of Deterrence, *op. cit.*, p. 311.

⁴⁴ Cf.: Ehrlich: The Deterrent Effect of Capital Punishment, *op. cit.*, p. 416.

⁴⁵ Cf.: Ehrlich – Gibbons: On the Measurement of the Deterrent Effect of Capital Punishment and the Theory of Deterrence, *op. cit.*, p. 46.

⁴⁶ Cf.: Ehrlich: On Positive Methodology, Ethics, and Polemics in Deterrence Research, *op. cit.*, pp. 136-137.

deterrent effect of capital punishment therefrom. To the second group belong those empirical investigations, namely, the so-called 'panel studies', which collect the statistical data of given states not simply in a point of time but *over* time so that it can be soundly inferred from time series whether the changes in the legal status or the actual inflictions of the death penalty impact the murder rates (and if so, how and in what direction). Of the former kind of researches I review four studies.

The first one is Cochran, Chamlin and Seth's common paper⁴⁷ in which they examined the change of the attitude of potential murderers towards illegal life-taking on the apropos of the execution of the Oklahoma bomber Charles Troy Coleman on September 10th, 1990.⁴⁸ This execution was held after a 25-year execution-free time period, therefore, according to Cochran *et al.*, this can be regarded as an event that, if it exists, can prove the deterrent effect of capital punishment. The cause of it is not only the fact of the execution itself, but, primarily, the broad publicity thereof. Viz., this single putting to death received a huge media coverage turning the limelight on the issue of the death penalty and the possibility of executing those committing capital crimes. To learn if capital punishment in deed deters criminals from committing murders, they surveyed murder rates with weekly data on the basis of the Uniform Crime Report Supplemental Homicide Reports from January 1989 till December 1991. Approximately in the middle point of this period did the execution in question happen, thus they thought if the murder rates before this event significantly differ from the murder rates after it then it is plausible that this difference is the consequence of Coleman's execution and that the execution of him is the cause of the change in the murder rates in Oklahoma. Cochran and his collaborators came to the conclusion that, on the whole, this execution did not have any, either deterrent or brutalization, effect on the trends of capital homicides perpetrated in this three years' interval. They drew the same conclusion in connection with felony murders,⁴⁹ moreover, they found the number of strange-related homicides and murders of passion slightly but permanently increased after Coleman's execution.⁵⁰ Cochran *et al.* interpreted these results "[a]s an indication that a return to the exercise of the death penalty weakens socially based inhibitions against the use of lethal force

⁴⁷ Cochran, John. K. – Chamlin, Mitchell B. – Seth, Mark: Deterrence or Brutalization? An Impact Assessment of Oklahoma's Return to Capital Punishment. In: *Criminology*, Vol. 32, No. 1, 1994, pp. 107-134.

⁴⁸ They used the statistical method 'ARIMA' (*autoregressive integrated moving average*). (See: Cochran *et al.*: Deterrence or Brutalization?, *op. cit.*, pp. 116-120.)

⁴⁹ Intentional killing of people associated with other severe crimes, e.g. robbery, kidnapping, sexual or physical assault *etc.*

⁵⁰ For the conclusions see in details: Cochran *et al.*: Deterrence or Brutalization?, *op. cit.*, pp. 107., 121-124. and 128-130.

to settle disputes and thereby allows the offender to kill strangers who threaten the offender's sense of self or honor.”⁵¹

In contradiction to Cochran, Chamlin and Seth's study, Cloninger and Marchesini even found an opposite effect as a result of their two separate empirical investigations based on the Illinois and Texas data.⁵² As for the analysis of murder rates in Texas,⁵³ they considered these homicide statistics to be relevant because in 1996 two important events occurred there which were able to weigh influence over the number of murders. The first one took place on 2nd January, 1996 when the Texas Court of Criminal Appeals granted a stay on executions by virtue of the case of *Davis* followed by a *de facto* moratorium after April of 1996. The second one happened on 18th December, 1996 when this court aborted the moratorium rendering possible again to execute those condemned to death. This practice actually began anew from April of 1997, hence Cloninger and Marchesini had three different periods⁵⁴ of time available to compare them with one another in order to get to know how the delay and/or the restoration of the practice of executions affected the trends in criminal homicides. They found that in the second period in which the number of executions decreased by more than eighty percent,⁵⁵ vis-à-vis the first period, the murder rate significantly increased. Contrariwise, in the third period in which 35 convicts were executed, that is, twelvefold than in the second period and twofold than in the first one per year, the murder rate in Texas, compared not only to that of the second period, but also to that of the first one, dramatically decreased. From these facts, the authors concluded that the hypothesis of the deterrent effect is confirmed by the empirical results.

The same conclusion was drawn by them in virtue of the data collected in Illinois around the turn of the millennium.⁵⁶ In this state there were also two such occurrences that, if the deterrent effect exists, could influence the murder rates. As regards the first one, the governor of Illinois, George Ryan declared a moratorium on executions in January of 2000, and as for the second one, he commuted all death sentences to, typically, life imprisonment

⁵¹ Cf.: Cochran *et al.*: Deterrence or Brutalization?, *op. cit.*, p. 129.

⁵² The method used was the so-called portfolio analysis.

⁵³ See: Cloninger, Dale O. – Marchesini, Roberto: Execution and deterrence: a quasi-controlled group experiment. In: *Applied Economics*, 2001, Vol. 33, No. 5, pp. 569-576.

⁵⁴ Before April of 1996, from April of 1996 through April of 1997, after April of 1997.

⁵⁵ Before the point in the border of the first and second period investigated 17 executions took place per year, however, after it, only three inmates were put to death until the beginning of the third period.

⁵⁶ See: Cloninger, Dale O. – Marchesini, Roberto: Execution Moratoriums, Commutations and Deterrence: The Case of Illinois. In: *Applied Economics*, 2006, Vol. 38, No. 9, pp. 967-977. (*Working paper in Internet*: [http://bpp.wharton.upenn.edu/jwolfers/data/DeathPenalty/Cloninger%20&%20Marchesini%20-%20Illinois%20\(2005\).pdf](http://bpp.wharton.upenn.edu/jwolfers/data/DeathPenalty/Cloninger%20&%20Marchesini%20-%20Illinois%20(2005).pdf), June, 2005 /23 p./)

exactly three years later, in January of 2003.⁵⁷ Both these acts of Governor Ryan advanced to weaken the fear of capital punishment, thus, in order that it can be reasonable to assume that this legal consequence prevents at least some potential offenders from committing severe crimes it has to be seen that after both these events the number of capital offenses dropped. The results of Cloninger and Marchesini's analysis underpinned this expectation, scilicet they found that, on the one hand, the hazard of murder notably increased during the period for January 2000 to January 2003 compared to the murder rates before 2000 and, on the other hand, clearing of death row in 2003 increased the plausibility of somebody being killed even more than the pure commutations did.⁵⁸ According to the authors' calculus, the increased jeopardy resulted in an approximately 150 additional homicides during those 48 months following the declaration of the moratorium in the beginning of 2000.⁵⁹ Moreover, they predict both that "[s]hould abolition occur the risk of homicide to the citizens of Illinois would again increase"⁶⁰ and that "a resumption of executions in Illinois would thereby reduce the risk of homicide".⁶¹

In contrast to Cloninger and Marchesini's results, Lisa Stolzenberg and Stewart J. D'Alessio found no evidence in their common study⁶² for any effect among either execution risk and murder incidents, in any direction, or newspaper publicity surrounding executions and homicide events.⁶³ They examined, on the one hand, the number of murder incidents, as opposed to that of homicides or the murder rates,⁶⁴ in Houston, Texas for the period from January 1st through December 31st 1994 and, on the other hand, the number of executions publicized in the most popular local newspaper, Houston Chronicle, during the same interval. It could be reasonably assumed that if executions deter potential perpetrators from their planned crimes, this impact is concerned with not the execution itself but the cognizance thereof. Hence, it had to be investigated whether well publicized executions influence the

⁵⁷ The authors set the statistics of the 60, 36 and 12 months preceding and following the first and the second event, respectively, against each other also with the portfolio analysis.

