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SEILER EPSTEIN ZIEGLER & APPLEGATE LLP Attorneys at Law	1	George M. Lee (SBN 172982) Douglas A. Applegate (SBN 142000) SEILER EPSTEIN ZIEGLER & APPLEGATE LLP 601 Montgomery Street, Suite 2000 San Francisco, California 94111 Phone: (415) 070 0500						
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	5 6 7 8 9 10 11	Raymond M. DiGuiseppe (SBN 228457)  LAW OFFICES OF RAYMOND MARK DIGUISEPPE, PLLC  4002 Executive Park Blvd., Suite 600 Southport, NC 28461 Phone: (910) 713-8804 Fax: (910) 672-7705  Attorneys for Plaintiffs WILLIAM WIESE, JEREMIAH MORRIS, LANCE COWLEY, SHERMAN MACASTON, ADAM RICHARDS, CLIFFORD FLORES, L.Q. DANG, FRANK FEDEREAU, ALAN NORMANDY, TODD NIELSEN, THE CALGUNS FOUNDATION, FIREARMS POLICY COALITION, FIREARMS POLICY FOUNDATION,						
		and SECOND AMENDMENT FOUNDATION						
	13	UNITED STATES DISTRICT COURT						
	14	OMILD STAILS DISTRICT COURT						
	15	FOR THE EASTERN DISTRICT OF CALIFORNIA						
	16	WILLIAM WIESE of al	Case No. 2:17-cv-00903-WBS-KJN					
	17	WILLIAM WIESE, et al.	Case No. 2:17-cv-00905- w b5-kJN					
	18	Plaintiffs,	DECLARATION OF CARLISLE E. MOODY IN SUPPORT OF PLAINTIFFS' MOTION FOR					
	19	vs.	ISSUANCE OF A TEMPORARY RESTRAINING					
	20		ORDER AND PRELIMINARY INJUNCTION					
	21	XAVIER BECERRA, in his official capacity as	Date: TBD					
	22	Attorney General of California, et al.,	Time: TBD Courtroom 5					
	23	Defendants.	Judge: Hon. William B. Shubb					
	24							
	25	DECLARATION OF CARLISLE E. MOODY						
	26	I, Carlisle E. Moody, declare as follows:						
	27	I am a Professor of Economics at the College of William and Mary in Virginia. I						
	28	graduated from Colby College in 1965 with a major in Economics. I received my graduate						
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training from the University of Connecticut, earning a Master of Economics degree in 1966 and a Ph.D. in Economics in 1970, with fields in mathematical economics and econometrics.

- 2. I began my academic career in 1968 as Lecturer in Econometrics at the University of Leeds, Leeds, England. In 1970 I joined the Economics Department at William and Mary as an Assistant Professor, I was promoted to Associate Professor in 1975 and to full Professor in 1989. I was Chair of the Economics Department from 1997-2003. I am still teaching full time at William and Mary. I teach undergraduate and graduate courses in Econometrics, Mathematical Economics, and Time Series Analysis.
- 3. I have published over 40 refereed journal articles and several articles in law journals and elsewhere. Nearly all of these articles analyze government policies of various sorts. I have consulted for a variety of private and public entities including the United States Department of Energy, U.S. General Accountability Office, Washington Consulting Group, Decision Analysis Corporation of Virginia, SAIC Corporation, and the Independence Institute. I have been doing research in guns, crime, and gun policy since 2000. I have published 11 articles directly related to guns and gun policy. A full list of my qualifications, and a list of these publications, is attached hereto as **Exhibit A**.
- 4. I have been retained by the plaintiffs to render expert opinions in this case. I make this declaration on the basis of my training in Economics, Econometrics, and policy analysis, my expertise relevant to gun policy, including bans of large capacity magazines, the research discussed herein, and the work that I have done in this case to date. I am being compensated at the rate of \$350 per hour. In the past four years I have been retained as an expert witness in two large capacity magazine cases: John B. Cooke, et al v. John W. Hickenlooper, Governor, US District Court, District of Colorado, October 25, 2013; and testified in one: Rocky Mountain Gun Owners v. Hickenlooper, District Court City and County of Denver, Case No. 2013CV33897, May 1, 2017.
- 5. This declaration is executed in support of plaintiffs' motion for the issuance of a temporary restraining order, and/or issuance of a preliminary injunction. I have personal

knowledge of the facts stated in this declaration, and if called as a witness, could competently testify thereto.

