

# THE ROOTS OF LAW

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## ABSTRACT

*This Article rests on the macrosociological thesis that (i) the concepts and doctrines used in law are determined by the properties of society and that (ii) these properties are produced by large-scale forces. The thesis thus maintains that the content of law is not shaped by the persons who serve as legislators, judges, and executive-branch policymakers; such individuals are merely the vehicles by which societal conditions mold law. To illustrate, the Article examines shifts in law in the United States on a number of subjects, including law setting the age of majority and law regulating access to abortion, and it links these shifts to changes in specific aspects of U.S. society. Data from the 1960 census on the forty-eight coterminous states are analyzed with logistic regression to identify system-level properties distinguishing states that liberalized their law on abortion between 1967 and 1972 (i.e., before *Roe v. Wade*) from states that did not. The regression analysis, in conjunction with time-series data for the nation as a whole, suggests that the liberalization by states and by *Roe* of law-imposed restrictions on abortion was associated mainly with increases in school enrollment and educational level among young women. This Article advances the premise that long-term growth in the quantity of knowledge broadly affected the American social system and its law, and ascribes the rising prevalence and longer duration of education among women—as antecedents of the liberalization of law on abortion—primarily to the expansion of knowledge.*

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### I. INTRODUCTION

Distinct concepts and principles characterize every profession,<sup>1</sup> and the reality perceived by members of one profession therefore differs to some extent from the reality perceived by members of another profession.<sup>2</sup> Be-

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1. Larry D. Barnett, *When is a Mutual Fund Director Independent? The Unexplored Role of Professional Relationships under Section 2(a)(19) of the Investment Company Act*, 4 DEPAUL BUS. & COM. L.J. 155, 173-78 (2006) (summarizing the central elements of a profession).

2. According to research in linguistics, “the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds—and this means largely by the linguistic systems in our minds. We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way—an agreement that holds throughout our speech community and is codified in the patterns of our language.” Benjamin Lee Whorf, *Science and Linguistics*, in LANGUAGE, THOUGHT, AND REALITY: SELECTED WRITINGS OF BENJAMIN LEE WHORF 207, 213 (John B. Carroll ed., 1956); see also Benjamin Lee Whorf, *Language, Mind, and Reality*, in LANGUAGE, THOUGHT, AND REALITY, *supra* at 246-47 (stating that “[e]very language . . . incorporates certain points of view and certain patterned resistances to widely divergent points of view”). Professions as well as societies differ in the concepts they use, and the concepts unique to a particular profession accordingly provide its members with perceptions that do not exist among the members of a differ-

cause an understanding of the world is never complete—perhaps because “[r]eality is nothing but a collective hunch”<sup>3</sup>—no single profession has a monopoly on truth, and research that brings together different professions has the potential to yield new insights. Accordingly, this Article brings together two professions—law and sociology—in an attempt to answer a pair of related questions. First, why does the law of a society contain certain concepts and doctrines at one point in history but not at another? Second, why at a given point in time does the law of one society contain certain concepts and doctrines while the law of another society does not? I believe that both questions have a common answer and that the answer stems from the discipline of macrosociology. Specifically, my thesis is that the properties of society form the roots of law and that these properties, and the forces behind them, shape the content of law in the social system in which the law develops and operates.

As a social science, macrosociology assumes that the doctrines of law are not random occurrences. Instead, macrosociology contends that identifiable system-level factors account for differences in law both across time in any particular jurisdiction and across jurisdictions at any particular point in time. The macrosociological approach employed in the instant Article (i) views law as an institution of a society and, hence, as a component of a system;<sup>4</sup> (ii) assumes that, as an institution, law aids society by promoting the equilibrium and cohesiveness of the system in the long run;<sup>5</sup> (iii) contends that, for law to benefit society, the content of law—i.e., the concepts and doctrines of law—must manifest the properties of society, not the personalities of individuals; and (iv) expects, therefore, that law will change as large-scale forces alter the properties of society. The preceding principles, although generally ignored in research on law,<sup>6</sup> form the foundation of this

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ent profession.

3. Michael Moncur’s (Cynical) Quotations, The Quotations Page, <http://www.quotationspage.com> (last visited Sept. 23, 2006) (quoting JANE WAGNER, *THE SEARCH FOR SIGNS OF INTELLIGENT LIFE IN THE UNIVERSE* (1986)).

4. Macrosociology assumes that, as a system, a society is characterized by cohesiveness and is comprised of interacting, interdependent components. See JOHN SCOTT, *SOCIOLOGICAL THEORY: CONTEMPORARY DEBATES* 138-39, 150, 153 (1995). The findings of quantitative research are consistent with this assumption. See Sung-Soon Clara Kim, *Dimensions of Social Integration: Solidarity and Deviance in American Cities* 9-28, 142-48 (1985) (unpublished Ph.D. dissertation, University of Virginia) (on file with Widener University School of Law Delaware Campus Library).

5. In my macrosociological framework, law furthers both social integration and system integration. Social integration involves the relationships between the individuals, and between the groups of individuals, in a society; system integration involves the relationships between the structural components of a society. David Lockwood, *Social Integration and System Integration*, in *EXPLORATIONS IN SOCIAL CHANGE* 244, 245 (George K. Zollschan & Walter Hirsch eds., 1964).

6. DANIEL J. ELAZAR, *AMERICAN FEDERALISM: A VIEW FROM THE STATES* 97, 135-36 (1966) (exemplifying an early use of principle (iv)). The statistical techniques available in the 1960s would not have allowed Professor Elazar to undertake the type of regression analysis reported in Part III(D) of the instant Article.

Article, and the fourth principle, which follows from the three that precede it, is the focus of the Article.

Several illustrations can be given in support of the fourth principle, i.e., the principle that law evolves in response to large-scale forces that alter the properties of society. These illustrations rely on studies (including, when available, quantitative data) that concern a long time interval prior to the change in law under consideration. Shifts that occur in the concepts and doctrines of law can be traced in most instances to change in societal properties that began much earlier and that occurred gradually.

#### A. *Sex Roles*

The first illustration is the manner in which American law during the nineteenth and twentieth centuries treated the biological trait of sex. In 1872, the United States Supreme Court, with just one dissenting justice, ruled that a state could deny a woman a license to practice law even if she were eligible for a license in a state where she had formerly resided.<sup>7</sup> The Court deferred to the state's police power, under which states regulate occupations, and concluded that an inconsistency between states in the requirements for admission to the bar does not nullify the requirements of the more restrictive state, even though the restriction involves the sex of the applicant and the applicant had resided in a less-restrictive state. Notably, three justices, concurring in the decision, explained the ruling with their view that:

The natural and proper timidity and delicacy which belongs to the female sex evidently unfits it for many of the occupations of civil life. The constitution of the family organization, which is founded in the divine ordinance, as well as in the nature of things, indicates the domestic sphere as that which properly belongs to the domain and functions of womanhood.<sup>8</sup>

A full century would pass before Supreme Court jurisprudence on sex-based differences in government policy underwent substantial change. Since the 1970s, the Court has required government to justify policies that treat women differently than men<sup>9</sup> and to do so with a rationale that is "ex-

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7. *Bradwell v. State*, 83 U.S. 130, 139 (1872). See generally Caroline Goddard & Gwen Hoerr McNamee, *Myra Colby Bradwell*, in *BAR NONE: 125 YEARS OF WOMEN LAWYERS IN ILLINOIS: EIGHT WOMEN LAWYERS IN ILLINOIS 3-7* (Gwen Hoerr McNamee ed., 1998).

8. *Bradwell*, 83 U.S. at 141 (Bradley, J., concurring). A similar view appears in a majority opinion of the Court rendered in 1908 on a state statute that limited the number of hours a woman, but not a man, could work during a twenty-four hour period. See *Muller v. Oregon*, 208 U.S. 412, 421-22 (1908).

9. *United States v. Virginia*, 518 U.S. 515, 532-34 (1996).

ceedingly persuasive.”<sup>10</sup> However, social science research indicates that the shift in Supreme Court doctrine on gender just mirrored societal change in the state of sex roles<sup>11</sup> and that the Court accepted gender egalitarianism only after sex equality had markedly increased.<sup>12</sup>

Unfortunately, the scholarship of professionals in the field of law generally rests on the often implicit assumption that law molds society and that society has no more than a small effect on the content of law. As a result, the impact of societal conditions on law has been largely ignored, and not surprisingly, there is a dearth of quantitative research on the hypothesis that jurisprudence on the sex trait is tied closely to societal conditions. The macrosociological approach I advance challenges the prevailing assumption that law shapes social conditions. In my approach, law is a mechanism that facilitates the operation of society, and the concepts and doctrines used by the law of a society will necessarily be in harmony with the properties of the society. Often, if not typically, this harmony will require time to develop after societal conditions change, but eventually the concepts and doctrines of law must be congruent with societal conditions if law is to remain a viable institution of society. Thus, American law on gender evolved in response to change in sex roles and reflected the nature of these roles.

I turn now to two additional topics that illustrate the proposition that law is rooted in societal conditions.

#### *B. The Investment Company Act and the Concept of “Person”*

The Investment Company Act (“Act”),<sup>13</sup> which Congress adopted in 1940,<sup>14</sup> governs vehicles in the United States that (i) issue and sell securities to investors and (ii) invest the assets obtained from the sale of their securities in securities issued by others, which are usually business entities, governments, and/or government agencies. Because the Act is the basis for the regulation of mutual funds by the Securities and Exchange Commission,<sup>15</sup> it is a prominent aspect of law pertinent to finance in the United

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10. *Id.* at 533; *accord* Nev. Dep’t of Human Res. v. Hibbs, 538 U.S. 721, 728-30, 740 (2003) (holding constitutional a federal statute that, in banning sex-based employment discrimination, removed the sovereign immunity of states that engaged in such discrimination).

11. LARRY D. BARNETT, LEGAL CONSTRUCT, SOCIAL CONCEPT 50-55 (1993).

12. *Id.* at 52-55. Between 1910 and 1990, the largest decadal decline in sex segregation in occupations occurred from 1930 to 1940. *See* Kim A. Weeden, *Revisiting Occupational Sex Segregation in the United States, 1910-1990: Results from a Log-Linear Approach*, 35 DEMOGRAPHY 475, 480 index A (1998). Notable decreases in such segregation took place in two subsequent decades (1940 to 1950 and 1960 to 1970), but these decreases were much smaller in magnitude than the decline between 1930 and 1940. *See id.*

13. 15 U.S.C. § 80a (2006).

14. Act of Aug. 22, 1940, ch. 686, title 1, 54 Stat. 789 (1940).

15. 15 U.S.C. § 80a-37 (2006). The Securities and Exchange Commission defines a mutual fund as an open-end management investment company, i.e., as an investment

States and significant to the welfare of the American public. An indicator of the societal importance of mutual funds is that in 2006 mutual funds managed net assets totaling \$10.4 trillion, and their investors included almost half (48%) of all households in the country.<sup>16</sup>

As specified in Section 3 of the Act, an investment company must *inter alia* be an “issuer,”<sup>17</sup> and given the definition of issuer in Section 2 of the Act, an issuer must be a “person.”<sup>18</sup> Therefore, the conceptualization of person is fundamental to an investment company: an investment vehicle cannot be an investment company unless it is a person. Of relevance here, the Act defines a person to include a “company,”<sup>19</sup> and by doing so, Congress placed entities—i.e., artificial persons—within the scope of the Act.

By encompassing an artificial being, is the Act’s definition of person consistent with the way society at large employs the word? This question is important because my thesis contends that the meaning of concepts in law is compatible with their meaning in the general population. Research in etymology suggests that, in referring to artificial beings, the definition of person in law was preceded by a similar definition in society. The word *person* came into English from the Old French word *persone*, which in turn was derived from the Latin word *persona*.<sup>20</sup> Before the fourteenth century ended, the English concept of person referred not only to a human being but also to “[a] character sustained or assumed in a drama or the like, or in actual life; part played; hence function, office, capacity.”<sup>21</sup> The latter meaning can include fictionalized characters, and by extending the word *person* to such characters, the English language abstracted artificial beings from interpersonal activities and recognized artificial beings as separate from the human beings who were involved in these activities.

Prior to the fifteenth century, therefore, English as a language possessed the ability to conceptualize an intangible dimension of human interaction

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company that issues securities redeemable by the company. Disclosure of Proxy Voting Policies and Proxy Voting Records by Registered Management Investment Companies, Investment Company Act Release No. IC-25922, 68 Fed. Reg. 6564, 6565 n. 6 (Feb. 7, 2003); see 15 U.S.C. §§ 80a-2(a)(32), 80a-4, 80a-5(a).

16. INVESTMENT COMPANY INSTITUTE, 2007 INVESTMENT COMPANY FACT BOOK 58, 95 (47th ed. 2007), available at <http://www.icifactbook.org> (including net assets of money market funds in total net assets of mutual funds).

17. 15 U.S.C. § 80a-3.

18. *Id.* § 80a-2(a)(22) (defining issuer as “every person who issues or proposes to issue any security, or has outstanding any security which it has issued”).

19. 15 U.S.C. § 80a-2(a)(28) (2000) (defining person as “a natural person or a company”); 15 U.S.C. § 80a-2(a)(8) (2000) (defining company to include corporations and partnerships).

20. WEBSTER’S DICTIONARY OF WORD ORIGINS 353-55 (1995).

21. 11 OXFORD ENGLISH DICTIONARY 596-97 (J.A. Simpson & E.S.C. Weiner eds., 2d ed. 1989) (using definition I.1); see also Oxford English Dictionary, [www.oed.com](http://www.oed.com) (search “find word” for “person;” then select “person, n.,” then follow “Date Chart” hyperlink) (showing dates of meaning usage in English literature).

such as business arrangements and to treat this dimension as distinct from the human participants in the arrangement. Because the idea of an artificial person had become possible in the English language, a necessary condition existed for English law to recognize this type of person—including what we call a corporation and a partnership.<sup>22</sup> Notably, it was in the fifteenth century that corporations and partnerships were brought within the definition of person in the law of England.<sup>23</sup> Artificial beings thus appeared in the lexicon of English law only after they appeared in the English language, and the sequence is not simply coincidence. Business arrangements that today would be labeled partnerships, companies, and guilds had become an important element in the economy of England well before the fifteenth century began.<sup>24</sup> The experience of society is the impetus for the emergence and meaning of concepts,<sup>25</sup> and the nature of economic activity required artificial persons to be part of the language of England and of its law.<sup>26</sup>

When American law included artificial beings within the definition of person, therefore, it followed a long-established practice<sup>27</sup> and accepted a meaning for the word that had already been adopted outside the institution

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22. Because they are accepted by law, corporations and partnerships are logically characterized as artificial persons that *result from* fictionalizing rather than as artificial persons that *are* a fiction. However, the judiciary does not necessarily take this approach. “If [a corporation] is a fiction it is a fiction created by law with intent that it should be acted on as if true. The corporation is a person.” *Klein v. Bd. of Tax Supervisors*, 282 U.S. 19, 24 (1930).

23. WEBSTER’S DICTIONARY OF WORD ORIGINS, *supra* note 20, at 354; Beth Stephens, *The Amoralty of Profit: Transnational Corporations and Human Rights*, 20 BERKELEY J. INT’L L. 45, 54 (2002).

24. SHEPARD BANCROFT CLOUGH & CHARLES WOOLSEY COLE, *ECONOMIC HISTORY OF EUROPE* 56, 75, 148 (1941); A. B. Hibbert, *The Economic Policies of Towns*, in 3 *CAMBRIDGE ECONOMIC HISTORY OF EUROPE* 157, 170, 190-95 (M.M. Postan & E.E. Rich eds., 1965); see Shael Herman, *Trusts Sacred and Profane: Clerical, Secular, and Commercial Uses of the Medieval Commendatio*, 71 *TUL. L. REV.* 869, 891-94 (1997); R. de Roover, *The Organization of Trade*, in 3 *CAMBRIDGE ECONOMIC HISTORY OF EUROPE* 42, 113 (M.M. Postan & E.E. Rich eds., 1965).

25. S. I. HAYAKAWA, *LANGUAGE IN THOUGHT AND ACTION* 11-14 (2d ed. 1964).

26. *Cf.* Sylvia L. Thrupp, *The Gilds*, in 3 *CAMBRIDGE ECONOMIC HISTORY OF EUROPE* 230, 231-32, 244 (M. M. Postan & E.E. Rich eds., 1965) (describing the development of occupational guilds in England during the late thirteenth century: “[t]heir organization was important . . . in bringing more formal deliberation to bear on the shaping of the law and custom and on the administrative procedures through which orderly relations were maintained among buyers and sellers”).

27. *Bank of the United States v. Deveaux*, 9 U.S. (5 Cranch) 61, 88 (1809).

As our ideas of a corporation, its privileges and its disabilities, are derived entirely from the English books, we resort to them for aid in ascertaining its character. It is defined as a mere creature of the law, invisible, intangible, and incorporeal. Yet, when we examine the subject further, we find that corporations have been included within terms of description appropriated to real persons.

*Id.* See generally Franklin A. Gevurtz, *The Historical and Political Origins of the Corporate Board of Directors*, 33 *HOFSTRA L. REV.* 89 (2004) (outlining the historical antecedents of boards of directors of corporations).

of law. However, if the theoretical framework employed in this Article accounts for the concepts used by law, the word person is only illustrative of a general principle, namely, that all concepts and rules of law develop within and are molded by the social system and culture in which the law is embedded. This principle accounts for abstractions from interpersonal relationships involving economic activity and the acceptance by law in the United States of artificial beings as persons: corporations and partnerships are, and long have been, central to the U.S. economy,<sup>28</sup> indicating that these forms of business organization have been an important, if not essential, aspect of U.S. society.

### C. Age of Majority

For a macrosociological theory of law, a compelling topic is the age of majority, i.e., the age at which society ceases to define an individual as a child and confers all of the rights, and imposes all of the duties, of adulthood. The topic is important sociologically for two related reasons. First, age, like gender, is a factor that organizes social life in every technologically advanced society, including the United States.<sup>29</sup> Second, the age of

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28. Business receipts—data on which are available for corporations, partnerships, and nonfarm proprietorships—evidence the economic importance of corporations and partnerships in the United States. Of all receipts for the three types of business organization combined, corporations and partnerships have accounted for more than ninety percent in recent years. Calculated from U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 2006 (125th ed. 2005), at table 726, available at <http://www.census.gov/prod/2005pubs/06statab/business.pdf>

Unfortunately, data that use a consistent definition of proprietorship over a long period of time are unavailable. Corporations were not a customary form of conducting business in the United States before 1850. See William W. Bratton, Jr., *The New Economic Theory of the Firm: Critical Perspectives from History*, 41 STAN. L. REV. 1471, 1485 (1989). Sole proprietorships, too, seem not to have been the norm prior to 1850. Rather, businesses at this time were predominantly partnerships. LAWRENCE M. FRIEDMAN, A HISTORY OF AMERICAN LAW 130 (3d ed. 2005). Nonetheless, corporations were being formed in the decades preceding 1850, usually by special acts of state legislatures. William C. Kessler, *Incorporation in New England: A Statistical Study, 1800-1875*, 8 J. ECON. HIST. 43, 45-47, 50 (1948). Notably, the business corporations in existence during this period “tended to function in vital, sensitive parts of the economy, such as banking and transportation. They tended to be the largest economic organizations and concentrations of economic power.” Stephen A. Siegel, *Understanding the Nineteenth Century Contract Clause: The Role of the Property-Privilege Distinction and “Takings” Clause Jurisprudence*, 60 S. CAL. L. REV. 1, 68 (1986). The economy of the United States, therefore, is likely to have been dominated by corporations and/or partnerships almost since the nation began. See JAMES WILLARD HURST, THE LEGITIMACY OF THE BUSINESS CORPORATION IN THE LAW OF THE UNITED STATES, 1780-1970, at 14-18 (1970).

Law manifests the pivotal economic function of artificial beings both in legislation (e.g., state statutes on corporations and partnerships) and in judicial opinions. See *Marshall v. Balt. & Ohio R.R. Co.*, 57 U.S. (16 How.) 314, 327 (1850) (explaining that corporations exist because “[t]he necessities and conveniences of trade and business require that [natural persons] . . . should act by representation, and have the faculty of contracting, suing, and being sued in a factitious or collective name”).

29. Gunhild O. Hagestad & Peter Uhlenberg, *The Social Separation of Old and Young: A Root of Ageism*, 61 J. SOC. ISSUES 343, 344-47 (2005).

majority provides a salient line in the American social system. Specifically, for persons who do not suffer from a physical or psychological disability, the line separates individuals deemed dependent by society from individuals deemed independent.<sup>30</sup> Given its societal importance, the age of majority is designated by law, and “[y]oung people eagerly anticipate their legal ‘adulthood.’ At the age of majority, our society puts them on notice that they are assuming an array of rights and responsibilities which they never had before.”<sup>31</sup>

In examining the age of majority designated by law, I will limit myself to the forty-eight states in the continental United States. I exclude Alaska and Hawaii because I consider a period that extends to the start of the twentieth century, and Alaska and Hawaii were not states until the end of the sixth decade of that century.<sup>32</sup> In addition, I omit all non-state jurisdictions. Thus, the District of Columbia is excluded along with non-state jurisdictions located outside the continental United States, such as Puerto Rico, Guam, and the Virgin Islands.<sup>33</sup>

The table in the Appendix to this Article summarizes state law on the age of majority. Column 3 of the table shows, by state, the age of majority that was in force in the 1990s. Column 4 specifies the year in which the legislature of each state approved the age in column 3, and column 2 gives the age of majority that preceded the age in column 3. In reviewing the table, the reader should keep two points in mind. First, the last column specifies the year in which the legislature approved the age of majority that applied in the state during the 1990s, but the year of legislative approval may not have been the first year that the age of majority was in effect. Some states did not implement the revised age of majority until the year following its approval by the legislature. Because my interest is whether law setting the age of majority responds to its social environment, the point at which a law-making body accepts a new age of majority seems more significant than the point at which government officially implements it. Second, the legislation altering the age of majority may have amended an existing statute or it may have altered the common law, i.e., doctrine in court decisions. Under the common law, the age of majority was twenty-one.<sup>34</sup>

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30. Sy Moskowitz, *American Youth in the Workplace: Legal Aberration, Failed Social Policy*, 67 ALB. L. REV. 1071, 1081-82 (2004).

31. *Schwan v. Riverside Methodist Hosp.*, 452 N.E.2d 1337, 1339 (Ohio 1983).

32. Proclamation No. 3269, 24 Fed. Reg. 81 (1959) (declaring Alaska a state); Proclamation No. 3309, 24 Fed. Reg. 6868 (1959) (declaring Hawaii a state).

33. From 1960 to 1980, these jurisdictions accounted for just 1.8% of all residents of areas that were under U.S. sovereignty. Calculated from U.S. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES: 1985, 12 Table 12, 826 Table 1451 (105th ed. 1984), available at <http://www.census.gov/prod/www/abs/statab.html>.