⁵⁸ See *e.g.*: Cloninger – Marchesini: Execution Moratoriums, Commutations and Deterrence, *op. cit.*, pp. 1 and 7-9.

⁵⁹ *Cf.*: Cloninger – Marchesini: Execution Moratoriums, Commutations and Deterrence, *op. cit.*, pp. 1, 8 and 9.

⁶⁰ *Cf.*: Cloninger – Marchesini: Execution Moratoriums, Commutations and Deterrence, *op. cit.*, p. 9.

⁶¹ Cloninger – Marchesini: *ib.*

⁶² Stolzenberg, Lisa – D'Alessio, Stewart J.: Capital Punishment, Execution Publicity and Murder in Houston, Texas. In: Journal of Criminal Law and Criminology, Vol. 94, No. 2, 2003-2004, pp. 351-379.

⁶³ They employed the procedure ARMA (*autoregressive moving average*) which enabled them to measure the relationship among the factors mentioned above reciprocally. Namely, it is possible that it is not the executions that affect murders, but, on the contrary, it is murders that influence executions. (For the usage of this method, see: Stolzenberg – D'Alessio: Capital Punishment, Execution Publicity and Murder in Houston, Texas, *op. cit.*, p. 352, 356-362 and 367-371.)

⁶⁴ The motive for them to investigate the number of incidents was that people principally pay attention to events during which one or more people were killed but not to the pure numbers of victims murdered by offenders.

number of homicide events. From their analysis, Stolzenberg and D'Alessio drew the conclusion that there is no empirical proof for the existence of this kind of effect. Nevertheless, it also could be feasible that the effect is inverse, therefore, they tested this latter assumption as well. The result of the test was the same as in the former case, that is, at least pursuant to their study, murder incidents do not affect (neither increase, nor decrease) the number of executions. This means that, for instance, even the increasing number of murders (murder incidents) does not make prosecutors ask death sentences for convicts or have judges pass the ultimate legal sanction more often than otherwise. As a consequence of these results and, specifically, of the former one, Stolzenberg and D'Alessio states that executions actually do not have any, either deterrent, or brutalization, effect or, if these effects do exist, they are of equal amplitude and thereby extinguish each other.⁶⁵

However, the common failure of the analyses just presented is that they, in fact, are ineligible to establish valid inferences and general trends since the data underlying these results are intentionally limited either in space or in time or in both. Merely by virtue of the criminal statistics of a few years and/or a few states, especially of one and only state, defensible conclusions cannot be drawn, in particular when the events that might influence the murder rates are so rare as it were in the cases mentioned above. This is true to a greater extent for Cochran *et. al.*'s research which attempted to ascertain on the strength of a sole execution if capital punishment can indeed prevent capital crimes, moreover, this single putting to death concerned such an offender who had committed not a 'simple' life-threatening crime but an extraordinarily severe crime against the state. Nevertheless, not only the confutation but also the verification cannot be carried out by such a restricted stock of data, therefore the empirical investigations surrounding the millennium employed not time series or cross section analyses but an alloy of them, that is, the so-called 'panel' method. While time series analyses measure the footing of a specific state in different times (years, months or weeks) and cross section analyses investigate certain statistical data of different states at the same time (in the same year, month or week), the 'panel' method mixes these two procedures enabling researchers to compare a particular trend (*e.g.* of crimes) of a certain state at a certain time with the same type of trend of a different state in a different time. From this kind of empirical investigations emerges Paul R. Zimmermann' study, as well as H. Naci Mocan and R. Kaj Gittings's common paper, nonetheless, the greatest influence on further

⁶⁵ Cf.: Stolzenberg – D'Alessio: Capital Punishment, Execution Publicity and Murder in Houston, Texas, *op. cit.*, pp. 368-374.

debates has been exercised by the researches of Joanna M. Shepherd carried out either by herself or in common with other scholars.

As regards, firstly, Zimmerman's analysis,⁶⁶ he examined⁶⁷ the state-level statistical data from those two decades following the reintroduction of capital punishment, that is, for the period of 1978 and 1997, concerning all the fifty states⁶⁸ of the United States. The data investigated included not only the usual murder and execution rates, but also, among others, the economic and demographic factors relevant to the issue of the possible deterrent effect of the death penalty,⁶⁹ the plausibility of being arrested for murder, the marginal probability of being sentenced to death given apprehension for homicide, the likelihood of being executed given death verdict, the number of 'botched' executions per previous year, the lagged number of inmates exonerated from death row per year *etc.* Zimmerman assumed that if executions have deterrent effect, it manifests neither in the year of passing the death sentence nor many years later but directly after the inner cognitive processing of the experience lived to see, that is, in the year just following the year of putting to death. Therefore, he measured the effect of a death verdict brought in in year t in year $t+1$ and the impact of a death sentence passed in year $t-1$ in year t . From these investigations he concluded that each execution saves, on average, approximately fourteen (at least four, at most twenty-five) lives of innocent people per year.^{70 71} However, this effect does not arise from the mere existence of the ultimate legal sanction but from the real plausibility of capital criminals condemned to death being executed with, possibly, high publicity.⁷² Nevertheless, Zimmerman simultaneously made it evident that the deterrent effect can be connected not only with executions but with the accession of

⁶⁶ Zimmerman, Paul R.: State Executions, Deterrence, and the Incidence of Murder. In: *Journal of Applied Economics*, Vol. VII, No. I, 2004, pp. 163-193.

⁶⁷ The procedure of the analysis was the 2SLS (*two-stage least squares*). See this method: Zimmerman: State Executions, Deterrence, and the Incidence of Murder, *op. cit.*, pp. 173-174.

⁶⁸ Excluding District of Columbia.

⁶⁹ *E.g.* the state unemployment rate, the poverty rate, the percentage of the population that is black, that is between the ages of 18-24, 25-44, 46-64 and over 65 years, that is inhabitants of one of the metropolitan areas *etc.*

⁷⁰ See in particular: Zimmerman: State Executions, Deterrence, and the Incidence of Murder, *op. cit.*, pp. 163, 166, 184-185 and 190.

⁷¹ This estimation is, even according to Zimmerman, only true for the initial executions but cannot apply in case of an increased execution rate. (*Cf.*: Zimmerman: State Executions, Deterrence, and the Incidence of Murder, *op. cit.*, p. 189.)

⁷² In Zimmerman's own words: "[h]aving a death penalty provision on the books but not meting out executions will not force potential offenders to update their subjective probability assessments and do little to deter the rate of murder". In addition, "[t]he announcement effect of capital punishment, as opposed to the existence of a death penalty provision, is the mechanism actually driving the deterrent effect associated with state executions". (*Cf.*: Zimmerman: State Executions, Deterrence, and the Incidence of Murder, *op. cit.*, p. 188 and 190.)

per capita prisoner and police rates as well,⁷³ indicating that the efficient criminal investigation, that is, the sure apprehension and conviction of the offenders, may also be apt to deter possible murderers to commit life-threatening crimes.⁷⁴ In the end, he admonishes, as Ehrlich did in the seventies, too, that "[e]ven if capital punishment is a deterrent it does not follow that capital punishment should be imposed. The apparent sentencing of innocent persons to death in the U.S. marks a serious flaw with the system of capital punishment, and further measures must be implemented to ensure that such mistakes do not continue."⁷⁵

As a whole, similar inferences were drawn by Mocan and Gittings from their detailed study.⁷⁶ They analyzed the state level panel data for the period between from 1977 to 1997 using a new source of data, *Capital Punishment in the United States, 1973-1998* by the U.S. Department of Justice. This compilation of data contains all the 6,143 murders committed in the interval in question, moreover, it embraces all actions concerning these murders taken by the authorities, viz. the precise time of the arrest of the supposed perpetrators, the condemnation of them, the execution of their death verdicts, the occurrent commutation of their death sentences (typically to life imprisonment), item their absolute release from the death cells by virtue of proving their innocence. They investigated other, social or economic, factors⁷⁷ as well as the prisoner death rates per year. They also measured the coefficient of 'all removals from death row' including those convicts who either received subsequently a commuted sentence, or were released on the score that their capital sentences had been declared unconstitutional or were exonerated from death row on the grounds of their condemnations and/or death sentences being overturned by an appellate court or became paroled. However, all these events (arrests, convictions, executions, commutations, removals *etc.*) do not count to the year when they happened in their entirety but only to the extent they were felt during the given year.⁷⁸ Having examined all these sets of data, they found that each additional execution lowers homicides by approximately 5, every additional commutation increases murders by the same amount and each additional removal from death row brings

⁷³ Cf.: Zimmerman: State Executions, Deterrence, and the Incidence of Murder, *op. cit.*, p. 185.