6. The opinions I offer within this declaration are generally on two topics: (1) the reported use of "pre-ban" (i.e., pre-2000) large-capacity magazines within the incidence of "mass shootings" in California generally, and (2) the effectiveness of large-capacity magazine bans on crime rates overall. On both topics, I conclude that a retroactive large-capacity magazine ban prohibiting the continued possession of pre-ban magazines would have no discernible effect on the incidence or effectiveness of mass shootings, or violent crime rates in general.

### California Mass Shootings Since 2000 Have Not Involved Pre-Ban Magazines

- 7. It is my understanding, and I have assumed for the purposes of this study, that the manufacture, importation, purchase or receipt of large-capacity magazines has been prohibited by California law, since the enactment of Senate Bill 23 in 1999, which is codified at California Penal Code § 32310, subdiv. (a). I am further informed and believe that the prohibition on such manufacture, importation, purchase or receipt of such large-capacity magazines commenced on January 1, 2000. Under California law, the definition of large-capacity magazines includes any ammunition feeding device with the capacity to accept more than 10 rounds generally. See Pen. Code § 16740.
- 8. I am further informed, moreover, that up until enactment of the laws at issue, the law did not prohibit the possession of such large-capacity magazines. Therefore, an indeterminate but substantial number of gun owners in California have owned, and continued to own what are commonly referred to as "pre-ban" or "grandfathered" large capacity magazines. My reference to such "pre-ban" or "grandfathered" magazines within this declaration shall therefore refer to those large-capacity magazines, as defined by statute, which were lawfully possessed in California since before January 1, 2000.
- 9. The stated reason for the change in the law, reflected in the laws at issue, are the incidents and prevalence of what are known as "mass shootings" in modern society. See, e.g.,

the "Safety for All Act" (Proposition 63), Section 2, Findings and Declarations, in which the drafters of Proposition 63 stated:

[11.] Military–style large-capacity ammunition magazines—some capable of holding more than 100 rounds of ammunition—significantly increase a shooter's ability to kill a lot of people in a short amount of time. That is why these large capacity ammunition magazines are common in many of America's most horrific mass shootings, from the killings at 101 California Street in San Francisco in 1993 to Columbine High School in 1999 to the massacre at Sandy Hook Elementary School in Newtown, Connecticut in 2012.

We recognize at the outset that these events, while statistically rare, are nevertheless certainly tragic and terrifying events for those involved. However, in my prior studies of mass shootings using data from many different sources, including a 2016 book from Louis Klaveras, a *Mother Jones* database involving 89 mass-shooting incidents from 1982-2016, and a study by the FBI on what they call "active shooter" incidents, I have concluded that bans concerning large-capacity magazines have no effect on the prevalence or lethality of these incidents.

10. As to the specific issue presented by the plaintiffs' motion, I have also concluded that pre-ban large-capacity magazines have simply not been used in California mass shootings as reported. Using data and information compiled by staff members at Firearms Policy Coalition (FPC), I have embarked on a study of California mass shooter incidents using three different sources: (1) data found at <a href="https://www.massshootingtracker.org/data">https://www.massshootingtracker.org/data</a>, which represents an exhaustive list of mass shooting incidents, as they define it, from 2013-present; (2) *Mother Jones*'s data found at <a href="http://www.motherjones.com/politics/2012/12/mass-shootings-motherjones-full-data">http://www.motherjones.com/politics/2012/12/mass-shootings-motherjones-full-data</a> ("US Mass Shootings, 1982-2017: Data From Mother Jones' Investigation"); and (3) the FBI list of what they call "active shooter" incidents, found at <a href="https://www.fbi.gov/file-repository/activeshooter\_incidents\_2001-2016.pdf/view">https://www.fbi.gov/file-repository/activeshooter\_incidents\_2001-2016.pdf/view</a>. (Each database may have used differing definitions, depending on the time frame.) Among these three data sets, we are presented with an accurate picture of post-2000 California mass shooting/active shooter incidents