34. HOMER H. CLARKE, JR., *THE LAW OF DOMESTIC RELATIONS IN THE UNITED STATES* 309 (2d ed. 1988).

A review of the table in the Appendix yields a number of conclusions. Of greatest importance, states generally reduced the age of majority to eighteen, or in a few instances to nineteen, during a relatively short time span, viz., in the first half of the 1970s. Additionally, this period witnessed the elimination of different ages of majority for males and females by states that had such differences. However, states whose age of majority contained a gender distinction were few in number, and all but one of these states (Illinois) had small populations.<sup>35</sup> Gender differences in the age of majority had thus largely disappeared prior to the 1970s. Moreover, change in statutory law preceded rather than followed the emergence of constitutional law on the subject. In 1975, the U.S. Supreme Court concluded that, for purposes of child support, a gender-based distinction in the age of majority violates the equal protection guarantee of the Constitution,<sup>36</sup> but when the Court announced its decision in April 1975, the nine states with a different age of majority for women and men had eliminated the distinction.<sup>37</sup> The age of majority, therefore, was a product of the legislative process, not the judicial process.

Whether new law is developed by legislatures or by courts (or by executive-branch agencies), however, is not of central concern to my thesis. As an institution, law must aid the operation of its society in the long run, and through legislation, judicial action, or agencies of the executive branch, the doctrines of law will come to reflect the character of the social system and the forces shaping it. Let me accordingly attempt to identify the forces that contributed to reducing the age of majority in the early 1970s. Since the reduction occurred in most states during a short span of time, the forces that were involved evidently operated on a national scale and affected much of the population to roughly the same degree. But what social forces were at work? One of them, I believe, was the changing age structure of the United States that resulted from the baby boom after World War II and the historical context preceding the boom. Specifically, because of low levels of fertility before the war, especially during the Depression of the 1930s, the post-war baby boom created a large bulge in the demographic

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35. U.S. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES: 1998, 28 Table 26 (118th ed. 1998), available at <http://www.census.gov/prod/www/abs/statab.html>.

36. *Stanton v. Stanton*, 421 U.S. 7, 17 (1975) (suggesting twice that its holding applied only in "the context of child support").

37. *Stanton v. Stanton*, 517 P.2d 1010 (Utah 1974) (upholding the different age of majority for men and women), *rev'd*, 421 U.S. 7 (1975) (decided April 15, 1975). The U.S. Supreme Court announced its ruling in *Stanton* on April 15, 1975. *Id.* Two of the nine states, Arkansas and Utah, eliminated the sex difference in their age of majority in 1975, but both states acted before April 15: a gender-neutral age of majority was approved by the Utah legislature on March 24, 1975 and by the Arkansas legislature on April 7, 1975. Act of Apr. 7, 1975, No. 892, 1975 Ark. Acts 2321; Act of Mar. 24, 1975, ch. 39, § 15-2-1, 1975 Utah Laws 121. In adopting a uniform age of majority, the Utah legislature thus was not responding to an adverse court decision.

structure of the population, and as the passage of time moved the bulge into successive age categories, these age categories seriatim perceptibly and rapidly increased in relative size. During the three decades after the war, therefore, the salience and significance of younger age groups rose dramatically. This demographic situation probably contributed to the collective decision during the early 1970s to reduce the age of majority. Research on other topics suggests that the age makeup of the U.S. population has had distinct effects,<sup>38</sup> and the changing age distribution of the country after World War II was likely to have been a key factor altering the age of majority in the 1970s.

The historical context and demographic dimensions of the baby boom may be understood with data on annual births. Estimates of fertility in the United States as a whole are available by individual year starting in 1909. From 1909 until the mid-1920s, the crude birth rate (the number of births per one-thousand members of the population) was consistently above twenty-five. Subsequently, the rate declined, reaching a low of 18.4 in the mid-1930s, and stayed in a relatively narrow range until World War II ended in 1945. Once World War II was over, births rose: from 1946 to 1959, the crude birth rate was between 24.1 and 26.6.<sup>39</sup> The comparatively low birth rate during the decade-and-a-half before the war, together with the materially higher birth rate after the war, had a dramatic effect on the age structure of the population.

If a society is to avoid upheaval, it must absorb its youth socially as well as economically. Since my goal is to ascertain whether the post-World War II baby boom helps to explain the reduction in the age for adult status during the first half of the 1970s, the ages directly affected by the change—viz., eighteen, nineteen, and twenty—necessarily are included in my analysis. In addition, persons close to their eighteenth birthday presumably contributed to lowering the age of majority, because in the 1960s they were relatively numerous and their share of the population was growing rapidly. The appreciable expansion of the segment of the population that was approaching age twenty-one—an expansion attributable to the baby boom fol-

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38. See Guy N. Burkhardt, *Population Determinants of Social Change: An Analysis of the Age Composition of the United States from 1920 to 1983* (1988) (unpublished Ph.D. dissertation, Portland State University) (on file with Widener University School of Law Delaware Campus library); see also Henry M. McMillan & Jerome B. Baesel, *The Macroeconomic Impact of the Baby Boom Generation*, 12 J. MACROECONOMICS 167 (1990) (finding that the age composition of the U.S. population affected real interest rates, income, inflation, and unemployment); Michael D. Mumford et al., *Age-Related Changes in the Likelihood of Major Contributions*, 29 INT'L J. AGING & HUM. DEV. 171, 175 (1989); Raymond K. Oldakowski, *The Influence of Population Change on Municipal Fiscal Policy* (Aug. 1987) (unpublished Ph.D. dissertation, University of Illinois at Urbana-Champaign) (on file with author) (finding that age structure and other population characteristics generate changes in municipal fiscal policy).

39. NATIONAL CENTER FOR HEALTH STATISTICS, *VITAL STATISTICS OF THE UNITED STATES: 1993, VOL. I, NATALITY*, at Table 1-1 (1999).

lowing World War II and occurring in the decade-and-a-half prior to 1970—confronted society with the necessity of assimilating a large group that would soon be adults and was probably a major source of pressure on the American social system.

Given these theoretical considerations, my focus is on the fraction of the population fifteen to twenty years of age and the manner in which this fraction changed over time. Striking shifts in this fraction may be infrequent in the history of a society, but when they occur, they have the ability to create conspicuous social and economic problems. Figure 1 shows the percentage of the U.S. population that was fifteen to twenty years old each year from 1900 to 1980.<sup>40</sup> Particularly important is the period from 1940 to 1970: the percentage declined by more than one-fourth between 1940 and 1954 (from 11.2% to 7.9%) and then rose by one-half between 1955 and 1976 (from 7.9% to 11.8%), with most of the rise occurring before 1970. Thus, during the three decades that preceded the reduction of the age of majority to eighteen, there was a sharp decline and rebound in the demographic presence of the age group most directly affected by whether majority was attained at age twenty-one or at age eighteen. The rapidity and magnitude of the rebound undoubtedly increased the salience of youth, and the prominence of young persons in the population is likely to have promoted law that reduced the age for adulthood.

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40. The percentages were calculated for each year from 1900 through 1980. Percentages are based on the resident population of the forty-eight states for 1900-1939 and on the total population for 1940 and later years. Alaska and Hawaii are included by the Census Bureau in total population starting in 1950. U.S. BUREAU OF THE CENSUS, ESTIMATES OF THE POPULATION OF THE UNITED STATES, BY SINGLE YEARS OF AGE, COLOR, AND SEX: 1900 TO 1959, CURRENT POPULATION REP., Series P-25, No. 311 (1965); U.S. BUREAU OF THE CENSUS, ESTIMATES OF THE POPULATION OF THE UNITED STATES, BY AGE, SEX, AND RACE: APRIL 1, 1960 TO JULY 1, 1973, CURRENT POPULATION REP., Series P-25, No. 519 Table 1 (1974); U.S. BUREAU OF THE CENSUS, PRELIMINARY ESTIMATES OF THE POPULATION OF THE UNITED STATES, BY AGE, SEX, AND RACE: 1970 TO 1981, CURRENT POPULATION REP., Series P-25, No. 917 Table 1 (1982).

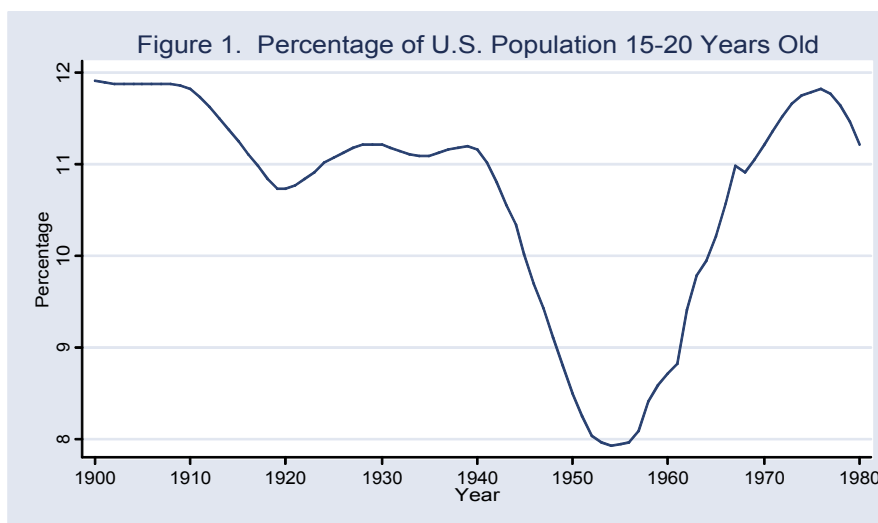


Figure 1 also shows that the percentage of the population fifteen to twenty years of age was relatively high in the early decades of the twentieth century. Why was the age of majority not reduced to eighteen at this time? One possibility is that the substantial swing after 1940 in the proportion of persons fifteen to twenty years old by itself reduced the age of majority to eighteen. Under this hypothesis, the magnitude and speed of the change in the proportion was decisive. A second possibility is that the relatively large percentage of fifteen to twenty year olds in the population during the second half of the twentieth century (rather than the volatility of the percentage) acted in conjunction with one or more other factors that were present at the time—factors that did not exist or were not adequate in strength at the start of the twentieth century. According to the second hypothesis, the level of the percentage, and not its change, was critical, but the level of the percentage was unable by itself to alter the age of majority; the presence of some other factor(s) was required. A third possibility, of course, is that the reduction of the age of majority to eighteen in the 1970s was the product of both the large pre-reduction swing in the relative size of the age group fifteen to twenty years old and at least one additional factor. Under the last hypothesis, the change in, and not the level of, the relative size of the age group combined with one or more other factors to lower the age of majority. Since social phenomena are typically complex, the second and third alternatives are more plausible than the first. Thus, the age structure of the population probably did not act alone to reduce the age of majority in the 1970s.

What else may have been at work? One possible factor was the transformation that occurred during the twentieth century in the traits that American parents wanted to inculcate in their children. Specifically, inde-

pendence increased and obedience decreased as characteristics desired for children, and both changes were sizeable.<sup>41</sup> These changes may have stemmed from the large, complex, and expanding body of knowledge found in the United States, because individualism and personal autonomy become more prevalent when knowledge grows or reaches a certain threshold.<sup>42</sup> A lower age of majority is, of course, consistent with a societal emphasis on independence for youth, while a higher age of majority can be expected a priori in a social system that stresses obedience to authority.<sup>43</sup>

By way of conclusion, the reduction of the age of majority that occurred during the first half of the 1970s should be regarded as a means by which American society, through its law, adjusted to an important group. The assimilation of large, distinct groups—a process that probably happens in most social systems—has long been significant in the United States, even during the nineteenth century.<sup>44</sup> At the start of the twentieth century, immigration into the United States was appreciable, and a large part of the immigrant stream originated in central, eastern, and southern Europe.<sup>45</sup> Adaptation to and the assimilation of groups that did not share the culture of northwestern Europe—the dominant culture of the United States—were essential to the effective operation of the American social system. By the 1970s, on the other hand, cultural diversity was no longer a major problem for American society,<sup>46</sup> but the baby boom after World War II had created another substantial group, defined by age rather than culture, to which the social order needed to adjust if it was to avoid disruption. One means employed in the adjustment process was to lower the age of majority to eighteen. Law setting the age of majority was thus a societal device to facilitate a macrosociological process.

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41. Duane F. Alwin, *From Obedience to Autonomy: Changes in Traits Desired in Children, 1924-1978*, 52 PUB. OPINION Q. 33, 43 (1988).

42. BARNETT, *supra* note 11, at 22-23.

43. It is probably not coincidence that, prior to the reduction during the 1970s in the age of majority established by law, loyalty to religion also became less important in the values that American parents had for their children. See Alwin, *supra* note 41, at 43.

44. See OSCAR HANDLIN, IMMIGRATION AS A FACTOR IN AMERICAN HISTORY 1-3 (1959).

45. U.S. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES, 10 Table 5 (118th ed. 1998), available at <http://www.census.gov/prod/www/abs/statab.html>; U.S. BUREAU OF THE CENSUS, HISTORICAL STATISTICS OF THE UNITED STATES: COLONIAL TIMES TO 1970, PART I, 105-09 (Series C 89-119) (1975), available at <http://www.census.gov/prod/www/abs/statab.html> [hereinafter HISTORICAL STATISTICS].

46. See Campbell Gibson & Emily Lennon, *Historical Census Statistics on the Foreign-Born Population of the United States: 1850 to 1900*, Table 1 (U.S. Census Bureau, Population Division Working Paper No. 29, 1999), available at <http://www.census.gov/population/www/documentation/twps0029/twps0029.html> (showing that foreign-born persons comprised no less than 13.2% of the U.S. population between 1860 and 1920 but were just 4.7% of the population in 1970).

## II. KNOWLEDGE AS A SOCIETAL PROPERTY

If the sociology of law is to advance, change in law must be studied both when it happens quickly and when it happens slowly. Sudden transformations in doctrines of law may on the surface seem more important than gradual transformations because abrupt transformations are more salient. Sudden transformations are attractive topics additionally because their triggers may be easy to identify. However, inasmuch as prediction is a central goal of the scientific enterprise, abrupt shifts in law can complicate the task of social science. Two types of situations are pertinent in this regard. First, rapid shifts in law can stem from massive but aperiodic events such as natural disasters. These events are likely to prove difficult to anticipate far in advance, and the changes in law they generate, therefore, cannot readily be predicted. Second, doctrines of law can be modified suddenly by forces that develop gradually and that have their effects when thresholds are reached. The second route to abrupt change in law is probably much more common than the first, and the changes this route generates are especially hard to anticipate because there may be more than one point at which slowly building pressure will precipitate new doctrines in law. Multiple thresholds will exist when different combinations of societal properties and their interactions transform law, and multiple thresholds probably exist in every complex society.

Regardless of the speed with which novel doctrines of law arise, the properties of a social system and the forces that affect these properties must be the focus of attention if the doctrines are to be understood and their emergence is to be predicted. In a macrosociological framework, the individuals in the system—including those who participate in law-making bodies such as legislatures, agencies of the executive branch, and courts—do not account for the content of law. Rather, pervasive forces that mold the characteristics of the social system determine the decisions of these individuals with regard to the content of law,<sup>47</sup> and explanations of law that are based on personalities, even personalities of prominence and charisma, treat the institution of law superficially. The character of society and the substance of its law are not formed by individuals, but by large-scale forces that operate through the actions of individuals.

In this part of the Article, I will focus on one such force that I believe shaped the social order and doctrines of law in the United States during the twentieth century and that can be expected to remain a potent influence on

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47. Larry D. Barnett, *Law as Symbol: Appearances in the Regulation of Investment Advisers and Attorneys*, CLEV. ST. L. REV. (forthcoming 2007) (contending that in the long run the properties of society and the forces that mold these properties control the doctrines of law). I am not implying that history is governed by a master plan and moves in a preordained direction; my contention is only that certain factors precede societal change and the new concepts and doctrines of law that are generated by such change. *Id.*

U.S. law for the foreseeable future. The role of this force, however, seems not to have been fully appreciated by either social scientists or law-trained scholars. The force is the expansion of knowledge. Undoubtedly, other forces (e.g., increases in population density)<sup>48</sup> influenced the character of American society and the content of its law, but I concentrate on knowledge because I believe that it had, and will continue to have, a major impact on the United States. Perhaps in part because accumulating knowledge shaped social life for so long, its role in the social system has not received the attention it deserves. We simply have become accustomed to improvements in knowledge.

In order to show the degree to which knowledge increased over time, I begin with a quantitative measure of it. Knowledge is difficult to study because it is an abstract concept and must be operationalized. The concept of knowledge is necessarily an abstraction because knowledge assumes different forms (e.g., a chemical compound or mechanical process in manufacturing, a statistical technique for data analysis in science), and in some forms (e.g., mathematics) it is composed entirely of written signs. Being an abstract concept, knowledge is not directly observable and must be measured by its manifestations.

What indicators can be used to determine the magnitude and growth of knowledge? The question does not have an easy answer, because no single indicator or set of indicators seems to be accepted by social scientists<sup>49</sup> even though the amount of knowledge available to Americans is believed to be expanding dramatically.<sup>50</sup> The absence of a generally accepted measure or set of measures is unfortunate. The availability of a relatively simple indicator that correctly gauges the quantity of knowledge, together with long-term data on the indicator, would benefit macrosociological analyses in general and a macrosociological framework for doctrines of law in particular.

Although at present no single indicator adequately depicts the volume and expansion of knowledge in the aggregate, figure 2 shows the annual number of patents that the U.S. Patent and Trademark Office has granted for inventions.<sup>51</sup> In the United States, patents are issued for inventions, for natural plants, and for designs, but of the three, patents for inventions are

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48. BARNETT, *supra* note 11, at 23-24; Larry D. Barnett, *Population Growth, Population Organization Participants, and the Right of Privacy*, 12 FAM. L.Q. 37, 37 (1978).

49. See G. Nigel Gilbert, *Measuring the Growth of Science*, 1 SCIENTOMETRICS 9 (1978); Mumford et al., *supra* note 38, at 175.

50. Graham T.T. Molitor, *Trends and Forecasts for the New Millennium*, FUTURIST 53, 59 (Aug.-Sept. 1998).

51. The data in figure 2 are from U.S. PATENT & TRADEMARK OFFICE, U.S. PATENT ACTIVITY, CALENDAR YEARS 1790 TO THE PRESENT (2005), available at [http://www.uspto.gov/web/offices/ac/ido/oeip/taf/reports.htm#by\\_hist](http://www.uspto.gov/web/offices/ac/ido/oeip/taf/reports.htm#by_hist).

the most accurate indicator of knowledge since they are awarded for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof,” that was not obvious to a person of average skill in the field in which the invention originated.<sup>52</sup> An invention thus constitutes a technological innovation, and since technology employs knowledge, the number of patents granted for inventions over time can serve as an indicator of change in the quantity of accumulated knowledge.

In considering figure 2, the reader should keep in mind that patented inventions represent only one form of knowledge and are just a rough indicator of such knowledge. Patented inventions cannot serve as an accurate indicator of knowledge as a whole for at least two reasons: (1) an addition to knowledge may not be incorporated into a patentable invention; and (2) all patented inventions do not utilize the same amount of knowledge. The two problems are distinct. The first exists because many types of knowledge are not within the term “invention” as defined by law, and hence they cannot be patented. For example, a new measure of sex segregation in occupations<sup>53</sup> is a contribution to knowledge, but it is not patentable. Moreover, even when knowledge generates patented inventions, the quantum of knowledge used is not the same in every invention. To illustrate, less knowledge is probably required to create appliances for the home than to create drugs that treat serious diseases. Unfortunately, neither of the two problems can be corrected at the present time. The first problem could be mitigated by data on copyrights issued for scientific articles and books. However, while copyrights for scientific publications could be employed as an indicator (albeit imperfect) of advances in scientific knowledge,<sup>54</sup> long-term data on these copyrights do not exist. The second problem necessitates a technique to measure the amount of knowledge in an invention, but such a technique has yet to be devised. As a result, time-series data are unavailable on the total amount of knowledge in patented inventions.

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52. 35 U.S.C. §§ 101, 103(a) (2006).

53. See generally Weeden, *supra* note 12 (using a margin-free method to measure sex segregation in occupations in the United States from 1910 to 1990).

54. Publications such as books and articles can be copyrighted only if they are original. MARSHALL LEAFFER, UNDERSTANDING COPYRIGHT LAW § 2.07 (4th ed. 2005). Copyrighted publications in science, therefore, represent contributions to scientific principles and/or concepts.

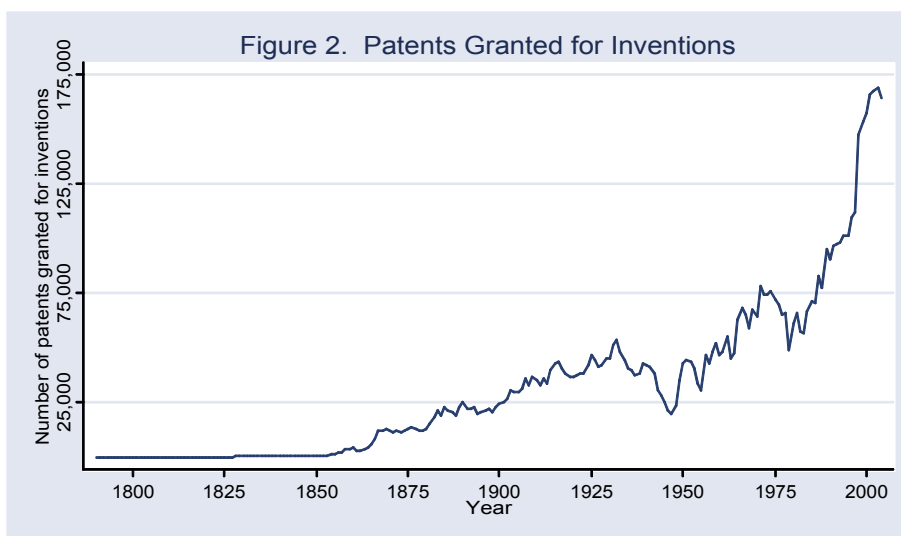


Figure 2 shows a secular rise in the number of patents granted for inventions. However, even during the periods when the number declined, knowledge continued to accumulate; the gains in knowledge simply were less in these periods than in the years that preceded them. Moreover, the intervals of decline in patent issuance are brief when viewed historically, and the discovery process is cumulative, i.e., the inventions in one year build on inventions (knowledge) from earlier years. For the last two centuries, then, knowledge expanded in the United States. Notably, the pace of the expansion accelerated starting in the mid-1980s, which may reflect developments in computer hardware and software.

A sustained increase in knowledge is likely to generate broad changes in the character of society,<sup>55</sup> and the changes resulting from this increase probably include two that are critical to understanding the content and evolution of law. The first is an increase in economic wealth. All else remaining constant, advances in knowledge add to the wealth of a society by augmenting economic productivity and permitting more efficient and/or more complete exploitation of natural resources. Wealth, in turn, allows individuals to pursue and fulfill their personal goals, i.e., wealth promotes secular individualism.<sup>56</sup> The second likely change is an increase in rationality. The progress of knowledge encourages rationality in part by producing a

55. See Patrick Nolan & Gerhard Lenski, *Technology, Ideology, and Societal Development*, 39 SOC. PERSP. 23, 33 (1996) (finding with cross-sectional data that, compared to ideology, improvements in subsistence technology had a larger effect on societies).

