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Peter A. Collins
Seattle University

Robert C. Boruchowitz
Seattle University

Matthew J. Hickman
Seattle University

Mark A. Larrañaga

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Peter A. Collins, Robert C. Boruchowitz, Matthew J. Hickman, & Mark A. Larrañaga[*]

I. INTRODUCTION

The cost and complexity of death penalty[2] prosecutions and the defense of them have increased dramatically since the United States Supreme Court

[*] Peter A. Collins, Ph.D., Assistant Professor, Criminal Justice Department, Seattle University, 901 12th Avenue Post Office Box 222000, Seattle, Washington 98122-1090, Phone: 206-296-5474, Email: collinsp@seattleu.edu; Robert C. Boruchowitz, J.D., Professor from Practice and Director, The Defender Initiative, Seattle University School of Law, 901 12th Avenue Post Office Box 222000, Seattle, Washington 98122-1090, Phone: 206-398-4151, Email: boruchor@seattleu.edu; Matthew J. Hickman, Ph.D., Associate Professor, Criminal Justice Department, Seattle University, 901 12th Avenue Post Office Box 222000, Seattle, Washington 98122-1090, Phone: 206-296-2484, Email: hickmanm@seattleu.edu; Mark A. Larrañaga, J.D., Walsh & Larrañaga , 705 Second Ave., Suite 501, Seattle, Washington 98104, Phone: 206-325-7900, Email: mark@jamlegal.com. Consultants and Assistance: Carl Schremp, J.D., Seattle University School of Law (2013); David C. Brody, J.D., Ph.D., Professor, Criminal Justice and Criminology, Washington State University; Jennifer Ertl, Graduate Student, Masters in Criminal Justice Program, Criminal Justice Department, Seattle University.

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[2] *See generally* MARK LARRANAGA, A REVIEW OF THE COSTS, LENGTH, AND RESULTS OF CAPITAL CASES IN WASHINGTON STATE (2004), http://abolishdeathpenalty.org/wp-content/uploads/2013/08/WAStateDeathPenaltyCosts.pdf. "Washington's current death penalty statute was enacted in 1981. Only aggravated first-degree murder convictions carry the possibility of a death sentence. A person may be charged with aggravated first-degree murder if the killing is premeditated and coupled with a statutorily defined

allowed resumption of death penalty trials.[3] As the Washington Supreme Court has explained, in death penalty trials, appeals, and habeas corpus or personal restraint petitions, prosecutors and defense counsel often inundate the court with motions raising every conceivable issue that may affect the outcome of the case (e.g., 56 motions in *In re Gentry*).[4] An Ohio newspaper concluded in 2014 that Ohio spends nearly $17 million per year on costs associated with the death penalty.[5] A New Jersey study conducted in 2005 reported that the state had spent $11 million per year on the death penalty.[6]

In 2014, The Marshall Project reported that, in the six states that have abolished capital punishment over the past decade, republican and democratic officials have also emphasized the cost of the death penalty as a major rationale.[7] Since that report was issued, Nebraska elected to abolish the death penalty and cited cost as being one important factor in that decision.[8] Even in the 31 states that still retain the punishment, four of which are currently under a moratorium, cost has played a central role in the conversion narratives of lawmakers, public officials, and others who

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aggravating factor. A person convicted of aggravated first-degree murder may be sentenced to life in prison without the possibility of parole (LWOP) or death." *Id*. at 6.

[3] *See infra* note 32 (discussing requirements for learned counsel).

[4] *Overview of Capital Punishment Laws*, WASH. CTS., https://www.courts.wa.gov/newsinfo/index.cfm?fa=newsinfo.displayContent&theFile=content/deathPenalty/overview (last visited Feb. 18, 2016).

[5] Laura Bischoff, *Execution Costs Rising,* DAYTON DAILY NEWS (Feb. 22, 2014), http://www.mydaytondailynews.com/news/news/crime-law/execution-costs-rising/ndXdQ/?icmp=daytondaily_internallink_invitationbox_apr2013_daytondailystubtomydaytondaily_launch.

[6] MARY FORSBERG, MONEY FOR NOTHING? THE FINANCIAL COST OF NEW JERSEY'S DEATH PENALTY 15 (Nov. 2005), http://www.sentencing.nj.gov/downloads/pdf/articles/death3.pdf.

[7] Maurice Chammah, *The Slow Death of the Death Penalty*, MARSHALL PROJECT (Dec. 17, 2014), https://www.themarshallproject.org/2014/12/17/the-slow-death-of-the-death-penalty#.t11RVhNrR.

[8] Shari Silberstein, *How Nebraska Repealed the Death Penalty*, MARSHALL PROJECT (May 28, 2015, 7:44 AM), https://www.themarshallproject.org/2015/05/28/how-nebraska-repealed-the-death-penalty#.UW3vwNwew.

question the death penalty as a waste of taxpayer dollars.[9] Likewise, cost has played an important role in the current debate in Washington State, as Washington's Governor Jay Inslee declared a moratorium on executions.[10] He noted that the majority of death verdicts to date have been overturned and said, "the entire system itself must be called into question."[11] Governor Inslee also discussed the high cost of death penalty prosecutions,

> The costs associated with prosecuting a capital case far outweigh the price of locking someone up for life without the possibility of parole. Counties spend hundreds of thousands of dollars – and often many millions – simply to get a case to trial. And after trial, hundreds of thousands of dollars are spent on appellate costs for decades.[12]

While there have been several studies of the costs of death penalty cases both nationally and in Washington, most have not addressed in detail the full spectrum of costs from the beginning of trial proceedings through incarceration and execution. This study is the first of its kind where death penalty qualified lawyers and social scientists teamed up to document the entire scope of economic costs associated with pursuing the death penalty in Washington State. Below, we discuss previous studies of the cost of the death penalty, and we review the legal requirements for prosecuting and defending death penalty cases, followed by our research methods and cost findings.[13]

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[9] Chammah, *supra* note 7.

[10] *See* Jay Inslee, Governor of Wash., Remarks Announcing a Capital Punishment Moratorium (Feb. 11, 2014), http://www.deathpenaltyinfo.org/documents/InsleeMoratoriumRemarks.pdf.

[11] *Id.*

[12] *Id*.

[13] *Jurors, Justices, Governors, & Executioners*, JUSTIA (Oct. 25, 2013), https://verdict.justia.com/2013/10/25/weight-capital-punishment-jurors-justices-governors-executioners (analyzing the economic costs of the death penalty and the personal and social impacts on people involved in death penalty cases, including family members of murder victims, lawyers, jurors, jailers, court personnel, families of accused

II. BACKGROUND

A. Previous Washington Studies

There have been three previous notable studies in Washington of the economic costs of the death penalty and all have concluded that the cost of death penalty cases is greater than those in which the prosecutor seeks a sentence of life without parole.[14] First, for example, Washington State Supreme Court Chief Justice Richard Guy authored a study in 2000 that found for each of the eight death penalty trials from 1997 to 1999, the average cost was $388,680.[15] That is the equivalent of $553,183.09 in 2016 dollars.[16] In describing why these cases cost more, Chief Justice Guy highlighted a US Supreme Court case[17] and a change in federal habeas corpus law that requires the defense to raise all issues in state court in order to raise them later in federal court review.[18] Additionally, he notes that the reasons for longer, more complicated, and ultimately much more expensive trials are a "result of the court's strong desire to avoid error," as well as the fact that efforts are increased at every stage—including significant amounts of time for prosecution, defense, the attorney general's office, and the court, among others.[19]

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persons, and police officers, have been discussed elsewhere); *see generally* KATHERINE BECKETT ET AL., THE ROLE OF RACE IN WASHINGTON STATE CAPITAL SENTENCING (Jan. 27, 2014), http://www.deathpenaltyinfo.org/documents/WashRaceStudy2014.pdf.

[14] *See generally* CHIEF JUSTICE RICHARD P. GUY, STATUS REPORT ON THE DEATH PENALTY IN WASHINGTON STATE (2000), https://www.courts.wa.gov/newsinfo/content/deathpenalty/deathpenalty.pdf. *See also* LARRANAGA, *supra* note 2; *see also Final Report of the Death Penalty Subcommittee of the Committee on Public Defense*, DEATH PENALTY INFO. CTR. (Dec. 2006), http://www.deathpenaltyinfo.org/node/1919.

[15] GUY, *supra* note 14.

[16] *CPI Inflation Calculator*, BLS.GOV, http://data.bls.gov/cgi-bin/cpicalc.pl?cost1=388680&year1=2000&year2=2014 (last visited Feb. 27, 2016).

[17] *See* McCleskey v. Kemp, 481 U.S. 279 (1987).

[18] GUY, *supra* note 14, at 7.

[19] *Id*. at 10-13.

Second, a report by the Washington Death Penalty Assistance Center in 2004 found,

> On average, a death penalty trial costs more than double the amount spent on a non-death penalty trial. . . . Death penalty trials and appellate review take longer than those for non-death penalty cases. An average non-death penalty trial lasted 15 months, whereas a death penalty trial lasted 20 months. Appellate review for non-death penalty cases lasted an average of two years; death penalty review lasted seven.[20]

Finally, a Washington State Bar Association committee concluded in 2006 that "it costs significantly more to try a capital case to final verdict than to try the same case as an aggravated murder case where the penalty sought is life without possibility of parole."[21] That report also found that death penalty cases generated roughly $470,000 more in defense and prosecution costs than trying the same cases without the death penalty.[22] They concluded that appellate defense for such cases averaged $100,000 more than non-death penalty murder cases, with personal restraint petitions in capital cases averaging an additional cost of $137,000 in public defense costs.[23] The report did not document costs in federal habeas corpus or costs in the Attorney General's office for responding to personal restraint petitions. The state bar report also did not address jail and prison costs.