⁷⁴ *Ib.*

⁷⁵ Cf.: Zimmerman: State Executions, Deterrence, and the Incidence of Murder, *op. cit.*, pp. 190-191.

⁷⁶ Mocan, H. Naci – Gittings, R. Kaj: Getting Off Death Row: Commuted Sentences and the Deterrent Effect of Capital Punishment. In: *Journal of Law and Economics*, Vol. 46, No. 2, 2003, pp. 453-478.

⁷⁷ *E.g.* the state unemployment rate (being, as usual, the most important one), the real per capita income, the ratio of blacks, of people in certain age groups and of people living in urban areas in the total population, the infant mortality rate and the legal drinking age of the states investigated.

⁷⁸ For example, if an execution takes place in November of 1980, then 2/12 of the 12 months lasting effect fall on 1980 and 10/12 of it fall on 1981. (See this *e.g.*: Mocan – Gittings: Getting Off Death Row, *op. cit.*, pp. 456 and 460-461.)

about one additional homicide.⁷⁹ Hence, according to Mocan and Gittings, this study empirically evidenced that the ideally greatest cost of any crimes affects potential murderers' behaviour. But this is also true for the arrest and conviction rates⁸⁰ (however, only to a lesser degree), therefore it cannot be asserted that the only effective instrument for fighting against capital crimes is the execution of those committing such offenses.⁸¹ Besides these, in opposition to Zimmerman, they also found that even the mere existence of the ultimate legal consequence has some deterrent effect. According to Mocan and Gittings, purely regulating capital punishment in a certain state decreases the number of homicides by about 64 per year.⁸² In the end, they also established, not surprisingly, that there is no correlation between, on the one hand, the number or ratio of executions, commutations and releases from death row and, on the other hand, such non-capital crimes as robberies, burglaries, rapes and motor-vehicle thefts^{83 84} proving the death penalty to impact solely, *i.e.* with its total volume, on capital crimes.

3. Shepherd's researches

The most important, most extensive and, at the same time, most controversial studies surrounding the millennium are, however, connected not to Zimmerman or Mocan and Gittings but to Joanna M. Shepherd. She, either on her own or along with other economists, pursued four empirical investigations at the very beginning of the 21st century as a result of all of which she found that capital punishment has indeed, more or less, deterrent effect. The first of them was a study conducted in common with Hashem Dezhbakhsh and Paul H. Rubin⁸⁵ that, in contempt of numerous similarities with Ehrlich's investigation, even in its starting

⁷⁹ Cf.: Mocan – Gittings: *Getting Off Death Row*, *op. cit.*, pp. 456, 466, 469 and 474.

⁸⁰ The number of prisoners also indicates it, since it is a negative correlation between the number of inmates and the murder rate, that is, if the former increases then the latter decreases.

⁸¹ Ehrlich and Zimmerman, as it could be seen, stated the same.

⁸² Cf.: Mocan – Gittings: *Getting Off Death Row*, *op. cit.*, p. 467.

⁸³ This analysis was conducted to check whether the presumed deterrent effect of capital punishment is murder-specific. *Viz.*, it is theoretically imaginable that the enhanced danger prevents someone to commit such a crime that on its own cannot be sanctioned with death (*e.g.* burglary, robbery *etc.*) but the offense committed by a 'simple' burglar, robber *etc.* encountering opposition might possibly result in a homicide. (Cf.: Mocan – Gittings: *Getting Off Death Row*, *op. cit.*, p. 473.)

⁸⁴ Katz, Levitt and Shustorovich in their common study, not presented here, drew the same conclusion. (See: Katz, Lawrence – Levitt, Steven D. – Shustorovich, Ellen: *Prison Conditions, Capital Punishment and Deterrence*, pp. 318 and 339. In: *American Law and Economics Review*, Vol. 5, No. 2, 2003, pp. 318-343.)

⁸⁵ Dezhbakhsh, Hashem – Rubin, Paul H. – Shepherd, Joanna M.: *Does Capital Punishment Have a Deterrent Effect? New Evidence from Post-moratorium Panel Data*. In: *American Law and Economics Review*, Vol. 5, No. 2, 2003, pp. 344-376. *Working paper in Internet*: <http://www.cjlf.org/deathpenalty/DezRubShepDeterFinal.pdf> (47 p.)

points differs from the method used by Ehrlich himself. First of all, Ehrlich applied national level data while Shepherd *et al.* thought if the death penalty has any effect, then, on the one hand, it is linked to the state actions (arrests, convictions and executions), hence, this effect can only be measured by examining the state or, what is more, county level data and, on the other hand, regional distinctions which may have important role on criminal tendencies disappear by an aggregate analysis.⁸⁶ The second difference was that of the regression method; namely, Ehrlich used a logarithmic while Shepherd *et al.* employed a linear specification.^{87 88} And, in the end, as to the third difference, Shepherd *et al.* had regard, among the 'other factors',⁸⁹ for the prevalence of firearms on the grounds of the National Rifle Association membership rate per state since, according to them, the easy accessibility of guns can influence the violent crime rate producing an increase in the number of murders.⁹⁰ Dezhbakhsh, Rubin and Shepherd took into consideration, besides the 'other factors' mentioned just above,⁹¹ the number of murders, arrests of murderers, their condemnation to death given apprehension and executions of their death sentences given conviction for the first two decades of the post-moratorium period in the USA, *i.e.* from 1977 to 1996, covering all the 3,054 counties (given that county level data were available at all).⁹² The arrest probability was measured by number of arrests for homicide in year t divided by number of murders also in year t . The death sentencing feasibility was measured both by number of death sentences at t divided by number of arrests for murder at $t-2$ and by number of death sentences at $t+2$ divided by number of arrests for murder at t . In the end, the execution probability was measured both by number of executions carried out in year t divided by number of death sentences in year $t-6$ and by number of executions carried out in year $t+6$ divided by number of death sentences in year t . The lags of 0, 2 and 6 years, respectively, refer to the empirical fact that, in general and on average, between the date of murder and the date of arrest of the

⁸⁶ As a consequence of it, the so-called 'aggregation bias' can solely be avoided by using state or county, but not national, level data. (Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 2, 3, 16 and 25.)

⁸⁷ Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 11 and 16.

⁸⁸ The statistical procedure employed was the method of 2SLS (*two-stage least squares*). (See *supra* note 67.)

⁸⁹ *E.g.* real per capita income and unemployment insurance payments; percentage of the population that is teen or of other age groups, male, black or of other minorities, that lives in urban or in rural areas; expenditure on police and on judicial system *etc.* (Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 13-16.)

⁹⁰ Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 16 and 30.

⁹¹ See *supra* note 88.

⁹² This is not the case, for instance, concerning executions since putting an offender actually to death, that is, executing a death sentence, falls specifically within the competence of the states.

perpetrator suspected of murder passed only a few weeks or months, between the date of arrest for murder and the time of the supposed murderer's conviction passed two years, and, finally, between the time of passing a death sentence and the date of the convict's execution passed six years in the period investigated by Shepherd *et al.*⁹³ With this, they conducted several controlling analyses to learn how sound the inference is made from these investigations. In these checks, among others, they changed the period analyzed, the regression method, the geographic area (having substituted state level for national level) *etc.* creating altogether 55 different models. Of these specifications 49 significantly and further 4 insignificantly supported⁹⁴ the anticipatory assumption that the death penalty has a powerful deterrent effect.⁹⁵ However, this impact is associated not only with executions but with apprehensions and condemnations as well provided that in the state examined those death verdicts brought in are in deed carried out.⁹⁶ At last, as for the deterrent effect of actual executions itself, Shepherd *et al.* estimated, with 95 percent confidence, that each additional execution lowers the number of murders, on average, by 18 (at least by 8, at most by 28).^{97 98}

In another study⁹⁹ Shepherd, this time on her own, examined, on the one hand, what sorts of murders deter in fact and, on the other hand, what effect the length of the stay on death row has on commission of further capital crimes. In point of the first question, she took into consideration, besides the usual economic and demographic factors,¹⁰⁰ the monthly (or, if monthly data were not available, the annual) murder, apprehension, conviction, death sentencing and execution¹⁰¹ rates at state level for the period between 1977 and 1999.¹⁰² The

⁹³ Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 18-19.