56. Ron Lesthaeghe, *A Century of Demographic and Cultural Change in Western Europe: An Exploration of Underlying Dimensions*, 9 POPULATION & DEV. REV. 411, 429-30 (1983).

greater understanding of events and experiences; comprehension, in turn, fosters reason. Additionally, the progress of knowledge increases rationality by enlarging the portion of the labor force that works with information<sup>57</sup> and that thus relies on intellectual rather than physical skills. Concomitantly, the progress of knowledge enlarges the number of jobs that are self-directed, i.e., that involve complex, non-methodical tasks and that are not subject to close supervision.<sup>58</sup> In short, occupations concerned with information and characterized by self-direction encompass more people as knowledge advances, and they enhance analytical abilities, i.e., reasoning, in every facet of life.<sup>59</sup> The U.S. commitment to scientific research has thus had widespread effects on American society.<sup>60</sup>

Assuming that the growth of knowledge reshapes society, in what ways did expanding knowledge alter doctrines of law in the United States during the twentieth century? The growth of knowledge undoubtedly had multiple effects, but this Article will suggest just one. Specifically, greater rationality, a consequence of knowledge growth, probably created and intensified expectations that expertise, rather than characteristics irrelevant to occupational skill and performance, would be the basis for employment-related

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57. See Clifford I. Nass, *Society as Computer: The Structure and Skill of Information Work in the United States, 1900-1980*, 92, 94 (Oct. 1986) (unpublished Ph.D. dissertation, Princeton University) (on file with Widener University School of Law Delaware Campus Library) (finding that between 1900 and 1980 the proportion of the U.S. labor force in occupations dealing with information rose by 5.5% per decade, and that in 1980 two out of five workers were engaged in these occupations).

58. MELVIN L. KOHN & KAZIMIERZ M. SLOMCZYNSKI, *SOCIAL STRUCTURE AND SELF-DIRECTION* 108 (1990).

59. See Nass, *supra* note 57, at 204 (identifying information as the primary substance of nonmanual occupations, not of manual occupations); see also Melvin L. Kohn & Carrie Schoenbach, *Class, Stratification, and Psychological Functioning*, in *WORK AND PERSONALITY* 154, 185 (Melvin L. Kohn & Carmi Schooler eds., 1983) (finding that nonmanual occupations, including white-collar workers, have a higher level of self-direction than manual, i.e., blue-collar, occupations). Additions to knowledge thus seriatim enlarge the number of nonmanual positions in an economy, increase intellectual autonomy and flexibility, and heighten reasoning. Cf. Melvin L. Kohn & Carmi Schooler, *Job Conditions and Personality: A Longitudinal Assessment of Their Reciprocal Effects*, in *WORK AND PERSONALITY* 125, 147 (Melvin L. Kohn & Carmi Schooler eds., 1983) (finding that self-direction in an occupation is associated with reduced authoritarianism and ideational conformity); KOHN & SLOMCZYNSKI, *supra* note 58, at 235 (finding that self-direction in work produces more intellectual flexibility and a less-conformist orientation to society). See generally KOHN & SCHOENBACH, *supra*, at 154 (exploring the impact of occupational self-direction and social stratification on values, orientations, and cognitive functioning).

60. See Kenneth C. Land & Fred C. Pampel, *Indicators and Models of Changes in the American Occupational System, 1947-73*, 4 *SOC. INDICATORS RES.* 1, 18-19 (1977) (finding that expenditures on science raised the mean prestige of the occupational structure in the United States between 1950 and 1973). Because professional and other white-collar occupations are highest in prestige, advances in science and hence in knowledge, which presumably resulted in part from expenditures on science, increased the prevalence of these occupations. By definition, a profession possesses a substantial quantity of complex knowledge. See Barnett, *supra* note 1, at 177 (identifying a large body of abstract concepts and complex principles as one of five attributes presently fundamental to the existence of a profession in the United States).

decisions. Evidence that such change in expectations occurred with regard to gender is the declining sex differential in compensation since the early part of the twentieth century: the disparity between American women and men in skill levels due to work experience decreased with the passage of time, and the average pay of women rose more rapidly than the average pay of men.<sup>61</sup> Indeed, the gains of women in the United States seem to be a manifestation of an apparently universal phenomenon, for economic development—a process in which new knowledge is introduced and utilized in an economy<sup>62</sup>—has been found to augment the presence of women in information-based, self-directed occupations in numerous countries.<sup>63</sup> One of the attributes of these occupations is higher income.<sup>64</sup>

Advancing knowledge, in short, enlarges the number of jobs that require intellectual skill rather than physical strength, and it produces, or at least facilitates, pressure on employers to focus their personnel practices on job skills rather than on demographic attributes. In the United States, rationality seems to have become sufficiently pervasive and intense to generate statutes that authorized the imposition of penalties on employers that use demographic characteristics such as age, race, and sex in decisions regarding current employees and applicants for employment. Antidiscrimination statutes represent one of the striking innovations in law during the last half of the twentieth century, and because they illustrate—though by no means exhaust—the doctrines of law produced by advancing knowledge, I review below the antidiscrimination statutes at the federal level that dealt with employment.<sup>65</sup>

I begin with a statute enacted by Congress in 1870 that prohibits race discrimination in contracts and that has been applied to employment contracts.<sup>66</sup> The statute originally was aimed at slavery and associated conditions,<sup>67</sup> and it was extended to employment only in the 1970s.<sup>68</sup> Insofar as it is concerned with job discrimination, therefore, the statute is a creation of

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61. See James P. Smith & Michael Ward, *Women in the Labor Market and in the Family*, 3 J. ECON. PERSP. 9, 10-11 (1989).

62. Cf. Eric A. Hanushek & Dongwook Kim, *Schooling, Labor Force Quality, and Economic Growth* 34 (Working Paper 5399, Nat'l Bureau of Economic Research 1995) (finding that national rates of economic growth rise with the level of student mastery of mathematics and science).

63. Roger Clark, *Contrasting Perspectives on Women's Access to Prestigious Occupations: A Cross-National Investigation*, 72 SOC. SCI. Q. 20, 28-29 (1991).

64. KOHN & SLOMCZYNSKI, *supra* note 58, at 133.

65. I confine myself to federal law, and exclude state law, because my focus is on the stock of knowledge of the nation as a whole. A macrosociological framework, however, is applicable at the state level. Thus, variations between states in knowledge growth and use can be expected to create differences in the content of state law.

66. Act of May 31, 1870, ch. 114, § 16, 16 Stat. 144 (codified at 42 U.S.C. § 1981 (2006)).

67. See *Long v. Ford Motor Co.*, 496 F.2d 500, 504 (6th Cir. 1974).

68. See *Johnson v. Ry. Express Agency, Inc.*, 421 U.S. 454, 459-60 & n.6 (1975).

the last part of the twentieth century.

The Equal Pay Act of 1963 was the first federal statute explicitly fashioned to combat employment discrimination.<sup>69</sup> The Act requires that, except when differential compensation is attributable to certain specified factors (e.g., a seniority program), women and men in the same establishment must receive identical compensation for work that is “equal,” that demands “equal skill, effort, and responsibility,” and that occurs under “similar working conditions.”<sup>70</sup> Congress directed the Equal Pay Act at the “ancient but outmoded belief that a man, because of his role in society, should be paid more than a woman even though his duties are the same.”<sup>71</sup> It is notable, however, that this belief had already been abandoned by Americans: in a 1954 national survey, fully eighty-seven percent of respondents approved, and just thirteen percent disapproved, of equal compensation for male and female employees with the same occupational duties.<sup>72</sup>

While the Equal Pay Act of 1963 is confined to gender and covers only compensation, the Civil Rights Act of 1964 includes a provision (Title VII) that bans discrimination involving “race, color, religion, sex, or national origin” in all facets of employment.<sup>73</sup> The aim of Title VII is to require employers, labor organizations, and employment agencies to base employment decisions on job-related qualifications and to eliminate from these decisions groundless stereotypes that have been maintained by social inertia. In addition, Title VII renders reliance on statistical differences between groups impermissible in employment decisions without a compelling justification. For example, employment decisions cannot be based on the statistically demonstrable fact that women with minor children more often have primary responsibility for child care than men with minor children.<sup>74</sup> “Title VII prohibits the use of popular stereotypes or even statistical data to attribute general group characteristics to each individual member of the group.”<sup>75</sup> Under Title VII, potential and current employees must be evalu-

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69. 29 U.S.C. § 206(d) (2006).

70. See Equal Pay Act of 1963, Pub. L. No. 88-38, 77 Stat. 56 (1963) (covering employees who are, or whose employers are, “engaged in commerce or in the production of goods for commerce”). The Act was in force as of 1964. § 4, 77 Stat. 57.

71. S. REP. NO. 88-176, at 1 (1963).

72. 2 GEORGE H. GALLUP, THE GALLUP POLL: PUBLIC OPINION 1935-1971, at 1240 (William P. Hansen & Fred L. Israel eds., 1972).

73. Pub. L. No. 88-352, 78 Stat. 241, 253-66 (1964) (codified at 42 U.S.C. §§ 2000e to 2000e-15 (2006)). The Civil Rights Act was in force as of 1965. § 716, 78 Stat. 266. The Act applied to employers having an impact on interstate commerce and a minimum of twenty-five employees each working day during at least twenty calendar weeks in either the current or the preceding calendar year. § 701, 78 Stat. 253. The Act also prohibited labor organizations and employment agencies from discriminating. § 703, 78 Stat. 255.

74. See *Phillips v. Martin Marietta Corp.*, 400 U.S. 542, 543 (1971) (per curiam).

75. *Mitchell v. Mid-Continent Spring Co.*, 583 F.2d 275, 281 (6th Cir. 1978) (internal quotation marks omitted), *cert. denied*, 441 U.S. 922 (1979).

ated individually using criteria that are pertinent to job performance.

Because it encompassed the entire employment relationship and multiple demographic attributes and also established a governmental agency (the Equal Employment Opportunity Commission) to deal with discrimination covered by Title VII,<sup>76</sup> the Civil Rights Act of 1964 has been the most prominent federal legislation to date on employment discrimination. The Civil Rights Act of 1964 did not, however, include all demographic characteristics important to the structure of American society. In particular, it did not cover age, an omission that Congress eliminated three years after enactment of Title VII when it adopted legislation to prohibit discrimination in employment against persons forty to sixty-five years old. Like Title VII, the Age Discrimination in Employment Act of 1967 (“ADEA”) extends to all aspects of employment, with exceptions for some types of employers,<sup>77</sup> and was designed to suppress “inaccurate and stigmatizing stereotypes” about age.<sup>78</sup> Under both statutes, decisions that affect employment must rely on factors relevant to job performance and on evaluations of individuals in terms of these factors.

The next, and last, major federal statute on employment discrimination was adopted more than two decades later. In 1990, Congress approved the Americans with Disabilities Act (“ADA”) in order to prevent employers, labor organizations, and employment agencies from engaging in unwarranted discrimination against persons who have, or who are thought to have, physical or psychological disabilities.<sup>79</sup> Like other legislation dealing with employment discrimination, the ADA was designed to require that job-related decisions be based on the qualifications of current and potential employees, and it reflected the dissatisfaction of society with preconceptions that preclude evaluations of individuals in terms of these qualifications.<sup>80</sup> In enacting the ADA, “Congress acknowledged that society’s ac-

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76. See Pub. L. No. 88-352, §§ 705-709, 78 Stat. 241, 258 (1964).

77. See Pub. L. No. 90-202, 81 Stat. 602 (1967) (codified at 29 U.S.C. § 623 (2006)). The ADEA was in force as of 1968 and banned age discrimination by employers, employment agencies, and labor organizations. *Id.* The term “employer” has identical definitions in the ADEA and in Title VII but somewhat different exceptions. Although the ADEA originally did not cover persons who were older than sixty-four, a maximum age was subsequently removed for all but a few occupations. Pub. L. No. 95-256, § 3, 92 Stat. 189 (1978); Pub. L. No. 99-592, §§ 2-3, 100 Stat. 3342 (1986).

78. *Hazen Paper Co. v. Biggins*, 507 U.S. 604, 610-11 (1993).

79. Pub. L. No. 101-336, 104 Stat. 327 (1990) (codified at 42 U.S.C. §§ 12101-17 (2006)). The ADA, which was in force as of 1992, covered the disabled individual, i.e., one who possesses “a physical or mental impairment that substantially limits one or more of the major life activities . . . or [who is] regarded as having such an impairment.” *Id.* Employers were subject to the ADA, with some exceptions, if they had an impact on interstate commerce and a minimum of fifteen employees each working day during at least twenty calendar weeks in either the present or the prior calendar year. *Id.* §§ 3(2), 101(5), 108.

80. In 1977, i.e., thirteen years before the ADA, a national sample of adults in the United States was asked whether the government should enact legislation designed to

cumulated myths and fears about disability and disease are as handicapping as are the physical limitations that flow from actual impairment.”<sup>81</sup>

The four statutes described above—the Equal Pay Act of 1963, Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act of 1967, and the Americans with Disabilities Act of 1990—comprise the main innovations in federal public policy concerned with employment discrimination in the United States and serve as the central tools of the institution of law at the national level for promoting social and economic justice in employment. Indicative of the importance of these statutes to American society is that the number of employers subject to the statutes has generally been expanded over time.<sup>82</sup> Of particular relevance to a macrosociological framework is that the four statutes, as well as related federal legislation,<sup>83</sup> confer an identifiable character on the period from 1963 to 1990. By differentiating the period, the statutes form a unitary sociological phenomenon, and their enactment is presumptively not fortuitous.

In conclusion, novel doctrines are a core concern in a macrosociological approach to law, and an especially important macrosociological topic is any novel doctrine that several major pieces of legislation incorporate. Part II of this Article has focused on the impact of a growing stock of knowledge and has linked this factor to a salient development in recent law in the United States—federal antidiscrimination legislation. However, if the properties of a society have effects that are broad and fundamental, the substantial increase in knowledge is likely to have been responsible for new doctrines of law on a variety of subjects. In Part III below, I present evidence that additions to knowledge reshaped law on abortion by increasing the prevalence and lengthening the duration of schooling among young women.<sup>84</sup>

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ensure equal job rights for individuals who are physically handicapped. Four out of five respondents endorsed the enactment of such legislation. CBS NEWS & NY TIMES, July 19-25, 1977, accession no. 20297, available at LEXIS, R POLL File.

81. *Sutton v. United Air Lines, Inc.*, 527 U.S. 471, 489 (1999).

82. *See, e.g.*, Equal Employment Opportunity Act of 1972, Pub. L. No. 92-261, § 2, 86 Stat. 103 (1972); Fair Labor Standards Amendments of 1974, Pub. L. No. 93-259, § 28, 88 Stat. 55, 74 (1974); Congressional Accountability Act of 1995, Pub. L. No. 104-1, 109 Stat. 3 (1995).

83. *See, e.g.*, Rehabilitation Act of 1973, Pub. L. No. 93-112, § 504, 87 Stat. 355, 394 (1973).

84. *See* Richard Rubinson & John Ralph, *Technical Change and the Expansion of Schooling in the United States, 1890-1970*, 57 SOC. EDUC. 134 (1984) (finding that advances in technology boosted enrollments in primary and secondary schools in the United States). However, Professors Rubinson and Ralph did not investigate whether advances in technology affected the likelihood of attending college. A study of four countries in Western Europe concluded that economic development between 1900 and 1985 increased the rate at which women enrolled in institutions of higher education. Joan Mary Hermsen, *Gendering Higher Education Expansion: Explaining the Growth in Women's University Enrollment Rates in Britain, France, Germany, and Italy During the Twentieth Century* 41, 49, 111-12 (1997) (unpublished Ph.D. dissertation, University of Maryland at College Park) (on file with author). Economic development requires the application of knowledge. Because economic development promoted

## III. LAW AND ABORTION IN THE UNITED STATES

Because law on abortion underwent a transformation during a relatively short period in the United States, the subject of abortion affords an opportunity not only to identify societal properties and forces shaping law but also to call attention to an important point in the macrosociological thesis that I am advancing. If the concepts and principles that dominate law are attributable to the society in which they are embedded, the distinction between branches of government—the legislature, the executive branch, and the judiciary—is not of major importance, and prevailing doctrines of law do not depend on whether they are in statutes enacted by legislatures, in regulations issued by administrative agencies, or in decisions rendered by judicial bodies. In a macrosociological perspective, broad forces that determine the properties of society shape the governing doctrines of law, and the doctrines respond in the long run to these forces/properties in a manner that protects the equilibrium of the society and maintains, or increases, commitment to the society on the part of its participants. One of the branches of government will supply a doctrine of law that a society needs, because a society is a system and because law is a component that contributes to the system. Thus, merely identifying the branch of government that produces a given doctrine is insufficient for understanding why the doctrine exists. An inquiry of greater depth is necessary. The branches of government form a dependent, not an independent, variable in my framework, and the branch that happens to originate a particular doctrine is a fact requiring an explanation, not a fact providing one.<sup>85</sup>

In asserting that the branch of government from which any particular doctrine emanates cannot explain the content and evolution of law, I am implicitly challenging at least one widely accepted belief, namely, that the political process is an important factor determining doctrines of law. I reject this assumption at the same time I concede that politics is a precursor of law. The role of politics differs across the branches of government—a difference that is particularly apparent between the judicial branch, where politics operates through the appointment and election of judges, and the legislative and executive branches, where politics operates not just through the election of officeholders but also through lobbying efforts directed at them. In my framework, however, political activity is merely the vehicle by which societal needs and values shape doctrines of law, and political analyses—despite their popularity—are not useful for understanding either

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college attendance in four European nations, it also is likely to have done so in the United States.

85. Barnett, *supra* note 11, at 168 (suggesting that: (1) that the branches of government are mechanisms acting in response to their social environment; and (2) that, to be useful, a theory focusing on doctrines in law must explain why one branch reacts rather than another).

why certain concepts and principles of law are dominant in a society at a given point in time or why such concepts and principles change over time. The political process in a viable social system, I contend, primarily functions to communicate the requirements of society to the institution of law. Thus, social science research has found that the expenditure patterns and legislative subjects of government are not affected materially by whether the persons comprising the governing elite are replaced or retained.<sup>86</sup> Societal imperatives, not political considerations, drive the domestic policies of government.

The preceding points are pertinent to law governing the use of abortion, and I therefore turn to a review of the change that occurred in this law during the late 1960s and early 1970s.

#### *A. Change in Law Regulating Abortion, 1967-1973*

*Roe v. Wade*,<sup>87</sup> the January 1973 decision of the U.S. Supreme Court that held unconstitutional government action intended to impose severe restrictions on access to abortion, has been regarded not just as a milestone in the rights that law accords women,<sup>88</sup> but more broadly as a landmark in the history of constitutional interpretation.<sup>89</sup> The salience of *Roe*, however, diverts attention from an important forerunner that occurred at the state level. Specifically, in the years immediately preceding *Roe*, many states, either through legislation or court decision, substantially liberalized their law on access to therapeutic abortion. The liberalization of state law began in 1967, and by 1972, sixteen states in the coterminous United States had appreciably relaxed the conditions under which women were allowed to terminate pregnancies lawfully.<sup>90</sup> While not all of the states that revised their

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86. Gregory G. Brunk & Thomas G. Minehart, *How Important Is Elite Turnover to Policy Change?*, 28 AM. J. POL. SCI. 559, 568 (1984); David J. Falcone, *Legislative Change and Policy Change: A Deviant Case Analysis of the Canadian House of Commons*, 41 J. POL. 611, 632 (1979); Harold Wolman et al., *Does Changing Mayors Matter?*, 58 J. POL. 201, 219-21 (1996).

87. *Roe v. Wade*, 410 U.S. 113 (1973).

88. Amy S. Cleghorn, Comment, *Justice Harry A. Blackmun: A Retrospective Consideration of the Justice's Role in the Emancipation of Women*, 25 SETON HALL L. REV. 1176, 1189 (1995) (describing *Roe* as "the first victory cry for women in the fight to claim emotional and legal independence in a male-dominated world")

89. The U.S. Supreme Court regards *Roe v. Wade* as one of its most socially significant decisions during the last half of the twentieth century. In 1992, the Court described *Roe* as "a watershed decision" and added that *Roe*

calls the contending sides of a national controversy to end their national division by accepting a common mandate rooted in the Constitution.

The Court is not asked to do this very often, having thus addressed the Nation only twice in our lifetime, in the decisions of *Brown* [*v. Board of Education* holding unconstitutional purposeful racial segregation in public schools] and *Roe*.

*Planned Parenthood of Southeastern Pennsylvania v. Casey*, 505 U.S. 833, 867 (1992).

90. Fifteen of the sixteen states appreciably eased their restrictions on the use of

therapeutic abortion through legislation. The fifteen states were Arkansas, California, Colorado, Delaware, Florida, Georgia, Kansas, Maryland, New Mexico, New York, North Carolina, Oregon, South Carolina, Virginia, and Washington. In Washington, the legislation was drafted by the legislature, but by its terms, the legislation could become law only after it was approved by the voters in a general election. Jon F. Merz et al., *A Review of Abortion Policy: Legality, Medicaid Funding, and Parental Involvement, 1967-1994*, 17 WOMEN'S RIGHTS L. REP. 1 (1995). The pertinent session laws were: Act of Feb. 17, 1969, § 2, 1969 Ark. Acts 177-78; Act of June 15, 1967, ch. 327, 1967 Cal. Stat. 1521; Act of Apr. 25, 1967, ch. 190, 1967 Colo. Sess. Laws 284; Act of June 17, 1969, ch. 145, 57 Del. Laws 409; Act of Apr. 12, 1972, ch. 72-196, 1972 Fla. Laws 608; Act of Apr. 10, 1968, ch. 26-12, 1968 Ga. Laws 1277; Act of Apr. 23, 1969, ch. 180, § 21-3407, 1969 Kan. Sess. Laws 452; Act of May 7, 1968, ch. 470, 1968 Md. Laws 870; Act of Mar. 21, 1969, ch. 67, 1969 N.M. Laws 225; Act of Apr. 11, 1970, ch. 127, 1970 N.Y. Laws 852; Act of May 9, 1967, ch. 367, 1967 N.C. Sess. Laws 394; Act of June 16, 1969, ch. 684, 1969 Or. Laws 1782; Act of Jan. 29, 1970, No. 821, 1970 S.C. Acts 1892; Act of Apr. 4, 1970, ch. 508, 1970 Va. Acts 1101; Act of Feb. 4, 1970, ch. 3, 1970 Wash. Sess. Laws 23. The Washington legislation was approved in an election held on November 3, 1970. Wash. Rev. Code §§ 9.02.060, 9.02.070 (1977).

The sixteenth state that expanded access to therapeutic abortion prior to *Roe* was Vermont, which did so through judicial decision. Specifically, in January 1972, the Supreme Court of Vermont held unconstitutional a state statute that subjected a person who performed an abortion to imprisonment unless the pregnancy threatened the life of the woman; the statute expressly exempted from punishment the woman whose pregnancy was aborted. *Beecham v. Leahy*, 287 A.2d 836, 840 (Vt. 1972). Following *Beecham*, a pregnancy could be terminated lawfully in Vermont for any reason before the fetus was capable of moving in the uterus, i.e., prior to quickening. *Id.* at 839.

Under Mississippi law prior to 1966, a woman could abort a pregnancy only when the pregnancy jeopardized her life. MISS. CODE ANN. § 2223(1) (1942, recompiled 1956). In 1966, Mississippi revised its abortion statute and added rape as a permissible ground for terminating a pregnancy. Act of May 8, 1966, ch. 358, § 1, 1966 Miss. Laws 661; Merz et al., *supra*, at 33. Because the statutory change did not substantially expand access to abortion, the instant study treats Mississippi as a state that did not alter its abortion law before *Roe*.

