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SOCIETAL PROPERTIES AND LAW ON SAME-SEX NON-MARITAL PARTNERSHIPS AND SAME-SEX MARRIAGE IN EUROPEAN UNION NATIONS

LARRY D. BARNETT AND PIETRO SAITTA

I. THE SOCIETAL CONTEXT

One of the subjects that sociological theory must address is the variability of institutions between nation-states.¹ Unfortunately, however, the factors responsible for this variability are difficult to investigate. The difficulty exists for two reasons. First, nation-states are not numerous and therefore constitute a relatively small universe for study. Second, the data needed to measure the hypothesized causes of the variability of the institutions of nation-states are generally limited in amount and often problematic in quality.² Nonetheless, because the countries of the world are heterogeneous and few of them are static, students of social systems would do well to devote more of their efforts to identifying the reasons that an institution differs between nations at any specific time and changes within a nation over time. If such differences and changes can be explained, they can be anticipated, and policy will be improved by an ability to make predictions regarding institutions with an accuracy rate that exceeds chance. The findings of the study reported *infra* in Part III may thus have important practical ramifications.

In the pages to follow, we focus on two important institutions of societies — marriage and law — and attempt to explain cross-spatial and cross-temporal variation that exists in these institutions. In particular, we consid-

¹ In the instant article, an institution is considered to be a set of statuses and roles (i) that a society defines and endorses and (ii) that involve interpersonal relationships through which a socially approved type of activity takes place in the society. Howard B. Kaplan, *The Concept of Institution: A Review, Evaluation, and Suggested Research Procedure*, 39 SOC. FORCES 176, 179 (1960). An institution, as the word is used in the article, is not a specific organization (e.g., a particular corporation in the private sector or a particular agency in the public sector), but a general pattern of interpersonal behavior. Together, the institutions of a society determine the character and effectiveness of the society.

² Bruce Western & Simon Jackman, *Bayesian Inference for Comparative Research*, 88 AM. POL. SCI. REV. 412, 412, 414 (1994).

er the factors that may account for the doctrine of law that a country adopts on same-sex non-marital partnerships and same-sex marriage, and we do so by considering differences between, and change within, countries in this doctrine.

Quantitatively, change must be measured by reference to a baseline, and for the present discussion, the most useful baseline is no change.³ What conditions are likely to be responsible for a lack of change in a society and its institutions? Three plausible theoretical propositions can be suggested:⁴

- (i) A society remains unchanged if it does not interact with another society whose social values and institutions differ.
- (ii) A society remains unchanged if its supply of knowledge — i.e., the information at its disposal to solve problems — is constant.
- (iii) A society remains unchanged if it is not densely populated.⁵

If the above propositions are correct, few nation-states in the world today can be expected to experience no significant social change over time. Moreover, although each proposition assumes that all else is equal, the three sources of change that the propositions identify are likely to act in conjunction with one another more often than they act independently. In combination, the effects of the sources are probably multiplicative rather than additive.

The discussion that follows will focus on propositions (ii) and (iii), not proposition (i). However, it should be kept in mind that in part because of expanding inter-nation ties (proposition (i)), a country is unlikely to avoid increases in its store of knowledge (proposition (ii)) or to maintain a low

³ Alternative baselines would be change of various types (e.g., linear versus curvilinear) and change at various rates. However, the alternative baselines are numerous and diverse, and the criteria for choosing among them are uncertain.

⁴ The three propositions are not intended to list all of the factors that are responsible for the absence of change in societies and their institutions. None of the propositions, for example, deals with the impact of unique but massive events such as wars, natural disasters, and economic depressions. Unfortunately, the degree to which such events affect social patterns in the long run has infrequently been the subject of research applying a multivariate statistical test to a large dataset. A notable exception is the study by Claudia D. Goldin, *The Role of World War II in the Rise of Women's Employment*, 81 *AM. ECON. REV.* 741 (1991). Professor Goldin found that, contrary to popular belief, World War II did not produce a substantial rise in employment among women in the United States. *Id.* at 755. The economic depression of the 1930s, however, was associated with a marked reduction in differences in the sex composition of occupations in the United States. Kim A. Weeden, *Revisiting Occupational Sex Segregation in the United States, 1910-1990: Results From a Log-Linear Approach*, 35 *DEMOGRAPHY* 475, 480 tbl.2 (index A) (1998).

