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Age and Tenure of the Justices and Productivity of the U.S. Supreme Court: Are Term Limits Necessary?

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AGE AND TENURE OF THE JUSTICES AND PRODUCTIVITY OF THE U.S. SUPREME COURT: ARE TERM LIMITS NECESSARY?

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ABSTRACT

This Article examines the relationship between the productivity of the U.S. Supreme Court and the age and tenure of the Supreme Court Justices. The motivation for this Article is the Supreme Court Renewal Act of 2005 (SCRA) and other recent proposals to impose term limits for Supreme Court Justices. The authors of the SCRA and others suggest that term limits are necessary because, inter alia, increased longevity and terms of service of the Justices have resulted in a decline in the productivity of the Court as measured by the number of cases accepted for review and the number of opinions issued per term. On the whole, the empirical findings of this Article do not provide clear support for this assertion.

I. INTRODUCTION

This Article examines the relationship between the productivity of the U.S. Supreme Court and the age and tenure of the Supreme Court Justices. The motivation for this Article is the Supreme Court Renewal Act of 2005[1] (SCRA) and other recent academic proposals to impose term limits for Supreme Court Justices.[2] The SCRA has been

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1. Paul D. Carrington & Roger C. Cramton, *The Supreme Court Renewal Act: A Return to Basic Principles*, July 5, 2005, *available at* http://paulcarrington.com/ Supreme%20Court%20Renewal%20Act.htm [hereinafter SCRA]. The SCRA is a legislative proposal coauthored by two law professors. It has not been introduced in Congress.

2. *See, e.g.*, Steven G. Calabresi & James Lindgren, *Term Limits for the Supreme Court: Life Tenure Reconsidered*, *in* REFORMING THE COURT: TERM LIMITS FOR SUPREME COURT JUSTICES 15 (Roger C. Cramton & Paul D. Carrington eds., 2006); James E. DiTullio & John B. Schochet, *Saving This Honorable Court: A Proposal to Replace Life Tenure on the Supreme Court with Staggered, Nonrenewable Eighteen-Year Terms*, 90 VA. L. REV. 1093 (2004); Philip D. Oliver, *Systematic Justice: A Proposed Constitutional Amendment to Establish Fixed, Staggered Terms for Members of the United States Supreme Court*, 47

endorsed in principle by prominent legal scholars and practicing attorneys hailing from all parts of the country and the political spectrum,[3] was the subject of a symposium held at Duke Law School in April 2005,[4] and has received considerable attention in both the mainstream[5] and legal press[6] and on academic weblogs.[7]

Under the SCRA, Justices would be subject to staggered, nonrenewable eighteen-year terms.[8] The President would appoint a new Justice during the first session of Congress after each federal election, without waiting for a vacancy on the Court.[9] Sitting Justices

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OHIO ST. L.J. 799 (1986). Like the SCRA, the foregoing are academic proposals and have not been introduced in Congress.

3. *See* SCRA, *supra* note 1; *see also* Linda Greenhouse, *How Long is Too Long for the Court's Justices?*, N.Y. TIMES, Jan. 16, 2005, § 4, at 5; Linda Meyers, *Law Professor Proposes Term Limits for Supreme Court Justices*, CORNELL CHRON., Jan. 27, 2005, at 4; Stuart Taylor Jr., *For Life?: Points of View: Term Limits for Supreme Court Justices Would Reduce a Host of Ills*, LEGAL TIMES, June 27, 2005, at 44.

4. REFORMING THE COURT: TERM LIMITS FOR SUPREME COURT JUSTICES (Roger C. Cramton & Paul D. Carrington eds., 2006) [hereinafter REFORMING THE COURT]. A webcast of the symposium is available at *http://uc.princeton.edu/main/index.php?option=com_content&task=view&id=81&Itemid=18*.

5. *See, e.g.*, Ronald Brownstein, *Time to Bring Down the Gavel on Lifetime Tenure for Justices?*, L.A. TIMES, Oct. 17, 2005, § A, at 10; Paul Campos, *Time Ripe for High Court Fix*, ROCKY MTN. NEWS, July 19, 2005, at 31A; Greenhouse, *supra* note 3; Tony Mauro, *Roots Grow Deeper on the Supreme Court*, USA TODAY, Jan. 13, 2005, at 11A; *Our Turn: The Case for Limiting Tenure on High Court*, SAN ANTONIO EXPRESS-NEWS, July 31, 2005, at 2H; Dru Sefton & Chuck McCutcheon, *Life Terms Debated for Supreme Court: Older Justices Can Lose Skills, Law Experts Say*, TIMES-PICAYUNE (New Orleans), July 24, 2005, at 12; *Weekend Edition: Stuart Taylor on Term Limits for High Court Justices* (National Public Radio broadcast Oct. 22, 2005) [hereinafter NPR], transcript *available at* http://www.npr.org/templates/story/story.php?storyId=4969895.

6. *See, e.g.*, Jerry Crimmins, *Professors Propose Term Limits for Justices*, CHI. DAILY L. BULL., Jan. 28, 2005, at 3; Tony Mauro, *Lifetime Tenure Under Attack: Law Profs: U.S. Supreme Court Justices 'Hanging on Too Long,'* CONN. L. TRIB., Jan. 10, 2005, at 1; Leonard Post, *A Mixed Reaction to Term Limits for Justices*, NAT'L L.J., Nov. 28, 2005, at P4; Taylor, *supra* note 3.

7. For example, there have been multiple postings on The Becker-Posner Blog (http://www.becker-posner-blog.com) and on The Volokh Conspiracy (http://volokh.com). *See, e.g.*, Posting of Randy Barnett to The Volokh Conspiracy, http://volokh.com/archives/archive_2005_02_13-2005_02_19.shtml#1108763212 (Feb. 18, 2005, 16:46 EST); Posting of Gary S. Becker to The Becker-Posner Blog, http://www.becker-posner-blog.com/archives/2005/03/yes_to_term_lim.html (Mar. 12, 2005, 12:55 EST); Posting of Jim Lindgren to The Volokh Conspiracy, http://volokh.com/archives/archive_2005_02_20-2005_02_26.shtml#1108961987 (Feb. 20, 2005, 22:59 EST); Posting of Richard A. Posner to The Becker-Posner Blog, http://www.becker-posner-blog.com/archives/2005/03/judicial_term_l.html (Mar. 12, 2005, 14:09 EST).

8. *See* SCRA, *supra* note 1, §§ B-D. The other proposals cited *supra* note 2 also contemplate staggered, nonrenewable eighteen-year terms. *See* Calabresi & Lindgren, *supra* note 2, at 17; DiTullio & Schochet, *supra* note 2, at 1096-97; Oliver, *supra* note 2, at 800.