B. Cost Studies in Other States

Studies in other states have concluded that defending a capital case is much more expensive than defending a non-capital, aggravated murder

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[20] LARRANAGA, *supra* note 2, at 3.
[21] WASH. STATE BAR ASS'N, FINAL REPORT OF THE DEATH PENALTY SUBCOMMITTEE OF THE COMMITTEE ON PUBLIC DEFENSE 31 (2006), http://www.wsba.org/~/media/Files/WSBA-wide%20Documents/wsba%20death%20penalty%20report.ashx.
[22] *Id.*
[23] *Id*. at 32.

case. For example, a 2008 Maryland study found that "an average capital-eligible case resulting in a death sentence will cost approximately $3 million, $1.9 million more than a case where the death penalty was not sought."[24] The Maryland study found that state appeal costs for cases with a death sentence were more than six times the cost of appeals in cases in which the death penalty was not sought.[25]

In a 2011 law review article, a Ninth Circuit judge and a law professor found that "since reinstating the death penalty in 1978, California taxpayers have spent roughly $4 billion to fund a dysfunctional death penalty system that has carried out no more than 13 executions."[26] A California judge, Donald McCartin, reportedly known as "The Hanging Judge of Orange County," said, "it's 10 times more expensive to kill them than to keep them alive."[27]

The Kansas Judicial Council published a report by its Death Penalty Advisory Committee that concluded that in 15 cases filed between 2004 and 2011, the average difference in defense costs for cases that went to trial was $296,799 for cases in which the death penalty was sought, with capital cases costing roughly four times non-capital ones.[28] In cases resolved by plea, the average difference was $65,884, more than double the non-capital

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[24] JOHN ROMAN ET AL., THE COST OF THE DEATH PENALTY IN MARYLAND 2 (2008), http://www.deathpenaltyinfo.org/CostsDPMaryland.pdf.
[25] *Id.*
[26] Arthur Alarcon, *Executing the Will of the Voters?: A Roadmap to Mend or End the California Legislature's Multi-Billion-Dollar Death Penalty Debacle,* 44 LOY. L.A. L. REV. S41, S41 (2011). *See also* DEATH PENALTY INFO. CTR., SMART ON CRIME: RECONSIDERING THE DEATH PENALTY IN TIMES OF ECONOMIC CRISIS PRIORITIES (2009), http://www.deathpenaltyinfo.org/documents/CostsRptFinal.pdf.
[27] Kelley Phillips, *Considering The Death Penalty: Your Tax Dollars At Work*, FORBES (May 1, 2014), http://www.forbes.com/sites/kellyphillipserb/2014/05/01/considering-the-death-penalty-your-tax-dollars-at-work/.
[28] REPORT OF THE KANSAS JUDICIAL COUNCIL DEATH PENALTY ADVISORY COMMITTEE 15 (2014), http://www.deathpenaltyinfo.org/documents/KSCost2014.pdf.

costs.[29] Court costs for trials were more than triple for capital cases, and court costs for cases resolved by plea bargains were roughly double.[30]

A recent Idaho study reached the general conclusion that capital cases take longer than other cases, but noted the difficulty in collecting data in the state.[31] The Idaho Appellate Defender reported that in 13 years, between 2001 and 2013, staff recorded more than 7,700 hours more for capital case appellants than for clients with a life sentence.[32] For cases involving 10 defendants sentenced to death, the staff averaged 7,918 hours per client.[33] During the same time period, the staff spent an average of 179 hours per client in 95 cases for defendants with a life sentence.[34]

This dramatically higher allocation of resources for a small number of clients affects trial and appellate defenders. Ohio Supreme Court Justice Paul Pfeifer, who co-authored the death penalty law as a state legislator, now opposes capital punishment, in part because of the cost.[35] He said death penalty cases soak up critical resources to the detriment of other cases, "We see literally thousands of prisoners' handwritten appeals because the public defender can't cover them."[36] Pfeifer added, "I think the greatest cost is for defendants in other crimes who may be improperly in prison. They can't get good legal assistance because so much of the resources of the public defender's office is [sic] devoted to defending the death penalty cases."[37]

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[29] *Id.*
[30] *Id.*
[31] IDAHO LEGIS., FINANCIAL COSTS OF THE DEATH PENALTY iv. (2014), http://www.deathpenaltyinfo.org/documents/IDCost.pdf.
[32] *Id.* at 31.
[33] *Id.*
[34] *Id*.
[35] Bischoff, *supra* note 5.
[36] *Id.*
[37] *Id.*

Two Duke University professors conducted one of the most comprehensive cost studies in the country. Their study included the costs of the extra time spent by prosecutors, judges, and other personnel on death penalty cases and concluded that the death penalty costs North Carolina $2.16 million per execution more than imposing a maximum sentence of imprisonment for life.[38] The Duke report is more than 20 years old and it pre-dated significant changes in the practice that were the result of US Supreme Court decisions and the applicability of American Bar Association standards ($250,000 in 1993 is equivalent to $410,226.64 in 2016).[39]

One study of federal capital trials from 1990 to 1997 found that,

> The cost of defending cases in which the Attorney General decides to seek the death penalty for commission of an offense potentially punishable by death (authorized cases) is much higher than the cost of defending cases in which the Attorney General declines to authorize the death penalty for an offense punishable by death.[40]

The report found that the cost was nearly four times as great.[41]

Although these studies span many years and geographic locations in the United States, there is a salient theme that remains quite clear: capital cases are generally much more complex than non-capital murder cases (because "death is different"), the complexities are due to valid federal and state mandated legal requirements, and these complexities result in greatly increased economic costs at each stage of a criminal trial. It is not our goal

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[38] PHILIP J COOK ET AL., THE COSTS OF PROCESSING MURDER CASES IN NORTH CAROLINA (1993), http://www.deathpenaltyinfo.org/northcarolina.pdf.
[39] *CPI Inflation Calculator*, BUREAU OF LABOR STATISTICS, http://www.bls.gov/data/inflation_calculator.htm (last visited Feb. 26, 2016).
[40] SUBCOMM. ON FED. DEATH PENALTY CASES, COMM. ON DEF. SERVICES, FEDERAL DEATH PENALTY CASES: RECOMMENDATIONS CONCERNING THE COST AND QUALITY OF DEFENSE REPRESENTATION 7 (1998), file:///C:/Users/jra2_000/Downloads/original_spencer_report%20(1).pdf. *See also* Maples v. Thomas, 565 U.S. __, 3 n. 1.
[41] *Id.*

to highlight each subtlety in the trial process; however, provided below are additional details on the differences and history concerning capital trials in Washington.

C. The Death Penalty in Washington State

1. Quality Defense Requirements

In Washington State, the Supreme Court, by court rule, has emphasized the need for defense counsel in aggravated homicide cases to be specially trained and certified, to be "learned in the law of capital punishment,"[42] and in the process of reversing a number of cases, has made clear the comprehensive work that defense counsel must do to provide effective representation.

The expectations for what constitutes effective representation in a capital case have increased because of US Supreme Court decisions and because of the American Bar Association (ABA) guidelines on which they rely. For example, the Court reversed a death verdict because the defense counsel failed to investigate the accused's background and failed to present

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[42] The court created Superior Court Special Proceedings Rules (SPRC) that provide in part: *"*A list of attorneys who meet the requirements of proficiency and experience, and who have demonstrated that they are learned in the law of capital punishment by virtue of training or experience, and thus are qualified for appointment in death penalty trials and for appeals will be recruited and maintained by a panel created by the Supreme Court. All counsel for trial and appeal must have demonstrated the proficiency and commitment to quality representation, which is appropriate to a capital case. Both counsel at trial must have five years*'* experience in the practice of criminal law be familiar with and experienced in the utilization of expert witnesses and evidence, and not be presently serving as appointed counsel in another active trial level death penalty case. One counsel must be, and both may be, qualified for appointment in capital trials on the list, unless circumstances exist such that it is in the defendant*'*s interest to appoint otherwise qualified counsel learned in the law of capital punishment by virtue of training or experience. The trial court shall make findings of fact if good cause is found for not appointing list counsel.*"* SPRC 2, Appointment of Counsel, WASH. CTS., https://www.courts.wa.gov/court_rules/?fa=court_rules.display&group=sup&set=SPRC&ruleid=supsprc2.

mitigating evidence of his troubled life history at the accused's capital-sentencing proceedings, which the court found to fall below the standard of reasonableness under prevailing professional norms.[43]

The ABA published *Guidelines for the Appointment and Performance of Defense Counsel in Death Penalty Cases (Revised Edition)* in February 2003.[44] As the commentary to the Guidelines noted, "death penalty cases have become so specialized that defense counsel have duties and functions definably different from those of counsel in ordinary criminal cases."[45]

The Washington Supreme Court has reversed death penalty verdicts because of ineffective assistance of counsel, as in *In re Brett*, and because of prosecutors' failure to disclose exculpatory evidence. It often takes many years and several levels of court review before a court reverses. For example, in *In re Pers. Restraint of Stenson*, the Washington Supreme Court reversed a conviction and death penalty sentence because the prosecutor violated the defendant's due process rights by not disclosing exculpatory evidence.[46] Prior to that 2012 decision, the court denied Mr. Stenson's appeal and four personal restraint petitions.[47]

2. Changes in Washington's Death Penalty

Washington passed a variety of significant changes to its capital punishment system over the last century. In 1904, death was the mandatory

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[43] Wiggins v. Smith, 539 U.S. 510, 522 (2003) (citing Strickland v. Washington, 466 U.S. 668, 688 (1984)).

[44] *See* AM. BAR ASS'N, GUIDELINES FOR THE APPOINTMENT AND PERFORMANCE OF DEFENSE COUNSEL IN DEATH PENALTY CASES (2003), http://www.americanbar.org/content/dam/aba/migrated/2011_build/death_penalty_representation/2003guidelines.authcheckdam.pdf.

[45] *Id*. at 923.

[46] *See In re Stenson*, 276 P.3d 286 (Wash. 2012).

[47] *Id*. The decision was based on Mr. Stenson's sixth personal restraint petition, filed by his counsel. *Id.* Mr. Stenson also filed his own pro se petition (his fifth), which, because of the disposition on the sixth petition, the Court dismissed as moot. *Id.*

sentence upon a conviction of first-degree murder.[48] In 1909, the legislature gave trial courts the discretion to punish first-degree murder with life imprisonment or death.[49] Capital punishment was abolished in 1913,[50] only to be reinstated in 1919.[51]

Capital punishment remained unchanged and regularly used over the next 50 years. In 1975, however, Washington's death penalty was again abolished.[52] That same year, Initiative No. 316 was passed by voters, which gave way to a new death penalty statue.[53] This statute imposed a mandatory death penalty for all "aggravated murder in the first degree" convictions.[54] Therefore, a person would receive a sentence of death for first-degree murder, coupled with a statutorily defined aggravating factor.[55] The statute was modified again in 1977 with the adoption of Revised Code of Washington (RCW) 10.94, which allowed for a death sentence after a conviction of premeditated first-degree murder and special sentencing proceeding.[56] Under this statute, the sentencing jury was asked to determine whether guilt was established by "clear certainty," whether aggravating factors and sufficient mitigating factors existed, and whether they believed that the defendant would commit additional violent acts in the future.[57] Because a defendant who entered a guilty plea would not be subject to the death penalty, while someone who exercised his or her right to a trial could

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[48] Act of Apr. 28, 1854 Sec. 12, 1854 Wash. Laws 75, 78.
[49] Act of Mar. 22, 1909, ch. 249, § 140, 1909 Wash. Laws 890 (establishing murder in the first degree).
[50] Act of Mar. 22, 1913, ch. 167, § 1, 1913 Wash. Laws 581 (abolishing the death penalty).
[51] Act of Mar. 14, 1919, ch. 112, § 1, 1919 Wash. Laws 273 (describing the crime and punishment of murder in the first degree).
[52] WASH. REV. CODE § 9A.98.010 (1975) (repealed 1981).
[53] *See* WASH. REV. CODE §§ 9A.32.045–.046 (repealed 1981).
[54] *Id*.
[55] *Id*.
[56] WASH. REV. CODE §§ 10.94.010–.900 (repealed 1981).
[57] *Id*.

be, the statute was held to be unconstitutional since it created an inequitable sentencing scheme.[58]

The Washington State Legislature enacted the state's current death penalty statute in 1981.[59] Under the statute, only aggravated first-degree murder convictions carry the possibility of a death sentence.[60] A person may be charged with aggravated first-degree murder if there is probable cause that the killing is premeditated and a statutorily defined aggravating factor exists.[61] As presently enacted, there are 14 statutory aggravating factors, with a few consisting of multiple subsections.[62] After an arraignment on aggravated first-degree murder, the prosecuting agency has 30 days to file a written notice of a special sentencing proceeding.[63] This time period may be, and often is, extended for good cause.[64] In determining whether to file a notice, the prosecutor must determine whether "there is reason to believe there are no sufficient mitigating circumstances to merit leniency."[65] During this period, a defendant may not plead guilty without the consent of the prosecuting attorney.[66]