As the result of state court decisions rendered prior to *Roe*, Massachusetts allowed a pregnancy to be terminated "to preserve the woman's life or physical or mental health." Merz et al., *supra*, at 30. The court decisions conflicted with the state statute on abortion, which did not permit abortion for any reason. MASS. GEN. LAWS ANN. ch. 272, § 19 (1970). The highest court in Massachusetts established the exception for the life or health of the woman at least as early as 1944. *Commonwealth v. Wheeler*, 53 N.E.2d 4, 5 (Mass. 1944). Because my focus is on the states that eased restrictions on abortion starting in the 1960s, I classify Massachusetts as a jurisdiction that did not liberalize its law. An additional basis for doing so is that the case law of the highest court in Massachusetts during the 1960s is unclear as to whether a serious threat to the mental or physical health of the pregnant woman was necessary to abort a pregnancy lawfully or whether a health threat of any degree justified an abortion. Compare *Commonwealth v. Brunelle*, 171 N.E.2d 850, 852 (Mass. 1961) (requiring that an abortion be based on a reasonable belief that the health of the pregnant woman was placed in "great peril" by her pregnancy and that her health was in danger of "serious impairment" unless the pregnancy was terminated), with *Kudish v. Bd. of Registration in Med.*, 248 N.E.2d 264, 266 (Mass. 1969) (citing *Brunelle* and earlier decisions without specifying the degree to which a pregnancy must endanger the health of the pregnant woman to justify an abortion). Massachusetts would have been categorized in the instant study as a state that liberalized its law on abortion prior to *Roe* if it had clearly changed its law to allow an abortion to be performed legally for health reasons without regard to the level of risk that the pregnancy posed. (For the same reasons, the instant study treats Alabama as a state that did not liberalize its law on abortion before *Roe*: its pre-*Roe* statute allowing an abortion for health reasons was enacted in 1951, as indicated in the text accompanying note 178 *infra*, and I could find no evidence that the statute permitted an abortion regardless of the severity of the health risk created by the pregnancy.)

law permitted women to terminate pregnancies as easily as *Roe*, the important point is that a substantial number of states expanded access to abortion before the Court announced *Roe* in 1973. *Roe*, therefore, must be understood to be a part of a movement that had already begun within law to reduce government barriers to therapeutic abortion.

*B. Factors Affecting Decisions by Women to Abort Pregnancies*

To identify the societal properties and forces that are pertinent to law on abortion, I will begin with a review of research conducted by social scientists on variables hypothesized to be possible influences on the decisions of pregnant women whether to abort their pregnancies. The review is based on the assumption that the variables having such an effect on individuals suggest the factors determining the strength of the societal need for access to medically approved methods of terminating pregnancy. Unfortunately, social science research dealing with the antecedents of induced abortion among women is scarce, and none of the existing research employs longitudinal, i.e., time series or panel, data. The absence of longitudinal data seriously limits the conclusions that can be drawn regarding causal relationships, because longitudinal data allow temporal sequences to be studied and are thus more likely than cross-sectional data to identify causes accurately.<sup>91</sup>

The studies I review involved multivariate analyses of data on samples of women in the United States and focused on whether induced abortions

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In 1970, a three-judge federal district court issued a judgment declaring a Wisconsin statute to be unconstitutional in banning abortions during the first trimester of pregnancy and later issued an injunction against enforcement of the statute. The U.S. Supreme Court declined to rule on the declaratory judgment, but it vacated the injunction of the district court and directed the district court to reconsider the injunction. *Babbitz v. McCann*, 310 F. Supp. 293 (E.D. Wis. 1970), *appeal dismissed*, 400 U.S. 1 (1970); *Babbitz v. McCann*, 320 F. Supp. 219 (E.D. Wis. 1970), *vacated*, 402 U.S. 903 (1971). The remand of the case on the issue of the injunction has no subsequent judicial history, but since Wisconsin prosecutors and the Wisconsin judiciary were evidently continuing to enforce the state abortion statute during the appeal of the district court declaratory judgment, enforcement presumably continued until the Supreme Court decided *Roe* in January 1973. *See Babbitz*, 320 F. Supp. at 223 (justifying the injunction because “the state judiciary has failed to discourage the prosecutors from trespassing on the federal rights in question. The reaction of the state authorities to our judgment relegates our ruling to nothing more than a gratuitous, advisory opinion”). Accordingly, I do not consider Wisconsin to be a state that liberalized its abortion law prior to *Roe*.

In 1972, a three-judge federal district court, in a declaratory judgment, ruled unconstitutional the New Jersey statute that imposed criminal penalties on physicians who performed abortions, but the court did not enjoin enforcement of the statute. *Young Women’s Christian Ass’n v. Kugler*, 342 F. Supp. 1048 (D. N.J. 1972), *aff’d*, 463 F.2d 203 (3d Cir. 1972), *cert. denied*, 415 U.S. 989 (1974). Because enforcement of the statute could continue while appellate courts considered the district court ruling, I do not deem New Jersey to be a state that liberalized its abortion law before *Roe*.

91. BARNETT, *supra* note 11, at 5-7; Joanna M. Shepherd, *Deterrence versus Brutalization: Capital Punishment’s Differing Impacts Among States*, 104 MICH. L. REV. 203, 213 (2005).

among these women were associated with at least two of the following variables: (1) female employment; (2) female education (years of school completed or present school attendance); and/or (3) female marital status. The decisions made by women whether to end pregnancies by abortion are believed to be based on the costs of childbearing<sup>92</sup> and/or on the manner in which women define their role in society.<sup>93</sup> Because each of the three enumerated variables can affect these costs and reflect sex-role definitions, each variable has the potential to influence the proportion of pregnancies that women seek to avoid through contraception and to terminate through abortion. More precisely, insofar as any of the variables burdens childbearing and/or offers socially acceptable alternatives to childbearing, the variable(s) will enhance the need of the social system for ready access to abortion and for law that endorses such access. As a result, this Article examines social science research on the variables to ascertain if one or more of them influences the likelihood that women will end pregnancies through abortion.

Before turning to these studies, it is worth mentioning that the variables being considered—the employment, education, and marital status of women—possess three important attributes. First, the variables have been the subject of at least one well-designed study, and their effect, if any, on abortion can be ascertained tentatively. Quantitative research of reasonable quality will thus be the basis for decisions regarding which of the variables might create a societal need for a change in law on abortion. Second, reliable annual data on the rate or distribution of each variable in the female population of reproductive age are obtainable for years starting soon after World War II. Since the reform of abortion law in the United States commenced in the last half of the 1960s when some states began to ease their restrictions on abortion, a variable can produce a need for this reform only if its rate or distribution in the population increased during earlier years. Accordingly, the period covered by the data must commence well before the 1960s and, because World War II is a landmark in U.S. history, should ideally begin in the last half of the 1940s or in the early 1950s. Third, data on states from the 1960 census are available for each of the three variables, and these data can be used to identify system-level properties that differentiate the states that liberalized their law on abortion in the late 1960s and early 1970s from the states that did not.

In light of the attention that the abortion issue has attracted in the political arena, it is surprising that few well-designed social science studies with

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92. Lawrence B. Finer et al., *Reasons U.S. Women Have Abortions: Quantitative and Qualitative Perspectives*, 37 PERSP. ON SEXUAL AND REPROD. HEALTH 110, 117 (2005).

93. Steven L. Nock, *The Symbolic Meaning of Childbearing*, 8 J. FAM. ISSUES 373 (1987).

large data sets have been conducted on the factors affecting the likelihood that women who conceive will abort their pregnancies. Indeed, I was able to locate just two such studies. Like all research, the studies have methodological limitations that need to be understood in evaluating their findings. Therefore, I will discuss each study in some detail.

The first study was based on the 1976 cycle of the National Survey of Family Growth (“NSFG”).<sup>94</sup> The NSFG sampled females fifteen to forty-four years old who resided in the coterminous United States. A female in this population was eligible for the sample if (i) she was currently or previously married, or (ii) even though she had never married, she had borne a child who was living with her.<sup>95</sup> In imposing these eligibility criteria, however, the sample excluded childless females who had never married. Since females in the latter category (i.e., childless never-married females) comprised most of the women who were undergoing abortions in the mid-1970s,<sup>96</sup> a serious question exists whether the findings of the study can be generalized to all women who experienced a pregnancy at this time.

Because the dependent variable in the study was whether a woman had ever aborted a pregnancy, the study was confined to women who reported they had been pregnant.<sup>97</sup> In examining the dependent variable, the study dichotomized the respondents—respondents who reported having had an abortion were placed in one category and respondents who did not report an abortion were placed in another category.<sup>98</sup> However, subsequent research indicates that many women in the survey did not admit that they had aborted pregnancies. Indeed, married interviewees in the 1976 NSFG are estimated to have revealed just forty-five percent of the abortions they actually obtained.<sup>99</sup> If the misreporting of abortions was not random but systematically associated with certain attributes of women, the findings of the study may misstate whether, how, and/or the degree to which the attributes are linked to the abortion decisions of women.

In terms of the independent variables that are of interest here, education was determined by the NSFG at the time of pregnancy and scaled with a dichotomy that separated (i) women who were still in school from (ii) women who had finished their education or whose educational status was uncertain.<sup>100</sup> Consequently, the study measured school attendance, not

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94. Joanne M. Badagliacco, *Who Has Abortions: Determinants of Abortion Choice among American Women* (1987) (unpublished Ph.D. dissertation, Columbia University) (on file with Widener University School of Law Delaware Campus Library).

95. *Id.* at 33.

96. *Id.* at 38.

97. *Id.* at 54.

98. *Id.* at 56.

99. Elise F. Jones & Jacqueline Darroch Forrest, *Underreporting of Abortion in Surveys of U.S. Women: 1976 to 1988*, 29 *DEMOGRAPHY* 113, 115 (1992).

100. Badagliacco, *supra* note 94, at 64.

educational attainment. Employment status of respondents was generally unknown for the point in time when respondents became pregnant, but information existed on whether respondents were economically active outside the home when they were interviewed for the NSFG. The study used the latter information for employment, and hence the variable as measured refers to a point subsequent to the occurrence of pregnancy.<sup>101</sup> While the study assumed that the employment status of women was the same at the time of the pregnancy as at the time of the interview, the assumption may have often been inaccurate given the tendency of women in the 1970s to withdraw from the labor force when they carried pregnancies to term.<sup>102</sup> The findings of the study, accordingly, may be incorrect with regard to the relationship between employment and abortion.

The final independent variable of interest was marital status. For this variable, the study grouped women into two categories: (i) those who were married when they became pregnant or ended their pregnancy; and (ii) those who, when they became pregnant or aborted their pregnancy, had never been married, were married but separated or divorced from their husbands, or were widowed. The study deemed women in the first category to be married, and women in the second category to be unmarried.<sup>103</sup> However, the NSFG did not interview, and the second category therefore omits, never-married females who were childless. The exclusion of the latter females prevents the study from comparing women who were married at the time of their pregnancies to all other women and undermines the ability of the study to assess marital status as an explanatory variable.

What did the statistical analysis reveal? As the investigator recognized,<sup>104</sup> the problems characterizing the research design require that considerable caution be exercised in drawing conclusions from the findings. Nevertheless, the findings are plausible and hence noteworthy. With a range of other variables held constant,<sup>105</sup> a relationship emerged between school attendance and abortion use: the probability that a woman would end a pregnancy was higher among females who were attending school than among females who were not.<sup>106</sup> The relationship to abortion use of both employment status and marital status, however, differed between women who were not mothers when they became pregnant and women

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101. *Id.*

102. GUS HAGGSTROM ET AL., CHANGES IN THE LIFESTYLES OF NEW PARENTS 146 (1984).

103. Badagliacco, *supra* note 94, at 61.

104. *Id.* at 76-77.

105. Among the variables controlled was whether the pregnancy occurred before or after the U.S. Supreme Court decided *Roe v. Wade*. *Id.* at 62, 160.

106. Unless otherwise noted, I base my summary of the findings on the logistic regression equations, not the ordinary least-squares equations, estimated by the investigator. Badagliacco, *supra* note 94, at 158-61.

who were.<sup>107</sup> In terms of employment status, non-mothers were more likely to abort a pregnancy when they were employed, full-time or part-time, than when they were not employed, but among mothers, employment status was unrelated to the probability of abortion. In terms of marital status, non-mothers were not characterized by a relationship between marital status and abortion probability, but mothers were less likely to terminate pregnancies when they were married than when they were not.

Two points emerge from the findings and merit some emphasis. First, school attendance was the sole independent variable that did not interact with another factor; the effects of the other two independent variables were contingent on whether the woman was already a mother when she became pregnant. Consequently, school attendance—and, by implication, educational level—offers particular promise as a factor generating a societal need for abortion. Second, standardized regression coefficients from ordinary least-squares regression indicated that school attendance had by far the strongest effect, as well as the most uniform effect, on the likelihood of aborting a pregnancy.<sup>108</sup>

A second study of the antecedents of abortion use was conducted on the pregnancy outcomes of females who resided in eight states or in New York City and whose pregnancies ended during 1980.<sup>109</sup> The data included information on more than a half-million pregnancies involving women twenty years of age and older, but while an impressively large number of cases could be used to assess the factors influencing pregnancy outcome, the data possessed three limitations that should be noted.

The first limitation of the study is that the dataset covered pregnancy outcomes of the residents of just a few geographic areas and therefore included only a portion of all pregnancies—specifically, only one out of nine pregnancies—that occurred in the United States among women age twenty and older and that had an outcome in 1980.<sup>110</sup> While this sampling fraction is much larger than that found in surveys of large populations, the women included in the data were not chosen randomly from a larger universe, rendering tests of statistical significance inappropriate. Accordingly, judgments are not possible whether relationships found between the independent variables and the dependent variable apply to all American women of reproductive age.

The second limitation of the study is that information was unavailable on

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107. *Id.* at 67.

108. *Id.* at 143, 165.

109. Katherine Trent & Eve Powell-Griner, *Differences in Race, Marital Status, and Education Among Women Obtaining Abortions*, 69 SOC. FORCES 1121 (1991).

110. Computed from *id.* at 1126 and from Stephanie J. Ventura et al., *Trends in Pregnancies and Pregnancy Rates, United States, 1980-88*, 41 MONTHLY VITAL STAT. REP., at Table 1 (Nov. 16, 1992), available at <http://www.cdc.gov/nchs/products/pubs/pubd/mvsvr/supp/42-41/42-41.htm>.

the employment status of women whose pregnancies were included in the study. Thus, one of the three variables of concern in this Article was omitted from the data analysis undertaken by the study.<sup>111</sup> To the extent that differences in employment are related to differences in the probability of aborting a pregnancy as well as to differences in education and/or marital status, the study may yield inaccurate conclusions. Notably, available research has identified relationships between employment, education, and marital status.<sup>112</sup>

The third limitation is that the data did not include information on spontaneous fetal deaths when gestation length was twenty weeks or less. The omission of data on early spontaneous fetal deaths, the investigators point out, causes the abortion rate to be overstated, but they contend that the omission does not bias their conclusions regarding the impact on abortion use of the explanatory variables that are of interest here. When the variables produce differences between groups in rates of abortion, the investigators argue, the magnitude of the differences will be correctly gauged because rates of early spontaneous fetal mortality are unlikely to differ between these groups.<sup>113</sup> However, if the investigators are mistaken in this regard, their estimates of the impact of the variables on the probability of abortion may be biased, because while fetal deaths were relatively uncommon in 1980,<sup>114</sup> the fetal deaths that were omitted from the data accounted for roughly three out of four such deaths that took place.<sup>115</sup>

In examining the findings of the study, I concentrate on women who were at least twenty years old, because the study combined younger females into a single category that included ages eighteen and nineteen and ages below eighteen.<sup>116</sup> Women who were at least twenty years old were thus the only group studied that had attained adulthood and had acquired

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111. In addition to educational attainment and marital status, the following independent variables were included: age, metropolitan versus nonmetropolitan residence, prior number of live births, race, and state of residence. Trent & Powell-Griner, *supra* note 109, at 1126.

112. Among women, educational level and marital status are related to employment status under at least some conditions. Diane H. Felmlee, *A Dynamic Analysis of Women's Employment Exits*, 21 DEMOGRAPHY 171, 178, 180 (1984). In addition, the educational level and the employment status of wives affect the likelihood of marital disruption, suggesting that educational level and employment status of wives are linked to current marital status. Steven Ruggles, *The Rise of Divorce and Separation in the United States, 1880-1990*, 34 DEMOGRAPHY 455, 456, 463 (1997); Scott South & Glenna Spitze, *Determinants of Divorce Over the Marital Life Course*, 51 AM. SOC. REV. 583, 587-88 (1986).

113. Trent & Powell-Griner, *supra* note 109, at 1125.

114. Fetal deaths occurred in just one out of eight pregnancies that ended in 1980. Computed from Ventura et al., *supra* note 110, at Table 2.

115. Computed from U.S. DEP'T OF HEALTH & HUMAN SERVS., VITAL STATISTICS OF THE UNITED STATES: 1980, VOL. IIA, MORTALITY, at Table 3-3 (1985), available at <http://www.cdc.gov/nchs/products/pubs/pubd/vsus/1963/1963.htm>.

116. Trent & Powell-Griner, *supra* note 109, at Table 2 (reporting the findings).

new rights from the reform of abortion law.<sup>117</sup> In this group, unmarried women had a much higher probability of aborting a pregnancy than currently married women, an effect that was net of differences on the remaining independent variables. The relationship between marital status and abortion was found even among women who were childless; indeed, childless unmarried women were ten times more likely than childless married women to abort a pregnancy. This is contrary to the Badagliacco study, which concluded that marital status did not affect the probability of abortion among childless women.

While marital status exhibited a simple relationship to abortion use, educational attainment did not. As the number of years of schooling increased, so did the likelihood that a pregnancy would end in an abortion, but when the study examined potential interactions, it found that the impact of education varied with the number of previous live births and with marital status. As to number of prior births, a clear difference existed between women who had not borne a child and women who had: the probability of an abortion generally rose with years of schooling for women who were childless, but for women having one or more births, the probability increased only to twelve years of completed schooling and then remained essentially constant. More important, however, is the finding that the effect of education depended on marital status. Among unmarried women, the proportion of pregnancies terminated by abortion rose consistently with education, but among married women, the relationship was  $\cap$  in shape: the probability of abortion increased as the level of completed schooling went from eight or fewer years to twelve years and then fell back to its initial level as the level of completed schooling rose to sixteen or more years.

Let me now attempt to integrate the findings of the two studies. While their results are not conclusive, the studies indicate that abortion use rises with educational attainment and school enrollment and is more common among unmarried women than among married women,<sup>118</sup> but whether abortion is generally and substantially affected by employment is uncertain.<sup>119</sup>

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117. Because the study focused on pregnancies having an outcome in 1980, all of the pregnancies in the study occurred after *Roe v. Wade*. *Roe* was applicable to adult women but not to females who were minors. 410 U.S. 113, 165 n.67. The constitutional right of minors to procure an abortion developed after *Roe* and was more circumscribed than the right of adults. *Planned Parenthood Ass'n of Kansas City v. Ashcroft*, 462 U.S. 476 (1983).

118. Another study that finds unmarried women are more likely to end pregnancies is Kanhaiya Lal Vaidya, *Unintended Pregnancy and Abortion in the United States: Evidence from the National Survey of Family Growth, Cycle IV, 1988*, at 79, 85 (1995) (unpublished Ph.D. dissertation, Bowling Green State University) (on file with author). However, the study did not include a control for the current educational level, schooling status, or employment status of women. *Id.* at 69-70, 94.

119. Among females who terminated pregnancies in 1987, the age-standardized use of abortion varied less with employment status than with school enrollment or marital status. Stanley K. Henshaw & Jane Silverman, *The Characteristics and Prior Contraceptive Use of U.S. Abortion Patients*, 20 *FAM. PLAN. PERSP.* 158, 162 (1988).

Educational achievement may not possess a linear relationship to the probability of abortion among married women, but it must be kept in mind that unmarried women were by far the chief source of abortions in the United States in the decade-and-a-half that followed *Roe v. Wade*, whether measured by the proportion of pregnancies ended by abortion or by the proportion of females of childbearing age who had an abortion.<sup>120</sup> Among women as a whole, then, a higher level of schooling is associated with a higher likelihood that a woman will terminate a pregnancy.

Before concluding this section, I would like to raise an important, but largely unrecognized and unexplored, methodological issue. The two studies reviewed above focused exclusively on the characteristics of individual women and used these characteristics to estimate the probability that a woman would abort a pregnancy. Neither study, however, examined whether the characteristics of geographic areas that form law-defined jurisdictions such as states are related to jurisdiction-level rates of abortion. For instance, the two studies defined marital status by the marital status of each woman in the sample, and the studies examined whether the marital status of a woman was related to whether she aborted a pregnancy. The studies did not consider whether a relationship existed between the proportion of women who were currently married or unmarried in each state and the percentage of all pregnancies in the state that were aborted. Individual-level attributes and jurisdiction-level attributes are distinctly different types of information, and when studied for their relationship to a state-level measure of abortion use, they may not yield the same conclusions. Unfortunately, while some investigators have attempted to estimate the incidence of abortion from the characteristics of jurisdictions, their research designs have serious limitations.

Future work, then, must address the question whether the antecedents of change in law on abortion are more readily and accurately identified using data on the characteristics of jurisdictions (e.g., states), data on the characteristics of individuals in these jurisdictions, or data on both. From a macrosociological perspective, law as an institution is a component of a social system, and the antecedents of the doctrines of law are expected to stem from the system. Two social science studies using a multivariate statistical technique support the assumption that characteristics of states shape doctrines of state law.<sup>121</sup> The research reported *infra* extends this type of study to the subject of abortion law.

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120. STANLEY K. HENSHAW & JENNIFER VAN VORT, *ABORTION FACTBOOK: READINGS, TRENDS, AND STATE AND LOCAL DATA TO 1988*, at 176-77 (1992).

121. Barnett, *supra* note 47; Rich Geddes & Dean Lueck, *The Gains from Self-Ownership and the Expansion of Women's Rights*, 92 *AM. ECON. REV.* 1079, 1084-90 (2002). A state can be regarded as a system per se or as a subsystem in a larger system, namely, the United States as a society.

C. *Time-Series Indicators of a National Need for Abortion*

While employment among women may or may not be generally related to the demand for abortion, according to the studies reviewed above, the education and marital status of women are evidently important factors affecting the likelihood that women in the United States will abort their pregnancies. These two variables, therefore, may shape the need for and lawfulness of abortion. Which variable—education or marital status—more accurately predicts abortion use cannot be ascertained from research conducted to date, but each variable seems to have a definite bearing on the probability an individual woman will choose to end a pregnancy, and each variable may thus be an indicator of a system-level determinant of law on abortion.

In light of the above findings with regard to marital status and school enrollment, I consider whether the distribution of marital status and the level of school enrollment among women in the United States changed over time in a manner suggesting that one or both of these variables produced a need for lawfully available abortion prior to the shift in abortion law that occurred from 1967 to 1973.<sup>122</sup> Figure 3 deals with marital status. Specifically, the figure shows, for each year in the time period covered, the percentage of women at age twenty to twenty-four and at age twenty-five to twenty-nine who had not been married; these women are designated “never married.” The figure also shows the percentage of women in each of the two age ranges who had been married previously but who were no longer married due to divorce. I confine my attention to unmarried women because they accounted for the vast majority of abortions in the years following *Roe v. Wade*<sup>123</sup> and, presumably, in the years before as well.