⁵ As to propositions (ii) and (iii), see LARRY D. BARNETT, *LEGAL CONSTRUCT, SOCIAL CONCEPT: A MACROSOCIOLOGICAL PERSPECTIVE ON LAW* 22–24 (1993) [hereinafter *LEGAL CONSTRUCT, SOCIAL CONCEPT*].

population density (proposition (iii)).⁶ Currently, ties between countries are promoted most notably by the Internet, but the rate of growth of these ties was probably rising throughout the twentieth century.⁷

A. *Supply of Knowledge*

Proposition (ii)⁸ contends that a society is shaped by, *inter alia*, the nature and quantity of the knowledge that it employs. If the proposition is correct, the rapidity and content of change in a society are direct consequences of the degree to which the society acquires and applies new knowledge. The acquisition of new knowledge by a society, of course, can derive from knowledge generated within the society and/or from knowledge that is imported from outside the society. Among the countries of the world, both avenues have been used,⁹ and given the advances in technology that have raised the speed and reduced the cost of communication in recent decades, both are likely to contribute substantially to the knowledge used by a society in the future. Indeed, the tempo of knowledge accumulation may increase geometrically rather than arithmetically through a self-reinforcing cycle in which improvements in communication allow knowledge to be disseminated more quickly and less expensively, facilitating additions to knowledge that make communication even speedier and cheaper.

The growth of knowledge has been posited as a source of broad consequences for the institutions of a society, including the institution of law.¹⁰ Although all of these consequences may not be easily traceable to the ex-

⁶ During the period from 1967 to 2010, the population of the world is estimated to have increased by no less than 70,000,000 people per year. U.S. Census Bureau, Total Midyear Population for the World 1950-2050, <http://www.census.gov/ipc/www/idb/worldpop.php>. Migration between countries is thought to have also increased. The number of people whose country of residence was not the country of their birth is estimated to have more than doubled from 76,000,000 in 1965 to 188,000,000 in 2005. J. Edward Taylor, *International Migration and Economic Development in UNITED NATIONS INTERNATIONAL SYMPOSIUM ON INTERNATIONAL MIGRATION AND DEVELOPMENT 1*, 22 (2006), http://www.un.org/esa/population/migration/turin/Symposium_Turin_files/P09_SYMP_Taylor.pdf. Inter-nation migration can cause population growth in a country in which the birth rate is equal to the death rate, and it can prevent population size from declining in a country in which the birth rate is less than the death rate.

⁷ Christian Fuchs, *Transnational Space and the "Network Society,"* 2 21ST CENTURY SOC'Y 49, 56, 61 (2007). Inter-country ties in a world economy based on capitalism may have started to increase as early as 1500 A.D. IMMANUEL WALLERSTEIN, *THE ESSENTIAL WALLERSTEIN* 140 (2000).

⁸ Proposition (iii) is discussed *infra* Part I-C.

⁹ See Evan Schofer, *Cross-national Differences in the Expansion of Science, 1970-1990*, 83 SOC. FORCES 215 (2004) (studying change from 1970 to 1990 in an index of science infrastructure in countries differing in type of government, dominant religion, and level of economic development).

¹⁰ Larry D. Barnett, *The Roots of Law*, 15 AM. U. J. GENDER SOC. POL'Y & L. 613, 630-35, 677-79 (2007) [hereinafter *The Roots of Law*]. For a measure of the accumulation of knowledge in the United States, see *id.* at 628-30.

pansion of knowledge, each can be plausibly attributed at least partly to it. The source of the consequences is most readily identified when their concrete manifestations are considered, and these consequences are likely to include many of the prominent issues that have been confronted during the last half of the twentieth century by the institutions of Western countries. One such issue is same-sex relationships that involve sexual activity. Although this type of relationship is inconsistent with the traditional definition of the institution of marriage in societies generally,¹¹ societies have discarded and replaced customary social patterns in the past. Slavery and its abolition are illustrative.¹² Accordingly, the substitution of new patterns for established patterns can be expected to happen in the future, and probably not infrequently. As such substitutions occur, permanent same-sex relationships involving sexual activity may come to be recognized and accommodated in the law of a society even though at an earlier point in time such relationships conflicted with deeply entrenched, prevalent social values.¹³

B. Social Classifications and the Concept of Discrimination

Because an expanded supply of knowledge is likely to have been (and is likely to continue to be) a major factor in the emergence of new social arrangements, the enlargement of the store of knowledge in Western countries may be responsible for changing law and policy on same-sex relationships. Why would the growth of knowledge have this effect? Increases in knowledge are probably a key factor intensifying individualism and rationality.¹⁴ Individualism — the social philosophy that accords priority to the

¹¹ Peter Lubin & Dwight Duncan, *Follow the Footnote or the Advocate as Historian of Same-Sex Marriage*, 47 CATH. U. L. REV. 1271, 1324 (1998).