If a notice of a special sentencing is not filed within the time period, the prosecuting attorney may not request the death penalty.[67] When a prosecutor files a special sentencing notice, a fact-finder must first determine whether the prosecutor has proven beyond a reasonable doubt the

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[58] *See* State v. Frampton, 627 P.2d 922 (Wash. 1989). *See also* State v. Martin, 614 P.2d 164 (Wash. 1980) (concluding that the statute was unconstitutional because it "chill[ed] a defendant's constitutional rights to plead not guilty and demand a jury trial and violated due process. . . . They do not meet the standards of the state or federal constitutions").
[59] WASH. REV. CODE § 10.95.050 (1981).
[60] WASH. REV. CODE § 10.95.030 (1981).
[61] WASH. REV. CODE § 10.95.020 (2015).
[62] *Id*. (describing aggravating factors).
[63] WASH. REV. CODE § 10.95.040(1) (2015).
[64] WASH. REV. CODE § 10.95.040(2) (2015).
[65] *Id*.
[66] *Id*.
[67] WASH. REV. CODE § 10.95.040(3) (2015).

charge of aggravated first-degree murder, and if so, then the same jury is reconvened for the special sentencing proceeding.[68] If, however, a jury is waived and a judge finds the defendant guilty, or the defendant enters a plea of guilty to aggravated first-degree murder, or upon remand from an appellate court, the trial court shall impanel a jury for the special sentencing hearing.[69]

Both sides are allowed to make an opening statement, admit evidence, and, if necessary, present rebuttal evidence.[70] However, the prosecutor's case is limited to evidence presented at the merit (guilt) phase, the victim impact evidence, and the defendant's criminal history.[71] The defendant may present evidence of statutory and non-statutory mitigating factors.[72] After the conclusion of the evidence and argument, the court (or judge) asks the jury to deliberate on the following question: "Having in mind the crime of which the defendant has been found guilty, are you convinced beyond a reasonable doubt that there are not sufficient mitigating circumstances to merit leniency?"[73]

There are only two sentencing options at the special sentencing phase—life without the possibility of parole or death. Jury members must be unanimous before they can answer the statutory question in the affirmative and give a death sentence.[74] If the jury is not unanimous, or unanimously answers the question in the negative, then the sentence is life without the

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[68] WASH. REV. CODE § 10.95.050(3) (2015).
[69] WASH. REV. CODE § 10.95.050(4) (2015).
[70] *Id*.; WASH. REV. CODE § 10.95.060(2) (1981).
[71] *See, e.g.*, WASH. REV. CODE § 10.95.060 (1981); State v. Gentry, 888 P.2d 1105 (Wash. 1995); State v. Bartholomew, 683 P.2d 1079 (Wash. 1984).
[72] WASH. REV. CODE § 10.95.070 (2015) (factoring what the jury may consider in deciding whether leniency is merited).
[73] WASH. REV. CODE § 10.95.060(4) (2015).
[74] *Id*.

possibility of parole.[75] Death, however, can never be imposed if the person is a juvenile or has intellectual deficits.[76]

Upon a conviction of aggravated first-degree murder, the trial court is mandated to file a completed pre-printed trial questionnaire with the Washington Supreme Court within 30 days.[77] This pre-printed trial report form requests information about the defendant, the trial, the special sentencing proceeding, the victim, the representation of the defendant, whether a death notice was filed, and a chronology of the case.[78] Additionally, the report requests specific information pertaining to the race of the defendant, the victim, the jury, and the respective county's racial population.[79]

When death is imposed, the Washington Supreme Court is required to conduct an automatic review.[80] The Supreme Court looks at four considerations: (1) whether there was sufficient evidence to justify the death sentence, (2) whether the defendant was cognitively disabled, (3) whether the offense was brought on by passion or prejudice, and (4) whether the sentence was excessive or disproportionate.[81] RCW 10.95.130(2)(b)—which defines the "pool" of cases for the proportionality review—states,

> Whether the sentence of death is excessive or disproportionate to the penalty imposed in similar cases, considering both the crime and the defendant. For the purposes of this subsection, "similar cases" means cases reported in the Washington Reports or Washington Appellate Reports since January 1, 1965, in which the judge or jury considered the imposition of capital punishment

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[75] *Id*.
[76] *See* WASH. REV. CODE § 10.95.030(2)(a)-(e) (2015). *See also* Roper v. Simmons, 543 U.S. 551 (2005); Atkins v. Virginia, 536 U.S. 304 (2002); State v. Furman, 858 P.2d 440, 458 (Wash. 1993).
[77] WASH. REV. CODE § 10.95.120 (2015).
[78] *Id.*
[79] *Id*.
[80] WASH. REV. CODE § 10.95.100 (2015).
[81] WASH. REV. CODE § 10.95.130 (2015).

> regardless of whether it was imposed or executed, and cases in which reports have been filed with the Supreme Court under RCW 10.95.120.[82]

The reports filed pursuant to RCW 10.95.120 are used to make up the "pool" of cases for a proportionality review. This "pool" includes cases in which prosecution sought the death penalty and those in which it was not.[83]

III. STUDY METHODOLOGY

The primary goal of this study was to estimate the costs associated in cases where the death penalty was sought (death penalty sought or DPS is synonymous with "capital case/trial" used throughout this study), as compared to cases where the death penalty was not sought (DPNS), for aggravated first-degree murder cases in Washington State. Prior empirical research supports the notion that the pursuit of the death penalty is more expensive.[84] State-specific studies are somewhat limited because of a lack of generalizability beyond the state in which the research took place. This is due to the fact that there are many between-state differences in legal systems, geography, population, and crime rates, among many other factors. This study provides empirical findings that are unique to Washington State.

Prior studies on this issue within Washington State have also been limited in both rigor and comprehensiveness.[85] The current study adds significantly

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[82] WASH. REV. CODE § 10.95.130(2)(b) (2015).
[83] State v. Lord, 822 P.2d 177, 221 (1991).
[84] *See* Philip J. Cook, *Potential Savings from Abolition of the Death Penalty in North Carolina*, 11 AM. L. & ECON. REV. 498, 498-529 (2009); John K. Roman, Aaron J. Chalfin & Carly R. Knight, *Reassessing the Cost of the Death Penalty Using Quasi-Experimental Methods: Evidence from Maryland*, 11 AM. L. & ECON. REV. 530, 530-574 (2009).
[85] *See generally, e.g.,* H.R. 1504, 63rd Leg., 1st Reg. Sess. (Wash. 2013), https://fortress.wa.gov/ofm/fnspublic/legsearch.asp?BillNumber=1504&SessionNumber; LARRANAGA, *supra* note 2; GUY, *supra* note 14; *see generally* PAMELA B. LOGINSKY, SHATTERING MYTHS: A FACTUAL ANALYSIS OF WASHINGTON'S DEATH PENALTY PRACTICES (2004), http://www.waprosecutors.org/pdf/wsba-report.pdf; *see generally* WASH. STATE INST. FOR PUB. POL'Y, http://www.wsipp.wa.gov/ (last visited Feb. 26,

to research on the death penalty in Washington State and beyond, as we utilize quasi-experimental methods to estimate cost differences using a wide variety of data sources. The Roman et al. study (Roman study) highlights several significant limitations of prior research focused on estimating the differences between death penalty cases and, for example, life without parole (LWOP) cases.[86] The authors argue that this type of comparison is inherently flawed because it relies on the identification of cases through "ex post case outcomes rather than ex ante attributes."[87] This first issue can be understood as a problem of selection bias—cases are assigned to study or comparison groups based on the case outcome. With regard to research on the costs of the death penalty, selection bias is one of the most important issues that separates high-quality studies from others. We address the selection bias issue in two important and distinct ways: (1) we focus only on death-eligible cases (aggravated first-degree murder), and (2) we use propensity score matching (PSM) techniques to balance important covariates in our DPS and DPNS cases (both the sample and PSM process are detailed below). DPS cases are those in which the prosecution filed a notice to seek the death penalty. There are cases that resulted in guilty pleas

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2016); *see generally* STEVE AOS, MARNA MILLER & ELIZABETH DRAKE, EVIDENCE-BASED PUBLIC POLICY OPTIONS TO REDUCE FUTURE PRISON CONSTRUCTION, CRIMINAL JUSTICE COSTS, AND CRIME RATES (2006), http://www.wsipp.wa.gov/ReportFile/952/Wsipp_Evidence-Based-Public-Policy-Options-to-Reduce-Future-Prison-Construction-Criminal-Justice-Costs-and-Crime-Rates_Full-Report.pdf; *see generally* J. WARREN, A GELB, J. HOROWITZ & J. RIORDAN, FIGHT CRIME AND SAVE MONEY: DEVELOPMENT OF AN INVESTMENT TOOL FOR STATES TO STUDY SENTENCING AND CORRECTIONS PUBLIC POLICY OPTIONS (2010), http://www.wsipp.wa.gov/ReportFile/1067/Wsipp_Fight-Crime-and-Save-Money-Development-of-an-Investment-Tool-for-States-to-Study-Sentencing-and-Corrections-Public-Policy-Options-Progress-Report_Progress-Report.pdf; *see generally* WASH. STATE INST. FOR PUB. POL'Y, WSIPP'S BENEFIT COST TOOL FOR STATES: EXAMINING POLICY OPTIONS IN SENTENCING AND CORRECTIONS (2010), http://www.wsipp.wa.gov/ReportFile/1071/Wsipp_WSIPP-s-Benefit-Cost-Tool-for-States-Examining-Policy-Options-in-Sentencing-and-Corrections_Full-Report.pdf.

[86] *See* ROMAN ET. AL., *supra* note 24.

[87] *Id*. at 531.

to a life without parole sentence after the prosecutor withdrew the notice to seek death, and there are "not-sought" cases in which the prosecutor decision not to file a notice to seek death was made many months after the case began.

The Roman and Cook studies also highlight other important limitations that may negatively affect previous death penalty cost studies, including issues surrounding small sample sizes, truncated observation periods, and poor data quality.[88] We give each of these issues careful consideration, and we fully describe all limitations that may bear on our overall findings.

Below, we describe our sample of cases followed by an explanation of propensity score matching and the PSM model outcomes and diagnostics. We then discuss our cost measures, including the origin of the data along with a discussion of missing data procedures. This is followed by a discussion of the general analytic plan and results.

A. Sample of Cases

1. Trial Reports Database

We began with a list of known aggravated first-degree murder cases that resulted in an official trial report, ranging from the earliest in 1981 to 2014. Most of the trial reports were already entered into a database, with a few more added during the course of this study. The total number of 339 trial reports served as our initial sample frame.

We selected aggravated first-degree murder cases as our primary focus because they are the only cases that are *death penalty eligible,* and the trial reports database contained cases that are both DPS and DPNS. We elected to exclude cases that did not meet the criteria listed in RCW 10.95.020 (aggravated first-degree murder). Additionally, in 1997, the State of Washington adopted new special proceeding rules (SPRC 1997), regarding

[88] *Id*. at 72.

qualifications for counsel (death-qualified counsel requirement). Practitioners and researchers have identified this change in the legal process, together with other federal changes that occurred around the turn of the century, as critical juncture(s) for capital trials in Washington.[89] Moreover, data collection, management, and the accumulation of official records during the 1980s and early 1990s were not at the level that we have become accustomed to in the current "digital" age. Many of the older court records are stashed away in file cabinets, some are lost to time, and some have likely been destroyed. After careful consideration, and in light of both substantial systemic change and availability of reliable data, we chose to further exclude cases that had no data points (or very little data) available and cases prior to 1997 (including appeals). This resulted in a final selection of 147, 108 DPNS and 39 DPS cases.[90] For all adjustments, the Organization for Economic Co-operation and Development (OECD) Main Economic Indicators (complete database, base year 2010, Consumer Price Index (CPI) – Total All Items for the United States) were used to adjust nominal values into real 2010 dollars.

