1. Introduction

The provision of a criminal justice system is a central function of the modern state where the cost of running such a system calls for effective and efficient institutional arrangements (University of York, 2008). Information on budgetary funding of the criminal justice system is retrievable from government data, but these figures are mostly expressed in a condensed format and are broken down into traditional state and administrative functions. Compared to previous years, the fluctuations in spending often only give general hints on new priority settings. Most of the currently available numbers are of little practical use for evaluation purposes and when deciding on whether a change in investment of public resources is actually worth the added costs (or the other way around). The lack of information on the rate of return of operations often dampens arguments in the process of developing, finding and sustaining appropriate and effective measures of crime control and prevention. Consequentially, decisions on the allocation of resources are often based on the perceived ‘social alarm’, which is often the result of particularly hateful episodes and the associated media coverage (Weatherburn & Indermaur, 2004) rather than true social costs of criminal activity (Detotto & Vannini, 2010, p. 421).

In 2014, total offences committed in Germany peaked to a figure of above 6 million cases: More than 2.4 million robbery crimes and 180,955 violent crimes (including 7,345 cases of rape and sexual assault, and 2,179 cases of murder and manslaughter) were reported in the German police crime statistics (BMI, 2015, p. 7). What is the amount of harm by these offenses that is caused to society? Are the costs of murder and manslaughter greater than the costs that arise due to thefts? How much efforts and expenses should the state put into curbing these or other types of crimes? Do investments in early childhood education have a greater preventive effect on crime prevention than investments and expenditures for correctional facilities? Are fines or community sentences more effective than prison sentences? An objective or objectifiable answer can only be given to these questions if all costs and benefits (or cost-benefit ratios) of the assessed measures or alternatives are available and compared under a common unit or metric (Thomsen, 2015, p. 19-20).

The often impressively high cost estimations of crime that are entering the public discourses deserve careful attention. In Germany alone for the year 2012, the total
amount of all recognized offenses in the police crime statistics (PCS)\(^1\) amounted to almost EUR 7.7 billion (BKA, 2012, p. 9), of which EUR 3.8 billion represent the amount lost due to economic crime (around 50 percent of all registered crimes) (BKA, 2012, p. 4). In 2011, cybercrime was recognized by the PCS and led to an estimation of EUR 71.2 million lost (BKA, 2012, p. 4). Numbers in that range can serve as alarming figures of crime and related security ‘threats’ to society, but how valid are these estimates as a cost impact measurement? In how far do these estimates allow conclusions on the magnitude of the crime ‘problem’? The dubiousness about the officially reported cost estimates at their current state in Germany should not be underrated.

On a political level, cost impact assessments of the public sector are important to support arguments on sustaining economic growth and welfare. And, as crime represents one ‘problem’ with significant impact to society (Detotto & Otranto, 2010, p. 330), a more profound knowledge on the measurement (data sources) and costs (common metric) of crime becomes apparent. Policymakers face difficult decisions when they allocate resources, so that the role of research on informing evidence-based and cost-effective decisions about the use of funds and resources (including labor, materials and equipment, skills of workers) are becoming relevant (Downey & Roman, 2014, p. 3).

For many years, on a political and research level, much time and effort has been given to the notion of ‘what works’, while less attention has been directed to the monetary aspects or to ‘what is worthwhile’ (Moolenaar, 2009, pp. 309-310). Nowadays, criminal justice policy makers are faced with questions, such as “is it better to invest in developmental prevention, situational prevention, more police, or more prisons?” (Farrington, 2013, p. 296). In order to address these questions, information on knowing ‘what works’ as well as the return on related investments (ROI) of funding the corresponding intervention activities are coming to the fore (the ROI of ‘what works’). However, while the economic cost-benefit (CBA) or cost-effectiveness analyses (CEA) toolkits have been applied to various areas of the public sector, such as in social and urban planning, or concerning education, health or environmental issues, it is not a self-

\(^{1}\) *Polizeiliche Kriminalstatistik* (PKS) in German.
evident strategy for criminal justice policy (Rosenberg & Mark, 2011, p. 1). The return, achieved or achievable value is a matter of grounding the discussion.

In response to the combined growing interest in economic analysis of crime control and prevention efforts, the importance of good cost estimates and their political implications are becoming recognized by government policy analysts and researchers around the world (Cohen, 2000; Cohen, 2005; McCollister, French & Fang, 2010): “Several applications of costs of crime estimates in cost-benefit-analyses of different crime policies have proved the necessity of such estimates in any rational crime policy” (Czabanski, 2008, p. 2). In that sense, the rather new and very practical-oriented approach to capturing the harm caused by crime, the framework behind, and knowledge on the proper utilization of cost of crime estimates are subject for thorough analysis.