¹² Slavery, although rare at the present time, was not uncommon in the world prior to the twentieth century. Karen E. Bravo, *Exploring the Analogy between Modern Trafficking in Humans and the Trans-Atlantic Slave Trade*, 25 B.U. INT'L L.J. 207, 266–67 (2007).

¹³ Among adults who reside in households in the United States, the percentage disagreeing with the statement (MARHOMO) that “homosexual couples should have the right to marry one another” was 55% in 2004 and 48% in 2008, but in 1988, the percentage was 73%. The preceding percentages were weighted with COMPWT and are the totals of “disagree” and “strongly disagree.” SDA Archive, GSS 1972-2008 Cumulative Data File, <http://sda.berkeley.edu/cgi-bin/hsda?harsda+gss08>. Although opposition to same-sex marriage was evidently less in the first decade of the twenty-first century than in the 1980s, same-sex marriage is still at variance with social values in the United States. Lynne Marie Kohm, *The Homosexual “Union”: Should Gay and Lesbian Partnerships be Granted the Same Status as Marriage?*, 22 J. CONTEMP. L. 51, 62 (1996). Currently, law in just two states (Massachusetts and Connecticut) allows same-sex marriage, and law in eleven other states and the District of Columbia offers some type of recognition to same-sex non-marital unions. Louis Thorson, Comment, *Same-Sex Divorce and Wisconsin Courts: Imperfect Harmony?*, 92 MARQ. L. REV. 617, 623–34 (2009).

¹⁴ Larry D. Barnett, *Law as Symbol: Appearances in the Regulation of Investment Advisers and Attorneys*, 55 CLEV. ST. L. REV. 289, 336–37 (2007) [hereinafter *Law as Symbol*]; *The Roots of Law*,

interests, preferences, and wishes of individuals over those of groups — has contributed to the acceptance by public policy and law of same-sex sexual activity,¹⁵ and rationality has probably been influential, too. Individualism is antithetical to classifications in a society, and rationality is hostile to stereotypes associated with classifications.¹⁶ Therefore, as individualism and rationality become more prevalent and more intense, an inhospitable environment is created for social classifications and stereotypes. This environment leads to law requiring that evaluations of human beings be based on the type and degree of skill possessed by the human beings who are evaluated, not on predilections of these human beings that pose no threat to others.¹⁷ Recognition by law of same-sex relationships, therefore, becomes more likely with increases in the quantity and quality of knowledge.

Since the middle of the twentieth century, a salient development in the law of Europe,¹⁸ Canada, and the United States¹⁹ has been the application of the word “discrimination” to social behaviors and arrangements that have come to be regarded as unacceptable. Conceptually, discrimination is a problem for a society and banned by its law when a classification that the society deems unnecessary, and an associated stereotype that the society deems unwarranted, are employed in social life. Of course, a classification and the stereotype linked to it are not inherently problematic for a society. Rather, a classification and stereotype are a problem only when certain conditions prompt a society to treat them as a problem,²⁰ and as history demonstrates, these conditions — social, demographic, and economic — are not constant over time. The role of societal conditions in determining whether a particular classification and stereotype are a problem, moreover,

supra note 10, at 630–31.

¹⁵ See generally David John Frank & Elizabeth H. McEneaney, *The Individualization of Society and the Liberalization of State Policies on Same-Sex Sexual Relations, 1984-1995*, 77 SOC. FORCES 911 (1999).

¹⁶ Cf. LEGAL CONSTRUCT, SOCIAL CONCEPT, *supra* note 5, at 20–24 (discussing the frequency of use by United States courts of the constitutional guarantee that limits classifications by U.S. governmental entities and linking change in this frequency to the growth of knowledge and population density).

¹⁷ *The Roots of Law*, *supra* note 10, at 632–35 (reviewing federal statutes that require employment-related decisions to be based on the skills of the individuals affected by the decisions rather than on the demographic attributes of the individuals).

¹⁸ SANDRA FREDMAN, DISCRIMINATION LAW 6–7, 69, 75, 85–86, 89–90 (2002). The European Economic Community (now named the European Community) was established by a treaty signed in 1957; the European Union was created by a treaty signed in 1992. Tore Totdal, *An Introduction to the European Community and to European Community Law*, 75 N.D. L. REV. 59, 59–65 (1999).