9. *See* SCRA, *supra* note 1, §§ B-D. Under the other proposals cited *supra* note 2, the terms of the Justices also would be structured so that the President would make two appointments during each of his or her four-year terms. However, the other proposals differ from the SCRA in their treatment of midterm vacancies. Under the SCRA, if a midterm vacancy occurs, a new Justice would be "appointed and considered as the Justice required to be appointed during that Congress, if that appointment has not already been made. If

would rotate off the active bench after eighteen years and become Senior Justices.[10] Senior Justices would "sit on the Court when needed to assure a full bench, participate in the Court's authority to adopt procedural rules, and perform other judicial duties in their respective circuits or as otherwise designated by the Chief Justice."[11] Adoption of the SCRA arguably would not require a constitutional amendment because Justices would continue to enjoy lifetime appointments as required by Article III of the Constitution.[12] Instead, Congress would enact the SCRA under its legislative authority to define what constitutes the "office" of Article III Judges, including Supreme Court Justices.[13]

The authors of the SCRA and others suggest that term limits for Supreme Court Justices are necessary because, inter alia, increased longevity and terms of service of the Justices, combined with the Court's virtually absolute discretionary jurisdiction, have resulted in a decline in the productivity of the Court as measured by the number of cases accepted for review and the number of opinions issued per term.[14] The purpose of this Article is to empirically test this claim. My prior expectation, formed on the basis of the life cycle hypothesis of human capital theory in economics,[15] was that I would find support for this assertion in the data. On the whole, however, the findings of this Article do not provide clear support for this assertion.

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more than one such vacancy arises, any additional appointment will be considered as the Justice required to be appointed during the next Congress for which no appointment has yet been made." SCRA, *supra* note 1, § B. Under the other proposals, if a midterm vacancy occurs, an interim or replacement Justice would be appointed to serve the remainder of the term. *See* Calabresi & Lindgren, *supra* note 2, at 52-53; DiTullio & Schochet, *supra* note 2, at 1119; Oliver, *supra* note 2, at 801.

   10. *See* SCRA, *supra* note 1, §§ B-D.

   11. *Id.* § B. Two of the other proposals cited *supra* note 2 would permit Justices to continue to perform judicial duties on inferior federal courts after the expiration of their respective eighteen-year terms on the Supreme Court. *See* Calabresi & Lindgren, *supra* note 2, at 51; DiTullio & Schochet, *supra* note 2, at 1120.

   12. *See* SCRA, *supra* note 1, § E; U.S. CONST. art. III, § 1. *But see* Calabresi & Lindgren, *supra* note 2, at 20-21, 49, 78-89 (arguing generally that a constitutional amendment is required to impose term limits on Supreme Court Justices and specifically that the SCRA is unconstitutional).

   13. *See* SCRA, *supra* note 1, § E.

   14. *See id.* § A; Paul D. Carrington & Roger C. Cramton, *Reforming the Supreme Court: An Introduction*, *in* REFORMING THE COURT: TERM LIMITS FOR SUPREME COURT JUSTICES 3, 4 (Roger C. Cramton & Paul D. Carrington eds., 2006); Meyers, *supra* note 3; Taylor, *supra* note 3; NPR, *supra* note 5. A closely related argument is that increased longevity and terms of service of the Justices have resulted in a rise in "mental decrepitude" on the Court. Calabresi & Lindgren, *supra* note 2, at 17, 41-44; Daniel J. Meador, *Thinking about Age and Supreme Court Tenure*, *in* REFORMING THE COURT: TERM LIMITS FOR SUPREME COURT JUSTICES 115, 117-18 (Roger C. Cramton & Paul D. Carrington eds., 2006); Taylor, *supra* note 3; *see also* David J. Garrow, *Mental Decrepitude on the U.S. Supreme Court: The Historical Case for a 28th Amendment*, 67 U. CHI. L. REV. 995 (2000) (providing a comprehensive history of mental decrepitude and incapacity on the Supreme Court).

   15. *See* discussion *infra* Part II.

The remainder of the Article is organized as follows. Part II provides selected background information about the Court and briefly discusses the life cycle hypothesis and related literature. Part III specifies the models and describes the data. Part IV presents the results of the empirical analysis. Part V concludes the Article with a summary of the empirical results and a brief discussion of the implications for the SCRA and other term limit proposals.

II. BACKGROUND AND RELATED LITERATURE

The U.S. Supreme Court is comprised of the Chief Justice and eight Associate Justices.[16] The power to nominate the Justices is vested in the President, and appointments are made with the advice and consent of the Senate.[17] Under Article III of the Constitution, Supreme Court Justices have life tenure.[18]

Since the Judiciary Act of 1925 (also known as the Certiorari Act or the "Judges' Act"),[19] which greatly reduced the Court's mandatory jurisdiction and expanded its certiorari jurisdiction, the Supreme Court's jurisdiction has been almost entirely discretionary.[20] As a result of further acts of Congress, most notably in 1976[21] and 1988,[22] today the Court's jurisdiction is virtually absolutely discretionary.[23]

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16. *See* 28 U.S.C. § 1 (2000).

17. U.S. CONST. art. II, § 2, cl. 2.

18. U.S. CONST. art. III, § 1.

19. Act of Feb. 23, 1925, ch. 229, 43 Stat. 936 (codified as amended in scattered sections of 28 U.S.C.).

20. *See*, *e.g.*, Gregory A. Caldeira & John R. Wright, *The Discuss List: Agenda Building in the Supreme Court*, 24 LAW & SOC'Y REV. 807, 809 (1990) (stating that before 1925 the Supreme Court's jurisdiction was "almost entirely 'obligatory' " but that after the Judiciary Act of 1925 it was "almost entirely 'discretionary' in nature"); Arthur D. Hellman, *The Business of the Supreme Court Under the Judiciary Act of 1925: The Plenary Docket in the 1970's*, 91 HARV. L. REV. 1711, 1712 (1978) (stating that "[t]he [Judiciary] Act of 1925 . . . provided relief by giving the Court almost complete discretion to select the cases that it would decide").

21. In 1976, Congress eliminated the requirement for three-judge courts in most constitutional cases. *See* Act of Aug. 12, 1976, Pub. L. No. 94-381, 90 Stat. 1119 (repealing 28 U.S.C. §§ 2281-2282). "[T]he effect was also to relieve the Supreme Court of the most burdensome class of cases theretofore falling within the obligatory jurisdiction." Hellman, *supra* note 20, at 1712 n.10.

22. In 1988, Congress virtually eliminated the Court's mandatory jurisdiction. *See* Act of June 27, 1988, Pub. L. No. 100-352, 102 Stat. 662 (codified as amended in scattered sections of 28 U.S.C.); *see also* Bennett Boskey & Eugene Gressman, *The Supreme Court Bids Farewell to Mandatory Appeals*, 121 F.R.D. 81, 81 (1988) ("The 1988 legislation completes an historic transformation of the Court's jurisdiction from a mandatory to a discretionary base.").

23. For an overview of the statutory development of the Supreme Court's jurisdiction, see RICHARD H. FALLON, JR. ET AL., HART & WECHSLER'S THE FEDERAL COURTS AND THE FEDERAL SYSTEM 466-69, 1552-56 (5th ed. 2003). For a more detailed account of the development of the Court's jurisdiction, including by acts of Congress and actions of the Court itself, see Edward A. Hartnett, *Questioning Certiorari: Some Reflections Seventy-Five Years After the Judges' Bill*, 100 COLUM. L. REV. 1643, 1649-1713 (2000).

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Accordingly, the Court controls its own workload.[24] From 1875 to 1925, the Court typically decided more than 200 cases per term.[25] From 1926 to 2001, the Court granted review to 160 new cases and issued 120 signed opinions per term on average. For the periods 1977-2001 and 1989-2001, the Court averaged 147 and 102 new cases, respectively, and 113 and 90 signed opinions, respectively, per term. More recently (1998-2001), the Court has averaged fewer than 94 new cases and 80 signed opinions per term.