The trial reports are public record and can be requested through open records laws procedures. The trial reports, completed by the presiding judge or appointee, are prepared on a 13-page questionnaire that documents case numbers, name, and general demographics of the defendant. Some victim-level information, including gender and race/ethnicity are usually provided. Additional case information that is usually included consists of whether there was a codefendant, the nature of the crime, jury demographics, important dates (e.g. arrest date, trial begin date, sentencing date), as well as aggravating circumstances. In the case(s) that had missing dates, or some

[89] *Id*. at 33.

[90] There are a few cases (n= 9 DPNS, n= 5 DPS) that originated within the ECJA database that are counted here. We included these cases in the total, but those cases do not have trial reports, as they are currently ongoing.

other piece of missing information (such as gender of the offender), we turned to official court documents when available and, in rare circumstances, used some information gleaned from news reports.[91]

There are county-level geographic differences regarding both the incidence and prevalence of aggravated murder and the pursuit of capital punishment. Although anecdotal, there is some evidence here of a relationship between a given county's population, crime rate, budget, and whether or not a case is pursued capitally. An empirical analysis of this particular issue is well beyond the scope of this study; however, it is important to understand where these cases are originating at the county level. Table 1 below provides a breakdown of the geographic location of the cases included in the study. The majority of the cases are concentrated in five counties, beginning with King, followed by Pierce, and then Snohomish, Yakima, and Spokane counties. These counties aside, the counts drop significantly over this 17-year period, and death-eligible aggravated murder cases are comparatively rare.

[91] We did not use any cost figures from any news sources (or any other non-official source) for generating estimates for costs in the main analysis presented below. We only used news sources for simple information, such as the location or date of the incident, arrest, trial, or sentence date. Moreover, this only occurred for, at most, six cases.

Table 1. Case Frequency and Average by County, 1997-2014 (N= 147).

County	*f* (n)	%	Avg.	County	*f* (n)	%	Avg.
Benton*	3(1)[1]	2.04	0.176	Mason*	2	1.36	0.118
Chelan	1	0.68	0.059	Okanogan*	5	3.40	0.294
Clallam*	2(1)[1]	1.36	0.118	Pierce*	20(10)[1]	13.61	1.176
Clark*	7(2)[2]	4.76	0.412	Skagit	3	2.04	0.176
Cowlitz*	3	2.04	0.176	Snohomish*	16(5)[2]	10.88	0.941
Douglas	1	0.68	0.059	Spokane*	9(3)[1]	6.12	0.529
Franklin	2(1)	1.36	0.118	Stevens	1	0.68	0.059
Grant	1	0.68	0.059	Thurston	1(1)	0.68	0.059
Jefferson	1	0.68	0.059	Whatcom	2	1.36	0.118
King*	47(12)[2]	31.97	2.765	Yakima	12(1)	8.16	0.706
Kitsap*	6(2)[1]	4.08	0.353				
Klickitat	2	1.36	0.118	Total	147	100.00	0.393

Note: *f* = total number of cases. (n) number of DPS cases. % = percent total for all years. Avg. = Average per year from 1997-2013. Averages are unadjusted for county population. * Has at least one case (either DPS/NS) that stretched back prior to 1997, but had cost data reported post 1997. Superscript numbers indicate pre-1997 number of DPS cases referenced parenthetically.

Last, the trial report data were converted into a new file using IBM SPSS software and were cleaned (checked for accuracy, recoded, etc.) and prepared for further use as a "seed" database. We used a mixed approach here; rather than attempting to survey and create general cost estimates by calculating top-down percent effort and time expended on a "type" of case, we tie costs to each particular case within general stages of the case process and triangulate these costs using several sources of data. It is to these additional sources of data that we now turn.

2. Extraordinary Criminal Justice Act (ECJA) Petitions

First adopted and put into use in 1999, the Reimbursement of Extraordinary Criminal Justice Costs law allows Washington counties to,

> Submit a petition for relief to the office of public defense for reimbursement of extraordinary criminal justice costs. Extraordinary criminal justice costs are defined as those associated with investigation, prosecution, indigent defense, jury empanelment, expert witnesses, interpreters, incarceration, and other adjudication costs of aggravated murder cases.[92]

Because of the inherent focus on aggravated murder case costs, we collected and coded all available ECJA petitions from 1999 until present into a case-linked database. These data were then merged to the trial reports database. There was significant overlap with the cases listed in the trial reports and those listed at some point within the ECJA petitions, as 133 (90.5 percent) records matched with some cost data included during at least one petition year.

The ECJA petitions are compiled by county executives and budget managers, in partnership with agency personnel, who submit a petition outlining the extraordinary costs associated with the aggravated murder/death penalty cases for which the county is seeking reimbursement. Other non-aggravated murder, but complex cases, are also at times referenced in the petition. The petitions are then submitted to the Washington Office of Public Defense, in consultation with the Washington Association of Prosecuting Attorneys and the Washington Association of Sheriffs and Police Chiefs, who process, audit, and prioritize the petitions. As stated in the statute, "prioritization of the petitions shall be based on, but not limited to, such factors as disproportionate fiscal impact relative to the county budget, efficient use of resources, and whether the costs are extraordinary and could not be reasonably accommodated and anticipated in the normal budget process."[93] The prioritized list is then submitted to the

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[92] *See* WASH. REV. CODE § 43.330.190 (2015); Reimbursement of Extraordinary Criminal Justice Costs, RCW WASH. REV. CODE § 43.330.190 (1999).
[93] WASH. REV. CODE § 43.330.190(1) (2015).

Washington Senate and House of Representatives for consideration and recommendation for funding by the legislature.

Although the ECJA petitions may not include *all* costs associated with *every* aggravated murder case and trial that may have occurred over the last 15 years, the data that they do include—by virtue of the processes employed to render costs included within the petitions—are extremely valuable. The ECJA petitions provide valid costs associated with every significant step in the aggravated and capital case process, including pretrial investigation and policing costs, jail and security, jury selection, defense, prosecution, and court costs, among many other sub-categories. We were not concerned with whether any petition was actually reimbursed, in part or in full, for the stated amounts. Details on cost categories included in this study and adjustments to the cost figures are included in the Measures section below.

3. Jail Data

Many death penalty cost studies fail to include the costs associated with pre-sentence incarceration. These costs can be significant for aggravated murder cases, as the defendants are often held in segregated, high-security areas within the particular county jail. Not only does the research show a positive relationship with case severity/complexity and time served between arrest and sentencing, but also the cost of running these high-security areas within jails differs significantly compared to placements in lower-risk cells, as the inmate to staff ratio decreases considerably.[94] These cost differentials are warranted, and we do not make any assumptions that the costs associated with managing high-risk offenders would significantly change in the absence of a death penalty option, as there would still be a need to segregate high-risk violent offenders. We include time and expenses related

[94] DEP'T OF CORRECTIONS, INSTITUTIONAL COSTS, AVERAGE DAILY POPULATION (ADP), AND COST PER OFFENDER PER DAY 1 (2015), http://www.doc.wa.gov/aboutdoc/docs/msFY2015CostPerOffender.pdf.

to DPS and DPNS, which are important to consider in any empirical evaluation of the costs associated with various stages of aggravated and capital murder trials.

We gathered jail-related cost data from three main sources. First, the ECJA petitions often had jail-related expenses listed, and we asked for additional time and cost information from several counties. Second, we received detailed days in custody and cost information from Clark, King, and Kitsap counties. The county-level data was matched using Department of Corrections (DOC) numbers, case numbers, and names, and checked for accuracy. Last, we used date of arrest to date of sentence in the trial reports as a check on the costs and time-in-custody data provided by Clark, King, and Kitsap counties, as well as the ECJA petitions. A total of 112 (76.2 percent) of the cases recorded matched data within the ECJA and county-level data, and a total of 141 (95.9 percent) of the cases had the number of days from arrest to sentence in the trial reports and/or ECJA county level jail cost data.

4. Washington State Department of Corrections (DOC) Data

No death penalty cost analysis would be complete without considering the costs associated with post-sentence incarceration. Therefore, we provided the DOC a complete list of the cases included here and requested information regarding costs of incarceration; a total of 132 (89.8 percent) of the cases recorded matched data within the DOC database. The DOC provided data that included movement within and between facilities, and per-offender per-day costs. We also asked for cost information regarding the actual administration of the death penalty; however, this data is difficult to collect or estimate given the rarity of the punishment.[95] Furthermore, the

[95] There have only been five executions since Joseph Self was executed June 20, 1963; Dodd, 1993; Campbell, 1994; Sagastegui, 1998; Elledge, 2001; and, Brown, 2010. *See Persons Executed Since 1904 in Washington State,* DEP'T OF CORRECTIONS WASH.

per-facility average daily costs do not cover any of the additional costs commonly associated with "death row" (e.g. inmate to officer ratio, higher levels of security, single-occupancy cells, etc.).[96] While death-sentenced inmates are held in segregation, DOC states on its web page that the costs to incarcerate a death-sentenced inmate are "the same as it does to incarcerate any other offender in a maximum-custody unit."[97] The DOC adds, "offenders who are scheduled for execution are housed with other offenders in a maximum-custody unit at the Washington State Penitentiary."[98]

Given that the daily rates for both the known facility-based data (pre-2014) and the estimated rates used for the DOC cost forecasting are the same at baseline for each group, the cost-estimates for the DOC-based cost analyses are *the most* conservative estimates given and should be interpreted with the understanding that the costs for the DPS group are likely suppressed. Thus, we provide more explanation of these issues below, as well as a sensitivity analysis to examine where the crossover (from savings to costs) occurs when adjusting the DPS costs by 10 percent intervals.

5. Prosecution Data

Data associated with prosecution costs were collected primarily from the ECJA petitions, as most, if not all, of the individual or supporting documents within the petitions detailed the costs associated with prosecution of particular cases. A total of 103 (70.1 percent) of the cases recorded matched data within the ECJA database, meaning 103 had case-level cost information. Additionally, we met and talked with representatives

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STATE, http://www.doc.wa.gov/offenderinfo/capitalpunishment/executedlist.asp (last visited Mar. 22, 2016).

[96] *Capital Punishment in Washington State*, DEP'T OF CORRECTIONS WASH. STATE, http://www.doc.wa.gov/offenderinfo/capitalpunishment/ (last visited Feb. 26, 2016).

[97] *Id*.

[98] *Id*.

of prosecutors' offices from several counties to discuss the differences in costs between capital and non-capital aggravated murder cases. As a result of these meetings, we developed a short survey instrument that we gave to representatives from King, Snohomish, and Pierce County prosecutors' offices. We gave these short surveys containing case references to prosecutors who had direct knowledge of the particular cases. We then asked the prosecutors to estimate the percentage of time spent during each significant stage of each particular case.