Cost of crime research and practice has been predominated by the work of scientists and practitioners from the United Kingdom, United States, Australia and New Zealand, particularly due to a better data situation and interdisciplinary research setting. Building on the initiatives by the European Crime Prevention Network (EUCPN) and as part of the 6th Framework Programme (FP6) supporting policy oriented research, the Crime Repression Costs in Context (CRCC) and Mainstreaming Costs of Crime Estimation Methods (MMECC) projects took on the task of assisting EU Member States with the development and use of cost of crime estimates. The results of a review on the application of CBA in the criminal justice setting however confirmed that, “it is only very recently that EU countries have started generating figures on the cost of crime, and methodological problems still exist in developing the methods of calculating these costs” (CRCC, 2009, p. 2; Alfé & de Wever, 2011, p. 26). Hesitation in attempts might be due to issues with the general idea of putting a monetary value on crime, particularly on crime types such as violence, rape, or murder due to their larger intangible cost components. Nevertheless, precisely because of these types of crime, this research branch is becoming increasingly important.

Overall, cost of crime research and practice is at an infant stage and estimates remain debatable in their methodology and use. Due to the substantial technical complexities that have to be confronted when conducting cost of crime estimates beyond the purely economic domain, the literature on costs of crime draws on a wide spectrum of fields ranging from abstract concerns about legal philosophy and the nature of the state to very
narrow technical issues (University of York, 2008). The implementation of cost of crime methodologies and categorization of costs requires comprehensive knowledge on what actually constitutes crime, its causes and consequences. In that sense, for the proper application of crime measurement techniques it is therefore absolutely crucial to find an agreement on definitions and methodological design. In most countries, the limited availability of good crime statistics and conservative crime measurement practices hinder the successful implementation of cost of crime methodologies. Beyond that, countries like Germany are faced with differing research settings, particularly with regard to the influence of criminological research on policy outcomes. As a result of the limited, but certainly necessary interdisciplinary engagement between criminologists and economists, most researchers are not well acquainted with the available methodologies and practices.

In Germany, despite early discussions about the applications of CBA on criminal policies (Klingemann, 1978; Luzius, 1979), proposing a more rational drug policy (Hartwig & Pies, 1995), and the efficient use of resources in crime control (Maennig, 2008; Schellhoss, 2004), empirical research on the costs of crime remains scarce and very centered in approach. Aside individual economic or econometric studies (see Spengler, 2004), a systematic assessment of the cost of crime is missing (Entorf, 2014, p. 2). In the recent evaluation on the costs and benefits of prevention in the economic analysis in preparation for the 20th German Congress on Crime Prevention (GCOCP) the author is speaking of a substantial negligence of the topic (Thomsen, 2015, p. 6). The criminological discourse in Germany has unfortunately largely ignored the topic. In fact, there has been little systematic reflection within criminology on criminal harms or their identification, evaluation, and comparison (Paoli & Greenfield, 2013, p. 359). As cost-neutral or even cost-saving approaches are indispensable (Kühne, 2003, p. 24), the introduction of evaluation policies that look at monetary aspects (Dölling, Hermann, & Entorf, 2014; Dünkel & Scheel, 2006, pp. 162-166) are promising first steps to put CBA in criminal policy into practice (van Soomeren, Wever, Pascoe, Monahan & Oxley, 2005, p. 3).

Nevertheless, “estimates can easily be misinterpreted to support different political agendas” (Gowar & Farrington, 2013, p. 441). “On the political right, large dollar-cost estimates of the impact of crime are interpreted as justification for more punitive justice
policies, whereas on the left such cost estimates are seen as yet another reason to invest in early intervention methods to ward off the future consequences of criminal justice activity” (Welsh, Loeber, Stevens, Stouthamer-Loeber, Cohen & Farrington, 2008, p. 4). Among the main misconceptions with the topic is that “despite the rhetoric, neither small nor large cost-of-crime numbers demonstrate that the cost of building more prisons is justified or that alternatives to incarceration are better than more prisons” (Cohen, 2000, p. 269). Misbelieves can, for instance, be dissolved with a more transparent presentation of methodology and results of comprehensive cost of crime assessments, but only few countries are putting the required efforts into practice in a more systematic manner.