For marital status to be a plausible factor creating and heightening a societal need for abortion, the percentage of reproductive-age women who are unmarried, whether from having never married or from divorce, would have had to rise *before* abortion law was reformed. As explained above,

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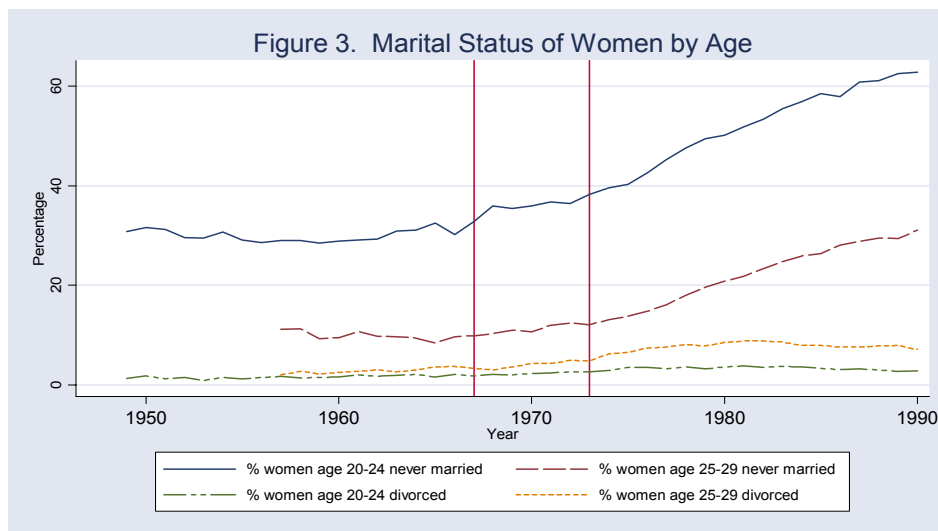
122. The U.S. Census Bureau gathered the data on marital status and school enrollment in the Current Population Survey. Although the years before rather than after 1967-1973 determine the possible role of marital status and school enrollment in the need for lawful abortion, the time series I present extends to 1990.

The data on marital status start in 1949 for women twenty to twenty-four years old and in 1957 for women twenty-five to twenty-nine years old; the data are limited to the civilian population in some years but not others. Data on marital status for all years except 1990 are from U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES (71st ed. through the 111th ed.). Data for 1990 are from U.S. BUREAU OF THE CENSUS, MARITAL STATUS AND LIVING ARRANGEMENTS: MARCH 1990, CURRENT POPULATION REPORTS, Series P-20, No. 450 (May 1991), at Table 1. Yearly rates of school enrollment for the civilian noninstitutionalized population are in U.S. Census Bureau, Table A-2: Percentage of the Population 3 Years Old and Over Enrolled in School, by Age, Sex, Race, and Hispanic Origin: October 1947 to 2004, <http://www.census.gov/population/www/socdemo/school.html> [hereinafter Table A-2].

123. HENSHAW & VAN VORT, *supra* note 120.

the principal doctrinal changes in that reform occurred between 1967, when some states began to ease substantially the grounds for a lawful abortion, and 1973, when the Supreme Court decided *Roe v. Wade*.<sup>124</sup> (The two years are marked by vertical lines in figure 3 as well as in figures 4 and 5.) The years from 1967 to 1973 thus constitute the period of abortion law reform, and the years prior to this period are critical to deciding whether marital status produced a societal need to liberalize abortion law.

During the pre-reform period, as is evident from figure 3, the proportion never married and the proportion divorced are essentially stable among women twenty to twenty-four years old and women twenty-five to twenty-nine years old. Distinct movement in these proportions is found only during and/or after the period when reform occurred, and during the reform period (1967-1973), the movements are generally modest. As a consequence, there is no persuasive evidence that change in the prevalence of unmarried women in the population engendered a societal need for the liberalization of abortion law in the 1960s. If there was a need on the part of the social system to relax the grounds for abortion permitted by law, the source of the need evidently lies elsewhere.



124. I regard the change in abortion law during this period as a national movement, and hence use data on marital status and school enrollment for the United States as a whole, because a decision of the highest federal court ended the period and because in 1972, thirty-nine percent of the population of the United States resided in the sixteen states whose law was changed from 1967 through 1972 to expand access to abortion. The percentage of the population was calculated from U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1974, at Table 11 (95th ed. 1974), available at <http://www.census.gov/prod/www/abs/statab1951-1994.htm>.

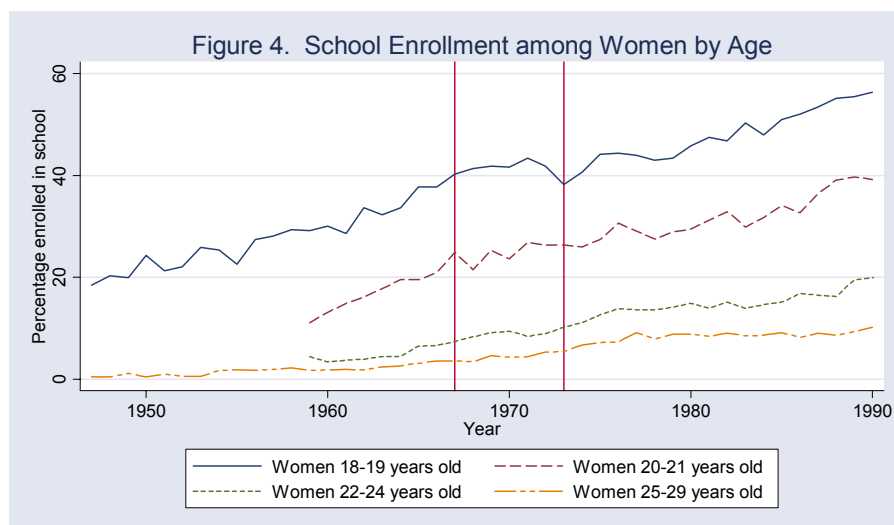
I turn now to the rate of school enrollment among women of childbearing age. Figure 4 shows the yearly percentage of adult women in each of four age groups who were enrolled in school (full-time or part-time). Schools of all levels are included in the figure; the data, therefore, cover enrollments in high schools, junior colleges, colleges granting baccalaureate and graduate degrees, and professional schools.

Substantial growth in school enrollment rates among women eighteen to nineteen years old and among women twenty to twenty-one years old characterize most of the time interval covered by figure 4. Notably, the trend commences prior to the period (1967-1973) when abortion doctrine underwent its main change. The trend was present well in advance of this period among women eighteen to nineteen years old, for whom enrollment rates begin in 1947. A rise in enrollment rates prior to the abortion-law liberalization period also is found among women twenty to twenty-one years old, for whom rates begin in 1959. Finally, an increase in enrollment rates among women twenty-two to twenty-four years old and among women twenty-five to twenty-nine years old is evident before this period, although the increase is small in absolute magnitude and does not commence until shortly before the liberalization of abortion law began. (Rates start in 1959 for women twenty-two to twenty-four years old<sup>125</sup> and in 1947 for women twenty-five to twenty-nine years old.) Thus, school enrollment in all of the age groups in the figure—but especially in the two youngest age groups—was changing in a manner that permitted schooling to create a societal need for abortion and promote legalization of the procedure. Indeed, school enrollment rates, by rising before as well as during the time that states significantly eased restrictions on access to abortion, behaved exactly as they would be expected to behave if they were creating and intensifying a need in American society for liberalized abortion doctrine.<sup>126</sup> Accordingly, macrosociological research on law regulating access to abortion must consider the variable.

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125. TABLE A-2, *supra* note 122 (providing school enrollment rates from 1947 to 1958 for the age category twenty to twenty-four). From 1959 onward, the table separates this age range into two categories, namely, age twenty to twenty-one and age twenty-two to twenty-four. *Id.* The three-year mean percentage of women enrolled in school at age twenty to twenty-four doubled from 3.7% in 1947-1949 to 7.4% in 1956-1958. Calculated from *id.*

126. After the Supreme Court decided *Roe v. Wade*, women eighteen to twenty-nine years old were the source of approximately seven out of ten lawful abortions performed in the United States, and the proportion varied little over time. HENSHAW & VAN VORT, *supra* note 120, at Table 1. Given the consistency of this proportion in the years that followed *Roe*, the same proportion is likely to have prevailed in the years that preceded the ruling. If women eighteen to twenty-nine years old provided most of the pregnancies that were terminated in the period prior to 1967-1973, their rising rate of school enrollment before abortion law underwent liberalization had the ability to spawn and magnify a need for the liberalization.



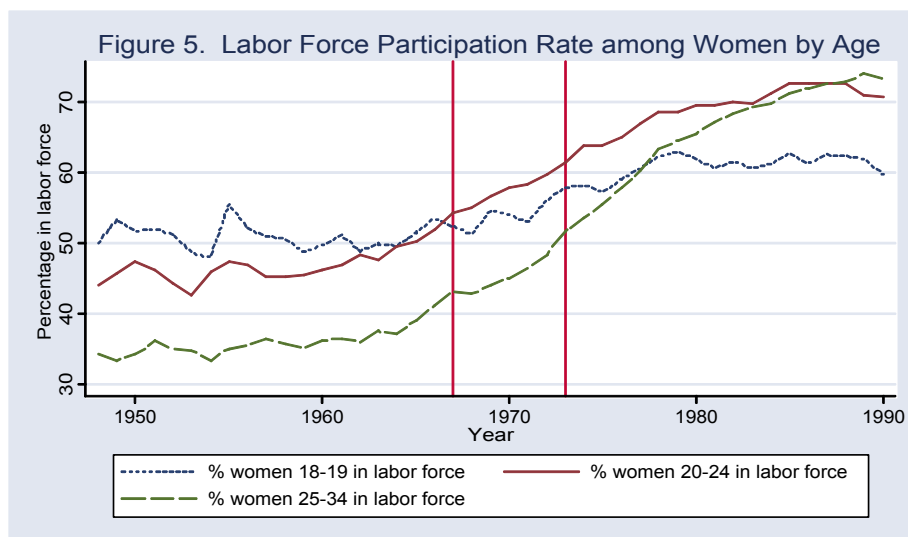
Finally, I consider female employment. Although a relationship between the employment status of a woman and the probability she will abort a pregnancy has not been established, a relationship between these variables has not been disproved. Social science research to date does not allow a conclusion to be drawn regarding such a relationship, because studies of the relationship are too few in number and suffer from too many limitations. However, a link between female employment and abortion has been posited by theory, and thus such a link is a possibility that cannot be dismissed out of hand. For this reason, I examine the labor force participation rate, i.e., the percentage of individuals in a demographically defined group who currently are employed or are engaged in finding employment.

Figure 5 presents the seasonally adjusted rate of labor force participation among civilian women in each of three age groups, viz., eighteen to nineteen, twenty to twenty-four, and twenty-five to thirty-four.<sup>127</sup> The data in the figure are for the fourth quarter of each year from 1948 through 1990. Labor force participants are persons (i) who are presently working or (ii) who are not working but who are available for work and have sought work during the prior four weeks.<sup>128</sup> Labor force participants who are unemployed—the members of group (ii)—are thus persons who are motivated to work and have an attachment to work; women in this group presumably would view a pregnancy similarly to women who are employed.

127. The data in the figure are from the Current Population Survey and are published by the U.S. Bureau of Labor Statistics. U.S. Bureau of Labor Statistics, Current Population Survey, <http://www.bls.gov/data/home.htm> (last visited May 1, 2007); the data are accessible through the link “Historical Data for the ‘A’ Tables of the Employment Situation Release.”

128. HANDBOOK OF U.S. LABOR STATISTICS 4, 5 (Eva E. Jacobs ed., 8th ed. 2005).

Notably, figure 5 reveals that the labor force participation rate of both women who were twenty to twenty-four years old and women who were twenty-five to thirty-four years old began to increase at least five years in advance of the period of abortion law reform. Among women eighteen to nineteen years old, the labor force participation rate remained relatively flat before 1967, but the absence of change is probably due to the growing school enrollment of women in this age group that is observable in figure 4.



#### D. System-level Properties and the Liberalization of State Abortion Law

Did change involving the role of women in the United States reshape law on abortion between 1967 and 1973 to expand access to the procedure? If law is a macrosociological phenomenon, the properties of society rather than the idiosyncrasies of individuals or the operation of chance determine the concepts and principles that dominate law at any particular point in history. In terms of sex roles, such properties include the level of educational attainment, extent of labor force participation, and distribution of marital status among women in the population. Because the three variables have been the focus of social science theory, their potential to account for the modification of law on abortion in the United States during the period from 1967 to 1973 was considered in figures 3, 4, and 5. In the instant part of this Article, the question whether the three variables contributed to liberalizing abortion law will be addressed with a different type of quantitative data and a different approach to analyzing the data.

The study that I report below involved the application of maximum-likelihood logistic regression—a statistical technique that is being used in-

creasingly in social science research<sup>129</sup>—to state-level data from the 1960 census on a number of “independent” variables, i.e., variables that are to be tested for their ability to account for the phenomenon that is to be explained. In the instant study, the phenomenon to be explained (i.e., the dependent variable) was whether states liberalized their law on abortion in the 1967-1972 period, and the independent variables were the income, educational attainment, labor force participation, and marital status of women who resided in each state in 1960. The age categories of women used for the independent variables were largely dictated by the age categories for which the Census Bureau reported data. All of the forty-eight states in the coterminous United States were included in the study.<sup>130</sup>

The independent variable measuring the income of women was used in the regression equation on the assumption that, as their personal income rises, women possess not only the economic resources required to abort pregnancies but, in addition, an economic incentive to do so because child-rearing will compete with other activities for at least some of their income.<sup>131</sup> A macrosociological perspective suggests that a social system will eventually permit and endorse the solutions wanted by its members for serious problems they are experiencing. With increases in the income of women, accordingly, a social system becomes more likely to accept a solution (e.g., abortion) sought by its female members to a problem (e.g., unwanted pregnancy) that solely or disproportionately affects them.

In terms of problems faced by women, pregnancy was evidently creating social and economic difficulties for many women when states began to liberalize their statutes on abortion, because during 1960-1965, women in the United States did not want a substantial proportion of their pregnancies.<sup>132</sup>

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129. DAVID W. HOSMER & STANLEY LEMESHOW, *APPLIED LOGISTIC REGRESSION* ix (2d ed. 2000).

130. Alaska and Hawaii were omitted from the data in order to exclude the possibility that their law on abortion was influenced by factors different from and/or additional to the factors operating in the coterminous states. If such factors were present in Alaska and/or Hawaii, the inclusion of the two states could have affected the findings from the data analysis. The possibility exists that Alaska and Hawaii were subject to different and/or additional factors because both states are geographically distant from the coterminous states and had become states just the year before the 1960 census. See *supra* note 32.

131. See generally Marshall H. Medoff, *Constituencies, Ideology, and the Demand for Abortion Legislation*, 60 *PUB. CHOICE* 185, 186 (1989). The proportion of pregnancies aborted has been found to rise with the family income of women. Badagliacco, *supra* note 94, at 64, 165.

132. Women who bore children during 1960-1965 indicated that approximately one out of five of their births was unwanted and would not have been wanted under any circumstances. The pregnancies resulting in an additional two out of five births were regarded by the women involved as occurring earlier than they desired. Larry Bumpass & Charles F. Westoff, *The Perfect Contraceptive Population*, 169 *SCI.* 1177, 1178-80 (1970). Because the preceding proportions refer to *births* and because an unknown number of pregnancies in this time period did not end in births due to miscarriage or induced abortion, the proportion of births that were unwanted was lower than the proportion of pregnancies that were unwanted.

Notably, in the third quarter of the twentieth century, the birth and rearing of children reduced employment among women in the United States<sup>133</sup> and thus interfered with women's career goals. Moreover, much of the status difference between female and male sex roles, as indicated by the extent of sex segregation in occupations during the twentieth century, had been erased before the liberalization of state abortion law started.<sup>134</sup> In the context of reduced sex-role inequality, the likelihood that women would seek to eliminate unwanted pregnancies would rise with their personal income, because income supplies the financial resources and incentives to terminate pregnancies. The income of women, consequently, is a potentially important variable in the reform of abortion law.

As its measure of income, the instant study used the median number of dollars of income in 1959 received by women twenty-five to thirty-four years old who had income in that year.<sup>135</sup> While income at age twenty-five to twenty-nine might have been preferable to income at age twenty-five to thirty-four, income at age twenty-five to thirty-four was utilized because the U.S. Bureau of the Census did not report income by state for age twenty-five to twenty-nine separately. Instead, in publishing state data on income from the 1960 census, the Bureau combined age twenty-five to twenty-nine with age thirty to thirty-four and placed the two five-year age ranges into a single ten-year age range, i.e., twenty-five to thirty-four. State-level data on income were reported for the five-year age range twenty to twenty-four. However, age twenty-five to thirty-four was deemed more appropriate for the measure of income, because many women in the twenty to twenty-four age range, but few women in the twenty-five to thirty-four age range, were still in school in 1960.<sup>136</sup> School enrollment, of course, is not conducive to earning current income, and as a result, income at age twenty to twenty-four is an inappropriate gauge of the income of a cohort.

Even though the twenty-five to thirty-four age bracket includes numerous women who were older than women on whom the other independent

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133. HAGGSTROM, *supra* note 102, at 146; Felmlee, *supra* note 112, at 180-81.

134. Weeden, *supra* note 12, at 480 index A.

135. Because every source of income was included, not all of the income received by a woman was necessarily from paid employment. However, in the United States as a whole, nine out of ten females age fourteen and over reported earned income in 1959. U.S. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, U.S. CENSUS OF POPULATION: 1960. VOL. I, CHARACTERISTICS OF THE POPULATION. PART 1, UNITED STATES SUMMARY, at Table 98 (1964), available at <http://www.census.gov/prod/www/abs/decennial/1960cenpopv1.htm>. Therefore, the assumption seems warranted that compensation from employment supplied most of the income received by a majority of women twenty-five to thirty-four years old.

136. In the United States as a whole, the percentage of women enrolled in school in 1960 was, for example, 19.3% among women who were twenty years old, 13.9% among women who were twenty-one years old, and 7.2% among women who were twenty-two years old. On the other hand, just 3.1% of all women twenty-five to twenty-nine years old, and 2.4% of all women thirty to thirty-four years old, were enrolled in school. *Id.* at Table 165.

variables were based (who were either age twenty to twenty-four or age twenty-five to twenty-nine), income at age twenty-five to thirty-four is important because women at this age generally have a high level of fecundity.<sup>137</sup> For them, unwanted pregnancy is a salient possibility, and law on abortion is a potentially important issue. Because in most situations a social system changes at a slow pace, the system is able to anticipate the approximate average income that a cohort of women, as well as a cohort of men, will earn after its members have gone through the education institution and acquired the knowledge that is available to the cohort. The experience of the cohort that is currently twenty-five to thirty-four years old is the basis for making a generally accurate prediction regarding what younger persons will collectively experience when they reach age twenty-five to thirty-four, because the cohort has been affected by the forces that have recently shaped the economy.

With regard to labor force participation and marital status, the study estimated odd ratios for both of these variables in each of two age ranges—age twenty to twenty-four and age twenty-five to twenty-nine. That is, the dependent variable (whether states revised their law to increase access to abortion during 1967-1972) was regressed on *inter alia* labor force participation among women twenty to twenty-four years old and among women twenty-five to twenty-nine years old. In addition, the study regressed the dependent variable on marital status among women twenty to twenty-four years old and among women twenty-five to twenty-nine years old. Both age groups are indisputably important in studying abortion: from 1973 to 1988, women in the two age categories produced approximately one-half of all lawful abortions performed annually, and because these yearly percentages were remarkably consistent over time,<sup>138</sup> the percentage probably characterizes 1967 to 1972, the period of interest here. The two age categories were thus included in the instant study.

Finally, the study measured the variable of education using the percentage of women twenty-five to twenty-nine years old who had finished four or more years of college. The variable involved the number of years of college completed, not the receipt of a degree (for which data are unavailable in the state reports on the 1960 census). The age range twenty-five to twenty-nine was preferable to the age range twenty to twenty-four, because college enrollment in 1960 was relatively infrequent among women

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137. In 1960, the number of live births per 100 women in the United States was 19.7 among women who were twenty-five to twenty-nine years old and 11.3 among women who were thirty to thirty-four years old. NAT'L CENTER FOR HEALTH STATISTICS, U.S. DEP'T OF HEALTH, EDUCATION & WELFARE, VITAL STATISTICS OF THE UNITED STATES: 1960. VOL. I, NATALITY, at Table 1-E (1964), *available at* <http://www.cdc.gov/nchs/products/pubs/pubd/vsus/1963/1963.htm>. Women who were twenty-five to thirty-four years old accounted for a large proportion (42%) of all live births in the United States in 1960. Calculated from *id.* at Table 2-16.

138. HENSHAW & VAN VORT, *supra* note 120, at Table 1.

twenty-five to twenty-nine years old compared to women twenty to twenty-four years old.<sup>139</sup> By age twenty-five to twenty-nine, that is, women who will ultimately finish at least four years of college will have generally done so.

Table 1 gives the mnemonic label and a description of each of the variables in the regression equation. For every independent variable, three categories—high, medium, and low—were created from the original data (median income or percentages) in order to avoid cells with zero cases, i.e., zero states. Cells having zero cases are problematic for maximum-likelihood logistic regression,<sup>140</sup> and thus I collapsed the original data for each indicator into three categories even though doing so reduced the precision with which the independent variables were measured.

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139. In the coterminous United States in 1960, just 1.5% of women twenty-five to twenty-nine years old were enrolled in college. The percentages are much higher at younger ages; for example, 15.4% of women twenty years old, 11.0% of women twenty-one years old, and 5.2% of women twenty-two years old were enrolled in college. U.S. BUREAU OF THE CENSUS, *supra* note 135, at Table 167.

140. HOSMER & LEMESHOW, *supra* note 129, at 135-38.

In principle, the measure of each independent variable in the instant study is a ratio scale, and because such a scale is continuous, the data for the independent variables in the study can be used in logistic regression without being collapsed into categories. *Id.* at 136. In practice, however, the measure of each independent variable is more appropriately treated as an ordinal scale, because the states were not spread evenly across the range of values for the variable but tended to concentrate at certain numerical values. The kurtosis coefficient indicates the degree to which the distribution of a variable is spread out (i.e., flat) or concentrated (i.e., peaked); as the distribution of a variable becomes more peaked, the coefficient increases. In the instant study, the distributions of four of the six independent variables were not close to being flat but, rather, were almost as peaked as, or more peaked than, the normal distribution. The kurtosis coefficient for the individual (i.e., uncollapsed) values of these four independent variables was between 2.8 and 3.9, and the other two independent variables had kurtosis coefficients of 2.4 to 2.6. The kurtosis coefficient for the normal distribution is 3.0. STATA CORP., 4 STATA BASE REFERENCE MANUAL 150 (2003).

The concentration of states at particular numerical values on an independent variable is probably inherent in the nature of social systems and not attributable to the number of cases furnishing the data in a study: a social system is unlikely to operate effectively unless its important dimensions are present in certain amounts or at certain levels. In most social science research on states, therefore, a limited number of categories seems to be the most suitable way to measure the gradations of an independent variable.