6. Defense Data

We collected data associated with defense costs primarily from the ECJA petitions, as most, if not all, of the individual or supporting documents within the petitions detailed the costs associated with the defense of particular cases. A total of 115 (78.2 percent) of the cases recorded matched data within the ECJA database, or had case-level cost information. Additionally, we met and talked with representatives from several counties to discuss the differences in costs between capital and non-capital aggravated murder cases. We received data containing total costs per case for several counties. After carefully examining the documents provided from county defenders' offices, we discovered that a vast majority of the documents and data that the county defenders' offices provided us also appeared in the ECJA database. Also, as outlined in the introduction, recent cases in King County that are still pending, for which there are no trial reports and for which the most recent ECJA petitions have not been filed, have generated significant costs that are not yet reported in the ECJA database.

7. Court Data

We also collected data associated with court costs primarily from the ECJA petitions, as many of the petitions included costs associated with courtroom staff, judges, jury selection, and other categories of court-level

expenses. A total of 105 (71.4 percent) of the cases recorded matched data within the ECJA database or had case-level cost information related to courts. Additionally, the trial reports include significant dates (with the absence of arraignment dates), which outline the duration of each significant stage of the case process, such as arrest to trial, the start of the trial to verdict, verdict to sentencing date, and appeals dates. As with the jail data discussed earlier, we used the time-based data to investigate whether there are significant differences in length of time (during each segment of the case) between DPS and DPNS cases. A total of 141 (95.9 percent) of the cases recorded matched data within the trial reports database or had case-level duration information related to courts.

8. State-Level Appeals and Personal Restraint Proceedings (PRP)

We requested data associated with the case-specific costs of state-level appeals from the Washington State Office of Public Defense (OPD). We gave the OPD a list of all possible cases, and they linked these cases to data regarding costs associated with post-conviction appeals. A total of 107 (72.8 percent) of the cases recorded matched data and were returned, or had case-level cost information related to state personal restraint proceedings (PRP) and appeals.

9. Federal Habeas Corpus Proceedings

Data associated with case-specific costs of federal habeas corpus proceedings were requested from the Washington State Attorney General. For death penalty cases, if the defendant is found guilty and sentenced to death, the county is responsible for bearing the costs associated with the direct appeal and PRPs. For costs associated with federal habeas corpus petitions and the appeals from them, the state/AGO incurs the costs associated with defending a habeas challenge to conviction. There have only been a handful of cases that have reached this threshold in Washington; therefore, we present the federal appeals costs as a separate

analysis. We also requested and received data from the Federal Defender for Western Washington concerning its costs for representing clients in federal habeas corpus proceedings.

B. Combined Data and Adjustment Strategy

Each separate database was first constructed, cleaned, and recoded as a stand-alone file. We used case numbers, DOC case numbers, and, later, trial report numbers (TRNs) to link datasets together. Because each set of data presented unique challenges, most of the recoding and cost conversions were completed prior to a final merging of all datasets. Some sources provided multiple observations (rows) for each case/offender, while others provided a flattened or unduplicated file, which made adjusting nominal values impossible if not done prior to a final merge. For example, one offender had 92 separate movements within or between different DOC facilities. It was extremely important to exclude any time between movements, where custody, and therefore costs, may have shifted from the DOC to a county jail, as many offenders had business to attend to at their respective county or state courts post-conviction.

Additionally, although the DOC could not provide a unit-level cost per inmate per day, they were able to differentiate between the average costs of different facilities. The DOC data captured these cost differences and movements. Given the file structure, the adjustments for inflation needed to be done using the full file. Because the "time" issue associated with inflation and costs is so important, adjustments for inflation took place at the individual database level. Furthermore, some file structures allowed for more precise adjustments because they contained multiple dates, while others simply provided a year within which the costs were generated. For all adjustments, the Organization for Economic Co-operation and Development (OECD) Main Economic Indicators (complete database, base year 2010, Consumer Price Index – Total All Items for the United States), were used to adjust nominal values into real 2010 dollars. CPI figures were rounded to

the ten thousandths and the annual CPI value for 2014 was provided using Sahr's (2012) estimate.[99]

C. Propensity Score Matching

The main purpose for randomization in controlled experimental research designs is to dampen or eliminate the effects of selection bias. In order to more closely approximate causal effects (i.e., the outcomes (costs) attributable to, in this case, a prosecutor's decision to pursue the death penalty), a research design must account for possible confounding factors. Controlling for confounders is achieved by gaining equivalence or closer approximations of the preexisting differences between treatment and control groups.[100] Therefore, it is important to separate out any preexisting group-selection effects these differences may have on the outcomes of interest.

Propensity score matching (PSM) is a technique that emulates randomization by balancing the observed covariate distributions within the treatment and comparison groups.[101] Due to the non-random assignment to

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[99] Robert C. Sahr, (2012) Political Science Department, Oregon State University, Corvallis, OR 97331-6206. "Consumer Price Index (CPI) Conversion Factors 1774 to estimated 2022 to Convert to Dollars of 2010 Estimates for 2011-2022 are based on the average of OMB and CBO estimates as of January and February 2012. Conversion factors for years before 1913 are re-based from data from the *Historical Statistics of the United States Millennial Edition* (Cambridge University Press, 2006). Calculation starting 1913 uses the CPI-U as the base, from the US Bureau of Labor Statistics. Monthly and annual CPI data are available at the BLS web site: (CPI-U = all urban consumers)." *See Consumer Price Index*, BUREAU OF LAB. STATISTICS, http://stats.bls.gov/cpi/home.htm#data (last visited Feb. 26, 2016).

[100] *See* Elizabeth A. Stuart, *Matching Methods for Causal Inference: A Review and a Look Forward*, 25 Statistical Science 1 (2008); Elizabeth A. Stuart & D.B. Rubin, *Best Practices in Quasi-Experimental Designs: Matching Methods for Causal Inference*, *in* BEST PRACTICES IN QUANTITATIVE SOCIAL SCIENCE 155 (J. Osborne ed., 2007); S. Weizen et al., *Principles for Modeling Propensity Scores in Medical Research: A Systematic Literature Review*, 12 PHARMACOEPIDEMIOLOGY & DRUG SAFETY 841 (2004); F. Thoemmes, Univ. of Tubingen, *Propensity Score Matching in SPSS* (2012), https://www.human.cornell.edu/hd/qml/upload/Thoemmes_2012.pdf.

[101] *See generally* Stuart, *supra* note 100; Stuart & Rubin, *supra* note 100.

either the treatment (DPS) or control (DPNS) groups, a one-to-one nearest neighbor PSM technique was utilized to balance the covariate distributions.[102] As noted by Stuart and Rubin, there are two main issues that must be taken into consideration when deciding the covariates on which to match cases: (1) one must select a set of variables that are to be compared, and (2) those variables are selected "without access to any of the outcome data, thereby preventing intentional or unintentional bias when selecting a particular matched sample to achieve a desired result."[103] Thus, outcome variables must not be included in the PSM model.

The predicted probabilities, or propensity scores that were generated via logistic regression for the treatment group, for each observation (i.e., offender) were then matched to the nearest propensity score in the comparison group selection pool. Offender records in either the treatment or the comparison group that were not successfully matched were omitted from the PSM-linked analyses. A total of 35 records for DPS cases were matched to comparison group records. As Stuart notes, the omission of observations may lead some to raise issues with the consequent reduction of statistical power (due to reduction in sample size).[104] This issue, however, is not as critical as one might think. As Stuart notes, "power increases when the groups are more similar because of the reduced extrapolation and higher precision that is obtained when comparing groups that are similar versus groups that are quite different."[105]

1. Covariate Selection and Events per Variable

Covariates were selected based on three criteria: (1) belief as confounders and correlates of both crime and prosecutorial decision making, (2) initial

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[102] *See generally* Stuart, *supra* note 100; Stuart & Rubin, *supra* note 100.
[103] *See generally* Stuart, *supra* note 100; Stuart & Rubin, *supra* note 100.
[104] *See generally* Stuart, *supra* note 100; Stuart & Rubin, *supra* note 100.
[105] Stuart, *supra* note 100; Stuart & Rubin, *supra* note 100.

bivariate tests indicating statistically significant differences (listed in Table 2 below) between the DPS and DPNS groups, and (3) availability and completeness of the variables. There were 11 variables initially considered for inclusion in the propensity score model.

Table 2. Predictor Characteristics of Study Cases Pre and Post PSM.

	Before PSM (N = 147)			After PSM (N = 70)		
	Not Sought	Sought		Not Sought	Sought	
	M (SE)	M (SE)	t-test sig	M (SE)	M (SE)	t-test sig
Number of: Agg. Factors Found	1.69 (0.079)	2.67 (0.233)	0.001*	2.23(0.169)	2.46(0.176)	0.352
No. of Victims	1.75 (0.139)	3.41 (1.223)	0.032*	2.34 (0.335)	2.26 (0.381)	0.870
Age at Arrest	29.4(1.045)	32.6(1.639)	0.113	32.5(2.258)	32.5(1.705)	0.983
	f (%)	*f* (%)	$\chi 2$ sig	*f* (%)	*f* (%)	$\chi 2$ sig
IFO Robbery (yes)	31(28.7)	15(38.5)	0.260	12(34.3)	14(40.0)	0.621
IFO Rape (yes)	8(7.4)	8(20.5)	0.024*	4(11.4)	5(14.3)	0.721
Victim Stranger (yes)	32(29.6)	13(33.3)	0.667	9(25.7)	12(34.3)	0.434
Race (non-minority):						
Offender	51(47.2)	12(30.8)	0.075*	13(37.1)	11(31.4)	0.615
Victim	38(35.2)	7(17.9)	0.045*	8(22.9)	7(20.0)	0.771
Prior Felony (yes)	39(36.1)	18(46.2)	0.270	17(48.6)	17(48.6)	1.000
Plea (yes)	20(18.5)	9(23.1)	0.538	11(31.4)	7(20.0)	0.477
Gender (F)	4(3.7)	2(5.1)	0.700	0(0.0)	2(5.7)	0.151

Notes: IFO = "in furtherance of"; F = Female; There were no statistically significant differences pre-PSM for: age at arrest, in furtherance of robbery, victim stranger, prior felony, plea indicator, and gender.

Of these variables, six (prior record, in furtherance of robbery, age at arrest, gender, whether the victim was a stranger, and whether there was a

plea in the case) did not indicate significant differences prior to matching. These variables were not included as primary covariates in the match. As is illustrated in Table 2, above, the remaining five variables were included in the model (EPV = Tx group [DPS] n = 39/5 = 7.8).[106]

2. PSM and Post-hoc Diagnostics

Using the MatchIt R interface in IBM SPSS,[107] the match conducted here used a logistic regression model, a nearest neighbor one-to-one match, and both treatment (DPS) and control (DPNS) observations outside the common area of support were discarded (caliper = .6). There were no statistically significant differences on the balanced covariates post-match. The overall balance test (χ^2 = 1.147, (df) 5, p= .950; Hansen & Bowers, 2010) was not statistically significant and the relative multivariate imbalance test *L*1 measure was smaller post-match (.400) than pre-match (.530); both measures indicated balance post-match (Thoemmes, 2010). Visual inspections of detailed balance reports, jitter-plot, and standardized difference tests also indicate post-match balance. Additionally, using the resulting propensity scores, a ROC curve (receiver operating characteristic) was employed to examine the performance of the binary classifier system; the area under the curve, 0.567 indicates strong performance (S.E. = 0.069, asymptotic sig.b = 0.333; 95% CI lower = 0.432, upper = 0.702).