<sup>&</sup>lt;sup>1</sup>Massshootingtracker.org defines mass shootings within its database as "a single outburst of violence in which four or more people are shot," including the perpetrator.

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and are able to determine that pre-ban magazines are simply not used in such incidents.

- 11. First, of the 185 reported California mass shootings found within the massshootingtracker.org data set since 2013, only three of the accompanying media reports reported the use of large-capacity magazines. These are:
  - **6/7/13 Santa Monica Shooting:** The perpetrator used a .223 rifle which he assembled from parts. The parts were legally acquired, however the finished rifle was illegal as configured. He was reported to have 40 large-capacity magazines with him during the incident. However, given the age of the shooter (23) and the recent assembly of the rifle, it is highly unlikely that he had acquired the largecapacity magazines before 2000.
  - 11/3/13 LAX Shooting: The perpetrator killed one, wounded several others at Los Angeles Int'l Airport, and was reported to have used large-capacity magazines. However, given the age of the shooter (23), he would have been 10 at the time SB23 went into effect and was also living in another state at the time, it is highly unlikely that he acquired such magazines legally.
  - 12/2/15 San Bernardino Mass Shooting: The perpetrators were reported to have used large capacity magazines. Given the ages of the shooters, however, and their history pertaining to the specific planning and execution of this terrorist attack i.e., obtaining weapons through straw purchases in recent proximity to the shootings, it is a reasonable inference that the large-capacity magazines were either imported from out of state, or manufactured here illegally.

Of those three incidents, it is a reasonable inference that these incidents did not involve pre-ban magazines, which we are able to reasonably infer given media reports involving (1) the age of the shooter, and (2) the illegal assembly of weapons; (3) the illegal acquisition of weapons generally from out of state. And in these three incidents, the shooter would have ignored or flouted existing California law that already prohibit the manufacture or import of large-capacity magazines. It is therefore reasonable to infer that an additional ban on the mere possession of

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such firearm parts would not have further deterred or prevented the perpetrator from carrying out the shootings.

- 12. The *Mother Jones* compilation uses a more selective criteria than the massshootingtracker.org data. Specifically, *Mother Jones* focuses on "indiscriminate rampages in public places resulting in four or more victims killed by the attacker," and which excludes shootings "stemming from more conventional crimes such as armed robbery or gang violence." Within this data set, there are eight mass shooting incidents that meet our criteria, i.e., post-2000, California mass shooting incidents. In furtherance of the instant motion, therefore, we would highlight the following facts associated with those incidents:
  - 1/30/06 Goleta Postal Shootings, Goleta, California: The perpetrator used large-capacity magazines that were illegally imported from New Mexico.
  - 10/14/11 Seal Beach Shootings, Seal Beach, California: The perpetrator used three handguns, including one revolver. Unreported whether the perpetrator had or used any large-capacity magazines.
  - 4/2/12 Oikos University Killings, Oakland, California: The perpetrator used ten-round magazines to perpetrate a school killing.
  - 6/7/13 Santa Monica Rampage, Santa Monica, California: (Discussed above).
  - 2/20/14 Alturas Tribal Shootings, Alturas, California: Perpetrator used two handguns and a butcher knife; unreported whether the perpetrator had or used any large-capacity magazines.
  - 5/23/14 Isla Vista Mass Murder: Perpetrator used three handguns, legally obtained. All handguns had ten-round magazines.
  - 12/2/15 San Bernardino Mass Shooting: (Discussed above).
  - 4/18/17 Fresno Downtown Shooting: The perpetrator used a revolver (capable of carrying six rounds).
- 13. The following incident does not appear in the Mother Jones data set, presumably because the killings occurred in two locations, one of which was not a public place (i.e., the

shooter's sister's apartment):