The foundational research on the economic and social costs of crime (or public value costs of crime\(^2\)) is cultivating in a presentational manner. Hereby, CBA is among the key tools aimed at not only researchers, but also practitioners and policymakers who use research to make choices about how to use limited resources (Downey & Roman, 2014, p. 3). In many ways, the cost of crime approach and its implication for social and urban planning or sustainable and welfare enhancing policy-making is an important reason, if not the main reason, for studying crime. In Australia, the United States, and the United Kingdom, the cost of crime assessment is already evolving into a standard assessment tool, and it will probably become so in Europe (Czabansky, 2008, p. 3). Meanwhile, researchers and practitioners have introduced new practically guiding instruments, such as RAND’s cost of crime calculator to foster excellence in policing, and virtual learning platforms (VLS) to assist researchers and practitioners in project planning and policy modeling, such as the Cost-Benefit Knowledge Bank for Criminal Justice (CBKB). Additionally, new priorities are being formulated in order to make economic analyses of prevention efforts easier to compare (with each other as well as other more traditional intervention measures) and more relevant to policymakers and community stakeholders (Crowley, Hill, Kuklinski & Jones, 2013).

In times of crisis or in the face of tightened resource constraints, many crucial sectors of the economy often suffer under budget cuts. In the contemporary culture of global austerity efforts, policy modeling and criminal justice administration are undergoing

\(^2\) The terminologies of economic and social costs and benefits are changing, as explicitly indicated in the CBA analysis guidance for local partnership: “economic and social benefits are now referred to as public value benefits” (HM Treasury, 2014, p. 6).
changes where economic arguments about resource allocation play an increasingly important role. Taxpayers’ money should not be wasted and crucial areas within the criminal justice system and related social sectors should avoid suffering from budget cuts in the first place, while ensuring that promising programs do not lose their desired fiscal support at the end. In light of its greater implications for a more efficient and effective approach to criminal justice matters other countries are following suit as well. In Germany however, the communicated goals of EU initiatives and proposals to develop a more profound body on the costs and benefits of crime, crime control and prevention do not seem to have arrived far enough in the academic and political discourse yet. Scientific inventories on cost of crime research and practice are scarce and frequent reviews on this topic are required. The analysis of this dissertation project, therefore, surrounds the following central questions:

• In what ways can comprehensive cost of crime estimates serve as a new indicator to help us better understand and approach the ‘problem’ of crime?
• In which directions have the cost of crime estimates developed so far? What is the current academic standing in Germany?
• Why is it, in its current state in Germany, that it is still difficult to comply with the different components of the taxonomy of crime cost categories as presented in the MMECC model (or European cost of crime assessment model)?
• What are the rationales behind CBA as a strategic decision-making tool in criminal justice (policy) interventions? What are the greater implications of the development of the cost of crime approach for criminal policy in Germany?
• Why is a more applied-oriented framework for the cost of crime approach necessary and what could it look like in the German case? And how could the generation of figures on the costs of crime further be enhanced in Germany?

In response to the pending need to develop a more profound body of knowledge on the costs of crime in Germany, the aim of this dissertation project is to develop a better understanding of what costs of crime actually are and how credible estimates can help to develop better arguments on strategies for the reduction of harm, including the social costs of victimization and costs of fear as a result of crime, and overall enhance the effectiveness and efficiency of the criminal justice system. In an evaluative approach, it conducts a review on the distinctive developments of the costs of crime with respect to
the validity or robustness, comparability and the level of use of available comprehensive estimates. The review of the European initiatives and the MMECC model further assist in the compilation of a set of criteria needed to enhance the generation of more comprehensive cost estimates and in turn allow for a better use of CBA (or CEA) in policy evaluation and project appraisal. In light of the greater implications for better guidance in the prioritization of efforts and allocation of resources in criminal justice and related sectors, the underlying goal of the dissertation is to demonstrate how this particular applied-oriented approach can help to rationalize political decisions on crime issues in a public value-orientated manner. As it will be argued, with the developments and implementation of more effective and efficient crime prevention measures a ‘cultural shift’ is taking place that requires institutional adaptations. With the rise of the political economy of prevention, “crime is another policy area in which preventive discourses figure greatly” (Gough, 2013, p. 8). In a redefinition process of the political economy of crime, in particular researchers (economists and criminologists alike) should increasingly be concerned with the interaction of political decision-making and economic outcomes.

Subsequent to this introductory chapter, the second chapter serves as the theoretical and methodological foundation for the analysis and introduces cost of crime as a relevant and much needed indicator for better understanding and approaching the ‘problem’ of crime. The first part revises the main limitations of conventional crime measurement practices in Germany and emphasizes the impacts and effects of some of the crucial and often overlooked socio-economic determinants. The second part on monetizing the costs of crime first presents problems with conventional ‘burden’ of crime estimates in Germany as currently presented in the official BKA reports. Then, it introduces the main cost of crime perspectives (bottom-up and top-down) and methodologies in preparation for the next chapters. The third section presents the initial influences of the CBA mindset on the criminal justice system as a result of the modern economic approach to criminal activity.