Figure 1 displays the number of new cases and signed opinions per term from 1926 to 2001.[26] The trends displayed in Figure 1, and in particular the sharp decline in the number of signed opinions during the era of the Rehnquist Court, have received considerable attention from the press[27] and legal commentators.[28] While observers of the Court and even the Justices themselves have offered a number of possible explanations for these trends, there are a limited number of scholarly articles that examine the underlying causes in a systematic fashion.[29] According to these studies, the leading cause of the recent decline in the Court's plenary docket is changes in the members of

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24. *See* Carrington & Cramton, *supra* note 14, at 4 ("[U]nlike their predecessors prior to 1925, the Court now has virtually total control over its workload."); Margaret Meriwether Cordray & Richard Cordray, *The Philosophy of Certiorari: Jurisprudential Considerations in Supreme Court Case Selection*, 82 WASH. U. L.Q. 389, 389 (2004) ("Over the past century, the Supreme Court has gained virtually complete control over its own agenda. Once a relatively passive institution which heard all appeals that Congress authorized, the Court is now a virtually autonomous decisionmaker with respect to the nature and extent of its own workload.").

25. *See* LEE EPSTEIN ET AL., THE SUPREME COURT COMPENDIUM: DATA, DECISIONS, AND DEVELOPMENTS 54 (3d ed. 2003). The term of the Court begins on the first Monday in October and ends on the first Monday in October of the next year. *See id.* at 27.

26. The information on the number of new cases and signed opinions during the period 1926 to 2001 in Figure 1, in the immediately preceding paragraph, and elsewhere in this Article is based on a data set constructed from EPSTEIN ET AL., *supra* note 25, tbls. 2-3, 2-4, 2-5, 2-6, and 2-8. The data set is available upon request.

27. *See, e.g.*, Joan Biskupic, *The Shrinking Docket: Attorneys Try to Make an Issue Out of the Dramatic Decline in High Court Rulings*, WASH. POST, Mar. 18, 1996, at A15; Linda Greenhouse, *Case of the Shrinking Docket: Justices Spurn New Appeals*, N.Y. TIMES, Nov. 28, 1989, at A1.

28. *See, e.g.*, David G. Savage, *Docket Reflects Ideological Shifts: Shrinking Caseload, Cert Denials Suggest an Unfolding Agenda*, A.B.A. J., Dec. 1995, at 40; David O. Stewart, *Quiet Times: The Supreme Court is Reducing its Workload–But Why?*, A.B.A. J., Oct. 1994, at 40. *See also* sources cited *infra* note 29.

29. *See, e.g.*, Margaret Meriwether Cordray & Richard Cordray, *The Supreme Court's Plenary Docket*, 58 WASH. & LEE L. REV. 737 (2001) (examining causes of the decline in the Court's plenary docket beginning in 1989) [hereinafter Cordray & Cordray, *Plenary Docket*]; Arthur D. Hellman, *The Shrunken Docket of the Rehnquist Court*, 1996 SUP. CT. REV. 403 [hereinafter Hellman, *Shrunken Docket*] (same); Arthur D. Hellman, *The Supreme Court, the National Law, and the Selection of Cases for the Plenary Docket*, 44 U. PITT. L. REV. 521 (1983) (examining the composition of the Court's plenary docket from 1977 through 1979); David M. O'Brien, *Join-3 Votes, the Rule of Four, the* Cert. *Pool, and the Supreme Court's Shrinking Plenary Docket*, 13 J.L. & POL. 779 (1997) (examining causes of the decline in the Court's plenary docket beginning with the Burger Court).

the Court.[30] None of the studies, however, specifically consider the relationship between the Court's productivity and the age and tenure of the Justices.

FIGURE 1

NUMBER OF NEW CASES AND SIGNED OPINIONS PER TERM
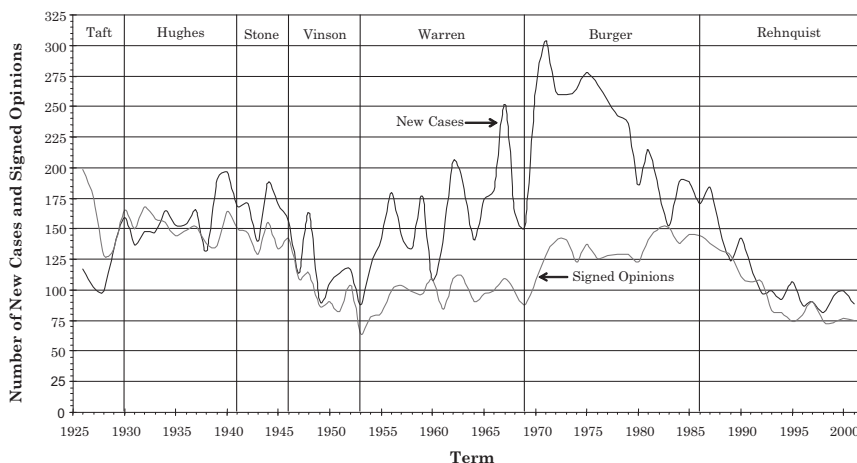
The life cycle hypothesis of human capital theory posits an inverse U-shaped relationship between productivity and age.[31] The hypothesis predicts that productivity increases with age early in the life cycle as individuals accumulate human capital through investment in schooling and on-the-job training (that is, experience) and then decreases with age late in the life cycle as human capital depreciation exceeds investment.[32]

There is a vast empirical literature examining the life cycle hypothesis. Several studies investigate the general age-productivity relationship in the United States using cross-sectional data[33] or longi-

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30. *See* Cordray & Cordray, *Plenary Docket*, *supra* note 29, at 744-45 & nn.41-43, 793-94; Hellman, *Shrunken Docket*, *supra* note 29, at 429-32; O'Brien, *supra* note 29, at 789, 803-07.

31. *See* A. M. Diamond, Jr., *An Economic Model of the Life-Cycle Research Productivity of Scientists*, 6 SCIENTOMETRICS 189, 190-93 (1984); Richard W. Johnson & David Neumark, *Wage Declines Among Older Men*, 78 REV. ECON. & STAT. 740, 740 (1996); *see also* GARY S. BECKER, HUMAN CAPITAL: A THEORETICAL AND EMPIRICAL ANALYSIS, WITH SPECIAL REFERENCE TO EDUCATION chs. 2-3 (2d ed. 1975); JACOB MINCER, SCHOOLING, EXPERIENCE, AND EARNINGS ch. 1 (1974).

32. Johnson & Neumark, *supra* note 31, at 740; *see* Diamond, *supra* note 31, at 190-93.

33. *See, e.g.*, Mary Jablonski et al., *Productivity, Age, and Labor Composition Changes in the U.S.*, MONTHLY LAB. REV., Sept. 1988, at 34.

tudinal data.[34] Other studies look at the impact of the age distribution on economic growth in Organisation for Economic Co-operation and Development (OECD) member countries[35] and elsewhere. A number of studies specifically examine the relationship between productivity and age in academic occupations. These studies generally use citations as the productivity measure, and the majority find that productivity declines with age.[36] However, at least two studies argue that productivity is constant with age.[37]

A handful of studies investigate the relationship between judicial productivity and age.[38] Using quality (that is, citations) and quantity measures, Richard A. Posner finds that the productivity of judges of the U.S. Courts of Appeals declines with age but that this decline does not set in until an unusually advanced age (at least over eighty years of age).[39] Montgomery N. Kosma, using data on U.S. Supreme Court Justices, finds that older appointees exert more influence (as

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34. *See*, *e.g.*, John C. Haltiwanger et al., *Productivity Differences Across Employers: The Roles of Employer Size, Age, and Human Capital*, 89 AM. ECON. REV. 94 (May 1999); Johnson & Neumark, *supra* note 31.