Taken as a whole, these tests indicate a successful match. Therefore, we present both the unmatched total average costs across the main categories, as well as costs averages/totals from the matched sample. We include both the unmatched and matched analyses here for several reasons, most notably: (1) we make the argument that we have the entire population of aggravated murder cases within the given timeframe and, therefore, presenting the

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[106] Weitzen et. al, *supra* note 100, at 842-43.
[107] For more on SPSS, see generally *SPSS Software*, IBM, http://www-01.ibm.com/software/analytics/spss/ (last visited Feb. 26, 2016).

averages sheds light on the whole spectrum of costs associated with these cases, and (2) choosing to match using propensity scores allows for the controlling of extreme scores and strengthens the argument that differences between the DPS and DPNS cases included here are linked to the prosecutor's decision to file a death notice, rather than significant confounding factors.

D. Measures

The creation of cost categories developed in two distinct stages. First, through an analysis of the literature and careful consideration of the key stages in both capital and non-capital cases, we created an outline of key cost categories that follow the general chronology of a case. These primarily identified stages include police response/investigation, pre-trial, trial, direct appeal, state post-conviction (PRP), federal habeas, federal appeals, and clemency. Second, within each of these stages costs are incurred by several different agencies, such as defense, prosecution, courts, police, jails, and prisons. As illustrated earlier regarding the sample of cases, given the lack of reliable data that links costs incurred by these separate agencies directly to each specific stage in the chronology of a case, our analysis focuses mainly on the direct cost-categories (on a case-by-case basis), rather than those same costs spread over the duration of a normal case. In the final analysis below, we present costs incurred in six main categories: jail, defense, prosecutor, court/misc., state appeals (PRP), and DOC costs. We add the seventh category, federal habeas/appeals, as an aside because we have limited data for this category. Although we present only six main categories in this analysis, the main categories, especially regarding the ECJA costs, are made up of many other subcategories. Prior to merging, all costs figures were adjusted using base year 2010 annual CPI figures, and all final figures are presented as 2010 dollars.

1. Jail Costs – Sub-Categories

King County Department of Adult and Juvenile Detention (DAJD) costs were calculated using booking and release dates. These dates were used to calculate days in custody (minus any days that the particular defendant/offender might have not been in jail). The average daily cost for 2014, $141.88, was used to calculate total costs. The average daily cost is for all inmates, and it represents costs for officer salaries, building maintenance, direct and overhead costs, administration costs, as well as some other county-level overhead costs. For those cases that had jail cost-observations in both the ECJA and King County data files, the King County figure (or the largest value) was selected to avoid double counting costs.

Clark County Jail costs were also calculated using booking and release dates. These dates were used to calculate days in custody (minus any days that the particular defendant/offender might have not been in jail). Clark County provided daily rates per year (2009, $66.61; 2010, $76.83; 2011, $76.12; 2012, $77.26; 2013, $77.92; 2014, $81.02), which were used to calculate total costs. We assume these are also average daily costs for all inmates, and it represents costs for officer salaries, building maintenance, direct and overhead costs, administration costs, as well as some other county-level overhead costs. For those cases that had jail cost-observations in both the ECJA and Clark County data files, the Clark County figure (or the largest value) was selected to avoid double counting costs.

Kitsap County Jail time in custody figures were calculated using booking and release dates. At this time, we have yet to integrate adjusted costs for these cases because they were replicated in the ECJA jail-costs data. We assume that the costs included for all six Kitsap County cases were created using average daily costs for all inmates, and they represent costs for officer salaries, building maintenance, direct and overhead costs, administration costs, as well as some other county-level overhead costs. For those cases that had jail cost-observations in both the ECJA and Clark County data files, ECJA costs were selected to avoid double counting costs.

ECJA jail costs, compared to other ECJA cost categories, were straightforward, as the costs were initially contained in one variable. Again, we assume that the jail costs included for all ECJA cases were created using average daily costs for all inmates, and that they represent costs for officer salaries, building maintenance, direct and overhead costs, administration costs, as well as some other county-level overhead costs. It is important to note that the calculation of costs using daily averages for all inmates likely underestimates the costs for incapacitating defendants facing the death penalty, who are often placed in higher security cells/locations within these various county jails. Therefore, all jail-cost estimates are conservative.

2. Defense Costs – Sub-Categories

The ECJA defense costs' main category is comprised of three sub-categories within the ECJA database. These three sub-categories include: (1) attorney costs, (2) expert witness costs, and (3) investigation costs. Costs in each of these categories were adjusted using base year 2010 annual CPI figures, and all final figures are presented as 2010 dollars prior to the final merge, as each data point was tied to a petition year and case, and most of the cases had records that covered multiple years. Additionally, we assume these figures include costs for salaries, benefits, building maintenance, direct and overhead costs, and administration costs. We did receive raw data on defender costs through public disclosure requests from various counties. A vast majority of these files were exact replicas of the ECJA data for these specific cases, which allowed us to check the validity of the data in the ECJA records. After cross-referencing the data from the given county defenders with the ECJA data, we are confident that the ECJA cost figures are accurate.

3. Prosecution Costs – Sub-Categories

The ECJA prosecution costs' main category is comprised of three sub-categories within the ECJA database. These three sub-categories include:

(1) attorney costs, (2) expert witness costs, and (3) discovery costs. We assume these figures include costs for salaries, benefits, building maintenance, direct and overhead costs, and administration costs. The ECJA prosecution costs data were the only monetary-based data available during the course of this study. We are confident that similar to all of the ECJA costs, the prosecutor cost figures are valid, as they are vetted by county officials prior to submission, as well as vetted by a task force of key stakeholders who are required by law to review and prioritize the costs and reimbursement funds requested in the petitions.

4. Court, Police/Sheriff, and Miscellaneous (CPSM) Costs – Sub-Categories

The CPSM main category is comprised of multiple additional sub-categories. Some sub-categories were likely unique to a particular case and county, as some had very few observations. Due to the low observations in certain categories, we elected to combine these categories into courts, police/sheriff, and miscellaneous. These sub-categories include court/superior court costs associated with clerks/clerks papers, courtroom reporters, community surveys, docketing, evidence specialists/forensics, interpreters, judge costs, mitigation specialists, court staff, mental health specialists, witnesses, photography/video, transcripts, voir dire/jury, and miscellaneous costs. Additional cost sub-categories included in this broad section, but not necessarily incurred by the courts, include those associated with police and sheriff overtime/trial costs, security and transportation, policing/security related, emergency room/medical procedure, and "other" costs. We assume these figures include costs for salaries, benefits, building maintenance, direct and overhead costs, and administration costs.

Although cost data could not be easily gathered and supplied by the Administrative Office of the Courts, the possible differences between DPS and DPNS cases in length of time from the beginning of the trial to sentencing were collected and coded using the trial reports. Although these

are not monetary figures, they will provide context to the cost figures, as it is a common understanding that time is positively correlated with expense.

5. Post-Conviction Personal Restraint Petition/Appeals (PRPA) Costs

The Washington State Office of Public Defense provided cost data on post-conviction PRP and appeals. The cost data were provided as case-linked total costs, so we assume these figures include costs for salaries, benefits, building maintenance, direct and overhead costs, and administration costs. Furthermore, the raw data was not linked to date of service, so we used the year of sentence as the time marker for adjusting for inflation.

6. Department of Corrections (DOC) Costs

Post-conviction incarceration costs were calculated using two methods. First, DOC matched records using trial report case numbers within the DOC OMNI system. For the records with positive matches, DOC analysts provided a file that included all movements within and between facilities. This was done to account for time spent outside direct DOC supervision, such as when offenders may need to appear in court, as we did not want to double count costs of supervision/incarceration between DOC and county jails. Although we could not specify costs associated with segregation of death-sentenced inmates within the DOC, we could differentiate between facilities. To calculate the costs, we used the average daily cost per offender, per day for each of the 10 facilities. The average daily cost is for all offenders, and it includes costs for health care by facility.[108]

Second, because we cover at least 20 years of cases in Washington, we needed to adjust the DOC cost figures to account for time, as those cases

[108] As per the DOC, the average daily cost excludes administrative service costs, sewer bond payments for one of the facilities (SCCC), and cash out of COPS leases S-310-1310 through 1312.

occurring in the 1990s would have accumulated more costs than a case where the defendant was sentenced to life last year, artificially skewing the results. Therefore, we used a two-step process: first, the existing DOC records, up to 2014, were retained; next we calculated age at sentence and forecasted time past 2014, using both an average life sentence of 470 months and an in-prison life expectancy of 65 years.[109] The retained and forecasted costs were then adjusted using base year 2010 annual CPI figures, and all final figures are presented as 2010 dollars. CPI figures were forecasted using an average rate of about 2.1 percent (the R^2 for the linear model was .9998). These findings, as well as the sensitivity analysis, are provided below, in Table 5.

There are many reasons to support a conclusion that post-sentencing incarceration costs for "death row" inmates are greater than for non-death-sentenced inmates. For example, even if a death-sentenced inmate has good behavior and might otherwise qualify for a reduced security classification, the inmate is held in segregation at the penitentiary.[110]

E. Assessment of Data Quality – Multivariate Imputation

As illustrated in both the sample and measures sections above, many of the cases had missing data in some respect, which prompted additional missing values analysis. To begin, we separated the DPS and DPNS cases into two separate files. For each file, we performed a simple estimated means (EM) test, to test whether or not the data were missing at random or missing completely at random. We then performed a visual analysis of

[109] For the average life sentence, see generally U.S. SENTENCING COMM'N, http://www.ussc.gov/amendment-process/public-hearings-and-meetings/appendix-0 (last visited Feb. 26, 2016).

[110] Arizona reported that it spends more than $20 per day more to imprison a death-row inmate than to incarcerate a minimum-security inmate. *See* Cooper Rummell, *The Real Cost of the Death Penalty in Arizona*, KTAR NEWS (Sept. 30, 2014, 12:49 PM), http://ktar.com/story/92517/the-real-cost-of-the-death-penalty-in-arizona/.

missing data patterns to test for monotonicity and to determine which missing data patterns were the most frequent. Last, we employed multivariate imputation to replace missing values. The process was similar for both files.

For the DPS file, the EM analysis indicated non-systematic missing values.[111] Overall, 75.21 percent of the cells had complete data, and there was a distinct visual difference between the most frequently occurring pattern (complete) and the next nine patterns, further indicating data missing at random rather than systematic missing data (which minimizes the chance of bias in the missing and imputed values). For the DPNS file, the EM analysis indicated non-systematic missing values.[112] Overall, 76.85 percent of the cells had complete data, and there was a distinct difference between the most frequently occurring pattern (complete) and the next nine patterns. Next, the imputation model was set—the active random number generator was set as mersenne twister, and the starting value was default fixed. Automatic model selection was indicated, as further tests for monotonicity, and the chosen model used was regression. Five imputation models were returned with complete data for both the DPS and DPNS files. The five complete data sets were then aggregated on the six main categories, using the average of the five models as the final cost for each category. The DPS/DPNS files were then merged and prepped for final analysis.