⁹⁴ Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 26-29.

⁹⁵ Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 20-21, 23-24 and 30.

⁹⁶ That is, deterrent effect is in relation to a real danger of being executed but not the mere legal status of capital punishment. (Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 21, 24-25.)

⁹⁷ Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, pp. 26 and 30.

⁹⁸ Dezhbakhsh, Rubin and Shepherd's final conclusion is that "[t]he legal change allowing executions beginning in 1977 has been associated with significant reductions in homicide." (Cf.: Dezhbakhsh – Rubin – Shepherd: Does Capital Punishment Have a Deterrent Effect?, *op. cit.*, p. 30.)

⁹⁹ Shepherd, Joanna M.: Murders of Passion, Execution Delays, and the Deterrence of Capital Punishment. In: Journal of Legal Studies, Vol. 33, No. 2, 2004, pp. 283-322. *Working paper in Internet*: http://people.clemson.edu/~jshephe/DPpaper_fin.pdf (40 p.)

¹⁰⁰ *E.g.*, unemployment rate, real per capita income, proportion of certain social groups, for instance that of age, sex, race *etc.* (See: Shepherd: Murders of Passion..., *op. cit.*, pp. 14 and 21.)

¹⁰¹ An execution carried out in a given month counts totally to that month as extensive media coverage surrounds the execution, so the extent of the impact of a soon forthcoming putting to death is, by and large, equal to that of the effect of an execution carried out shortly earlier.

¹⁰² The sources of these data are the FBI Uniform Crime Report Supplementary Homicide Reports and the Bureau of Justice Statistics. (Cf.: Shepherd: Murders of Passion..., *op. cit.*, pp. 21-22.)

monthly analysis was needed since, according to Shepherd, criminals update their expectations not only once a year but much more frequently, so the annual consideration may confuse the distinct impacts of different events happening during a whole year.¹⁰³ Shepherd analyzed the effect of the variables just mentioned on murders between intimates, murders between acquaintances, murders between strangers, crime-of-passion murders, murders committed during other felonies, murders of black people and murders of white people, separately. Shepherd ascertained that both the death penalty sentences and the executions impede possible offenders from perpetrating crimes against life.¹⁰⁴ Numerically expressed, she stated that each death sentence given that in the state in question there are indeed executions realized lessened the number of murders, in general, by 4.5 and that each execution prevented, approximately, further 3 homicides.¹⁰⁵ This impact of death sentencing and executions was true for all subcategories of murders analyzed by Shepherd, but, of course, to different extents,¹⁰⁶ except for murders between strangers.¹⁰⁷ ¹⁰⁸ She specifically highlighted, on the one hand, that even the offenders of not premeditated, emotional violent crimes, such as murders of family members (with Shepherd's terminology, intimates) and homicides during arguments, weigh, at least for a moment, potential costs and benefits as economic paradigm predicts, therefore these crimes are also deterrable¹⁰⁹ and, on the other hand, that the ratio of murders of blacks and whites dropped to the same extent, consequently, even if the application of capital punishment is (or would be) prejudiced, the deterrent effect thereof is by no means biased. This latter means that either white, or non-white culprit is caught, charged with and convicted of some death-eligible offense, sentenced to death and

¹⁰³ "An immediate decline in the murder rate following an execution could be offset by a subsequent increase in the murder rate within the same year caused by an executive pardon or some unobserved variable, so that the annual murder rate shows no change." (In: Shepherd: Murders of Passion..., *op. cit.*, p. 4.)

¹⁰⁴ One of the most important statements of Shepherd's study was the observation that there is a negative correlation between, on the one side, the existence and real practice of capital punishment and, on the other side, the murder rate in a given state. As she claims: "[t]he murder rates in death penalty states have been declining since capital punishment resumed in 1977, while murder rates in non-death penalty states have been increasing. Indeed, the difference in the murder-rate trends between capital punishment states and non-capital punishment states is strongly associated with the changes in the number of annual executions. (In: Shepherd: Murders of Passion..., *op. cit.*, p. 7.)

¹⁰⁵ This means that every imposed and actually carried out death sentence saves, on the whole, about 7.5 persons' lives.

¹⁰⁶ See it in detail: Shepherd: Murders of Passion..., *op. cit.*, pp. 1, 22-25 and 28.

¹⁰⁷ In conformity with the results of Shepherd's research, the homicides committed by unfamiliar persons to victims neither increased nor decreased by passing death sentences or carrying out executions.

¹⁰⁸ The robustness checks corroborated these findings. (See: Shepherd: Murders of Passion..., *op. cit.*, pp. 24-25.)

¹⁰⁹ Cf.: Shepherd: Murders of Passion..., *op. cit.*, pp. 2, 23 and 28.

executed, both white and non-white potential victims equally profit from these state actions.¹¹⁰

As for the second research subject, that is, the issue of whether a short stay on death row, given a subsequent execution, has a greater deterrent effect than a lengthy one,¹¹¹ Shepherd in her study being introduced now assumed that the more time an inmate condemned to death spends in death cell the more plausible that potential capital criminals shrink from committing death-eligible, or even any, murders.¹¹² This latter presupposition lies on the fact that a would-be offender can anticipate neither whether his or her planned villainy falls in what legal category of the different types of murders or that the prosecutor will charge him or her with an offense punishable by death or with an offense punishable by only a lesser penalty (typically life imprisonment) nor if the jury finally find him or her guilty of a death-eligible murder or of another type of homicide. Shepherd observed that from 1977 up to 1999 in death penalty states the number of murders constantly increased year by year while the time spent on death row by capital prisoners also successively lengthened.¹¹³ On the grounds of these facts she stated that potential capital offenders' expectations for post-sentencing period do influence their choices of participating in a given criminal act. Shepherd, as her manner was, quantified her findings this time as well. The results show, pursuant to her calculations, that shortening of each sentenced-to-death murderer's time passed on death row until his or her execution by about two and three-quarter years can reduce the number of murders committed in the given state by one. This means that a 23 percent reduction of any single death row inmate's period spent in death cell can save one possible innocent victim's life.¹¹⁴ Shepherd tested her results against, among other things, the impact of the *Anti-Terrorism and Effective Death Penalty Act of 1996* to learn if this statute by which in cases of certain crimes against the state appellate reviews were limited and thereby the interval from passing the death sentence to the date of execution was shortened, leads to the same consequences as ordinary capital statutes. She found a same mechanism operating, therefore she regarded the upshot of her results just presented as being corroborated. However, she emphasized that these findings on the deterrent effect of a quickly carried out capital punishment deal solely

¹¹⁰ Cf.: Shepherd: Murders of Passion..., *op. cit.*, pp. 24 and 28.

¹¹¹ The assumption of death-row prisoners preferring later executions to earlier ones is suggested by the lots of appeals and clemency pleas submitted by these inmates to lengthen their stay on death row. (Cf.: Shepherd: Murders of Passion..., *op. cit.*, pp. 2 and 9.)

¹¹² The data set used was that of the first issue as well, supplemented by the dates of getting on and out of death row of those condemned to death.

¹¹³ The average time spent on death row was about one year in 1981 and almost 12 years (11 years and 11 months) in 1999. (Cf.: Shepherd: Murders of Passion..., *op. cit.*, p. 9.)