35. *E.g.*, Björn Andersson, *Scandinavian Evidence on Growth and Age Structure*, 35 REGIONAL STUD. 377 (2001); Thomas Lindh & Bo Malmberg, *Age Structure Effects and Growth in the OECD, 1950-1990*, 12 J. POPULATION ECON. 431 (1999).

36. *See*, *e.g.*, HARVEY C. LEHMAN, AGE AND ACHIEVEMENT (1953); Arthur M. Diamond, Jr., *The Life-Cycle Research Productivity of Mathematicians and Scientists*, 41 J. GERONTOLOGY 520 (1986); Thomas H. Goodwin & Raymond D. Sauer, *Life Cycle Productivity in Academic Research: Evidence from Cumulative Publication Histories of Academic Economists*, 61 S. ECON. J. 728 (1995); Sharon G. Levin & Paula E. Stephan, *Research Productivity Over the Life Cycle: Evidence for Academic Scientists*, 81 AM. ECON. REV. 114 (1991); John M. McDowell, *Obsolescence of Knowledge and Career Publication Profiles: Some Evidence of Differences Among Fields in Costs of Interrupted Careers*, 72 AM. ECON. REV. 752 (1982); Sharon M. Oster & Daniel S. Hamermesh, *Aging and Productivity Among Economists*, 80 REV. ECON. & STAT. 154 (1998); Robert M. Soldofsky, *Age and Productivity of University Faculties: A Case Study*, 3 ECON. EDUC. REV. 289 (1984).

37. *See* Stephen Cole, *Age and Scientific Performance*, 84 AM. J. SOC. 958 (1979); Nancy Stern, *Age and Achievement in Mathematics: A Case Study in the Sociology of Science*, 8 SOC. STUD. SCI. 127 (1978).

38. *See* RICHARD A. POSNER, AGING AND OLD AGE ch. 8 (1995); Mita Bhattacharya & Russell Smyth, *Aging and Productivity Among Judges: Some Empirical Evidence from the High Court of Australia*, 40 AUSTL. ECON. PAPERS 199 (2001) [hereinafter Bhattacharya & Smyth, *Aging and Productivity*]; Mita Bhattacharya & Russell Smyth, *The Determinants of Judicial Prestige and Influence: Some Empirical Evidence from the High Court of Australia*, 30 J. LEGAL STUD. 223 (2001) [hereinafter Bhattacharya & Smyth, *Determinants*]; Montgomery N. Kosma, *Measuring the Influence of Supreme Court Judges*, 27 J. LEGAL STUD. 333 (1998); Russell Smyth & Mita Bhattacharya, *How Fast Do Old Judges Slow Down? A Life Cycle Study of the Aging and Productivity in the Federal Court of Australia*, 23 INT'L REV. L. & ECON. 141 (2003). There are several additional studies of judicial productivity (as measured by citations) that do not focus on the role of age. *See*, *e.g.*, David Klein & Darby Morrisroe, *The Prestige and Influence of Individual Judges on the U.S. Courts of Appeals*, 28 J. LEGAL STUD. 371 (1999); William M. Landes et al., *Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges*, 27 J. LEGAL STUD. 271 (1998); Peter McCormick, *The Supreme Court Cites the Supreme Court: Follow-up Citation on the Supreme Court of Canada, 1989-1993*, 33 OSGOODE HALL L.J. 453 (1996).

39. *See* POSNER, *supra* note 38, at 180-92.

measured by adjusted citations) than younger appointees, while Mita Bhattacharya and Russell Smyth, using data on High Court of Australia Justices, find that younger appointees exhibit greater influence by the same measure.[40] Bhattacharya and Smyth also explicitly study judicial productivity in a life cycle framework. Using adjusted citations as the productivity measure, they find support for the life cycle hypothesis among judges in Australia.[41]

III.   SPECIFICATIONS AND DATA

This Article examines two measures of the productivity of the U.S. Supreme Court. The first productivity measure is the number of cases granted review per term by the Court under its mandatory and discretionary jurisdiction.[42] The second productivity measure is the number of signed opinions issued per term by the Court.[43] It is important to acknowledge that these may not be the best measures of the Court's productivity. Among their deficiencies is that they are not quality adjusted measures; they are gross quantities which fail to take into account the importance or difficulty of the cases or the quality of the opinions. I examine them because they are the productivity measures suggested by the authors of the SCRA and others.[44] In defense of these measures, one could argue that, a priori, there is no reason to believe that the importance or difficulty of the cases before the Court or the quality of the opinions issued by the Court has varied systematically with time. Moreover, one could argue that any proposed methods for ranking cases by importance or difficulty and opinions by quality would be fatally subjective.[45] Therefore, while I

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40.   Kosma, *supra* note 38, at 367-69; Bhattacharya & Smyth, *Determinants*, *supra* note 38, at 244-48.

41.   Bhattacharya & Smyth, *Aging and Productivity*, *supra* note 38, at 207, 210; Smyth & Bhattacharya, *supra* note 38, at 154-63.

42.   Specifically, the *CASES* measure includes the number of original jurisdiction cases plus the number of petitions for certiorari (including paid cases and in forma pauperis cases) granted review per term. *See infra* note 52 and accompanying text.

43.   Note that the number of signed opinions does not include per curiam opinions issued after oral argument. Since 1940, the Court has issued fewer than 27 and averaged fewer than 13 such per curiam opinions per term. *See* EPSTEIN ET AL., *supra* note 25, tbl. 2-8. Their inclusion would not materially alter the results presented in this Article.

44.   *See supra* note 14; *cf.* Stephen J. Choi & G. Mitu Gulati, *Choosing the Next Supreme Court Justice: An Empirical Ranking of Judge Performance*, 78 S. CAL. L. REV. 23 (2004) (using the number of published opinions as a measure of judicial productivity in connection with a "tournament" of federal appeals courts judges).

45.   *But see*, *e.g.*, Smyth & Bhattacharya, *supra* note 38, at 146-49 (arguing that citations are an acceptable proxy for the quality of judicial opinions and that quality can be used to measure productivity).

acknowledge their limitations, it seems reasonable to consider these measures, at least in the first instance.[46]

For each productivity measure, I specify two models. In the first model, the explanatory variables of primary interest are the mean age and mean tenure of the Justices at the start of the term. In the second model, the key explanatory variables are the percentage of Justices less than 61 years old and the percentage more than 68 years old at the start of the term and the percentage of Justices with fewer than 8 years of service and the percentage with more than 13 years of service at the start of the term. I use these cutoffs because they each reflect one standard deviation from their respective means.[47] In addition, I include as control variables in each model the annual budget appropriation to the Court and dummy variables indicating the Chief Justice. I include the budget variable to control for changes in the Court's fiscal resources and the Chief Justice dummy variables to allow for structural changes. In models in which the number of opinions is the productivity measure, I include as additional control variables the percentage of cases containing at least one dissenting opinion and the percentage of cases decided by a one-vote margin. These variables are meant to serve as rough proxies for the level difficulty of the cases decided by the Court in each term.