F. Analytic Plan

To reiterate, the primary goal of this study was to estimate the costs associated with DPS cases, as compared to DPNS cases. Prior to describing the analytic plan, several general observations need to be made about the

[111] Little's MCAR test: χ^2= 40.880, DF= 42, Sig.= .520.
[112] Little's MCAR test: χ^2= 75.461, DF= 80, Sig.= .623.

costs contained herein. First, like other research,[113] we consider cost differentials to be opportunity costs; that is, in the absence of a death penalty option, the funds that would have been used to pursue the death penalty would likely be shifted to other cases and other locations within the criminal justice and public support systems. We do not provide any suggestions as to whether this would be the case and, further, what (if any) percentage of any differentials would be redistributed across the system—such matters are well beyond the scope of this study. Second, we do not make any normative assumptions as to the social utility of the death penalty. We are simply providing evidence as to the nature of the costs of DPS compared to DPNS cases. The decisions regarding whether or not to support "too costly" or "worthy investment" arguments are for Washington voters and legislators.

We present two sets of results below. The first set of results provides averages, average differences, and within-category ratios of the six cost categories and total costs between DPS and DPNS cases prior to propensity score matching (N= 147). The second set of results provides averages, average differences, and within-category ratios of the six cost categories and total costs between DPS and DPNS cases after propensity score matching (N= 70). We chose to provide both the matched and unmatched analyses so readers can scrutinize the differences between the two methods. We also provide additional information regarding trial duration as well as some analyses of the distribution of cases and costs and particularly outliers in the distribution of costs within the DPS and DPNS cases.

IV. RESULTS

As described above, the full (N= 147) cost differentials model is presented first, followed by the post-match PSM model. Table 3, below,

[113] *See* COOK, *supra* note 38.

presents both the average and median values for each of the six main cost categories, as well as the combined total. The largest average difference between DPS and DPNS cases was found in the defense category, followed by the cost associated with CPSM, and then DOC, prosecution, and jails categories, respectively. The total average difference in costs when the death penalty is sought is $1,058,885, in 2010 dollars.

Table 3. Average Costs and Differences Between DPS (n=39) and DPNS (108), Pre-PSM.

	Jails	Def.	Pro.	CPSM	PRPA	DOC	Total
DPS Avg.	$130,739	$848,948	$290,508	$528,779	$140,388	$1,134,250	$3,073,612
Med.	($122,761)	($608,496)	($109,514)	($113,326)	($123,851)	($1,139,987)	($2,629,046)
DPNS Avg.	$82,428	$245,989	$69,396	$65,075	$24,657	$1,527,182	$2,014,727
Med.	($50,415)	($115,030)	($53,617)	($33,330)	($15,561)	($1,614,608)	($2,084,639)
Avg. Difference	$48,311	$602,959	$221,112	$463,704	$115,731	-$392,932	$1,058,885
Ratio	1.59	3.45	4.19	8.13	5.69	0.74	1.53

Notes: Ratio represents difference between DPS/DPNS cases. Jails = jail costs; Def. = defense costs; Pro. = prosecution costs; CPSM = courts, police/sheriff, miscellaneous costs; PRPA = county/state appeals costs; DOC = department of corrections incarceration costs.

We conducted an additional analysis to further investigate differences in case process duration. We performed a simple t-test[114] using case process dates gathered from the trial reports. The results revealed a statistically significant difference between DPS and DPNS cases on the average number of days from the beginning of trial to the sentencing date ($t = 2.727$ (df 110), $p = .007$). On average, the DPS cases took 167.26 days from beginning to end, while the DPNS cases took 72.47 days. The mean

[114] A t-test is used to test whether the difference between the means (or averages) of two groups is statistically significant.

difference in trial days was just about 95 days. These duration measures do not account for whether the case was actually in court during the entire time, and we assume that they were not. These figures, however, are useful in understanding that case complexity and duration relate positively with increased case costs. In addition, it is worth noting that recent King County DPS cases each had been pending for more than three years prior to trial.

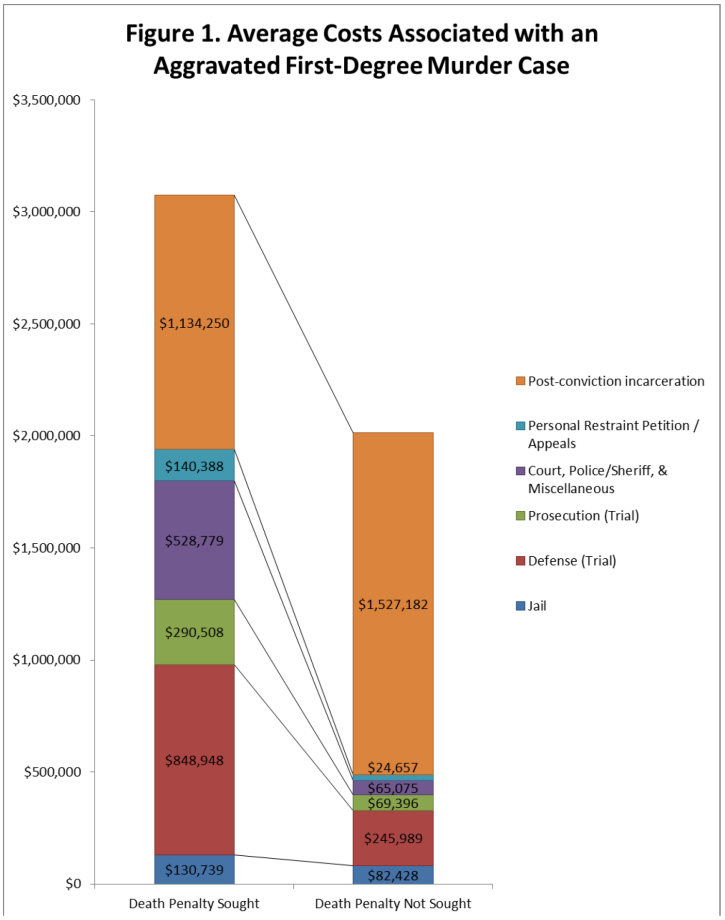
Table 4, below, provides the final figures for the post-match PSM model data (N= 70). Both the average and median values for each of the six main cost categories, as well as the combined total, are presented. As with the previous model, the largest average difference between DPS and DPNS cases was found in the defense category, followed by the CPSM category, and then DOC, prosecution, and jails categories, respectively. The total average difference in costs when the death penalty is sought is $808,802, in 2010 dollars. Again, we performed a simple t-test using case process dates gathered from the trial reports. The results revealed a statistically significant difference (at the p = .10 level) between DPS and DPNS cases on the average number of days from the beginning of trial to the sentencing date (t = 1.851 (df 27), p = .075). On average, the DPS cases took 182.73 days from beginning to end, while the DPNS cases took 72.45 days. The mean difference in trial days was just about 110 days.

Table 4. Average Costs and Differences Between DPS (n=35) and DPNS (35), Post-PSM.

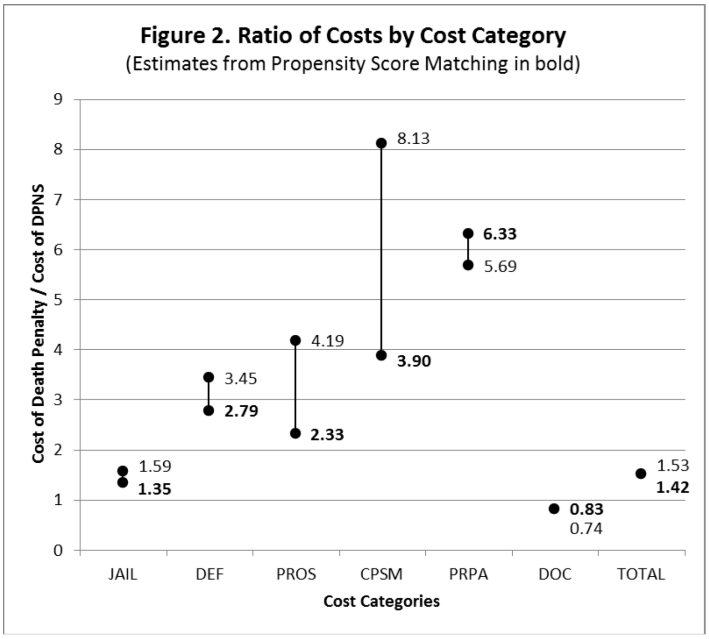
	Jails	Def.	Pro.	CPSM	PRPA	DOC	Total
DPS Avg.	$126,147	$819,698	$189,907	$334,193	$144,303	$1,141,593	$2,755,840
Med.	($120,107)	($608,496)	($109,514)	($113,326)	($129,061)	($1,139,987)	($2,629,046)
DPNS Avg.	$93,736	$293,421	$81,536	$85,642	$22,798	$1,369,905	$1,947,038
Med.	($66,931)	($207,177)	($59,717)	($35,554)	($22,957)	($1,494,823)	($2,212,418)
Avg. Difference	$32,411	$526,277	$108,371	$248,551	$121,505	-$228,312	$808,802
Ratio	1.35	2.79	2.33	3.90	6.33	0.83	1.42

Notes: Ratio represents difference between DPS/DPNS cases. Jails = jail costs; Def. = defense costs; Pro. = prosecution costs; CPSM = courts, police/sheriff, miscellaneous costs; PRPA = county/state appeals costs; DOC = department of corrections incarceration costs. DPS cases removed post-PSM: TRN: 76, Dodd; TRN: 175, Clark; TRN: 185, Parker; TRN: 265, Ridgeway.

Figure 1 presents the average costs for DPS versus DPNS cases, by cost category, using all of the eligible cases. The stacked bars in the chart sum to the total cost associated with DPS and DPNS cases. The total average cost for DPS cases is $3.07 million, versus $2.01 million for DPNS cases, a difference of $1.06 million (in 2010 dollars). Adjusted to 2014 dollars, the difference is $1.15 million.



The differences in costs might also be understood in terms of ratios. Figure 2, below, presents the ratio of costs (where the ratio is the average cost for DPS cases, divided by the average cost for DPNS cases) by major cost categories, including the overall total. The ratio resulting from the more conservative PSM technique is listed in boldface.



For example, average jail costs related to DPS cases are 1.4 to 1.6 times more expensive than DPNS cases. Average trial level defense costs related to DPS cases are 2.8 to 3.5 times more expensive than DPNS cases. Average trial level prosecution costs (PROS) related to pursuit of the death penalty are 2.3 to 4.2 times more expensive than DPNS cases. Court, police/sheriff, and miscellaneous costs related to DPS cases are 3.9 to 8.1 times as much for DPNS cases. Personal restraint petition/appeals costs related to DPS cases are 5.7 to 6.3 times more expensive than DPNS cases. Post-conviction lifetime incarceration costs are lower for DPS cases (.7 to .8 times DPNS cases). However, these figures are based on a very conservative cost estimation method. In the next section, we discuss this issue in detail and present a cost sensitivity analysis.

Combining all cost categories, the average total costs to the justice system related to DPS cases are about 1.4 to 1.5 times more expensive than

DPNS cases. The total average difference in costs when the death penalty is sought is $1,058,885 in 2010 dollars, or $1,152,808 in 2014 dollars.

A. DOC Costs Sensitivity Analysis

Table 5, below, provides estimated differences in DOC costs between death penalty *imposed* (DPI) and DPNS cases. These costs were estimated over the projected lifetime of a prison sentence, assuming the DPI cases were commuted to life without the possibility of parole. Several empirical studies have shown that "death row" inmate management costs more, on average, than the management of non-death row inmates.[115] Some reasons for these cost differences can be attributed to decreased inmate-to-staff ratios, generally higher security levels, as well as differences in the physical space, as many high-risk violent offenders are placed in cells of their own. Because we cannot assess where exactly each inmate was located in the system (or will be located in the future), or calculate the average daily costs specific to death row, we were forced to estimate costs associated with an average life sentence and at baseline, use the same average daily cost post-2013 for both the DPS and DPNS groups. This resulted in an underestimation of DPS/DPI costs, as viewed in the previous table. Additionally, the DPS and DPI groups were slightly older, on average, than the DPNS group. This artificially decreased the overall incarcerations cost estimations associated with the DPS/DPI groups.