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- **2009 Oakland Shooting:** Lovell Mixon killed four people using a handgun and rifle. Two police officers were killed with the handgun and two persons with the rifle. The shooter, however was a prohibited person, who acquired both the handgun and the rifle illegally. Although it is unclear where he obtained magazines for the rifle, as a prohibited person (felon), he was not a lawful owner of a pre-ban large capacity magazine.
- 14. The FBI's "active shooter" data list which uses the definition of "active shooter" as "an individual actively engaged in killing or attempting to kill people in a confined and populated area," did not include any post-2000 California shootings not already identified above, and which involved the use of large-capacity magazines.
- 15. In sum, based on merging these three data sources, first starting with the mass shooting tracker.org data, we reasonably conclude that there is little or no data that supports any conclusion that pre-SB 23 grandfathered large-capacity magazines were used in a California mass shooting from 2013 to the present. And in looking at the *Mother Jones* and FBI data, we believe that the high-profile California mass shootings that occurred since 2000 were unlikely to have used such pre-ban magazines as well. To the extent that large-capacity magazines were used at all in conjunction with these attacks, e.g., San Bernardino, given the demographics and ages of the shooters, it is equally unlikely that they were acquired and held lawfully, i.e., before 2000.
- 16. Therefore, it would be my professional opinion that there is no evidence that legally-possessed pre-ban large-capacity magazines were involved in any mass shooting incident in California since 2000. Further, examination of California mass shooting incidents since 2000 in which large capacity magazines were used indicates that the probability that any of them were grandfathered LCMs is extremely low. Thus, there is virtually no benefit to be gained to ban possession of LCMs that have been legally and peaceably owned since 2000.
  - 17. This not to say that it is impossible that some of these events may have involved

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the use of pre-ban large-capacity magazines, of course. Indeed, some instances may be found. However, the data as reported show a general trend that would not disturb this thesis: that lawfully-held pre-ban magazines are not used in these types of shootings generally. And moreover, as more time progresses, with seventeen years now passing since enactment of the original LCM acquisition ban, the use of lawfully-held pre-ban magazines decreases.

### **Effect of LCM Bans on Crime Rates Overall**

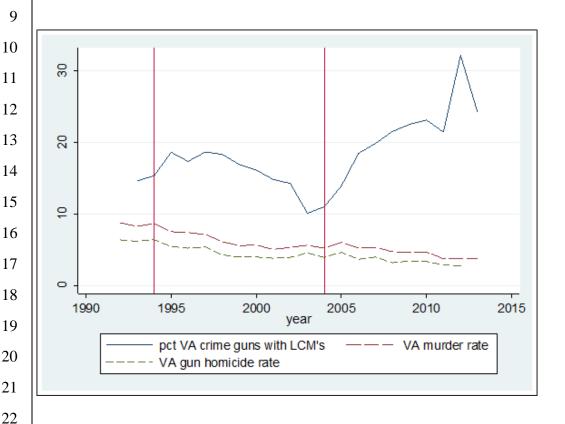
- 18. In a study done in 2015, measuring the effect that large-capacity magazine bans may have had on homicide rates in general, I concluded that large-capacity magazines appear to have little to do with homicide, public or private, and laws banning these products apparently had no effect. In 2011 the Washington Post published the results of its study of a little-known database on weapons recovered by local law enforcement officers in Virginia. The Criminal Firearms Clearinghouse, maintained by the Virginia State Police, contains detailed information on the circumstances of each firearm's recovery and each firearm's physical characteristics, including magazine capacity. The study found that, 'The number of guns with high-capacity magazines seized by Virginia police dropped during a decade-long federal prohibition on assault weapons, but the rate has rebounded sharply since the ban was lifted in late 2004....'
- 19 'Maybe the federal ban was finally starting to make a dent in the market by the time it ended,' said Christopher Koper, head of research at the Police Executive Research Forum, who studied the assault weapons ban for the National Institute of Justice, the research arm of the Justice Department. Also, 'The pattern in Virginia 'may be a pivotal piece of evidence' that the assault weapons ban eventually had an impact on the proliferation of high-capacity magazines on the streets,' said Garen Wintemute, head of the Violence Prevention Research Program at the University of California at Davis. 'Many people, me included, were skeptical about the chances that the magazine ban would make a difference back in 1994,' Wintemute said. 'But what I am