Specifically, I estimate the following four models:

(1) $CASES_t = \beta_1 + \beta_2 AGE_t + \beta_3 (AGE_t)^2 + \beta_4 TENURE_t + \beta_5 (TENURE_t)^2 + \beta_6 BUDGET_t + \alpha D_t + \varepsilon_t$

(2) $OPINIONS_t = \beta_1 + \beta_2 AGE_t + \beta_3 (AGE_t)^2 + \beta_4 TENURE_t + \beta_5 (TENURE_t)^2 + \beta_6 BUDGET_t + \beta_7 DISSENT_t + \beta_8 1VOTE_t + \alpha D_t + \varepsilon_t$

(3) $CASES_t = \beta_1 + \beta_2 \%{<}61_t + \beta_3 \%{>}68_t + \beta_4 \%{<}8_t + \beta_5 \%{>}13_t + \beta_6 BUDGET_t + \alpha D_t + \varepsilon_t$

(4) $OPINIONS_t = \beta_1 + \beta_2 \%{<}61_t + \beta_3 \%{>}68_t + \beta_4 \%{<}8_t + \beta_5 \%{>}13_t + \beta_6 BUDGET_t + \beta_7 DISSENT_t + \beta_8 1VOTE_t + \alpha D_t + \varepsilon_t$

where $\alpha D_t = \alpha_1 TAFT_t + \alpha_2 STONE_t + \alpha_3 VINSON_t + \alpha_4 WARREN_t + \alpha_5 BURGER_t + \alpha_6 REHNQUIST_t$.

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46. For a recent collection of articles and essays that examine the topic of empirical measures of judicial performance, see Symposium, *Empirical Measures of Judicial Performance*, 32 FLA. ST. U. L. REV. 1001 (2005).

47. The mean age and tenure of the Justices in my sample is 64.4 and 10.7 years, respectively, and the standard deviations are 3.7 and 2.7 years, respectively. *See infra* Table 2.

To estimate these four models, I constructed a data set that spans from 1926 to 2001, covering 76 terms of the Court. The principal source for my data set is the 2003 *Supreme Court Compendium*,[48] which collects Supreme Court data from a variety of primary and secondary sources. I also consulted a constitutional law textbook[49] for the lines of succession of the Justices and used the Consumer Price Index[50] to adjust the budget data for inflation.

Table 1 sets forth definitions for each of the variables in the four models. In addition, each model contains dummy variables for the Chief Justice. The Hughes Court is the benchmark category. During Chief Justice Hughes' tenure (1930-40), the Court averaged 159 new cases and 153 signed opinions per term.[51] Table 2 sets forth descriptive statistics for each of the variables other than the Chief Justice dummy variables. Note that *AGE* and *TENURE* are in months; *BUDGET* is in thousands of 1982-84 U.S. dollars; and *%<61*, *%>68*, *%<8*, *%>13*, *DISSENT*, and *1 VOTE* are percentages. Figures 2 through 5 display the trends in *AGE*, *TENURE*, *BUDGET*, *DISSENT*, and *1 VOTE* over the sample period (1926-2001).

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48. EPSTEIN ET AL., *supra* note 25.

49. WALTER F. MURPHY ET AL., AMERICAN CONSTITUTIONAL INTERPRETATION app. B (1st ed. 1986).

50. Specifically, I used the *All Urban Consumers (CPI-U), U.S. City Average, All Items, 1982-84=100* index. BUREAU OF LABOR STAT., U.S. DEP'T OF LABOR, CONSUMER PRICE INDEX: ALL URBAN CONSUMERS (1982-84), *available at* ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt.

51. *See supra* note 26.

TABLE 1

VARIABLE DEFINITIONS

VARIABLE	DEFINITION
CASES	Number of original jurisdiction cases plus the number of petitions for certiorari (including paid cases and in forma pauperis cases) granted review per term[52]
OPINIONS	Number of signed opinions issued per term[53]
AGE	Mean age of the Justices at the start of the term (in months)
TENURE	Mean tenure of the Justices at the start of the term (in months)
BUDGET	Budget appropriation to the Court for the fiscal year at the start of the term (in thousands of 1982-84 U.S. dollars)[54]
%<61	Percentage of Justices less than 61 years old at the start of the term
%>68	Percentage of Justices more than 68 years old at the start of the term
%<8	Percentage of Justices with fewer than 8 years of service at the start of the term
%>13	Percentage of Justices with more than 13 years of service at the start of the term
DISSENT	Percentage of cases with at least one dissenting opinion per term[55]
1 VOTE	Percentage of cases decided by a one-vote margin per term[56]

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52. *See* EPSTEIN ET AL., *supra* note 25, tbls. 2-3, 2-4, 2-5, and 2-6. For 1926 to 1935, *CASES* includes only the number of petitions for certiorari granted review. For 1970 to 2001, the number of original jurisdiction cases is calculated as the number of filed cases on the original docket for the term minus the number of filed cases on the original docket for the prior term plus the number of disposed cases from the original docket for the prior term.

53. *See id.* tbl. 2-8. Note that the number of signed opinions does not include per curiam opinions issued after oral argument. *See supra* note 43.

54. *See* EPSTEIN ET AL., *supra* note 25, tbl. 1-9. For 1926 to 1929, *BUDGET* is assigned a value of $2 million. For 1975 and 1976, *BUDGET* is adjusted to account for a change in the federal government's fiscal year end.

55. *See id.* tbl. 3-2. Due to ambiguity in the description of data prior to 1953, it is unclear whether such data represent the number of dissenting opinions or the number of cases with dissenting opinions.

56. *See id.* tbl. 3-4. *1 VOTE* includes only cases decided by a 5-4 or 4-3 vote.

TABLE 2

DESCRIPTIVE STATISTICS

| Variable	N	Mean	Std. Dev.	Minimum	Median	Maximum
CASES	76	160.4	53.8	82.0	153.0	304.0
OPINIONS	76	120.1	29.4	65.0	124.5	199.0
AGE	76	772.4	44.3	683.9	769.0	858.1
TENURE	76	128.0	32.4	50.7	128.0	194.7
BUDGET	76	10,256	6,898	2,000	7,635	28,797
%<61	76	36.4	18.7	0	33.3	77.8
%>68	76	35.1	18.7	0	33.3	66.7
%<8	76	42.7	16.7	11.1	44.4	77.8
%>13	76	32.6	15.2	0	33.3	77.8
DISSENT	76	50.9	20.6	7.1	57.6	86.5
1 VOTE	76	13.3	8.1	0	13.3	30.4