To control for these underestimations of incarceration costs, we present a sensitivity analysis (Table 5, below) where the total costs for DPI cases are increased in increments of 10-percent, up to double the costs. Again, this is assuming that DPI cases cost the DOC more to manage, on average, than LWOP cases. In order to provide even further care and conservatism with these estimates, we selected the propensity score-matched groups to analyze

[115] *Id*. at 4. See above comments.

and further omitted DPS cases that were not imposed. The average difference, at baseline, is similar to the full and PSM models presented above. The overall lifetime cost differences begin to shift from total average savings, to total average costs per case between +30 and +40 percent above baseline.

In order to give these figures some context, a recent report by the Washington State Criminal Justice Planning Services provided estimates of the costs associated with housing inmates in maximum/close custody settings, as well as inmates in minimum-security settings.[116] The difference between the figures, although somewhat extreme, was 2.46 or 246 percent ($64,581 per close custody male offender versus $26,224 per minimum custody male offender, per year). This cited difference is 200 percent greater than the point at which the costs switch, as indicated above. Again, the overall DOC estimates must be interpreted with caution, as they are very conservative estimates. Moreover, we cannot assume differential costs based on security level, as many of the DPNS inmates were likely in maximum/close custody as well. Thus, an important question that should be investigated in future studies is whether incarceration costs associated with death-sentenced offenders are likely more disparate compared to DPNS offenders during the first years of their sentences and, if the sentence is commuted to LWOP, whether the costs level off thereafter.

[116] *Overview of Capital Punishment Laws*, *supra* note 4.

Table 5. DOC Sensitivity Analysis: Costs of Death-Imposed Commuted to LWOP Cases (DPI n = 20; DPNS n = 35).

	Baseline	110%	120%	130%	140%	150%
DPI (n = 20)	$1,011	$1,112	$1,214	$1,315	$1,416	$1,517
DPNS (n = 35)	$1,370	$1,370	$1,370	$1,370	$1,370	$1,370
Total Diff	-$359	-$257	-$156	-$55	$46	$147
Ratio	0.74	0.81	0.89	0.96	1.03	1.11
	cntd	160%	170%	180%	190%	200%
DPI (n = 20)		$1,618	$1,719	$1,820	$1,922	$2,023
DPNS (n = 35)		$1,370	$1,370	$1,370	$1,370	$1,370
Total Diff		$248	$349	$451	$552	$653
Ratio		1.18	1.26	1.33	1.40	1.48

Notes: (1) Average per case costs are reported in thousands. (2) DPI = Death Penalty Imposed; DPNS = Death Penalty Not-Sought. (3) Only propensity score matched cases were used for this analysis. (4) Estimates are reported in adjusted 2010 dollars.

B. Federal Habeas Corpus Proceedings

A death-sentenced defendant is entitled to seek reversal of the conviction and sentence in a habeas corpus proceeding in federal district court. In Washington, there have only been a few of these cases involving appointed counsel. Those cases have been quite expensive, with five cases costing more than $100,000 and two cases more than one million dollars each. Those two cases occupied lawyers for parts of 12 years or longer. Because of the small number of cases, we have not included these federal defense costs in our comparative cost analysis. But it is important to consider that if a death-sentenced defendant loses his or her appeal in the Washington Supreme Court, the potential cost in federal court can be upwards of $100,000.

Table 6. CJA Panel Attorney Payments on Capital Cases in Western Washington Federal Court.

Case	Atty fees	Atty Expenses	Experts	Years
Stenson	$157,322	$13,539	$875	2001 to 2009
Gentry	$471,201	$9,039	$392	1999 to 2009
Brown	$153,673	$13,827	$23,899	2001 to 2011
Benn	$100,592	$11,874	$8,805	1998 to 2003
Yates	$49,498	$2,927	-	2013 to 2014
Elmore	$129,463	$418	-	2008 to 2012
Totals	$1,061,749	$51,624	$33,971	
	Total (all)	$1,147,344		

Federal Defender Costs on Habeas and Appellate

Case	Attorney Cost	Staff Cost	Years
Stenson	$439,126	$393,951	1999 to 2012
Gentry	$457,815	$357,890	1999 to 2014
Elledge	$14,182	$683	2001
Totals	$911,124	$752,524	
	Total (all)	$1,663,648	

Note: Figures in this table are not adjusted for inflation.

V. DISCUSSION

A. Limitations and Considerations

This study is not without its limitations. To begin, although we did both collect and receive an extremely large amount of data for this project, there are still a few system- or case-process-based sources of data/information that could be tapped for future study. These sources of data include courts, prosecution, and police/sheriff, as well as the refinement of current sources

of data from defense and DOC sources. Data collection strategies will likely include a variety of survey-based estimation techniques meant to capture time and effort commitments on a case-by-case basis, such as those that were attempted with key prosecutors' offices for this study.

Future studies may also incorporate more data from the courts and the prosecution, including more comparisons focused on duration of key stages in the pre-trial processes, including capturing arraignment dates, as well as the date that a prosecutor decides to file the death notice for each case. As stated elsewhere in this study, all aggravated murder cases are considered death-eligible prior to the decision of whether or not to pursue death. Therefore, many of these cases begin incurring large costs during the pre-trial phases. We were not able to separate these costs out for comparison in this study; therefore, some of the costs for DPNS cases may indeed be related to the death penalty, but without more information, disentangling these costs is impossible.

Although private attorneys must keep track of the hours they spend on cases (otherwise they are unable to bill clients or submit reimbursements), many public attorneys are neither required to keep track of their hours nor do they do so as a matter of routine. Public attorneys do not bill clients for the work performed on specific cases (although the ECJA does provide such a mechanism), rather they provide the services that need to be provided with whatever resources are available to them.

While some public defenders and prosecutors do track hours for particular cases or cases generally, the vast majority do not. Like most organizations, personnel expenditures are the lion's share of costs associated with defense and prosecution. In the absence of knowledge about typical labor hours associated with cases, rational resource allocation is challenging at best, and guess work at worst. Rationality in budgetary decision-making about public defense and prosecution would be vastly improved if these data were systematically collected.

We relied on ECJA petitions to estimate the costs associated with both defense and prosecution. Where information was available directly from defenders or prosecutors, we used it to verify the accuracy of the ECJA data. We gratefully acknowledge the ongoing assistance of the prosecutor's offices in King, Snohomish, and Pierce counties for helping to collect such information specific to this study; in future work, we will use these data to help refine estimates associated with prosecutors' costs.

Relative to other states, Washington has a low homicide rate, and with that, a lower aggravated murder rate.[117] Previous studies have benefited from larger sample sizes and the statistical power that comes with having more observations.[118] We are confident that the costs estimations that we provided in this study are as accurate as possible given the data and number of observations that were available. Future studies could build on the work presented here by incorporating data on additional cases that met the statutory criteria for aggravated murder, but were not tried at that level.

As detailed in the analysis above, the DOC data were rich; however, we lacked the ability to document the costs associated with managing inmates who have a death sentence and the costs associated with administering the death penalty. Furthermore, although the DOC-based daily averages included costs associated with health care, a more comprehensive study on the fiscal impact to the DOC in the absence of the death penalty is warranted. Questions related to capacity, end-of-life, and the influence that LWOP prisoners may have on other prisoners should be investigated.

We succeeded in dampening the negative effects of selection bias and missing data within the current study; however, there is always room for improvement or expansion. This expansion may come in the form of

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[117] *See Murder Rates Nationally and by State*, DEATH PENALTY INFO. CTR., http://www.deathpenaltyinfo.org/murder-rates-nationally-and-state (last visited Feb. 26, 2016).
[118] *See* COOK, *supra* note 38; *see also* ROMAN ET. AL, *supra* note 24.

additional study designs, possibly a top-down estimation design, where each cost-category within the chronology of a case is estimated based on time and effort of staff, operational costs and overhead, as well as capital costs.[119] We also took a system-specific cost perspective, where only agency or system-specific costs associated with aggravated murder cases were enumerated. We did not estimate costs from a societal perspective, nor did we attempt to gauge willingness to pay. These techniques may be applied in future studies where the focus shifts from case-process costs, to broader questions related to normative arguments surrounding capital punishment, public opinion, and the social utility of the death penalty.

We also noticed a lack of integration across available data sources. Case-level data should be maintained across all sectors using common identifiers. This continues to present difficulties for all state agencies, as they wrestle with their own data management issues. Access to records, as well as increased transparency regarding budgeting and expenditures for services, are highly recommended for all agencies, as system-based pressures surrounding cost efficiency remain. Bottom line, this type of study would be far less challenging (and would ideally become a routinized process) if criminal justice agencies in Washington State invested in the data infrastructures necessary to systematically collect important information about their operations, and if these data collection systems were integrated across agencies. In the present age, this is not an insurmountable task.

VI. CONCLUSION

As previously stated, the purpose of this study was to provide accurate estimates to inform debate and decision-making regarding the economic costs associated with pursuit of the death penalty for aggravated first-degree murder cases in Washington State—as compared to the costs associated

[119] *See* COOK, *supra* note 38; *see also* ROMAN ET. AL, *supra* note 24.

with DPNS cases. Although the consideration of the economic costs associated with the death penalty is not the only factor within the death penalty prohibition debate, through this research we have identified several concerns related to data collection practices that have direct bearing on rationality in criminal justice decision making, particularly with regard to budgeting. We also identified several possible future research directions.

As criminal justice and legal professionals with a combined 100 years of experience, we observe that the death penalty is applied unfairly. There is clear evidence that only the most affluent counties can afford to seek the death penalty in Washington State. Indeed, the most recent cases in King County demonstrate that costs are increasing, and the time required to process capital cases drains the rest of the criminal justice system.[120] The amount of money spent on the death penalty, both at trial and on appeal, could be managed in a more equitable manner and applied to the thousands of other criminal cases in which defenders and prosecutors often struggle to have the resources to provide effective advocacy. Moreover, as outlined in the studies referenced here, the death penalty is applied in a racially disproportionate manner, and the non-economic cost to families, jurors, court corrections personnel, and lawyers involved are great as well.

In conclusion, this study documents that it costs more than one million dollars on average to seek the death penalty in a given case than to seek LWOP. Recent DPS cases, and some that are ongoing, suggest that the observed differences in costs may be greatly increasing beyond the levels presented here. Additionally, 75 percent of the cases where the death sentence was imposed, either the conviction and/or the death sentence have been reversed. As Washington State policy makers and citizens assess the

[120] Lael Henterly, *Holding Three Simultaneous Death Penalty Trials in King County is Unprecedented—and Hugely Expensive*, STRANGER (Nov. 12, 2014), http://www.thestranger.com/seattle/holding-three-simultaneous-death-penalty-trials-in-king-county-is-unprecedentedandmdashand-hugely-expensive/Content?oid=20991684.

data and weigh the impact of the costs of pursuing death sentences, one thing is clear: the practice of seeking the death penalty, as it is currently used, creates economic and geographic disproportionality that raises significant legal, fiscal, and social concerns.