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seeing here is that after a few years' lag time the prevalence of high-capacity magazines was declining. The increase since the ban's repeal is quite striking.<sup>2</sup>

20. Wintemute's comment is somewhat alarming. Is the striking increase in LCM's among crime guns associated with increasing homicide rates in Virginia? The proportion of recovered firearms in the Criminal Firearms Clearinghouse with magazine capacity greater than 10 is shown below along with the corresponding murder and gun murder rate for Virginia from 1993 to 2013.<sup>3</sup>

#### 21. Figure 1



The proportion of crime guns with LCM's initially rose from 1994-1997, the first three years of the ban, then declined steadily to 2004, only to rise again after the ban was lifted. On the other

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<sup>2</sup> http://www.washingtonpost.com/wp-dyn/content/story/2010/12/14/ST2010121406431.html?sid=ST2010121406431

<sup>3</sup> Murder data is taken from the Uniform Crime Reports. Gun homicide is taken from the CDC Wonder data base.

hand the murder rate and the gun homicide rate in Virginia have both declined steadily, revealing no apparent connection between gun homicides and the use of LCM's by criminals.

22. This observation can be tested by regressing the Virginia gun homicide rate and overall murder rate on the proportion of crime guns with LCM's and a trend term for 1993-2013. Because the dependent variable could be a random walk, which could lead to a spurious regression, I also used first differences. The results are reported below.

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Table 14
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trend	0332869	.0048528	-6.86	0.000	0435255	0230483

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1.75373

-.0848873

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.0099801

.0916205

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Newey-West
          Coef.
               Std. Err. t
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                                [95% Conf. Interval]
gun hom rate
D.pctlcm | -.0062635 .0084435 -0.74 0.468
                                -.0240778
                                       .0115508
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murder rate
                Coef.
                       Std. Err.
                                        P>|t|
                                                 [95% Conf. Interval]
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pctlcm | -.0002804 .0050943 -0.06 0.957 -.0109831

-1.67 0.114

<sup>4</sup> Notes for Table 3. The dependent variable is in logs, so the coefficients are percent changes. We tested for unit roots and could not reject the null hypothesis for either the murder or gun murder rate. However, we found no significant serial correlation in the regressions in levels indicating that the t-ratios are not biased. The regressions in first differences are estimated using Newey-West heteroscedasticity and autocorrelation standard errors because of significant negative serial correlation in the residuals.

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trend | -.0359031 .0040542
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                                                [95% Conf. Interval]
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      D.pctlcm | .0005721 .0046124 0.12 0.903
                                                -.0091182 .0102623
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         cons | -.0388827 .0167536 -2.32 0.032
                                                -.0740808 -.0036846
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- 23. The proportion of LCM's among crime guns Virginia is never significant, indicating that more LCM's do not cause more murder or more gun murder. We could not estimate a model for mass shootings because Virginia had only one mass shooting incident during the sample period.
- 24. Thus, data from the Virginia Firearms Clearinghouse, which actually counts the number of confiscated crime guns with large capacity magazines, fails to show any effect of LCM's or the LCM ban on murders or gun homicides. More criminals using more guns with large capacity magazines do not cause more homicides.
- 25. In my opinion, the evidence shows that large capacity magazines have nothing to do with murder in general or gun murder in particular. Consequently, seventeen year-old grandfathered large capacity magazines cannot be expected to have any effect on gun homicides or homicides in general.