FIGURE 2

MEAN AGE (IN YEARS)
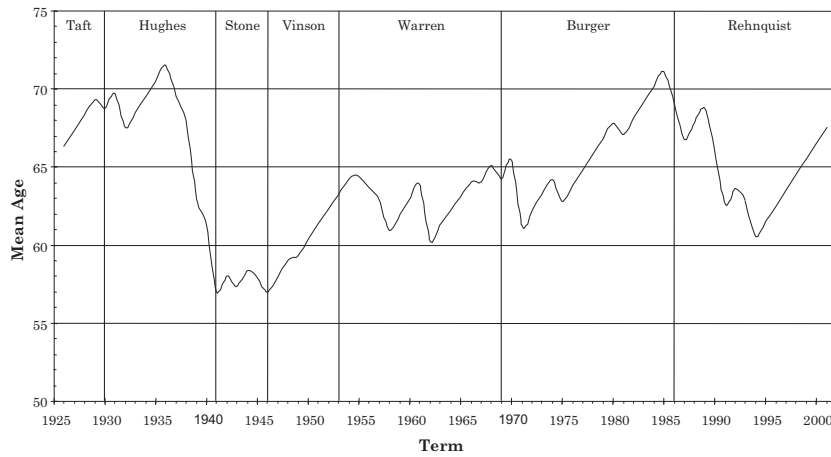
FIGURE 3
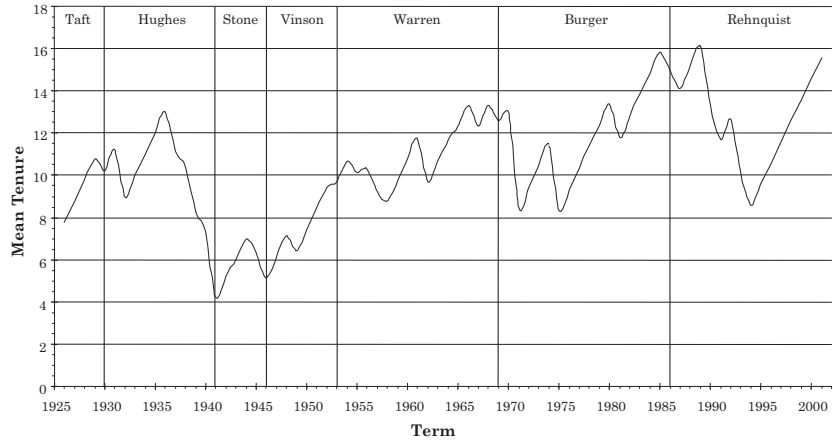
MEAN TENURE (IN YEARS)

FIGURE 4

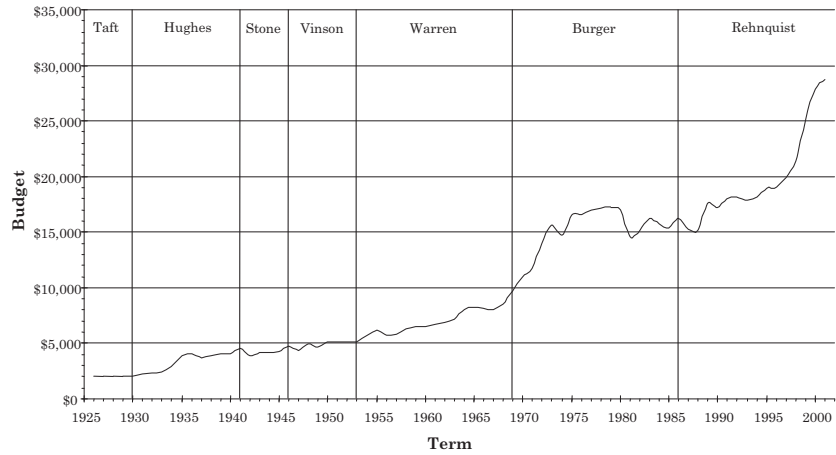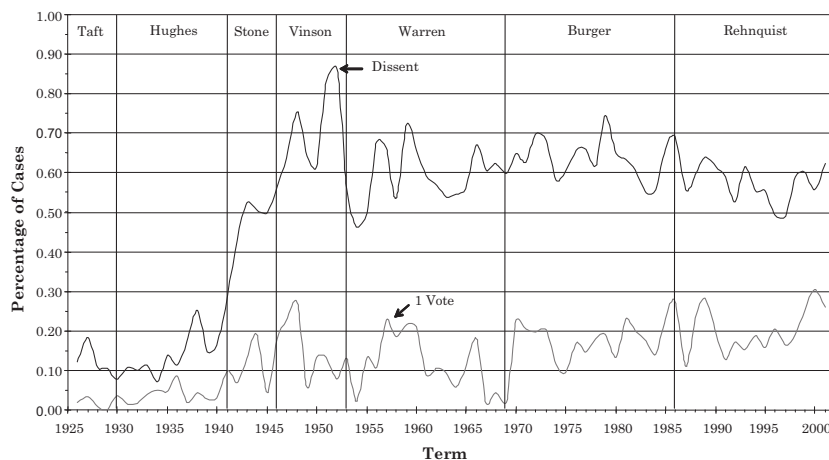**BUDGET (IN THOUSANDS OF 1982-84 U.S. DOLLARS)**

FIGURE 5

DISSENTS AND ONE-VOTE MARGINS

IV. RESULTS

This Part reports ordinary least squares (OLS) and feasible gen-
eralized least squares (FGLS) estimates for models 1 through 4. For
each model, the Durbin-Watson and Breusch-Godfrey tests suggest
positive first-order serial correlation of the OLS residuals. Therefore,
I focus on the FGLS estimates for each model, which are obtained by
generalized differencing.[57]

A.   Model 1: CASES

Table 3 reports the results for model 1. The coefficients on *AGE*
and *AGESQ* have the expected signs and are significant at the 10%
level. They suggest an inverse U-shaped relationship between
CASES and *AGE*, consistent with the life cycle hypothesis. In par-
ticular, they suggest *CASES* reaches its maximum when *AGE* is 40.6
years and decreases throughout the relevant *AGE* range. (The sam-
ple values of *AGE* range from 57 to 71.5 years.) Figure 6 displays the
predicted values of *CASES* over the relevant *AGE* range.[58] The only
other significant coefficients in model 1 are the coefficients on
VINSON and *BURGER*. They suggest that, ceteris paribus, the Vin-

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57. For purposes of generalized differencing, I estimate the autocorrelation coefficient
using the Durbin-Watson statistic. For each model, this estimate is substantially similar to
the Theil-Nagar estimate and to the estimate given by a first-order autoregression of
the OLS residuals. In addition, I employ the Prais-Winsten transformation of the first
observation.

58. In Figures 6, 7, and 8, predicted values are calculated holding all other variables
constant at their sample means.

son Court was less productive than benchmark while the Burger Court was more productive than benchmark, as measured by the number of new cases granted review per term.
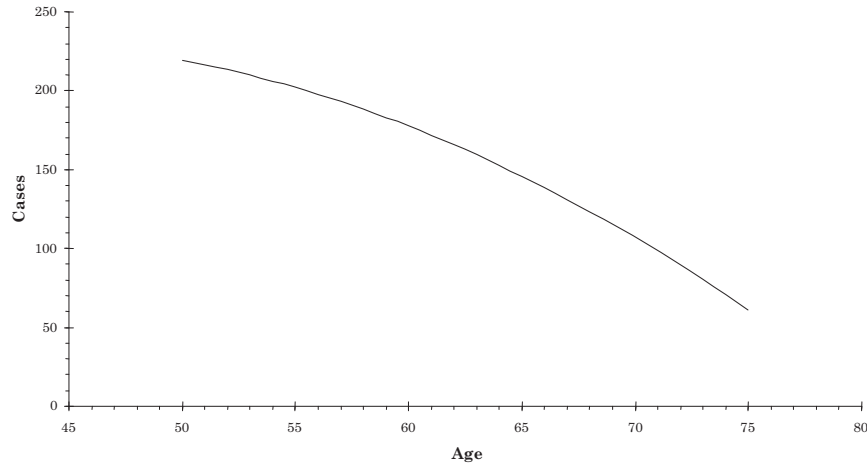
TABLE 3