As a result of methodological advancements, estimates of the costs of crime can nowadays allow for (1.) the comparison of the aggregate harm with that of other social ills, (2.) the comparison of the relative harm caused by type of crime (and developments of crime-harm severity indices), (3.) the quantification and monetization of benefits or
alternative crime control policies in CBA (Cohen, 2000, p. 268), as well as (4.) the monetization of offending trajectories \((\text{criminal career costs})\) in order to develop more effective strategies to reduce recidivism. This way, estimates of the cost of crime are becoming an integral part of an evidence-based framework on the prevention of crime (Webber, 2010, p. 2). Moreover, (5.) cost of crime estimates are notably as well taken into account in contemporary relevant sustainable development and other alternative prosperity indicators, such as the \textit{Genuine Progress Indicator} (GPI). Along these main implications and directions of research, the third chapter conducts a review on how the cost of crime research and practice in the Anglo-Saxon countries has developed so far. The second part summarizes efforts in other countries, and compares the overall findings to the current academic standing and practice in Germany.

The fourth chapter reviews the initiatives at the EU level aimed to raise awareness and to assist EU countries to develop a more profound body of research on the costs and benefits of crime and crime prevention efforts. The first part examines the composition of the taxonomy of crime cost categories, as presented in the MMECC model (or European cost of crime assessment model). The emphasis is put on the definitions of different cost components and required data sources in order to apply the suggested methodological approach or preferred estimation methodology (see \textit{Appendix B} on summary of suggested MMECC formulas). The second part discusses CBA as a horizontal recommendation for policy analysis and investment appraisals. Because of extant discrepancies between different perceptions on the use of CBA (in regard to what should be considered as costs and what as benefits), an emphasis is put on the rationales behind employing this particular kind of analysis in political decision-making.

The fifth chapter puts the evidence-based framework and the policy implications of the cost of crime approach into the forefront. The first part uses the \textit{(social) CBA} framework in order to demonstrate the roles and perspectives of different members in society (taxpayers, crime victims, offenders, overall society) in the economic evaluation of crime prevention measures. The second part of the chapter is dedicated to a discussion on rational criminal policy as a basic goal for society (Mears, 2007, p. 667) and as a future task (Schwind, 1985, p. 573). The first section introduces the critical state of criminal policy in Germany in light of the shortcomings of current crime prevention strategies and re-arrangements of research and policy fields (crime control
and security) over the past decade. In light of the greater role of crime prevention for sustainable development, the second and third sections engage with the economics of crime prevention more thoroughly. The discussion on the economization processes of crime prevention includes the adequate funding of governmental programs, the role of the private security sector in crime prevention in the displacement of resources, public-private partnerships (PPPs), as well as innovative new financing models. In light of these developments, the demand for an applied-oriented framework for the specific case in Germany becomes inevitable and consists of: (1.) Prevention practice as the key engine of sustainable prevention policy; (2.) the formulation of coherent rational criminal policy goals at a federal level (including the establishment of a National Crime Prevention Strategy in Germany); (3.) a more thought-out planning of criminological research; (4.) the integration of an economic evaluation culture in crime prevention to develop a foundation for systematic provision of evidence and enhancement of validity as well as comparability of results; and (5.) the development of evidence-based dissemination platforms, including centers of expertise to coordinate action, as for instance the National Crime Prevention Center (NZK)\(^3\).

In light of these implications and in response to the pending need to develop a more profound body of knowledge on the costs of crime and crime prevention, the sixth chapter provides a comprehensive guide of recommendations to enhance research and practice on the costs of crime in Germany. The first section addresses pending proposals for an improvement in the crime data situation in Germany, in particular with regards to a more frequent (annual) conduction of national representative victimization surveys. The second part recommends the adaptation of a methodological mindset and CBA standards, such as through initiating the formulation of own standards within criminal policy in Germany, as for instance, in the pending third and/or future published Periodical Reports on Crime (PRC)\(^4\). The third recommendation promotes the development of skill within interdisciplinary research bodies. Overall, a greater awareness and use of the cost of crime approach would advance the current rather weak evidence-based framework of criminal policy in Germany, strengthen criminological

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\(^3\) The \textit{Nationales Zentrum für Kriminalprävention} (NZK) in Germany is currently in the early establishment phase (the establishment period has been set for: 2015-2018).

\(^4\) The \textit{Periodischer Sicherheitsbericht} (PSB) in German. The 1st PRC was published in 2001, the 2nd PRC in 2006.
arguments as the inevitable discipline of guidance in criminal policy matters, and help to move closer towards a more rational, humane, and more unified and harmonized criminal policy (Lahti, 2000, p. 146).

The seventh and final chapter provides a summary review and outlook for the future of this fertile branch of research.