Table 1. Variables in Regression Model<sup>141</sup>

Variable (mnemonic label)	Description of variable
ABORTIONLAW	Whether the state liberalized its law on therapeutic abortion during the years 1967 through 1972, i.e., prior to the decision of the U.S. Supreme Court in <i>Roe v. Wade</i> . Each state was coded either 0 or 1. A state was coded 0 if it did <i>not</i> liberalize its law on abortion and was coded 1 if it did liberalize its law on abortion.
INCFEM2534CAT	The median income in 1959 of all women in each state who were twenty-five to thirty-four years old in 1960 and who received any income in 1959. In the regression, the variable was comprised of three categories of median income; the range of median income (and the number of states) in each category were: \$967 to \$1,495 (n = 16), \$1,509 to \$1,755 (n = 17), and \$1,827 to \$2,442 (n = 15).
LABOR2024CAT	The percentage of all women twenty to twenty-four years old in each state in 1960 who were in the labor force in 1960. In the regression, the variable consisted of three categories created from the percentages of women age twenty to twenty-four who were in the labor force; the range of percentages (and the number of states)

141. The data used for abortion law, the dependent variable, are from *supra* note 90. The data for the independent variables were derived or calculated from data in the report from the 1960 census for each state: U.S. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, CENSUS OF POPULATION: 1960, VOL. I, CHARACTERISTICS OF THE POPULATION (1963), available at <http://www.census.gov/prod/www/abs/decennial/1960cenpopv1.htm>. The state reports are numbered Part 2 (Alabama) through Part 52 (Wyoming). The following tables in each state report were used for the data for the independent variables:

INCFEM2534CAT- table 134

LABOR2024CAT - table 115

LABOR2529CAT - table 115

MARR2024CAT - table 105

MARR2529CAT - table 105

PCTCOLL2529CAT - tables 37 and 103

LABOR2529CAT	<p>in each category were: 33.3% to 40.8% (n = 18), 41.3% to 44.4% (n = 16), and 45.1% to 52.7% (n = 14).</p> <p>The percentage of all women twenty-five to twenty-nine years old in each state in 1960 who were in the labor force in 1960. In the regression, the variable consisted of three categories created from the percentages of women age twenty-five to twenty-nine who were in the labor force; the range of percentages (and the number of states) in each category were: 24.4% to 30.5% (n = 15), 30.9% to 34.9% (n = 16), and 35.7% to 45.0% (n = 17).</p>
MARR2024CAT	<p>The percentage of all women twenty to twenty-four years old in each state in 1960 who were currently married, i.e., who in 1960 were married. In the regression, the variable was comprised of three categories constructed from the percentages of women age twenty to twenty-four who were currently married; the range of percentages (and the number of states) in each category were: 56.9% to 70.8% (n = 17), 71.0% to 72.9% (n = 14), and 73.2% to 81.1% (n = 17).</p>
MARR2529CAT	<p>The percentage of all women twenty-five to twenty-nine years old in each state in 1960 who were currently married, i.e., who in 1960 were married. In the regression, the variable was comprised of three categories constructed from the percentages of women age twenty-five to twenty-nine who were currently married; the range of percentages (and the number of states) in each category were: 80.4% to 87.0% (n = 17), 87.2% to 88.6% (n = 16), and 88.9% to 92.7% (n = 15).</p>
PCTCOLL2529CAT	<p>The percentage of all women twenty-five to twenty-nine years old in each state in 1960 who had completed at least four years of college as of 1960. In the regression, the variable con-</p>

	sisted of three categories created from the percentages of women age twenty-five to twenty-nine who had finished four or more years of college; the range of percentages (and the number of states) in each category were: 3.95% to 6.33% (n = 17), 6.46% to 7.72% (n = 15), and 7.83% to 11.2% (n = 16).
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Table 2 presents the regression results for the forty-eight coterminous states.<sup>142</sup> Although the table presents the level of statistical significance of each odds ratio, the discussion of the results will rely on the odds ratios alone. As explained elsewhere,<sup>143</sup> tests of statistical significance are inappropriate when, as here, maximum-likelihood logistic regression is applied to a small number of cases,<sup>144</sup> and they are unnecessary when, as here, the cases comprise the entire universe under study rather than a sample drawn from the universe.<sup>145</sup> Nonetheless, table 2 reports the two-tailed significance levels of the odds ratios for readers who want this information.

The regression results discussed below furnish estimates of the relationship of each independent variable to whether states changed their abortion law during 1967-1972. Whether a particular independent variable is related to the dependent variable depends on the odds ratio for the independent variable: the closer an odds ratio is to 1.000, the lower the odds are that the dependent variable is altered by increases in the independent variable, and when the odds ratio for the independent variable is exactly (or approximately) 1.000, the independent variable does not affect the dependent variable. Like other forms of multiple regression, logistic regression indicates the relationship that exists between a dependent variable and each independent variable, separately from the relationship to the dependent variable of every other independent variable in the same regression equation. In the instant analysis, logistic regression estimated, for every change in category

142. All statistical analyses were performed with Stata Release 8.2. The results in table 2 were generated by the LOGISTIC command in Stata. STATA CORP., 2 STATA REFERENCE MANUAL 296 (2003).

143. Barnett, *supra* note 47.

144. States are the cases in the instant regression analysis. As explained earlier, sixteen of the forty-eight states in the continental United States substantially revised their law during 1967-1972 to expand access to abortion. *See supra* note 90. Since the remaining thirty-two states did not liberalize their law on abortion, the number of states characterized by the least-frequent outcome on the dependent variable was sixteen. Given the latter number, the regression equation in table 2 has five too many independent variables for tests of statistical significance to be used. *See HOSMER & LEMESHOW, supra* note 129, at 346-47.

145. The universe for the present study is all states in the coterminous United States. *See supra* note 130.

of a given independent variable, the increase or decrease in the odds that a state eased its law on abortion.<sup>146</sup>

The odds ratios in table 2 indicate that just three of the independent variables had a relationship to the dependent variable (ABORTIONLAW) that was of practical importance. These three variables are the percentage of women twenty-five to twenty-nine years old who were in the labor force (LABOR2529CAT), the percentage of women twenty to twenty-four years old who were currently married (MARR2024CAT), and the percentage of women twenty-five to twenty-nine years old who had finished four or more years of college (PCTCOLL2529CAT). Since an odds ratio is converted into a percentage by subtracting 1.000 and multiplying the remainder by 100,<sup>147</sup> the odds that a state liberalized its abortion law rose by approximately thirty percent for each category increase in the labor force participation rate among women twenty-five to twenty-nine years old and by twenty-six percent for each category increase in the percentage of women twenty to twenty-four years old who were currently married. The odds ratio for PCTCOLL2529CAT, however, was by far the largest: the odds that a state eased its law-imposed restrictions on abortion jumped by approximately 101 percent—i.e., roughly doubled—for each category increase in the percentage of women twenty-five to twenty-nine years old who had finished four or more years of college.

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146. See Barnett, *supra* note 47 for an explanation of the difference between probability, odds, and odds ratio.

147. See J. SCOTT LONG & JEREMY FREESE, REGRESSION MODELS FOR CATEGORICAL DEPENDENT VARIABLES USING STATA 146, 148 (rev. ed. 2003).

Table 2. Odds Ratios and Two-tailed Significance Levels for Regression of ABORTIONLAW on Independent Variables: 48 States

Variable (mnemonic label)	Odds ratio	Standard error	z	p> z
INCFEM2534CAT	0.996	.002	-2.28	0.023
LABOR2024CAT	1.116	.138	0.89	0.375
LABOR2529CAT	1.295	.150	2.24	0.025
MARR2024CAT	1.260	.169	1.72	0.085
MARR2529CAT	1.051	.343	0.15	0.878
PCTCOLL2529CAT	2.013	.517	2.72	0.006
<u>Regression model</u>				
Number of observations	=	48		
Log likelihood	=	-18.956		
Likelihood ratio chi-squared (6)	=	23.19		
Probability > chi-square	=	0.001		
Pseudo R <sup>2</sup>	=	0.380		

The odds ratios in table 2 cannot be accepted, however, until several matters are considered. The first is the possibility that the results of the regression analysis were seriously affected by one or more outliers, i.e., states whose classification (0 or 1) on the dependent variable (ABORTIONLAW) was substantially different from the classification that the regression model predicted. An indication that an influential outlier may exist is the odds ratio in table 2 for MARR2024CAT: each category increase in the percentage of women twenty to twenty-four years old who were currently married raises the odds of abortion law liberalization by states by about twenty-six percent. (Because the odds ratio for MARR2529CAT is essentially 1.000, no relationship is evident between MARR2529CAT and ABORTIONLAW.) However, the odds ratio for MARR2024CAT, in substantially exceeding 1.000, is inconsistent with the data in figure 3, according to which the marital-status variables should be unrelated to change in state abortion law. The odds ratio for MARR2024CAT is also inconsistent with theory, which suggests that increases in the prevalence of marriage among women will reduce, not raise, the odds of abortion law liberalization.

One criterion that has been recommended to identify potentially influen-

tial outliers is a Cook's Statistic that is equal to or greater than the result obtained by dividing 2.0 by the square root of the number of cases.<sup>148</sup> In the instant study, the criterion is  $2.0 \div \sqrt{48} = 0.29$ . Cook's Statistic was of this size or higher for eighteen states. Consequently, I re-estimated the odds ratios for the six independent variables by eliminating each of these states one at a time, i.e., the odds ratios were re-estimated based on forty-seven states.

Three of the regression analyses that used forty-seven states produced notable changes in the odds ratio for one or both of the two independent variables dealing with the prevalence of marriage among women. The three states involved in these analyses were Arkansas, Vermont, and Texas. Table 3 reports the odds ratios just for MARR2024CAT and for MARR2529CAT from the resulting regression analyses. To simplify the table, the odds ratios for the other four independent variables estimated in these analyses are omitted. A comparison of table 3 with table 2 reveals that Texas was responsible for the largest and most notable alteration in an odds ratio for the marital status variable. Specifically, with Texas removed from the data, the odds ratio for MARR2529CAT was 0.792. The absence of Texas also moved the odds ratio for MARR2024CAT farther above unity—from 1.260 to 1.435. Without Texas, accordingly, each increase in category of marriage prevalence among women twenty to twenty-four years old *raised* the odds of abortion law liberalization, but each increase in category of marriage prevalence among women twenty-five to twenty-nine years old *reduced* the odds of liberalization. The inconsistency in the direction of the relationship for the two age groups is illogical.

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148. DAVID A. BELSLEY ET AL., REGRESSION DIAGNOSTICS 28 (2004).

Table 3. Odds Ratios and Two-tailed Significance Levels for MARR2024CAT and MARR2529CAT from the Regression of ABORTIONLAW on All of the Independent Variables: 47 States

Variable (mnemonic label)	Odds ratio	Standard error	z	p> z
<u>Coterminous states without Arkansas</u>				
MARR2024CAT	1.197	.156	1.38	0.167
MARR2529CAT	1.341	.496	0.79	0.428
<u>Coterminous states without Texas</u>				
MARR2024CAT	1.435	.250	2.07	0.039
MARR2529CAT	0.792	.288	-0.64	0.521
<u>Coterminous states without Vermont</u>				
MARR2024CAT	1.448	.258	2.07	0.038
MARR2529CAT	1.200	.475	0.46	0.644

What accounts for the changes observed in the odds ratios for the two marital status variables when the three states are omitted? A number of explanations are possible. The most obvious, of course, is that one or more of the three states was indeed affecting the magnitude and direction of the relationship in the coterminous United States between the prevalence of marriage among women and the liberalization of state abortion law. Cook's Statistic is compatible with this explanation: Cook's Statistic exceeded 1.000 for each of the three states and only for these states. Since a case typically does not skew results unless its Cook's Statistic is at least 1.000,<sup>149</sup> one or more of the three states may have been an influential outlier. On the other hand, the striking inconsistency between the odds ratios for the marital-status variables when Texas is absent suggests that a factor other than, or in addition to, an influential outlier may have been responsi-

149. HOSMER & LEMESHOW, *supra* note 129, at 180.

ble for the changes in the odds ratios associated with the three states.

What other factor(s) might have contributed to the changes in the odds ratios for the marital-status variables produced by individual states? One possibility is that the data on marital status suffer from measurement error that is sufficiently widespread to affect the odds ratios for MARR2024CAT and MARR2529CAT. Under this view, marital status was inaccurately reported often enough to affect appreciably the proportion of women in the United States who were counted as married. Such an effect could have distorted the results of the regression analysis undertaken in the instant study for the marital-status variables. Different sources of data on the number of marriages in any particular year exhibit inconsistencies as well as suffer from errors,<sup>150</sup> and data on marital status in the census contain errors, too.<sup>151</sup>

Let me mention three reasons that marital status may have been misreported in the 1960 census with sufficient frequency to have a material effect on the odds ratios for MARR2024CAT and MARR2529CAT. First, the 1960 census gathered data using a questionnaire that respondents received by mail, and it was the first census to rely on a mailed, respondent-completed questionnaire for the country as a whole.<sup>152</sup> Thus, respondents in the 1960 census classified themselves as married or unmarried.<sup>153</sup> Second, an unknown but appreciable number of cohabiting persons in 1960 are likely to have incorrectly identified themselves as married.<sup>154</sup> Misidentification probably was facilitated because respondents, on their own, completed the census questionnaire. Third, the census considered individuals

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150. Ellen Linna Jamison & Donald S. Akers, *An Analysis of the Differences Between Marriage Statistics from Registration and Those from Censuses and Surveys*, 5 DEMOGRAPHY 460, 461 (1968).

151. U.S. BUREAU OF THE CENSUS, *supra* note 135, at liv.

152. *Id.* at xiv. After the questionnaire was mailed, a Census Bureau enumerator conducted an interview, but the purpose of the interview was only to “correct omissions and obviously wrong entries” in the questionnaire as filled out. *Id.*

The yearly data on marital status that are the basis of figure 3 are from the Current Population Survey. *See supra* note 122. The design of the Survey has changed over time. However, since the Census Bureau assumed responsibility for the methodological aspects of the Survey in the early 1940s, each respondent in the Survey has remained in the sample for a period totaling several months, and at least the initial interview of respondents has been conducted at the home of the respondent by Census Bureau personnel unless the respondent requested a telephone interview. U.S. CENSUS BUREAU, U.S. DEP’T OF COMMERCE, TECHNICAL PAPER 63RV, CURRENT POPULATION SURVEY: DESIGN AND METHODOLOGY 2-1, 2-2, 7-1, 7-3, 7-4 (2002), available at <http://www.census.gov/prod/www/workpaps.html>. As a source of data on marital status, consequently, the Current Population Survey is probably more accurate than the 1960 census.

153. Jamison & Akers, *supra* note 150, at 462.

154. Catherine Fitch et al., *The Rise of Cohabitation in the United States: New Historical Estimates* 19 (Univ. of Minnesota Population Center, Working Paper No. 2005-03, 2005), available at <http://www.pop.umn.edu/research/papers.shtml>.

who were in common-law marriages to be married,<sup>155</sup> and respondents who did not know whether common-law marriage existed in their jurisdiction or whether a particular relationship satisfied the requirements of a common-law marriage could often have recorded marital status incorrectly. The potential extent of the misunderstanding among young adults is suggested by the relatively low educational attainment of persons who were twenty-five to twenty-nine years old in 1960: in the United States as a whole, two out of three individuals in this age range had no more than a high school education.<sup>156</sup>

Figure 3 and theory are consistent with the explanation that errors in marital status in the 1960 census distorted the odds ratio for at least MARR2024CAT. Figure 3 shows that, prior to 1967, change over time in the distribution of marital status among young women was minimal, and thus marital status was not a variable that could have altered state law on abortion during 1967-1972. Theory<sup>157</sup> suggests that an increase in the percentage of women who are married will reduce the odds of abortion law liberalization, but the odds ratio for MARR2024CAT in table 2 indicates that, in terms of marriage prevalence among women twenty to twenty-four years old, just the opposite happens. In short, the odds ratio for marriage prevalence among women twenty to twenty-four years old is suspect.

A second matter regarding the regression results—namely, collinearity<sup>158</sup>—will be considered just briefly. Was the correlation of any pair of independent variables sufficiently strong to keep multiple regression from estimating reliable odds ratios for the variables? The rank correlation coefficients for pairs of independent variables in table 2 were often substantial. However, the logistic regression program did not halt the computation of the odds ratio for any independent variable due to excessive collinearity with another independent variable. Because the program did not find the covariation of pairs of independent variables to be problematic, I concluded that collinearity did not exist.

Finally, I turn to the possibility that the relationship of an independent variable to the dependent variable may not be the same within all categories or at all levels of another independent variable. This is the question of interaction,<sup>159</sup> and the independent variables I consider here are those that theory identifies as related. Of the independent variables in the regression equations, two meet this criterion—namely, labor force participation and

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155. U.S. BUREAU OF THE CENSUS, *supra* note 135, at liv; Jamison & Akers, *supra* note 150, at 462.

156. Calculated from U.S. BUREAU OF THE CENSUS, *supra* note 135, at Table 174.

157. See *supra* notes 92 & 93 and accompanying text.

158. William D. Berry, *Understanding Regression Assumptions*, 92 QUANTITATIVE APPLICATIONS IN THE SOC. SCIENCES 1, 24-27 (1993).

159. James Jaccard & Robert Turrissi, *Interaction Effects in Multiple Regression*, 72 QUANTITATIVE APPLICATIONS IN THE SOC. SCIENCES 1, 3-4 (2d ed. 2003).

marital status. Notably, a relationship between these two variables is posited by both theory in economics and theory in sociology. Economic theory has postulated that, *ceteris paribus*, the inclination of women to marry varies inversely with the appeal of their opportunities in the economy. Under this view, marriage in a society will be less beneficial to, and less popular among, women to the extent that women have enticements (e.g., high monetary compensation) to engage in paid employment outside the home. According to economic theory, then, marriage will become less common among women as the labor force provides incentives that draw women into non-household work.<sup>160</sup>

Sociological theory, which incorporates social values as a central concept,<sup>161</sup> expects marital status and employment status (of men as well as of women) to conform to the dominant values of society. In 1960, conventional values regarding marriage seem to have still been dominant in the United States,<sup>162</sup> and thus paid employment outside the home was envisioned for the husband but not the wife. Only later in the decade of the 1960s did traditional values concerning marriage start to come under attack and begin to erode.<sup>163</sup> Notably, patterns of employment in the United States in 1960 were consistent with the traditional view regarding marriage and employment among women: labor force participation at age twenty to twenty-four existed among fully seventy-three percent of never-married women in 1960 but among only thirty-one percent of currently married women whose husband was present; at age twenty-five to twenty-nine, labor force participation existed among seventy-nine percent of never-married women but among just twenty-seven percent of currently married women whose husband was present.<sup>164</sup>

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160. Sara McLanahan & Lynne Casper, Growing Diversity and Inequality in the American Family, in 2 STATE OF THE UNION: AMERICA IN THE 1990s 1, 32-35 (Reynolds Farley ed., 1995); Francine D. Blau et al., *Understanding Young Women's Marriage Decisions: The Role of Labor and Marriage Market Conditions*, 53 INDUS. & LAB. REL. REV. 624, 626, 645 (2000).

161. E.g., Francisco Parra-Luna, *An Axiological Systems Theory: Some Basic Hypotheses*, 18 SYS. RES. & BEHAV. SCI. 479, 481 (2001).

162. While this assertion cannot be documented with quantitative data from a sample survey of the U.S. population, the observation that the traditional conception of marriage prevailed at least as late as 1960 has been made by others. McLanahan & Casper, *supra* note 160, at 35. No national survey of attitudes conducted in the 1950s, or even in the early 1960s, assessed the extent to which Americans endorsed the conventional ideal of marriage. From 1969 to 1988, national sample surveys often asked interviewees to indicate whether they approved or disapproved of paid employment on the part of a married woman whose husband was "capable of supporting her" or "able to support her." During the years from 1946 through 1968, however, national surveys included no such measure. See RICHARD G. NIEMI ET AL., TRENDS IN PUBLIC OPINION: A COMPENDIUM OF SURVEY DATA 225 (1989).

163. See McLanahan & Casper, *supra* note 160, at 35; accord, Elizabeth S. Scott, *The Legal Construction of Norms: Social Norms and the Legal Regulation of Marriage*, 86 VA. L. REV. 1901, 1935-36 (2000).

164. Calculated from U.S. BUREAU OF THE CENSUS, *supra* note 135, at Table 196.

To ascertain the possible existence of an interaction, I created two new variables—one by multiplying the values of LABOR2024CAT and MARR2024CAT and the other by multiplying the values of LABOR2529CAT and MARR2529CAT. Both of the new variables were added to the regression equation in table 2, but the odds ratios for the two variables deviated from 1.000 by less than  $\pm 0.02$  when all forty-eight states were included in the regression analysis. When Arkansas, Texas, and Vermont were omitted from the data one at a time and forty-seven states were included in the regression analysis, the odds ratios for the two variables deviated from 1.000 by no more than  $\pm 0.04$ . Because the two variables created to test for interaction had no relationship to the dependent variable (ABORTIONLAW), interaction was assumed to be absent from the data.

What conclusions can be drawn from the data analysis? First, increasing educational attainment of young women had the strongest relationship to liberalization of state abortion law, and the magnitude of the relationship was substantial: for each category increase in the percentage of women twenty-five to twenty-nine years old who had finished at least four years of college, the odds roughly doubled that a state eased the restrictiveness of its law on access to abortion. Second, labor force participation among women twenty-five to twenty-nine years old was related to liberalization of state abortion law: each category increase in the percentage of women in this age range who were labor force participants raised the odds of liberalization by about thirty percent. By comparison to the relationship uncovered for schooling/education, however, the relationship found for labor force participation was just modest in magnitude.

Notably, educational attainment and labor force participation exhibited relationships to the dependent variable that are consistent both with the findings of research on the attributes of women that predict the probability of aborting a pregnancy and with the trends disclosed by the time-series data in figures 4 and 5. However, the odds ratios in table 2 for the marital status variables suggest that, among women twenty to twenty-four years old, category increases in the percentage who were currently married heightened the odds of liberalization of state law on abortion. Such a relationship is inconsistent with the implication from research that has found married women are less likely than unmarried women to abort pregnancies, and of particular importance, it does not comport with the trends observed in figure 3. I have suggested that the odds ratio for the marital status variable for women twenty to twenty-four years old may be due to misreporting by Americans in the 1960 census that they were married, but this is a hypothesis that could not be tested empirically.

Before ending, table 4 should be considered given the evidence that increases in the prevalence of schooling and the duration of education among young women were important in easing restrictions that state law imposed

on access to abortion. Table 4 is confined to women in the United States who were twenty-five to twenty-nine years old in each census year from 1940 to 2000. For the year specified in the first (i.e., left-hand) column of the table, the second column reports the percentage of women twenty-five to twenty-nine years old who held at least a bachelor's degree, and for each pair of sequential percentages in the second column, the third column reports the percentage change that occurred from the earlier to the later year. The third column thus shows the percentage change from one census year to the next in the prevalence of college graduation among women who were twenty-five to twenty-nine years old.

The trend that is apparent in the second column of table 4 is consistent with the trend that is seen in figure 4 for women younger than age twenty-five and with the data that footnote 126 presents on the mounting school enrollment rate between the last part of the 1940s and last part of the 1950s among women in the age range twenty to twenty-four. Table 4 shows that the percentage of women with a bachelor's degree or higher at age twenty-five to twenty-nine rose steadily from 1940 onward and that the decadal pace of the rise accelerated from 1940 to 1970. Figure 4 and footnote 126, which complement table 4, suggest that the proportion of women who received at least a bachelor's degree while twenty to twenty-four years old climbed rapidly during the 1950s and the first half of the 1960s. As these women grew older, the percentage of women with a college degree at age twenty-five to twenty-nine increased.<sup>165</sup> The increase from 1960 to 1970 is particularly notable; indeed, the largest percentage change found in the third column of table 4 is that occurring between 1960 and 1970. Therefore, prior to 1967 as well as during the period of abortion law liberalization that commenced in 1967, young women were increasingly entering college and earning bachelor's and graduate degrees. These trends are indicators of a fundamental shift in the role of women, and the shift that occurred before the modification of abortion law during 1967-1973 is unlikely to be mere coincidence.