¹¹⁴ Cf.: Shepherd: Murders of Passion..., *op. cit.*, pp. 2 and 27.

with the benefits of the ultimate legal sanction but not with the drawbacks thereof. Hence, according to Shepherd, the lawmaker must in advance compare the former with the latter in order to achieve positive balance with the death penalty legislation and practice.¹¹⁵

The third research conducted by Shepherd was made jointly with, again, Hashem Dezhbakhsh but this time, unlike the first one, without Paul H. Rubin;¹¹⁶ the publication of the results of this empirical investigation befell in 2004. In this inquiry Shepherd and Dezhbakhsh examined the murder, death sentencing and execution rates in all fifty states plus the District of Columbia with annual breakdown for the period of 1960 and 2000 which covered those years preceding, following and coinciding the moratorium on capital punishment imposed, in the most states, in 1972 and lifted, also in general, in 1976.¹¹⁷ Nevertheless, if a state suspended the death penalty in an earlier or later year or reinstated it at another time than the other states Shepherd and Dezhbakhsh took into consideration the year when the abrogation and the reinstatement of this legal sanction *actually* took place in the given state since the real effect of capital punishment on potential criminal offenders' behaviour could be measured only by regarding the legal changes at local (that is, state, and not national) level where capital statutes are enacted or abolished and where executions are in deed carried out.¹¹⁸ They attempted to determine the impacts of the changes of the legal status of capital punishment by three methods. Firstly, they compared in each relevant state the homicide rates in the year right before the legal change with the year promptly following it.

¹¹⁵ As Shepherd herself wrote, "[t]he advantages of additional deterrence would need to be weighed against the costs of potential errors from fewer appeals." (In: Shepherd: Murders of Passion..., *op. cit.*, p. 27.)

¹¹⁶ Dezhbakhsh, Hashem – Shepherd, Joanna M.: The Deterrent Effect of Capital Punishment: Evidence from a Judicial Experiment. In: American Law & Economics Association Annual Meetings, Paper 18, February 2004. *Working paper*: Berkeley Electronic Press: <http://law.bepress.com/cgi/viewcontent.cgi?article=1017&context=alea> (30 p.)

¹¹⁷ In 1972 the Supreme Court declared the practice of capital punishment pursued by the states up to that time unconstitutional and four years later it held the revised capital statutes constitutional. (For further details of the history of this kind of legal consequence in the USA see *e.g.*: Toth J., Zoltan: The Death Penalty in the United States. *Collega*, Vol. 10, No. 2-3., 2006, pp. 270-274; Toth J., Zoltan: The History of Capital Punishment in the United States. *Jogelméleti Szemle*, Vol. 8, No. 2 (Internet: <http://jesz.ajk.elte.hu/tothj30.html>); Bedau, Hugo Adam: Abolishing the death penalty in the United States: an analysis of institutional obstacles and future prospects. In: Hodgkinson, Peter – Schabas, William A. (ed.): *Capital Punishment. Strategies for abolition*. Cambridge University Press, 2004, pp. 186-207; Hochkammer, William O., Jr.: The Capital Punishment Controversy. In: James A. McCafferty (ed.): *Capital Punishment*. Aldine Atherton, Inc., Chicago and New York, pp. 65-87; Most Death Penalties Are Unconstitutional: *Furman v. Georgia* (1972). In: Hugo Adam Bedau (ed.): *The Death Penalty in America*. Oxford University Press, 1982, pp. 253-270; Tabak, Ronald J.: Capital punishment in the United States: moratorium efforts and other key developments. In: Hodgkinson, Peter – Schabas, William A. (ed.): *Capital Punishment. Strategies for abolition*. Cambridge University Press, 2004, pp. 208-232; The Death Penalty Is Not Per Se Unconstitutional: *Gregg v. Georgia* (1976). In: Hugo Adam Bedau (ed.): *The Death Penalty in America*. Oxford University Press, 1982, pp. 271-288.

¹¹⁸ If such a legal change did not at all occur during the period examined in a certain state then this state was not taken into account for this analysis. On the contrary, if such an alteration occurred in a state twice or more Shepherd and Dezhbakhsh regarded all these as distinct events.

Secondly, they compared the average of those two years preceding the alteration of the legal status with the average of those two years succeeding it and, thirdly, they did it regarding not two but three-year averages.¹¹⁹ Within such a short interval the economic, demographic and social features of a state hardly change, hence significant differences between the murder rates in premoratorium and postmoratorium periods in the states investigated can exclusively be the consequence of the changes in the legal environment.¹²⁰ Pursuant to the results of the research the homicide rate increased, on average, by 9.3 % in the year, by 16.3 % in those two years and by 20.9 % in those three years following the suspension or abolition of the death penalty as compared to the year, those two years and those three years, respectively, preceding this same change. On the contrary, after the moratorium was lifted the murder rates dropped by 8.3 % in the year, by 8.2 % in those two years and by 4.1 % (of course, on average) in those three years following the reinstatement of capital punishment, as opposed to the year, those two years and those three years, respectively, preceding it.¹²¹ In other words, Shepherd and Dezhbakhsh found that there is a negative correlation between murder trends and the practice or pure legal existence of capital punishment, that is, the more severe penalty can be imposed on offenders in a certain state for particular crimes the fewer grave offenses are committed by potential perpetrators.¹²² However, to learn whether the opposite trends between murders and strong hand policy derive indeed from the deterrent effect of capital punishment Shepherd and Dezhbakhsh conducted a test analysis in which they examined the trend of property, that is, non-death-eligible, crimes. Namely, if murder trends are similar to property crimes trends regardless of whether capital punishment has just been abolished or reinstated in the state(s) investigated and these trends tend to move together then it is highly plausible that murders themselves are affected by broader criminal trends but if these trends move independently from each other then general criminal behaviour cannot cause changes in the number of homicides in a few-year period. This check of the soundness of their findings

¹¹⁹ Cf.: Dezhbakhsh – Shepherd: The Deterrent Effect of Capital Punishment, *op. cit.*, pp. 10 and 13-14.

¹²⁰ Cf.: Dezhbakhsh – Shepherd: The Deterrent Effect of Capital Punishment, *op. cit.*, p. 2.

¹²¹ From these data it can, however, be seen that abolishing or even just suspending capital punishment had greater impact on murder rates than reinstating it. This fact, according to Shepherd and Dezhbakhsh, can be explained by three reasons. "First, in 1972 the Supreme Court not only suspended executions but also commuted the sentences of many death row inmates. The combined effect was perhaps more potent than its reversal that involved only a change in the death penalty statutes. Second, the ban on executions that took place simultaneously across the country was more dramatic, and caught more public attention, than the switch back to the death penalty that occurred at a staggered pace over two decades. Finally, suspending the death penalty necessarily stops executions, but reinstating the death penalty does not guarantee new executions." (In: Dezhbakhsh – Shepherd: The Deterrent Effect of Capital Punishment, *op. cit.*, p. 16.)

¹²² Cf.: Dezhbakhsh – Shepherd: The Deterrent Effect of Capital Punishment, *op. cit.*, p. 1-2, 10, 14-15, 18, 20-23, 25 and 27.

resulted in that, though both the rate of murders and the rate of car thefts, pickpocketings, burglaries *etc.* moved in the same direction and approximately to the same extent, that is, both increased before and during the moratorium, after the reintroduction of capital punishment the property crimes rates kept rising while homicide rates began to decline. Thus, according to Shepherd and Dezhbakhsh, "[t]he deterrent finding is not the result of general trends in crime",^{123 124} but, solely, of capital punishment itself (at least, as for capital crimes).^{125 126}

In her fourth study,¹²⁷ Shepherd, for this once again by herself, ventured upon revealing whether there is any common attribution among the different states performing executions concerning the practice of capital punishment. For the sake of it, she had resort to those methods and data she had used with Hashem Dezhbakhsh and Paul H. Rubin during their research presented at the beginning of this chapter, that is, shortly, she analyzed, *inter alia*, the murder, arrest, death sentencing and execution rates for the interval between 1977 and 1996 for 3,054 counties (for certain types of data, at state level). Her exposure was astonishing since the results showed, on the one hand, that executions had deterrent effect at national level but, on the other hand, this impact seemed to be only owing to six, highly pro-death penalty states. It was more shocking that, according to her findings, of those 27 states where at least one execution occurred during those two decades' period analyzed in eight capital punishment had no impact at all and, what is more, thirteen experienced a brutalization effect.¹²⁸ *Videlicet*, there were more than twice as many states in which the death penalty induced more murders as in which it decreased the number of homicides. Furthermore, Shepherd observed two opposing effects to exist at the same time. First, every execution begins to make people being aware of the execution consider human life as a characteristic that can be deprived of those having been deemed as worthless by the offender. That is, state-performed executions provide sample for people susceptible to violence to 'resolve' their

¹²³ In: Dezhbakhsh – Shepherd: *The Deterrent Effect of Capital Punishment*, *op. cit.*, p. 25.