MODEL 1: CASES

VARIABLE	OLS		FGLS	
	COEFFICIENT	STD. ERROR	COEFFICIENT	STD. ERROR
CONSTANT	-530	2030	21.1	191.0
AGE	2.660	5.303	0.9774*	0.5578
AGESQ	-0.002175	0.003371	-0.0010034*	0.0005116
TENURE	-0.896	1.429	-0.142	1.271
TENURESQ	0.005598	0.005006	0.001997	0.004603
BUDGET	-0.002291	0.001815	-0.001448	0.002096
TAFT	-46.62**	20.94	-41.84	26.84
STONE	-56.70*	34.03	-43.92	34.98
VINSON	-90.00***	27.04	-74.38**	30.71
WARREN	-42.08*	25.28	-32.31	28.48
BURGER	63.25**	27.74	59.37*	32.06
REHNQUIST	-58.65	37.64	-54.08	43.20
R^2	0.668		0.948	
Adjusted R^2	0.610		0.939	
F	11.69***		96.66***	
Durbin-Watson	1.525		1.812	

* significant at 10% level

** significant at 5% level

*** significant at 1% level

FIGURE 6

CASES (PREDICTED) AND AGE

B.   Model 2: OPINIONS

Table 4 reports the results for model 2. The coefficients on *AGE* and *AGESQ* have the expected signs and are significant at the 1% level. They suggest an inverse U-shaped relationship between *OPINIONS* and *AGE*, consistent with the life cycle hypothesis. However, the predicted value of *OPINIONS* increases through the relevant *AGE* range, reaching its maximum when *AGE* is 73.2 years, which is greater than the maximum sample value. This result is consistent with Posner's finding that the age-related decline in the productivity of judges does not set in until an unusually advanced age.[59] Figure 7 displays the predicted values of *OPINIONS* over the relevant *AGE* range.

The coefficients on *TENURE* and *TENURESQ*, which are significant at the 5% level, suggest a U-shaped relationship between *OPINIONS* and *TENURE* that reaches its minimum when *TENURE* is 11.8 years. (The sample values of *TENURE* range from 4.2 to 16.2 years.) However, the predicted value of *OPINIONS* is relatively constant when *TENURE* is between 10 and 13 years, and *TENURE* is greater than or equal to 10 years for 62% of the sample. Hence, the predicted value of *OPINIONS* is constant or increasing with *TENURE*, as expected, over the majority of the relevant *TENURE* range. Figure 8 displays the predicted values of *OPINIONS* over the relevant *TENURE* range.

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59.   *See* POSNER, *supra* note 38, at 180-92.

The coefficient on *BUDGET* is significant at the 5% level but, un-expectedly, is negative. However, it arguably is practically insignifi-cant, for it suggests the number of opinions issued per term de-creases only by 2 for every 1 million 1982-84 U.S. dollars increase in the Court's budget, which averaged 10 million 1982-84 U.S. dollars over the sample period. The coefficients on *VINSON* and *WARREN* are significant at the 1% level and suggest that, ceteris paribus, the Vinson and Warren Courts were less productive than benchmark, as measured by the number of signed opinions issued per term. No other coefficients are significant at or below the 10% level.

TABLE 4

MODEL 2: OPINIONS

VARIABLE	OLS		FGLS	
	COEFFICIENT	STD. ERROR	COEFFICIENT	STD. ERROR
CONSTANT	363	1071	-205.92***	72.41
AGE	-0.302	2.793	1.0860***	0.2362
AGESQ	0.000280	0.001785	-0.0006181***	0.0002252
TENURE	-2.19112***	0.7200	-1.6300**	0.6525
TENURESQ	0.007825***	0.002487	0.005746**	0.002309
BUDGET	-0.0025589***	0.0009052	-0.002109**	0.001001
DISSENT	0.4053	0.3662	0.2170	0.3067
1 VOTE	0.3758	0.4176	0.5187	0.3454
TAFT	1.36	10.20	-20.57	12.82
STONE	-43.00*	22.50	-31.81	19.87
VINSON	-79.23***	24.73	-61.13***	22.67
WARREN	-59.03***	18.08	-56.60***	17.42
BURGER	-12.99	20.28	-15.59	19.46
REHNQUIST	-33.35	22.13	-35.88	22.71
R^2	0.745		0.978	
Adjusted R^2	0.691		0.973	
F	13.90***		191.75***	
Durbin-Watson	1.397		1.842	

* significant at 10% level

** significant at 5% level

*** significant at 1% level

FIGURE 7
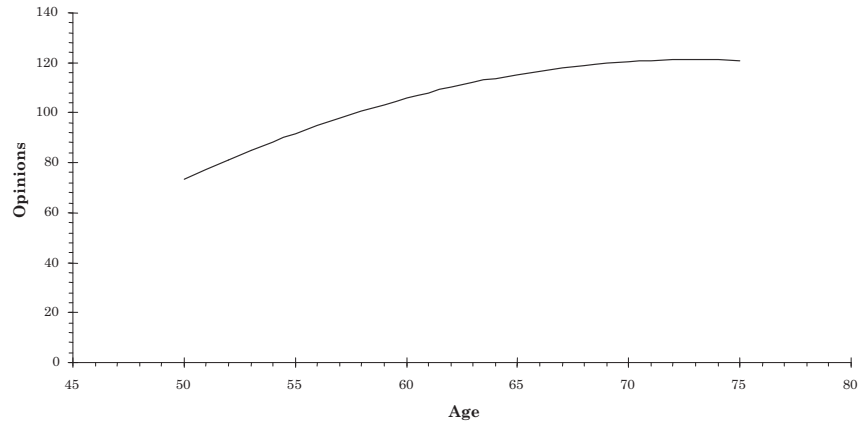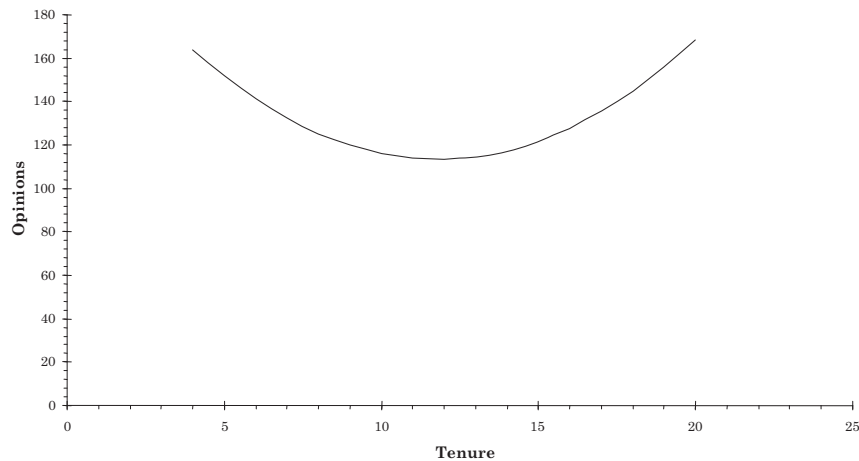
OPINIONS (PREDICTED) AND AGE

FIGURE 8

OPINIONS (PREDICTED) AND TENURE

C. *Model 3: CASES and Model 4: OPINIONS*

Tables 5 and 6 report the results for models 3 and 4, respectively. In both models, the coefficients on *%<61* and *%>13* have the expected signs (positive); in model 4, they are significant at the 5% and 10% levels, respectively. However, the coefficients on *%>68* and *%<8* also are positive in both models and in model 4 are significant at the 1%

level.[60] These results are contrary to my expectations, for they suggest that the Court's productivity increases with the percentage of elderly and less experienced Justices, respectively.