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165. Most women who hold a bachelor's degree at age twenty-five to twenty-nine evidently entered college when they were eighteen or nineteen years old. *See, e.g.*, U.S. BUREAU OF THE CENSUS, *supra* note 135, at Table 168; U.S. BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, CENSUS OF POPULATION: 1970, VOL. I, CHARACTERISTICS OF THE POPULATION. PART 1, UNITED STATES SUMMARY – SECTION 2, at Table 197 (1973), available at <http://www.census.gov/prod/www/abs/decennial/1970ce-popv1.htm>. Therefore, an increase in the percentage of women with a bachelor's degree at age twenty-five to twenty-nine is an indicator of change in the female sex role that took place as much as a decade prior to the increase.

Table 4. Women 25-29 Years Old with a Bachelor's Degree or Higher, 1940-2000<sup>166</sup>

Year	Percentage of women age 25-29 holding at least a Bachelor's degree	Percentage change from prior year
1940	4.9%	—
1950	5.9	20.4%
1960	7.8	32.2
1970	13.3	70.5
1980	20.5	54.1
1990	22.4	9.3
2000	29.7	32.6

Finally, let me discuss another study of the relationship between the characteristics of jurisdictions and the law on abortion that existed in the jurisdictions prior to *Roe v. Wade*.<sup>167</sup> As I explain below, while this study (the Conway-Butler study) has the same subject matter as mine, there are critical differences in objectives, data, and procedures.

To begin, the Conway-Butler study, after an initial analysis, omitted women's educational attainment as a variable from its refined regression

166. The data in column 2 are from U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, *A Half-Century of Learning: Historical Statistics on Educational Attainment in the United States, 1940 to 2000*, at Table 2 (2006), available at <http://www.census.gov/population/www/socdemo/education/phct41.html>.

167. Karen Smith Conway & Michael R. Butler, *State Abortion Legislation as a Public Good—Before and After Roe v. Wade*, 30 *ECON. INQUIRY* 609 (1992).

In several social science studies that considered state differences on matters pertinent to law on abortion, the dependent variable was not differences in current law on abortion. Elizabeth Adell Cook et al., *State Political Cultures and Public Opinion about Abortion*, 46 *POL. RES. Q.* 771, 772 (1993); Leo H. Kahane, *Political, Ideological and Economic Determinants of Abortion Position: An Empirical Analysis of State Legislatures and Governors*, 53 *AM. J. ECON. & SOC.* 347, 348-50 (1994); Medoff, *supra* note 131.

models, in part because the investigators assumed that the main impact of educational attainment would be manifested through two other variables that they included in these models, namely, women's labor force participation rate and income.<sup>168</sup> Given the omission of education from the refined models, the study could not thoroughly evaluate the effect of the variable on abortion law or estimate the magnitude of any effect of the variable—an aspect of the study whose importance cannot be underrated in light of the trends in figure 4 *supra* and the odds ratio in table 2 *supra* for PCTCOLL2529CAT.

With regard to the variables that were included in the regression models of both the Conway-Butler study and my study, a difference in procedure between the studies markedly affected the interpretation of the regression results. Professors Conway and Butler relied on tests of significance; for reasons given earlier,<sup>169</sup> I did not. Using tests of statistical significance, the Conway-Butler study found that the restrictiveness of abortion law in a jurisdiction in 1970 was not associated either with the labor force participation rate among women in the jurisdiction or with the distribution of marital status among women in the jurisdiction.<sup>170</sup> This conclusion, however, takes into account only whether the probability of the regression coefficient for each variable was at or below .10 if no relationship with the dependent variable existed in the universe from which the investigators drew their sample.<sup>171</sup> If the regression coefficients themselves are considered<sup>172</sup> and their significance levels are disregarded, then the Conway-Butler study indicates that abortion law became more liberal with increases in the percentage of women in a jurisdiction who are married. This finding is consistent with the results of my regression analysis (at least for MARR2024CAT), but as in my study, the finding cannot be reconciled with figure 3 *supra* or with theory.<sup>173</sup> With regard to labor force participation, the regression results in the Conway-Butler study indicate that the odds of liberal abortion law decline with increases in the percentage of women in a jurisdiction who participate in the labor force. This finding is curious, because it is inconsistent with the odds ratios for women's labor force participation in table 2 *supra*, with figure 5 *supra*, and with theory.<sup>174</sup> The discrepant findings of the two

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168. Conway & Butler, *supra* note 167, at 615, 618. The refined models are the models that Conway and Butler label the “‘Best’ Model” and the “Private Demand” model. Education, although included in the model that Conway and Butler label the “Broadest model,” was not in the refined models, while labor force participation and income were in all of the preceding models. *Id.* at 618.

169. See *supra* notes 144 & 145 and accompanying text.

170. Conway & Butler, *supra* note 167, at 618.

171. The notes to Table III in Conway & Butler. *Id.* at 619.

172. *Id.* at 618 (reporting the regression coefficients).

173. See *supra* notes 92 & 93 and accompanying text.

174. *Id.*

studies as to labor force participation may be due to the omission of education as an independent variable in the Conway-Butler study and/or to one, or a combination, of the following differences between the studies.

The reader should note that the manner in which the dependent variable was measured was not the same in both studies. Professors Conway and Butler placed each state into one of three levels of restrictiveness in terms of its abortion law prior to *Roe*—viz., abortion unrestricted, significantly restricted, or prohibited<sup>175</sup>—while I measured the dependent variable with just two categories—viz., whether or not the state had eased its restrictions on abortion in the years preceding *Roe*. Undoubtedly of much greater potential importance to the regression results, however, is that the studies classified three states differently in terms of their abortion law before *Roe*. Professors Conway and Butler designated Florida as a state that banned abortion and designated Alabama and Massachusetts as states that significantly restricted access to abortion.<sup>176</sup> My study, on the other hand, classified Florida as a state that liberalized its abortion law, because the state had done so in 1972.<sup>177</sup> Furthermore, my study classified Alabama and Massachusetts as states that did not liberalize their abortion law, in part because the last pre-*Roe* change in abortion law that was made by these two states

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175. Conway & Butler, *supra* note 167, at 616, 621-22. Another study classified states into three levels of restrictiveness in terms of their law on access to abortion before *Roe v. Wade*. Sharon Kay Parsons, *Abortion Policy in the Fifty States: A Comparative Analysis* 96, 166-67 (1991) (unpublished Ph.D. dissertation, Florida Atlantic University) (on file with Widener University School of Law Delaware Campus Library). However, the study by Parsons is not useful for two reasons. First, the Parsons study employed factor analysis to create clusters of independent variables, and it assessed the relationship of just the clusters to the restrictiveness of state abortion law prior to *Roe*. *Id.* at 114-19. Because a cluster is global in nature, reliance on clusters rather than on the independent variables that form the clusters precludes a direct comparison of the findings of the Parsons study with the findings of my study. The relationship of a cluster of independent variables to a dependent variable, moreover, supplies information that is much less precise than the relationships to the dependent variable of the independent variables comprising the cluster. The second reason the Parsons study is not helpful is that the study employed least-squares regression, but for analyzing relationships to a dependent variable that is measured in categories, least-squares regression is dubious and, accordingly, has been replaced by logistic regression. The results reported in the Conway-Butler study, which was carried out at almost the same time as the Parsons study, are based on logistic regression, and least-squares regression was not employed. Conway & Butler, *supra* note 167, at 615.

176. Conway & Butler, *supra* note 167, at 621-22.

To classify states in terms of the restrictiveness of their law on abortion prior to *Roe*, Professors Conway and Butler relied on information in a book authored by a social scientist. *Id.* at 613 n.6. The book explicitly discloses that its information on abortion law was current as of January 1971. NANETTE J. DAVIS, *FROM CRIME TO CHOICE: THE TRANSFORMATION OF ABORTION IN AMERICA* 254-57 (1985). Because the book was published fourteen years after January 1971, Professors Conway and Butler may have assumed that, from January 1971 until the Court announced *Roe* in January 1973, no other jurisdiction liberalized its law on abortion. However, such an assumption is mistaken as to Florida. See *infra* note 177 and accompanying text.

177. Act of Apr 12, 1972, ch. 72-196, 1972 Fla. Laws 608; Merz et al., *supra* note 90, at 19-20.

occurred, respectively, in 1951<sup>178</sup> and in 1944, not in the 1960s.<sup>179</sup>

An additional difference between the studies is that the Conway-Butler study included Alaska, Hawaii, and the District of Columbia,<sup>180</sup> but my study omitted them. I omitted Alaska and Hawaii for reasons explained earlier,<sup>181</sup> and I omitted the District of Columbia in order to confine the analysis to states. The difference in the jurisdictions covered by the two studies could have markedly affected the regression results of the studies, and the difference is not simply coincidence. Professors Conway and Butler included the three jurisdictions (Alaska, Hawaii, and the District of Columbia), and I excluded them, because our studies had different purposes. Professors Conway and Butler wanted to predict the content of law on abortion in each major jurisdiction of the United States if the U.S. Supreme Court overrules *Roe*, and their refined regression models thus evidently included the District of Columbia even though the investigators had identified this jurisdiction as “a very influential outlier.”<sup>182</sup> My goal, on the other hand, was to help build a sociological theory of law, and to this end, my study examined a universe that was more circumscribed in order to reduce the likelihood of contamination by unmeasured factors.<sup>183</sup>

In sum, the regression results of the Conway-Butler study appear not to be helpful in isolating the causes of current law on abortion. Professors Conway and Butler focused on predicting the law on access to abortion that jurisdictions can expect to adopt if *Roe v. Wade* is overturned—an entirely

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178. Act of Sept. 12, 1951, no. 956, 1951 Ala. Laws 1630 (amending ALA. CODE tit. 14, § 9 (1940)).

179. *See supra* note 90.

180. Conway & Butler, *supra* note 167, at 621-22.

181. *See supra* note 130.

182. Conway & Butler, *supra* note 167, at 623 n.17.

183. Two further differences between the studies should be mentioned. First, Professors Conway and Butler measured their independent variables as of 1970. *Id.* at 616. However, 1970 was either concurrent with or after the point at which action had been taken by most of the jurisdictions that eased restrictions on abortion. *See supra* note 90. In my study, on the other hand, the data on the independent variables were for 1960 (or 1959 in the case of income), a time point that *precedes* the changes in state law. Because causation involves temporal sequences, potential causes of a phenomenon should be measured at a time that is before the occurrence of the phenomenon, not at a time that is contemporaneous with the phenomenon or that is after it.

Second, Professors Conway and Butler measured their independent variables with data for women eighteen to forty-four years old. Conway & Butler, *supra* note 167, at 616-17. On the other hand, I used data for women in the age range twenty to twenty-nine to measure all of the independent variables except income, for which the data were for women twenty-five to thirty-four years old. *See supra* note 135 and accompanying text. In the decade-and-a-half from 1973 to 1988 (and presumably in the years before 1973), women twenty to twenty-nine years old were the source of approximately half of all abortions, while women thirty years of age and older accounted for fewer than one out of five abortions. HENSHAW & VAN VORT, *supra* note 120, at 172-73. Accordingly, the characteristics of females under thirty years old are probably the chief determinants of the existence and degree of pressure on a social system to allow ready access to abortion.

legitimate focus when the goal is to understand the political process. Their study, however, was not primarily concerned with a theory of law. My study, on the other hand, places a heavy emphasis on theory.

#### IV. THE CONCEPT OF SOCIETAL NEED

All theories contain key concepts, and the macrosociological theory that frames the instant Article is no exception. Specifically, this Article employs the concept of need and contends that need is a principal determinant of law. My focus, however, has been on the needs of society, not on the needs of individuals, and although the two may influence one another and change concurrently in content and intensity, they possess distinctly different referents. To use abortion as an illustration, a woman who seeks to end a pregnancy does so for one or more reasons *she* considers important—because, for example, the fetus she is carrying is jeopardizing her physical health or financial goals—but *her* need to terminate a pregnancy is an individual-level attribute. I have focused instead on the degree to which society, in responding to the forces affecting it, requires the availability of abortion and the existence of supporting doctrine in law. Need in my lexicon accordingly emerges from the properties of society and from the forces that mold these properties, and it involves the propensity of every social system in the long run to (i) retain and/or strengthen the commitment of its participants to the system and (ii) operate smoothly. In accounting for the rules of social life—both those that are formal (e.g., law) and those that are informal—I believe that the concept of societal need can make a distinct and important contribution.

By considering need as an attribute of society, I do not mean to disparage the concept of need as an attribute of individuals or suggest that scientific inquiry should avoid the subject of the needs of individuals. Rather, I contend that individual need is unlikely to be a particularly helpful concept in accounting for the content and evolution of doctrine in law. Law is concerned with the ways in which individuals interact, but “relations among people have a material character which is largely independent of individual control or conscious action.”<sup>184</sup> Doctrines in law must accordingly be understood by reference to conditions beyond the individual, i.e., by reference to the society in which the doctrines exist. In particular, I maintain that law, as a macrosociological phenomenon, is a response to societal needs and cultural values and that the need for law with a particular content on a given topic is the need of the social system.

Need, whether used in reference to social systems or to individuals, is an abstract concept, i.e., a concept that is not directly observable but that has

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184. Bruce H. Mayhew, *Structuralism versus Individualism: Part 1, Shadowboxing in the Dark*, 59 SOC. FORCES 335, 345 (1980).

observable manifestations. Accordingly, need is a concept with potential uses in theory. Science employs such concepts because they have the ability to provide a coherent view of the world: with theoretical concepts, numerous and varied observations can be transformed into a manageable set of ideas and organized in ways that permit events not yet observed to be anticipated. The concept of gravity, for example, is found in physics for this reason.

A theoretical concept, however, does not exist for its own sake. Science is an inherently practical undertaking, and unless a concept is useful to the scientific enterprise—i.e., unless a concept furthers understanding and aids prediction—it must and will be abandoned. The history of science contains instances of theoretical concepts that did not advance the goals of science and were dropped. In the 1700s, for example, the concept of phlogiston was believed to be an invisible substance produced by combustion that accounted for certain observable changes associated with heat, but the concept was finally discarded because it could not be reconciled with the results of experiments in the emerging discipline of chemistry.<sup>185</sup>

If the concept of need in social science is not to suffer the same fate as the concept of phlogiston in physical science, it must be shown to aid the scientific enterprise, i.e., contribute to the explanation and prediction of phenomena. The present Article has considered several topics, and for each, the concept of need is useful. Specifically, a defensible argument can be made that, because of change in system-level conditions, society developed a need for new law on sex roles, on the age of majority, and on abortion. Societal need, in short, offers promise as an efficacious concept in a macrosociological theory of law.

#### A. *Functionalism*

In order to understand the concept of societal need, the sociological theory from which it derives must be described, and the criticisms directed at the theory must be considered. The theory is functionalism. As an approach to the nature of social life, functionalism was the first theory propounded by sociologists, and revised versions of the theory remain influential.<sup>186</sup> The central premise of functionalism is that a society is composed of interrelated components that promote the operation and, in turn, the continuation of the society.<sup>187</sup> Specifically, functionalism considers society to be a system—i.e., an interrelated whole—and contends that the components of society facilitate the performance of the system. A component that

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185. GERALD HOLTON & DUANE H. D. ROLLER, FOUNDATIONS OF MODERN PHYSICAL SCIENCE 269-73 (1958).

186. JONATHAN H. TURNER, THE STRUCTURE OF SOCIOLOGICAL THEORY 34, 37 n.31 (Wadsworth Thomson Learning 2003); SCOTT, *supra* note 4, at 139.

187. MARK ABRAHAMSON, FUNCTIONALISM 5 (1978).

becomes unable to assist the system, according to the functionalist perspective, either will change so that it once again serves the system, or it will cease to exist. A component thus does not emerge and/or persist unless it is functional for society. However, the emergence of, change in, or the disappearance of a component may not be immediate; on the contrary, these processes probably occur in the main over and/or after a substantial interval. Normally, then, the propositions of the functionalist school apply just in the long run.

What are the components of a society? In my macrosociological framework, the components are denominated "institutions,"<sup>188</sup> and one of them is law. Law, like every institution, possesses a distinct set of concepts and principles, i.e., doctrines, and the central doctrines of law reflect conditions in society, although usually with a time lag. Among the conditions shaping law are the values that govern the society.<sup>189</sup> The conformity of the content of law to social values should not be surprising, for without this conformity, the institution of law would not be accepted and could not contribute to the operation of society.

With this general outline, let me take up the principal criticisms that have been directed at the functionalist school insofar as the criticisms are relevant to doctrine in law and the theoretical framework employed in the instant Article.<sup>190</sup> The first criticism is that, because functionalism emphasizes stability and persistence in social systems, it cannot deal effectively with change, at least change that involves an important aspect of system structure and a major departure from established patterns. In terms of the approach I am employing to doctrines of law, the criticism is unfounded, for a theory of law based on functionalism demands that shifts in doctrine be studied. Indeed, the larger the magnitude of a doctrinal shift, the greater the importance of investigating the shift because major change is more likely than minor change to reveal (i) the societal properties and forces

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188. An institution can be defined as "[a]n established law, custom, usage, practice, organization, or other element in the political or social life of a people; a regulative principle or convention subservient to the needs of an organized community or the general ends of civilization." OXFORD ENGLISH DICTIONARY 1047 (2d ed. 1989).

189. THOMAS R. MARSHALL, PUBLIC OPINION AND THE SUPREME COURT 192-93 (1989); Christopher Z. Mooney & Mei-Hsien Lee, *The Influence of Values on Consensus and Contentious Morality Policy: U.S. Death Penalty Reform, 1956-82*, 62 J. POL. 223, 234 (2000); Matthew E. Wetstein & Robert B. Albritton, *Effects of Public Opinion on Abortion Policies and Use in the American States*, 25 PUBLIUS 91, 102 (1995). Government policy generally manifests the attitudes of the public when crystallized attitudes exist. Paul Burstein, *Bringing the Public Back In: Should Sociologists Consider the Impact of Public Opinion on Public Policy?*, 77 SOC. FORCES 27, 41 (1998).

190. My review of these criticisms is based on ABRAHAMSON, *supra* note 187, at 37-49; JOHN REX, KEY PROBLEMS OF SOCIOLOGICAL THEORY 60-77 (1961); TURNER, *supra* note 186, at 23-37; Peter A. Munch, *The Concept of "Function" and Functional Analysis in Sociology*, 6 PHIL. SOC. SCI. 193 (1976); Jonathan H. Turner & Alexandra R. Maryanski, *"Is 'Neofunctionalism' Really Functional?"*, 6 SOC. THEORY 110, 115-17 (1988).

molding law and (ii) the effects of law—two issues with which any theory of law must be concerned. It is thus not happenstance that the focus of the instant Article includes abortion law. The subject was selected because of the striking change that abortion law underwent in the United States during the 1960s and 1970s, and because of the availability of considerable data to study the change.

A second criticism of functionalism has been that it is teleological, a criticism that implicates the concept of need. Functionalism relies heavily on the concept of need; indeed, the concept is “what is distinctive about functional analysis.”<sup>191</sup> Traditionally, functionalism incorporated the concept of need by contending that every society requires a certain degree of internal integration and equilibrium in order to survive. In advancing this argument, functionalism becomes teleological if it assumes that the goal of satisfying the need produces the features of social life that accomplish the goal, and it becomes empirically untestable if at the same time it cannot generate hypotheses identifying these features in advance.<sup>192</sup> Specifically, to the extent functionalism argues that the needs of society call forth processes and structures that meet the needs, functionalism assumes the existence of an inherent design in society and relies on ends to explain means. Such reliance, though teleological, does not preclude empirical testing as long as functionalism also is able to predict the means that can reach the ends, and that therefore may emerge and be observed, in a given situation. Unfortunately, however, functionalist theory seems to be insufficiently developed at this point in time to permit such predictions to be consistently generated.

The preceding problem is associated with a third criticism of the functionalist school, namely, that the societal needs named by the school are so general that empirical research cannot disprove their existence. According to this criticism, functionalists have assumed that amorphous needs such as integration and equilibrium govern the social system, but the assumption cannot be rigorously tested because of the elusive nature of these needs. One prominent theorist in sociology has concluded that, because need is unverifiable as well as teleological, functionalism as an approach is of questionable scientific utility.<sup>193</sup>

The obscure quality and untestable character of needs in the functionalist perspective is closely linked to and largely responsible for a fourth problem that has plagued the perspective, namely, tautological reasoning. The problem arose because functionalists, having specified needs in highly abstract terms, rely upon the conditions believed to satisfy the needs as evidence

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191. Turner & Maryanski, *supra* note 190, at 117.

192. *Cf. id.* at 116.

193. REX, *supra* note 190, at 76.

that the needs are a reality. According to the functionalist argument, the existence of need X is shown by the presence of condition Y, and the fact that condition Y exists and can satisfy need X is proof that need X is real. This is reasoning that is circular and tautological; when need is employed in this fashion, it is intellectually empty.

To recapitulate, the concept of societal need has introduced problems of teleology, indefiniteness, and tautology into the macrosociological theory of functionalism. These problems, however, are not inherent in the concept of need, and they can be avoided. To do so in the present Article, I defined need in specific rather than general terms—e.g., as the need of the system for a particular type of law on abortion rather than as the need for integration and equilibrium—and I identified observable variables from which conclusions can be drawn regarding the degree to which a societal need exists for a specific doctrine in law, e.g., acceptance of access to abortion. The latter step—identifying a measure of need—is particularly important and warrants further comment.

Operationalizing a theoretical concept is essential if science is to use the concept and ascertain the contribution the concept can make to explanation and prediction.<sup>194</sup> In the instant Article, the criterion for determining the extent of a societal need for a particular doctrine of law, and the level of this need over time, was (i) change in the distribution in the population of the characteristic (e.g., age) that is the subject of the doctrine and/or (ii) change in the magnitude of a system-level factor that prior research on individuals suggests has an influence on the behavior that is the subject of the doctrine (e.g., the termination of a pregnancy by abortion). Thus, a societal need to legalize abortion was deemed to have existed when, before restrictions imposed by law on access to abortion were removed, an increase occurred in a system-level variable that has been found to affect the probability that individual women will terminate pregnancies.

Need, however, remains a concept that organizes and summarizes observations and that is itself unobserved. Need thus continues to be a theoretical construct, but as used here, it does not introduce the problems of teleology, indefiniteness, and tautology for which functionalism has been attacked. First, need was not regarded in this Article as controlling the variable being employed to measure need. Rather, my focus was on a variable that was believed responsible for producing a need, and quantitative data on the variable were employed to judge the intensity of the need. The variable, as reflected in data on its rate or distribution in the population, was accordingly viewed as creating a need rather than as satisfying a need that already exists. Used in this manner, the concept of need does not generate a teleological explanation. Second, need was empirically assessed in

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194. HOLTON & ROLLER, *supra* note 185, at 218-22.

this Article with quantitative data on phenomena that were defined in a relatively unambiguous and precise manner. The referents of need, therefore, were definite, not obscure. Third, and finally, inferences regarding the intensity of need were based on the level of and trends in the quantitative variables employed—variables such as age that were themselves the subject of the doctrines of law under study or variables that research had found influence the frequency of behaviors such as abortion that were the focus of the doctrines of law under study. In this way, conclusions regarding the existence and intensity of a need do not arise from a presumption regarding the need but, instead, from change in one or more variables that are logically antecedents of the need and that are independently measured. Such an approach involves inferences in only one direction and precludes tautological reasoning.