# I declare under penalty of perjury that the foregoing is true and correct. Executed on June $\underline{10}$ 2017. Carlisle E. Moody SEILER EPSTEIN ZIEGLER & APPLEGATE LLP Attorneys at Law -12-

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### EXHIBIT A

Department of Economics College of William and Mary Williamsburg, VA 23187-8795 Email: cemood@wm.edu

Phone: (757) 221-2373

### Education

B.A., Colby College, Waterville, Maine, 1965 (Economics) M.A., University of Connecticut, Storrs, Connecticut, 1966 (Economics) Ph.D., University of Connecticut, Storrs, Connecticut, 1970 (Economics)

### Experience

Professor of Economics, College of William and Mary, 1989-Chair of the Department of Economics, College of William and Mary 1997-2003 Associate Professor of Economics, College of William and Mary, 1975-1989. Assistant Professor of Economics, College of William and Mary, 1970-1975. Lecturer in Econometrics, University of Leeds, Leeds, England, 1968-1970.

### Consultant

Stanford Research Institute
Virginia Marine Resources Commission
U.S. General Accounting Office
U.S. Department of Transportation
U.S. Department of Energy
National Center for State Courts
Oak Ridge National Laboratory
Justec Research.
The Orkand Corporation
Washington Consulting Group
Decision Analysis Corporation of Virginia
SAIC Corporation
West Publishing Group
Independence Institute

### Research and Teaching Fields

Law and Economics Econometrics Time Series Analysis

### Honors

National Defense Education Act Fellow, University of Connecticut, 1965-1968. Bredin Fellow, College of William and Mary, 1982. Member, Methodology Review Panel, Prison Population Forecast, Virginia Department of Planning and Budget, 1987-1993. Case 2:17-cv-00903-WBS-KJN Document 14 Filed 06/12/17 Page 15 of 18 Notable Individuals, Micro Computer Industry, 1983.

Speaker, Institute of Medicine and National Research Council Committe of Priorities for a Public Health Research Agenda to Reduce the Threat of Firearm-related Violence, National Academies of Science, Washington, DC, April 23, 2013

### Refereed Publications

"Firearms and the Decline in Violence in Europe 1201-2010," Review of European Studies, 9(2) 2017

"The Impact of Right-to-Carry Laws on Crime: An Exercise in Replication," (with T.B. Marvell, P.R. Zimmerman and Fisal Alemante) *Review of Economics and Finance*, 4(1) 2014, 33-43.

"Did John Lott Provide Bad Data to the NRC? A Note on Aneja, Donohue, and Zhang," (with J.R. Lott and T.B. Marvell) *Econ Journal Watch*, January 2013.

"On the Choice of Control Variables in the Crime Equation," (with T.B. Marvell) *Oxford Bulletin of Economics and Statistics*, 72(5) 2010, 696-715

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- "The Uncertained and the Common of the Commo
- "Determinant Sentencing and Abolishing Parole: the Long Term Impacts on Prisons and Crime," (with T.B. Marvell), *Criminology*, 34, 1996.
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- "Prison Population Growth and Crime Reduction." (with T.B. Marvell) *Journal of Quantitative Criminology*, 10, 1994, 109-140.
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- "Forecasting the Marginal Costs of a Multiple Output Production Technology." (with G. Lady), *Journal of Forecasting*, 12, 1993, 421-436.
- "Volunteer Attorneys as Appellate Judges." (with T.B. Marvell) *The Justice System Journal*, 16, 1992, 49-64.
- "Age Structure and Crime Rates: Conflicting Evidence." (with T.B. Marvell) *Journal of Quantitative Criminology*, 7, 1991, 237-273.
- "OCS Leasing Policy and Lease Prices." (with W.J. Kruvant) *Land Economics*, 66, February 1990, 30-39.
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