¹²⁴ Also: "As expected, crimes that are not punishable by death are unaffected by changes in death penalty statutes or the frequency of executions." (In: Dezhbakhsh – Shepherd: *ib.*)

¹²⁵ *Cf.*: Dezhbakhsh – Shepherd: *The Deterrent Effect of Capital Punishment*, *op. cit.*, pp. 3 and 24-26.

¹²⁶ However, at the end of their study, Shepherd and Dezhbakhsh warned again that "[t]his convincing evidence for the deterrent effect does not necessarily indicate that capital punishment is sound policy. Although executions provide a large benefit to society by deterring murders, they also have costs; these include the harm from the death penalty's possibly discriminatory application and the risk of executing innocent people. Policymakers must weigh the benefits and costs to determine the optimal use of the death penalty." (In: Dezhbakhsh – Shepherd: *The Deterrent Effect of Capital Punishment*, *op. cit.*, p. 27.)

¹²⁷ Shepherd, Joanna M.: *Deterrence versus Brutalization: Capital Punishment's Differing Impacts among States*. In: *Michigan Law Review*, Vol. 104, No. 2, 2005-2006, pp. 203-255.

¹²⁸ In other words, capital punishment deterred murder only in 22 % of the states while in 78 % it did not, moreover, on the contrary, in 48 % it induced additional homicides. (*Cf.*: Shepherd: *Deterrence versus Brutalization*, *op. cit.*, pp. 205, 206, 230-231 and 247.)

conflicts in a similar way. Second, however, the practice of executions in a given state incites potential capital criminals to refrain from committing life-threatening offenses because the more executions are accomplished the greater the plausibility of a murderer being taken to scaffold and they thereby become more convinced "[t]hat the state is serious about the punishment, so that the criminals start to reduce their criminal activity".¹²⁹ The cause of the fact that the most severe legal consequence had deterrent effect at national level as for the period investigated (1977-1996) but not in the majority of the states is, according to Shepherd, that the deterrent impact of the law enforcement of those states frequently executing murderers remarkably outweighed the slight brutalization effect of those states in which there were very few executions in these twenty years. Overall, she found that in this period, all things considered, capital punishment saved about 7,000 lives in deterrent states and caused approximately 5,200 additional murders in brutalization states. Considering also those 358 offenders executed in this interval it can be stated, pursuant to Shepherd's calculations,¹³⁰ that by means of the death penalty the USA achieved a net gain of 66 people's lives saved per year as compared with a situation in which there would not have been executions in the states of the USA at all. However, these results, according to her, are not in the slightest reassuring since this means that several thousands of persons died in vain because of the death penalty, therefore if the executions were ceased in brutalization or no-effect states then innocent people's lives would not be risked in the future.

Shepherd believed to have recovered the ultimate wherefore of these simultaneously impacting opposite effects in the 'threshold effect' the label of which refers to the different number of executions conducted in the brutalization and deterrent states. Namely, this effect designates a limit in the number of executions for the period of 1977-1996 below which a state experiences brutalization and above which a state experiences deterrence. This dividing line was at about nine, or rather somewhere between six and eleven,¹³¹ executions during the twenty-year interval investigated, so at about half execution per year. This means that if a state is apt to execute capital offenders frequently capital punishment can save more persons' lives than the number of lives lost by the brutalization effect. That is to say, each and every execution has, as mentioned above, two opposing effects, but while even the first putting to death creates an atmosphere in which possible culprits tend to devalue human life to a large

¹²⁹ In: Shepherd: Deterrence versus Brutalization, *op. cit.*, p. 206.

¹³⁰ See these calculations in detail: Shepherd: Deterrence versus Brutalization, *op. cit.*, pp. 232-233.

¹³¹ The precise value of it depends on the other attributes of the states. (Cf.: Shepherd: Deterrence versus Brutalization, *op. cit.*, p. 239, item, associating with it, pp. 237 and 242.)

extent, in order for potential capital criminals to be recoiled from committing such crimes the state needs to execute many more people (at least, on average, nine during a twenty-year period). In fact, according to Shepherd, the first few executions bestialize people mostly but hardly frighten them. However, as more and more executions occur in a state the potential offenders' fear of having their lives taken from them by the state if they were caught grows persistently and at about the ninth execution (in a two-decade interval) the extent of this fear, that is, the deterrent effect of capital punishment, reaches and then outpaces the brutalization effect thereof. The cause of it is, presumably, that no more than one execution is already sufficient for exemplary behaviour and hereby absorbs the 'norm' of killing somebody on the grounds of the state providing sample while the offenders take the danger of the execution seriously if and only if they see that the state is really determined to execute those criminals committing offenses for which they may as well be sentenced to death.¹³² Last but not least, however, from these findings, according to Shepherd, several criminal and social policy consequences emerge, too. Of these implications the most important one is that "[t]o achieve deterrence, states must generally execute many people. If a state is unwilling to establish such a large execution program, it should consider abandoning capital punishment."¹³³

4. Shepherd: extensions and critiques

Of those studies concerning the occurrent deterrent effect of the death penalty the latest ones deal for the most part with Shepherd's researches and to a lesser degree with previous essays. These recent studies have essentially two types. Those belonging to the first type refer to the moral implications of employing capital punishment. From these there are Cass R. Sunstein and Adrian Vermeule's two common papers¹³⁴ emerging the main thesis of which is that if imposition of death sentences and carrying out executions can indeed discourage criminals from perpetrating murders then it is (would be) not only ethically permissible but expressly morally required.¹³⁵ And of those writings belonging to the second type there are, partly,

¹³² See all these *e.g.*: Shepherd: Deterrence versus Brutalization, *op. cit.*, pp. 205-206, 233-242 and 247-248.

¹³³ In: Shepherd: Deterrence versus Brutalization, *op. cit.*, p. 248.

¹³⁴ Sunstein, Cass R. – Vermeule, Adrian: Is Capital Punishment Morally Required? Acts, Omissions, and Life-Life Tradeoffs. In: Stanford Law Review, Vol. 58, 2005-2006, pp. 703-750; Sunstein, Cass R. – Vermeule, Adrian: Deterring Murder: A Reply. In: Stanford Law Review, Vol. 58, 2005-2006, pp. 847-857.

¹³⁵ As per them, abolitionists believe that capital punishment is impermissible on moral grounds even if it is proved to be able to deter vicious crimes to a high extent. This view rests on that there is a moral distinction between an act and an omission. Referring this claim to the issue of the death penalty, if a state executes an offender, abolitionists say, then it *kills* him or her, but if it does not allow anybody to be sentenced to death, then it merely omits to defend potential murderers' possible victims, that is, *let* them *die*, and because of this

Fagan, Zimring and Geller's common paper on the attempt to disprove the 'new deterrence' and, partly, Donohue and Wolfers's essay deserving attention. As the issue of my paper is not the moral questions of capital punishment but merely the existence or non-existence of the deterrent effect thereof, in this chapter I am going to examine only these latter studies. As for, firstly, Fagan *et al.*'s analysis,¹³⁶ they set out from that if capital punishment (either the existence of a death penalty statute or the number of death sentences and executions in a given state)¹³⁷ deters crime then this impact is concerned primarily, or even exclusively, with those murders eligible for death while for the other nonnegligent homicides this effect obviously does not expand since these latter types of murders cannot be punished by death.¹³⁸ Hence, they regard the econometric surveys not distinguishing the two kinds of murders as fundamentally misguided on the basis that these researches find such 'evidence' which is irrelevant to the issue of capital punishment.¹³⁹ However, according to Fagan *et al.*, as the econometric surveys, except for one and only, do not take into account this crucial distinction, their results are unreliable and thereby inappropriate for drawing sound conclusions therefrom. The only one empirical investigation which they deem to be proper as regards the recognition of this differentiation, at least in principle, is that of Shepherd introduced above as her secondly-conducted study, but, also as per Fagan *et al.*, eventually even this one did not determine the various subtypes of murder, except the 'crimes of passion', and analyze them separately.¹⁴⁰ (In fact, as could be seen, this claim is not pertinent since Shepherd qualified not only the murders of passion but further six subcategories of murder considered important by the criminology literature as well.)