### *B. Societal Need and Abortion*

Let me return to the subject of abortion. In Part III of this Article, evidence was adduced that increases in the prevalence and duration of schooling among women in their main reproductive years were key to the creation of a societal need for the nonrestrictive abortion law that materialized during the last half of the 1960s and the first half of the 1970s. The apparent impact on abortion law of schooling among females does not end the inquiry, however, for a macrosociological theory of law cannot be confined to the immediate antecedents of law doctrines if the theory is to maximize its ability to explain and predict doctrinal content and change. Rather, the theory must include the forces molding these antecedents, and an explanation, therefore, is required for the fact that, as seen in figure 4 and table 4, school enrollment and college graduation underwent an appreciable rise among young women during the 1950s and 1960s. Identification of the causes of the rise is also a prerequisite to understanding the full range of effects of the large-scale forces that altered the properties of society pertinent to the liberalization of abortion law. For example, the greater extent and length of schooling among young women seems to have been accompanied by a shift, albeit delayed, in the meaning that children have for women,<sup>195</sup> and all of these changes, as contributors to or concomitants of the liberalization of abortion law, may have stemmed from a common source. To obtain a complete picture of the societal setting in which abortion law evolved, an exploration of the reasons for higher rates of school enrollment and college graduation among young women is essential.

What forces expanded the pursuit of education by young women in the United States during the last half of the twentieth century? The research necessary for a definitive answer to this question remains to be done, but I

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195. Nock, *supra* note 93, at 388-92.

suspect two forces were important—viz., increases in the stock of knowledge and increases in the density of population. Elsewhere I have discussed why I believe these forces enlarged the number of court decisions during the 1960s and 1970s that dealt with the constitutional guarantee of equal protection.<sup>196</sup> Here, I would like to outline briefly the reasons I think the two forces made school enrollment and college graduation more common among young women and, in turn, helped to produce law that accepted the use of abortion.

I begin with growth in the stock of knowledge because I believe that, with respect to abortion, it is the more influential of the two forces. Increases in the quantity and quality of knowledge, and associated advances in technology, are presumably responsible for changes observed in the occupational structure of the United States—specifically, the noticeable enlargement during the 1950s and 1960s of the part of the occupational structure devoted to information.<sup>197</sup> These changes can also be seen during the twentieth century in the expanding size of the professional and technical workforce, an expansion that was especially rapid after World War II: during the fifty years from 1900 to 1950, the proportion of professional and technical workers in the economically active population rose by approximately four percentage points, but in the twenty years from 1950 to 1970, the magnitude of the rise was some five percentage points.<sup>198</sup> Decadal growth in professional and technical workers was thus considerably larger in the two decades that followed 1950 than in the five decades that preceded it.

The effect of knowledge and its increase are not confined to the occupational structure, however, but extend to the pursuit of education, for the greater size of the professional and technical workforce has, since the middle of the twentieth century, fostered school attendance after high school.<sup>199</sup> Change in the volume of knowledge, that is, altered the occupational system in a way that affected the incidence of tertiary education. Consequently, the post-World War II increase among young women in school enrollment and college completion (seen in figure 4 and table 4, respectively) was not happenstance, and it was undoubtedly a key factor in the movement of employed females into the professions after 1950.<sup>200</sup> Collectively,

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196. BARNETT, *supra* note 11, at 22-24.

197. Nass, *supra* note 57, at 206.

198. Professional, technical, and kindred workers comprised 4.3% of the economically active population in 1900, 8.6% in 1950, and 13.7% in 1970. Computed from HISTORICAL STATISTICS, *supra* note 45, at 140 (Series D 233-682).

199. Pamela Barnhouse Walters, *Occupational and Labor Market Effects on Secondary and Postsecondary Educational Expansion in the United States: 1922 to 1979*, 49 AM. SOC. REV. 659, 668 (1984).

200. JAMES P. SMITH & MICHAEL P. WARD, RAND CORP., *WOMEN'S WAGES AND WORK IN THE TWENTIETH CENTURY* 40 (1984).

these changes—which stemmed from the enlarged store of knowledge—promoted the rationality of society and, hence, individual choice on a variety of matters.<sup>201</sup> In short, the volume and growth of knowledge had a major impact on the American social system at this time, an impact manifested in changes involving the role of women and, in turn, in law pertinent to women. Law banning gender-based discrimination in employment<sup>202</sup> and law regulating the grounds for abortion are illustrative.

With regard to population density, it is notable that the fraction of the U.S. population residing in a relatively populous area grew steadily during the twentieth century and that the fraction was appreciable in the period preceding and accompanying the reform of abortion law. To be exact, the percentage of the U.S. population residing in a metropolitan setting doubled between 1910 and 1950 (twenty-eight percent to fifty-six percent), and it continued to mount between 1950 and 1960 (fifty-six percent to sixty-three percent) and between 1960 and 1970 (sixty-three percent to sixty-nine percent).<sup>203</sup> How did exposure to an urban environment of a large and expanding share of the population contribute to the evolution of abortion law? Research indicates that, because its residents are more frequently college graduates,<sup>204</sup> such an environment is characterized by views, and presumably actions, that deviate from tradition.<sup>205</sup> Indeed, the impact of urbanism on civil liberties may be greatest in terms of the role of women.<sup>206</sup> Therefore, increases in metropolitan residence, by fostering or at least allowing the acceptance of nontraditional behavior, probably promoted the schooling and educational attainment of women.

In sum, I believe that, for the reasons I have outlined, growth in knowledge and increases in population density were instrumental in modifying abortion law in the United States. As forces reshaping the American social order, they changed the core of society in a number of ways that encouraged young women to enroll in school and complete college. Specifically, increases in the volume of knowledge and the density of population may have altered the social system in a manner that increased the ratio of burdens to benefits from childbearing and broadened the range of nonrepro-

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201. See *supra* notes 55-64 and accompanying text; Barnett, *supra* note 47.

202. See *supra* notes 69-75 and accompanying text.

203. FRANK HOBBS & NICOLE STOOPS, U.S. CENSUS BUREAU, U.S. DEP'T OF COMMERCE, DEMOGRAPHIC TRENDS IN THE 20TH CENTURY: CENSUS 2000 SPECIAL REPORTS, at A-5 (2002). A geographic area that is labeled "metropolitan" contains "a large population nucleus, together with adjacent communities having a high degree of social and economic integration with that nucleus." *Id.* at B-4.

204. Laura M. Moore & Seth Ovadia, *Accounting for Spatial Variation in Tolerance: The Effects of Education and Religion*, 84 SOC. FORCES 2205, 2214 (2006).

205. Thomas C. Wilson, *Urbanism, Migration, and Tolerance: A Reassessment*, 56 AM. SOC. REV. 117, 119-21 (1991).

206. Thomas C. Wilson, *Urbanism and Nontraditional Opinion: Another Look at the Data*, 73 SOC. SCI. Q. 610, 612 (1992), at Table 1.

ductive activities that attract women. From a functionalist perspective, society-provided constraints and inducements mold the acts of individual human beings, and growth in the stock of knowledge and the density of population may have changed the constraints and inducements that affect women with respect to bearing and rearing children. In this new social environment, the education of women began to expand and affect fertility-related decisions. As the process unfolded, society removed conspicuous restrictions imposed by law on the termination of pregnancies by adult women: since participation in and progress through the education institution, and the nonreproductive activities that stem from this participation/progress, would not be fully available to young women unless abortion was accessible, the existence of appealing alternatives to childbearing would have required that the institution of law acknowledge the importance of abortion access and eliminate doctrines regarded as major obstacles to abortion use.<sup>207</sup>

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207. While the growing demand for education among young women was critical to easing restrictions placed on abortion by law, the change in abortion policy did not appreciably further the schooling of these women: the liberalization of abortion law between 1967 and 1973 did not raise the educational level of white women, and it added just a quarter-year to the average educational achievement of black women. Maya H. Klein, *The Effects of Abortion Legislation on Women's Educational Attainment in the United States* 83-84, 106, 109, 113-14 (1997) (unpublished Ph.D. dissertation, University of California, Berkeley) (on file with Widener University School of Law Delaware Campus library). This is further evidence that, prior to 1967, women who wished to terminate pregnancies were in general doing so, even if the terminations violated existing law, and that the chief benefit to society from the liberalization of law on abortion was symbolic. Barnett, *supra* note 47.

Appendix  
Age of Majority Specified by Law in Each State<sup>208</sup>

State	Column 2: Age of majority before adoption of age of majority in column 3	Column 3: Age of majority that replaced the age in column 2	Column 4: Year of approval by legislature of age of majority in column 3
Alabama	21	19	1975
Arizona	21	18	1972
Arkansas	21 (males); 18 (females)	18	1975
California	21; 18 if married	18	1971
Colorado	21	18	1973
Connecticut	21	18	1972
Delaware	21	18	1972
Florida	21	18	1973
Georgia	21	18	1972
Idaho	21 (males); 18 (females)	18	1972
Illinois	21 (males); 18 (females)	18	1971
Indiana	21	18	1973
Iowa	21 or upon marriage 19 or upon marriage	19 or upon marriage 18 or upon marriage	1972 1973
Kansas	21; 18 if married	18	1972
Kentucky	21	18	1964
Louisiana	21	18	1972
Maine	21 20	20 18	1969 1972
Maryland	21	18	1973
Massachusetts	21	18	1973
Michigan	21	18	1971
Minnesota	21	18	1973
Mississippi	21	21	—

208. The age of majority that is given applies both to males and to females unless otherwise indicated.

Missouri	21	18	[See Missouri in Sources list for table.]
Montana	21 (males); 18 (females) 19	19 18	1971 1973
Nebraska	21 or upon marriage 20 or upon marriage	20 or upon marriage 19 or upon marriage	1969 1972
Nevada	21 (males); 18 (females)	18	1973
New Hampshire	21	18	1973
New Jersey	21	18	1972
New Mexico	21	18	1971
New York	21	18	1974
North Carolina	21	18	1971
North Dakota	21 (males); 18 (females)	18	1971
Ohio	21	18	1973
Oklahoma	21 (males); 18 (females)	18	1972
Oregon	21 or upon marriage	18 or upon marriage	1973
Pennsylvania			[See Pennsylvania in Sources list for table]
Rhode Island	21	18	1972
South Carolina	21	18	1975
South Dakota	21 (males); 18 (females)	18	1972
Tennessee	21	18	1972
Texas	21	18	1973
Utah	21 (males); 18 (females); or upon marriage	18 or upon marriage	1975
Vermont	21	18	1971
Virginia	21	18	1972
Washington	21	18	1970, 1971
West Virginia	21	18	1972
Wisconsin	21	18	1972
Wyoming	21 19	19 18	1973 1993

## Sources:

Alabama: Act of July 22, 1975, No. 77, 1975 Ala. Acts 554; *Ex parte Bayliss*, 550 So. 2d 986, 989 (Ala. 1989) (“From 1852 to 1975, the age of majority in Alabama was 21 years.”).

Arizona: ARIZ. REV. STAT. § 1-215 (1956); Act of May 22, 1972, ch. 146, 1972 Ariz. Sess. Laws 1002.

Arkansas: ARK. CODE. § 57-103 (1947); Act of Apr. 4, 1975, No. 892, 1975 Ark. Acts 2321.

California: Act of Dec. 14, 1971, ch. 1748, 1971 Cal. Stat. 3736; Act of Sept. 7, 1955, ch. 183, 1955 Cal. Stat. 648.

Colorado: COLO. REV. STAT. § 2-4-211 (1989); Act of June 25, 1973, ch. 158, 1973 Colo. Sess. Laws 543.

Connecticut: Act of May 9, 1972, No. 127, 1972 Conn. Acts 129 (Reg. Sess.); *Altieri v. Altieri*, 155 A.2d 758, 760 (Conn. Super. Ct. 1959) (“Under the common law, which has been adopted in our jurisdiction, the age of majority is twenty-one years.”).

Delaware: Act of June 16, 1972, ch. 439, 1972 Del. Laws 1351-52; *Wife v. Husband*, 412 A.2d 724, 725 (Del. Fam. Ct. 1980) (referring to the June 16, 1972 statutory reduction in the age of majority from twenty-one to eighteen years).

Florida: Act of May 9, 1973, ch. 73-21, 1973 Fla. Laws; Act of Nov. 6, 1829, § 1, 1829 Fla. Laws 8-9; *Riley v. Holmer*, 131 So. 330, 331 (Fla. 1930) (“Under our law, both males and females are minors till they reach the age of twenty-one years. This was the common law rule.”).

Georgia: GA. CODE ANN. § 74-104 (1964); Act of Mar. 10, 1972, No. 862, 1972 Ga. Laws 193-99.

Idaho: IDAHO CODE ANN. § 32-101 (1932); Act of Mar. 10, 1972, ch. 117, 1972 Idaho Sess. Laws.

Illinois: Act of July 24, 1939, § 131, 1939 Ill. Laws 37; Act of Aug. 24, 1971, No. 77-1229, 1971 Ill. Laws 2201.

Indiana: IND. CODE ANN. § 34-1-67-1 (1973, repealed 1990); Act of Apr. 16, 1973, no. 313, 1973 Ind. Acts 1715-17; *McClain v. Chavez*, 383 N.E.2d 414, 415 (Ind. Ct. App. 1978) (“The Legislature changed the age of majority from 21 to 18 years effective as of July 26, 1973”).

Iowa: IOWA CODE § 599.1 (1950); Act of April 19, 1972, ch. 1027, 1972 Iowa Acts 83; Act of Mar. 7, 1973, ch. 140, 1973 Iowa Acts 311.

Kansas: Act of Apr. 7, 1978, ch. 155, 1978 Kan. Sess. Laws 683 (reducing the age of majority to sixteen if married); Act of Mar. 26, 1972, ch. 161, 1972 Kan. Sess. Laws 606; Act of Apr. 19, 1965, ch. 274, 1965 Kan. Sess. Laws 546.

Kentucky: Act of Mar. 10, 1964, ch. 21, 1964 Ky. Acts 96 (establishing eighteen as the age of majority; approved in 1964 and implemented on January 1, 1965); *Showalter v. Showalter*, 497 S.W.2d 420, 421 (Ky. 1973)

("In 1965 the age of majority was lowered from twenty-one to eighteen years by the General Assembly").

Louisiana: LA. CIV. CODE ANN. art. 37 (vacated by amendment 1987); Act of June 25, 1972, No. 98, 1972 La. Acts 336.

Maine: The age of majority was reduced from twenty-one to twenty in 1969 and from twenty to eighteen in 1971. Act of Oct. 1, 1969, ch. 433, 1969 Me. Laws 1150-68; Act of June 9, 1972, ch. 598, 1971 Me. Laws 164-180 (Spec. Sess.).

Maryland: Act of May 24, 1973, ch. 651, 1973 Md. Laws 1300; *Monticello v. Monticello*, 315 A.2d 520, 523 (Md. 1974) (quoting legislative history stating that, except for liquor, the 1973 Act "lower[s] the age of majority from twenty-one to eighteen years of age in all areas of the common law, in all sections and articles of the Annotated Code of Maryland, and in all counties of the State of Maryland").

Massachusetts: Act of Oct. 17, 1973, ch. 925, 1973 Mass. Acts 938-53; *Orlandella v. Orlandella*, 347 N.E.2d 665, 665 (Mass. 1976) ("Effective January 1, 1974, the age of majority was changed from twenty-one to eighteen years of age.").

Michigan: MICH. CONST. of 1963, art. III, § 7; Act of Aug. 4, 1971, no. 79, 1971 Mich. Pub. Acts 142.

Minnesota: MINN. STAT. § 645.45 (1947); Act of May 24, 1973, ch. 725, 1973 Minn. Laws 2082.

Mississippi: MISS. CODE ANN. § 1-3-27 (1999); MISS. CODE ANN. § 1-3-27 (1972).

Missouri: *Owens v. Owens*, 854 S.W.2d 52, 54 (Mo. Ct. App. 1993) ("In 1974 the Legislature attempted to change the age of majority from twenty-one to eighteen years of age for all purposes except for the purchase of alcoholic beverages. However, the Supreme Court held unconstitutional this blanket attempt to change the age of majority through an improper amendment. *State ex rel. McNary v. Stussie*, 518 S.W.2d 630, 634, 637 (Mo. 1974). Since then, the Legislature has piecemeal changed the age of majority to eighteen in certain instances."). *See also In re Marriage of Orth*, 637 S.W.2d 201, 205 (Mo. Ct. App. 1982) ("The age of majority is, for most purposes, eighteen in Missouri.").

Montana: The age of majority was reduced to nineteen for all persons in 1971 and to eighteen for all persons in 1973. MONT. CODE ANN. § 64-101 (1949); Act of Mar. 6, 1973, ch. 94, 1973 Mont. Laws 109; Act of Mar. 9, 1971, ch. 240, 1971 Mont. Laws 993.

Nebraska: Until 1965, majority was reached at twenty-one or, for females only, upon marriage. NEB. REV. STAT. § 38-101 (1944). From 1965 to 1969, majority was reached at twenty-one or upon marriage for both males and females. Act of May 12, 1965, ch. 207, 1965 Neb. Laws 613. The age of majority was reduced from twenty-one to twenty in 1969 and

from twenty to nineteen in 1972, with marriage conferring majority at younger ages. Act of Mar. 13, 1969, ch. 298, 1969 Neb. Laws 1072; Legis. 1086, 1972 Leg. (Neb. 1972).

Nevada: Act of May 3, 1973, ch. 753, 1973 Nev. Stat. 1577-83.

New Hampshire: N.H. CONST., pt. 2, art. 90; Act of Apr. 4, 1973, ch. 72, 1973 N.H. Laws 51.

New Jersey: Act of July 5, 1972, ch. 81, 1972 N.J. Laws 457; Act of Dec. 28, 1972, ch. 206, 1972 N.J. Laws 790; *Green v. Auerbach Chevrolet Corp.*, 606 A.2d 1093, 1095 (N.J. 1992) (“Effective January 1, 1973, the Legislature lowered the age of majority in New Jersey from twenty-one to eighteen.”).

New Mexico: Act of Apr. 2, 1971, ch. 213, 1971 N.M. Laws 727; *Montoya de Antonio v. Miller*, 34 P. 40, 41 (N.M. 1893) (“the common law fixes the beginning of [full legal age] on the day preceding the twenty-first anniversary of birth, and the same has not been changed by any statute of this territory.”).

New York: N.Y. DOM. REL. LAW § 2 (Thompson 1964); Act of June 15, 1974, ch. 920, 1974 N.Y. Laws 2213.

North Carolina: N.C. GEN. STAT. § 4-1 (1986); Act of June 17, 1971, ch. 585, 1971 N.C. Sess. Laws 510.

North Dakota: N.D. CENT. CODE §§ 14-10-01, 14-10-02 (1960); Act of Feb. 26, 1971, ch. 145, 1971 N.D. Laws 230.

Ohio: OHIO REV. CODE ANN. § 3109.01 (1972); Act of Nov. 21, 1973, No. 1, 1973 Ohio Laws 7.

Oklahoma: OKLA. STAT. tit. 15, §§ 13, 14 (1966); Act of Apr. 7, 1972, ch. 221, 1972 Okla. Sess. Laws 332.

Oregon: OR. REV. STAT. §§ 109.510, 109.520 (1971); Act of July 20, 1973, ch. 827, 1973 Or. Laws 2417.

Pennsylvania: 23 PA. CONS. STAT. § 5101 (1991); Act of Dec. 6, 1972, No. 300, 1972 Pa. Laws 1404; 1 PA. CONS. STAT. § 1991 (1995); Act of May 28, 1937, No. 282, 1937 Pa. Laws 1019; *Sutliff v. Sutliff*, 528 A.2d 1318, 1322 n.4 (Pa. 1987) (“The age of majority for substantive purposes in civil matters remains twenty-one.”).

Rhode Island: Act of Mar. 29, 1972, ch. 20, 1972 R.I. Pub. Laws 62, which “changed the age of majority in Rhode Island from twenty-one to eighteen.” *Vaillancourt v. Vaillancourt*, 449 A.2d 885, 886 n.2 (R.I. 1982).

South Carolina: Act of July 2, 1976, no. 695, 1976 S.C. Acts 1886; Act of Feb. 6, 1975, No. 15, 1975 S.C. Acts 13.

South Dakota: S.D. CODIFIED LAWS § 26-1-1 (1967); Act of Feb. 17, 1972, ch. 154, 1972 S.D. Sess. Laws 185.

Tennessee: Act of Mar. 30, 1972, ch. 612, 1972 Tenn. Pub. Acts 494; *Cardwell v. Bechtol*, 724 S.W.2d 739, 745 (Tenn. 1987) (“That the Legislature has adopted [18 years] for attainment of majority indicates persua-

sively that conditions in society have changed to the extent that maturity is now reached at earlier stages of growth than at the time that the common law recognized the age of majority at 21 years.”).

Texas: Act of June 16, 1973, ch. 626, 1973 Tex. Gen. Laws 1722; *Dallas Joint Stock Land Bank of Dallas v. Dolan*, 92 S.W.2d 1111, 1112 (Tex. Civ. App. 1936) (“By the common law and the law of this state, the status of minority of appellee continues up to the age of 21.”).

Utah: UTAH CODE ANN. § 15-2-1 (1953); Act of Mar. 24, 1975, ch. 39, 1975 Utah Laws 121.

Vermont: VT. STAT. ANN. tit. 1, § 173 (1958); Act of Apr. 16, 1971, No. 90, 1971 Vt. Acts & Resolves 208.

Virginia: Act of Apr. 10, 1972, ch. 824-25, 1972 Va. Acts 1472-97; *Hurdle v. Prinz*, 235 S.E.2d 354, 355 (Va. 1977) (“On July 1, 1972, . . . [chapters 824 and 825] became effective lowering the age of majority from 21 years to 18.”).

Washington: The age of majority was reduced from twenty-one to eighteen in 1970 for specified purposes (e.g., contractual obligations, civil litigation) and in 1971 for all purposes. Age Qualifications Act, ch. 292, 1971 Wash. Sess. Laws 1601; Act of Feb. 20, 1970, ch. 17, 1970 Wash. Sess. Laws 145; Act of Mar. 10, 1923, ch. 72, 1923 Wash. Sess. Laws 222.

West Virginia: W. VA. CODE § 2-1-1 (1999); Act of Mar. 11, 1972, ch. 61, 1972 W. Va. Acts 310; *Dimitroff v. Dimitroff*, 218 S.E.2d 743 (W. Va. 1975).

Wisconsin: WIS. STAT. § 990.01 (1958); Act of Mar. 22, 1972, ch. 213, 1971 Wis. Sess. Laws 509.

Wyoming: The age of majority was reduced from twenty-one to nineteen in 1973 and from nineteen to eighteen in 1993. WYO. STAT. ANN. § 8-1-101 (1999); Act of Feb. 16, 1993, ch. 1, 1993 Wyo. Laws 1; Act of Mar. 5, 1973, ch. 213, 1973 Wyo. Sess. Laws 312.