In model 4, the coefficients on *TAFT*, *WARREN*, and *REHNQUIST* are significant at the 10%, 1%, and 5% levels, respectively, and suggest that, ceteris paribus, the Taft Court was more productive than benchmark while the Warren and Rehnquist Courts were less productive than benchmark, as measured by the number of signed opinions issued per term. In addition, the coefficient on *1 VOTE* is significant but unexpectedly positive, suggesting that the number of signed opinions increases (¾-to-1) with the percentage of cases decided by a one-vote margin per term.

TABLE 5

MODEL 3: CASES

VARIABLE	OLS		FGLS	
	COEFFICIENT	STD. ERROR	COEFFICIENT	STD. ERROR
CONSTANT	88.08*	45.80	69.93	48.20
%<61	0.5484	0.4470	0.6083	0.4791
%>68	-0.0082	0.4355	0.2450	0.4835
%<8	0.8647*	0.4709	0.9661*	0.5022
%>13	0.6395	0.5816	0.5016	0.6020
BUDGET	0.000808	0.002099	0.001507	0.002341
TAFT	-48.25**	21.74	-33.35	24.54
STONE	-38.34	26.19	-37.58	28.81
VINSON	-46.12*	26.02	-36.24	30.12
WARREN	-16.02	21.60	-11.12	24.95
BURGER	60.87**	29.43	50.99	33.49
REHNQUIST	-68.13	42.35	-69.04	46.24
R^2	0.669		0.939	
Adjusted R^2	0.612		0.928	
F	11.76***		81.01***	
Durbin-Watson	1.359		1.822	

* significant at 10% level

** significant at 5% level

*** significant at 1% level

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60. Also, the coefficient on *%<8* is significant at the 10% level in model 3. It is the only individually significant coefficient at or below the 10% level in model 3.

TABLE 6

MODEL 4: OPINIONS

VARIABLE	OLS		FGLS	
	COEFFICIENT	STD. ERROR	COEFFICIENT	STD. ERROR
CONSTANT	93.04***	22.51	51.63**	24.66
%<61	0.5370**	0.2192	0.5280**	0.2475
%>68	0.4577**	0.2136	0.6991***	0.2501
%<8	0.1742	0.2304	0.6867***	0.2571
%>13	0.5644*	0.2899	0.5980*	0.3109
BUDGET	-0.001018	0.001052	0.000467	0.001231
DISSENT	-0.1823	0.3135	-0.1365	0.3058
1 VOTE	0.8010**	0.3714	0.7734**	0.3561
TAFT	19.05*	10.65	24.30*	12.86
STONE	-11.90	16.44	-23.47	17.93
VINSON	-26.00	22.61	-17.73	23.78
WARREN	-52.76***	17.41	-52.83***	18.27
BURGER	-9.15	20.31	-25.12	22.01
REHNQUIST	-47.48*	23.92	-64.23**	26.56
R^2	0.743		0.967	
Adjusted R^2	0.689		0.960	
F	13.79***		129.22***	
Durbin-Watson	1.261		1.537	

* significant at 10% level

** significant at 5% level

*** significant at 1% level

V.   SUMMARY AND CONCLUSION

The empirical findings of this Article may be summarized as follows. In general, the results of models 1 and 2 are consistent with the life cycle hypothesis of human capital theory and the related empirical literature. However, the results of model 2 suggest that the Court's productivity is increasing over the relevant age range and does not decline until the mean age of Court is beyond its maximum mean age since at least 1926, which is consistent with Posner's finding that the age-related decline in the productivity of judges does not set in until an unusually advanced age.[61] The results of model 2 further suggest that the productivity of the Court increases with the

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61.   *See* POSNER, *supra* note 38, at 180-92.

mean tenure of the Justices over the majority of the relevant tenure range. Finally, the results of models 3 and 4 suggest that the productivity of the Court increases with the percentage of Justices over 68 years of age and with fewer than 8 years of service.

On the whole, the results of this Article do not provide clear support for the assertion that increased longevity and terms of service of the Justices have resulted in a decline in the productivity of the Court as measured by the number of cases accepted for review and the number of opinions issued per term. Accordingly, this Article cautions against relying too heavily on this claim to support the SCRA and other recent proposals to impose term limits for Supreme Court Justices. It is important to note, however, that this Article does not address the other reasons offered by proponents of term limits, including the increased politicization of the confirmation process, which may or may not be valid.[62] Therefore, this Article does not necessarily counsel against term limits. It simply casts doubt on one of several stated rationales for terms limits.

An interesting tangential result of this Article is that the Chief Justice appears to matter. In each model, two or more of the coefficients on the Chief Justice dummy variables are statistically and practically significant, which suggests the Chief Justice has a ceteris paribus influence on the productivity of the Court. This finding is consistent with the branch of the literature (reviewed in Part II) that suggests the leading cause of the recent decline in the Court's plenary docket is changes in the members of the Court[63] and with a branch of the literature (not reviewed in Part II) that finds the Chief Justice (or his foreign counterpart) is a major determining factor of the level of consensus on the Court (or its foreign counterpart).[64]

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62. *See* SCRA, *supra* note 1, § A; Calabresi & Lindgren, *supra* note 2, at 39-41 (arguing that, in addition to a rise in "mental decreptitude" on the Court, the reasons to reconsider life tenure for Supreme Court Justices include democratic unaccountability, increased politicization of the confirmation process, and Presidential incentive to nominate younger, less experienced candidates); DiTullio & Schochet, *supra* note 2, at 1101-19 (arguing that the problems created by life tenure include strategic retirements by Justices, incentives for young nominees, and random distribution of appointments); Oliver, *supra* note 2, at 802-12 (arguing that the political benefits of term limits include reducing the President's incentive to appoint very young candidates, reducing a Justice's incentive to time his or her retirement in an effort to influence the future ideological composition of the Court, and balancing the influence of Presidents on the Court).

63. *See supra* notes 29-30 and accompanying text.

64. *See*, *e.g.*, David J. Danelski, *The Influence of the Chief Justice in the Decisional Process of the Supreme Court*, *in* AMERICAN COURT SYSTEMS 486 (Sheldon Goldman & Austin Sarat eds., 2d ed. 1989); ROBERT J. STEAMER, CHIEF JUSTICE: LEADERSHIP AND THE SUPREME COURT (1986); Gregory A. Caldeira & Christopher J. W. Zorn, *On Time and Consensual Norms in the Supreme Court*, 42 AM. J. POL. SCI. 874 (1998); Stacia L. Haynie, *Leadership and Consensus on the U.S. Supreme Court*, 54 J. POL. 1158 (1992); Russell Smyth & Paresh Kumar Narayan, *Hail to the Chief! Leadership and Structural Change in the Level of Consensus on the High Court of Australia*, 1 J. EMPIRICAL LEGAL STUD. 399 (2004); Thomas G. Walker et al., *On the Mysterious Demise of Consensual Norms in the United States Supreme Court*, 50 J. POL. 361 (1988).