Fagan, Zimring and Geller, however, present such researches which attempted to measure the possible deterrent effect of those homicides having been punishable by death in

difference the use of capital punishment cannot be morally permitted. However, according to Sunstein and Vermeule, the state always has responsibility for its citizens, either it 'acts' or it does not do something which ought to be done. Moreover, the state cannot allude even to the usual act/omission distinction since the state always acts. Namely, it either intentionally creates such a regulatory atmosphere in which the death penalty is imposable on capital offenders and thereby may be inflicted upon legally innocent persons by mistake or enacts deliberately statutes that do not allow judges to pass death sentences and accordingly might cause other innocent people's, that is, the increased number of murderers' victims, death (given, of course, in this latter instance if the death penalty forsooth can deter capital crimes). The state in both cases 'acts', not merely 'omits' and also in both cases it responsible for what it does in the situation which is characterized by Sunstein and Vermeule as a 'life-life tradeoff'.

¹³⁶ Fagan, Jeffrey – Zimring, Franklin E. – Geller, Amanda: Capital Punishment and Capital Murder: Market Share and the Deterrent Effects of the Death Penalty. In: Texas Law Review, Vol. 84, 2005-2006, pp. 1803-1867.

¹³⁷ Cf.: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1813. and 1834.

¹³⁸ Cf.: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1806, 1809, 1810, 1822 and 1824.

¹³⁹ Cf.: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1807-1810.

¹⁴⁰ Cf.: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, p. 1810.

the time and place analyzed by the studies in question. They quote, for instance, Robert H. Dann who set the murder rates in the sixty days before and after each of five executions carried out with huge media coverage in the period of 1929 and 1932 with each other and found no significant difference between them.¹⁴¹ Or they refer to Leonard Savitz who conducted a similar research on whether those four highly publicized executions performed between from 1944 to 1947 frightened potential perpetrators from committing murders by virtue of the homicide trends in the eight weeks before and after these executions.¹⁴² Savitz, like Dann and, furthermore, Ruth D. Peterson and William C. Bailey at the beginning of the nineties¹⁴³ did, found no evidence for the existence of the deterrent effect. Nevertheless, yet these particular findings confute Shepherd's theses since, as can be seen above, she recognized that the deterrent effect predominates not in every state but only in those where the number of executions conducted reaches a certain 'threshold'. In addition, the samples underlying the conclusions drawn by the authors of the studies just mentioned seem rather to be arbitrarily selected than representative since general trends and the right relationship between executions and homicides cannot be established from data extremely limited in both time and space.

Instead of the above particular inquiries, it can be more expedient for the issue of the deterrent effect Fagan *et al.*'s own research which attempted to reveal how the number of murders eligible for capital punishment changed in the last few decades as opposed to the fluctuation of the number of homicides not eligible for death in the same period by alterations of the legal status and practical use of the death penalty. Scilicet, in their opinion, capital punishment affects exclusively the former, therefore if the deterrent effect does indeed exist then in consequence of either introducing and abolishing this kind of sanction or radically changing the application thereof death-eligible, that is, capital, murders must be shifted to a higher extent than those homicides not punishable by death. On the contrary, if the tendencies concerning both two kinds of intentional killings appear to be similar then it shows some universal factor or set of factors beyond capital punishment to influence all types of murders.¹⁴⁴ In order to get to know which assertion is true they classified all, 494,729 in number, homicides committed in the interval of 1976 and 2003 into either death-eligible or

¹⁴¹ Cf.: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, p. 1809.

¹⁴² Fagan *et al.*: *ib.*

¹⁴³ Fagan *et al.*: *ib.*

¹⁴⁴ Cf.: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1811-1812.

non-death-eligible murders¹⁴⁵ on the grounds of the FBI Uniform Crime Report Supplementary Homicide Reports, and then they did the same regarding, on the one hand, Texas as the state where the most executions occurred¹⁴⁶ and, on the other hand, Harris County, including Houston as well,¹⁴⁷ which had the toughest law enforcement system in Texas in the period investigated.¹⁴⁸ Analyzing these data they concluded that of all the murders committed during this almost three decades' interval about 25 percent¹⁴⁹ were punishable by death in each state and period of time, irrespective of whether a given state at a given time had a death penalty statute or actually executed capital offenders.¹⁵⁰ Additionally, not only was this proportion similar even in Texas¹⁵¹ and Harris County as well but the ratio of capital murders to all types of homicides was also not affected by any changes in the legal status of the capital sanction. That is to say, a certain state either introduced or reintroduced or abolished or extended or limited the death penalty, there could not be perceived greater deflection in 'capital murder' than in 'noncapital murder' trends and the direction of the fluctuations of these two subcategories of murder were, of course, identical with each other as well.¹⁵² Fagan *et al.* thereby regarded the non-existence of the *marginal* deterrence of capital punishment as proved. This means they did not deny that the fear of death can deter some possible murderers from perpetrating any types of homicide but they did indeed claim that it does not deter *more* than other severe kinds of punishments do.¹⁵³

Nevertheless, the success of Fagan *et al.*'s analysis depends on an essential presupposition, that is, on whether the deterrent power of capital punishment impacts in fact only 'capital murders' or it affects all sorts of intentional life-takings as well. Namely, yet they recognized that after the introduction or the reinstatement of the death penalty the number of murders had decreased almost in every state indicating a general tendency in this issue. The statement they claimed merely was that this reduction had not been larger as

¹⁴⁵ For the factors they considered as aggravating circumstances substantiating the punishability by death see: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1814-1819.

¹⁴⁶ Of those 1,032 executions carried out in the period examined 369 took place in Texas. (*Cf.*: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, p. 1827.)

¹⁴⁷ About one quarter, numerically 90, of Texas executions occurred in Harris County. (*Cf.*: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, p. 1828.)

¹⁴⁸ *Cf.*: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1812-1813 and 1821.

¹⁴⁹ The average, fairly precisely, was 24.5 %. (*Cf.*: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, p. 1821.)

¹⁵⁰ *Cf.*: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1822, 1827, 1853 and 1859.

¹⁵¹ In Texas 21.1 % of all the homicides committed therein were qualified as 'capital murder'. (For the situation in Texas see: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1822, 1829-1831, 1853-1857 and 1860.)

¹⁵² *Cf.*: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1826-1827 and 1845-1860.

¹⁵³ *Cf.*: Fagan *et al.*: Capital Punishment and Capital Murder, *op. cit.*, pp. 1832-1833 and 1859-1860.

regards 'capital murders' than concerning noncapital ones. However, if it were proved that the ultimate sanction influences not only those crimes punishable by death but also all the other types of murders, then the refutation attempt of the existence of the deterrent effect of capital punishment could be substantially questioned. According to the economist believers in capital punishment, this is indeed the fact, videlicet, potential murderers think of only if there is death penalty in the given jurisdiction, if this kind of sanction is really applied in that state, and if these attributes produce positive danger of murderers being executed as a consequence. On the contrary, the considerable part of would-be murderers do not premeditate what the precise legal category of his or her planned act is, what the jury or the judge will qualify it, what he or she has to do in order to avoid being charged with 'first-degree' or 'aggravated', that is, 'capital' murder instead of a simple 'second-degree', that is, non-death-eligible, murder *etc.* Instead of it, he or she will roughly consider the possible consequences of his or her deed merely at the very instant before doing that, so the deciding factor in these momentary situations can only be the pure fact of whether murderers in general face up to the fear of capital punishment in a given state or not.¹⁵⁴

As compared to Fagan *et al.*'s refutation attempt, a more established critic is that of John J. Donohue and Justin Wolfers. In their common paper¹⁵⁵ they, above all, pointed out the death penalty is *de facto* so rarely used in the United States in relation to the murders committed therein that this kind of punishment could influence murder rates only to a slight extent or not at all, therefore periodic fluctuations of the number of homicide are, presumably, affected by other, non-measured factors.¹⁵⁶ For instance, while in 2003 there were 16,503 nonnegligent manslaughters committed, in the same year the criminal courts in the USA passed only 144 death sentences and altogether 65 convicts of those 3,374 prisoners being on death row were actually put to death.¹⁵⁷ Nevertheless, Donohue and Wolfers purported to deny the deterrence thesis not purely on theoretical but on empirical grounds as well. They, on the one hand, compared the murder trends in the death penalty states with those in the non-death penalty jurisdictions for the same interval, then, on the other hand, reanalyzed the data

¹⁵⁴ *E.g.*, Lisa Stolzenberg and Stewart J. D'Alessio write as follows: "The cognitive link in potential offenders' minds may be between the ultimate legal sanction, death, and the act of homicide rather than any particular arbitrary subtype of homicide." (In: Stolzenberg – D'Alessio: Capital Punishment, Execution Publicity and Murder in Houston, Texas, *op. cit.*, p. 363.) According to Shepherd, too, the case is the same: "Whether someone is convicted of a capital crime often depends on the quality of his lawyer, the prosecutor's charging decision, and the jury's verdict. Thus, for most murders, an offender does not know *ex ante* whether he eventually be convicted of a death-eligible murder." (Shepherd: Murders of Passion..., *op. cit.*, p. 9.)

¹⁵⁵ Donohue, John J. – Wolfers, Justin: Uses and Abuses of Empirical Evidence in the Death Penalty Debate. In: Stanford Law Review, Vol. 58, 2005-2006, pp. 791-845.

¹⁵⁶ *Cf.*: Donohue – Wolfers: Uses and Abuses..., *op. cit.*, p. 794.

¹⁵⁷ *Cf.*: Donohue – Wolfers: Uses and Abuses..., *op. cit.*, p. 795.

on which former statistical inquiries presented above had rested by altering the method employed or the compound of the database used.

As for the former, Donohue and Wolfers contrasted the murder statistics in the United States and the neighbouring Canada with each other and concluded that, albeit the per capita number of murders were different in the two countries, the direction, the time and the amplitude of the changes of murder trends therein were exceedingly similar to each other, although neither the changes in the legal status of capital punishment nor the relevant modifications in the actual occurrence of executions in those countries coincided with one another.¹⁵⁸ They drew, however, the very same conclusion when making a comparison between those American states where there had been a death penalty statute for at least a part of the period from 1960 to 2000 and those six ones where there had not been any for the same interval not being able to be affected by either *Furman*¹⁵⁹ or *Gregg*¹⁶⁰ decision.^{161 162} Last but not least, according to Donohue and Wolfers's analysis, murder trends proved to be similar in all states of the USA completely apart from, on the one hand, whether and when the penalty of death was abolished, introduced or reinstated and, on the other hand, whether capital punishment existed in the period of 1960-2000 in the given states at all.¹⁶³

The second way by which Donohue and Wolfers attempted to question the soundness of the deterrence thesis, or at least its statistical significance, was to modify the sample periods, the functional forms, the control variables, the comparison groups *etc.* of those empirical investigations conducted by economists, introduced above, to demonstrate how enormous a change can be caused in the robustness of an analysis by a small variation of the factors just mentioned. For instance, they rerun Shepherd and Dezhbakhsh's analysis,¹⁶⁴ mentioned above by me as Shepherd's third study, by replacing year fixed effects for decade fixed effects. This minor change resulted in, according to Donohue and Wolfers, nearly three times greater standard error than in Shepherd and Dezhbakhsh's research and thereby the coefficient proved to be statistically insignificant.¹⁶⁵ This would also be the case if the independent variable of the number of executions was altered to that of per capita execution

¹⁵⁸ Cf.: Donohue – Wolfers: Uses and Abuses..., *op. cit.*, pp. 798-800.

¹⁵⁹ *Furman v. Georgia* 408 U.S. 238 (1972)

¹⁶⁰ *Gregg v. Georgia* 428 U.S. 153 (1976)

¹⁶¹ See *supra* note 117.

¹⁶² As per them, the co-movement of these trends evidently could not have happened if either executions or the mere legal existence of the death penalty did impact murder rates. (Cf.: Donohue – Wolfers: Uses and Abuses..., *op. cit.*, pp. 800-802.)

¹⁶³ Cf.: Donohue – Wolfers: Uses and Abuses..., *op. cit.*, pp. 802-804 and 806-809.

¹⁶⁴ Dezhbakhsh – Shepherd: The Deterrent Effect of Capital Punishment, *supra* note 116.

¹⁶⁵ Cf.: Donohue – Wolfers: Uses and Abuses..., *op. cit.*, p. 805.

rate.¹⁶⁶ The findings of Shepherd, Dezhbakhsh and Rubin's common survey,¹⁶⁷ at least as per Donohue and Wolfers, are similarly fragile. For example, if the variable of the 'partisan influence' would have been denoted¹⁶⁸ not to the Republican votes in the presidential elections in 2000 but instead in 2004 then the research conducted by Shepherd *et al.* not only had not indicated that each execution saves eighteen innocent lives but it had positively resulted in eighteen lives lost.¹⁶⁹ It would have led to a same uncertainty if Texas and/or California had been extracted from the analysis; in this latter case no relevant conclusions could have been drawn concerning the death penalty's alleged deterrent effect.¹⁷⁰ Nevertheless, this latter, that is, the lack of relevancy, is also true for those cases in general in which any little changes concerning either the sample periods or the regression employed or any one of the 'other factors' drawn into the analysis are pursued producing a remarkable wide margin of error ranging from several dozen people's lives saved to several dozen people's lives lost. However, such kind of 'empirical' results are undoubtedly useless for making sound and reliable conclusions.¹⁷¹ Thus, if this is so (and, according to Donohue and Wolfers, it is) the findings of these researches concerning the influence of capital punishment on murder rates are based on arbitrary databases and methodologies and thereby are necessarily incidental, not allowing for any, either deterrent or brutalization, effect to be established.¹⁷²

5. Conclusion

Closing the introduction of those statistical analyses regarding to the occurrent deterrent effect of capital punishment it can, in sum, be stated that even among economists there is no agreement either on whether the effect of the legal existence or practical application of the death penalty on potential life-threatening offenders can be measured at all or, if it can be gauged, whether this supposed deterrent effect exists or not. It is sure, I claim, that much depends on the choice not only of the sample periods or the regression method applied but of

¹⁶⁶ Under such circumstances the statistical significance would fade away, too. (See: Donohue – Wolfers: *Uses and Abuses...*, *op. cit.*, p. 815.)

¹⁶⁷ Dezhbakhsh – Rubin – Shepherd: *Does Capital Punishment Have a Deterrent Effect?*, *supra* note 85.

¹⁶⁸ Shepherd *et al.* pursued their research in 2003, thus they apparently could not take into account the vote shares in the presidential elections in 2004.

¹⁶⁹ *Cf.*: Donohue – Wolfers: *Uses and Abuses...*, *op. cit.*, pp. 825-826.

¹⁷⁰ *Cf.*: Donohue – Wolfers: *Uses and Abuses...*, *op. cit.*, p. 826.

¹⁷¹ For the lots of expressive and astonishing data relating hereto, see *e.g.*: Donohue – Wolfers: *Uses and Abuses...*, *op. cit.*, pp. 809-821 and 827-835.

¹⁷² *Cf.*: Donohue – Wolfers: *Uses and Abuses...*, *op. cit.*, pp. 827, 841 and 844.

the occasional preconception as well; the differences of the above-discussed studies' findings might also be explained by these preconceptions. Nevertheless, it is important to note that even the vast majority of those researchers who deem the deterrent effect of the death penalty to be verified do not regard it as clinching argument in the social, political and legal controversy over if this kind of punishment should be in fact applied; the alleged deterrent effect can merely be a sole aspect beside other, possibly contradictory aspects, *e.g.* the issues of *justizmord* (judicial murder), discrimination *etc.* In the end, the empirical investigations discussed above show beyond question that those strict and peremptory statements, typical of both pugnacious, principled proponents and like-minded opponents of capital punishment, either that the death penalty does have necessarily and under all circumstances or that it does not, did not, will not and can by no means have any deterrent effect, do not stand their ground.

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