¹⁹ Colleen Sheppard, *Equality Rights and Institutional Change: Insights from Canada and the United States*, 15 ARIZ. J. INT'L & COMP. LAW 143, 144–46 (1998).

²⁰ Joseph W. Schneider, *Social Problems Theory: The Constructionist View*, 11 ANN. REV. SOCIOLOGY 209, 210–12 (1985).

is complicated by the context-specific impact of the conditions. A classification and stereotype will not be a problem in all contexts; instead, the classification and stereotype may be deemed problematic in some contexts and continue to be accepted in others.

The context-specific nature of social problems is illustrated by the evolution and treatment of sex roles in the United States.²¹ Societal distinctions made between males and females, although favored during much of U.S. history, have come to be regarded by social values and law as unacceptable in certain contexts such as education and employment. In these contexts, distinctions between males and females are labeled discrimination, but in other contexts, gender-based distinctions continue to receive widespread approval. Thus, the first-names that parents choose for their newborn female children differ from the first-names they choose for their newborn male children,²² and government will record and require the use of these names even though the names classify on the basis of sex.²³

Discrimination, then, is a label that possesses a societal context and can be understood only in that context. At the present point in history, classifications and stereotypes are labeled discrimination and banned by law when they conflict with the premise that people are individuals and when they are regarded as not rational.²⁴ The importance of individualism and rationality at the present time is evident in the following passage from an opinion written in 1991 by an appellate court in the United States:

Discrimination stems from a reliance on immaterial outward appearances that stereotype an individual with imagined, usually undesirable, characteristics thought to be common to members of the group that shares these superficial traits. It results in a stubborn refusal to judge a person on his merits as a human being. Our various statutes against discrimination express the policy that this refusal to

²¹ For evidence that the evolution over time of sex role differences in the United States has affected Supreme Court decisions, see LEGAL CONSTRUCT, SOCIAL CONCEPT, *supra* note 5, at 47–55; Larry D. Barnett, *The Public-Private Dichotomy in Morality and Law*, 18 J.L. & POL'Y 541, 593–603 (2010) [hereinafter *Morality and Law*].

²² Stanley Lieberman et al., *The Instability of Androgynous Names: The Symbolic Maintenance of Gender Boundaries*, 105 AM. J. SOC. 1249, 1260–61, 1274 (2000).

²³ Under Anglo-American common law, an individual is allowed to change her/his given name as long as the new name does not involve fraud and is not obscene. Omi Morgenstern Leissner, *The Problem That Has No Name*, 4 CARDOZO WOMEN'S L.J. 321, 335–36 (1998). Accurate data does not seem to exist on the frequency with which individuals in the United States replace first names that are linked to their sex with names that are sex-neutral or with names that are associated with the opposite sex. Such changes, however, are probably rare. *Id.*

²⁴ Samuel R. Bagenstos, "Rational Discrimination," *Accommodation, and the Politics of (Disability) Civil Rights*, 89 VA. L. REV. 825, 877 (2003) (observing that discrimination is banned by law because discrimination is not rational).

judge people who belong to various, particularly disadvantaged, groups is too costly to be tolerated in a society committed to equal individual liberty and opportunity.²⁵

Individuality and reason, in short, are incompatible with discrimination, and because individuality and reason are central features of a society that has an appreciable store of knowledge, they shape the law of the society. For the institution of law to facilitate the operation of society, as it will in the long run, the concepts and doctrines of law must address impediments to the effective functioning of the social system. It is not coincidence, therefore, that the scope of law has included the topic of marriage and that the doctrines of law on marriage have evolved as the nature of marital relationships has changed.²⁶

C. Population Density

Population density has been theorized as a variable that affects the degree of change occurring in a society. Specifically, a geographic area in which population density is high is expected to have a greater probability of changing, and of changing more, than an area in which population density is low. This expectation is grounded on three general propositions that have been propounded in sociology. First, the number of individuals in a geographic area who are inclined to engage in a particular activity rises with population concentration. Second, increases in population density facilitate encounters between individuals who have the same goal and simplify the formation of a group around the goal, thereby bolstering support for the goal and expanding acceptance of it.²⁷ Third, geographic areas characterized by high population density contain more numerous and diverse stimuli than areas characterized by low population density, and as a result, the inhabitants of the former develop a higher level of rationality than the in-

²⁵ *Bennun v. Rutgers State Univ.*, 941 F.2d 154, 173 (3d Cir. 1991), *cert. denied*, 502 U.S. 1066 (1992).

²⁶ Law governing the dissolution of marriage has not had an appreciable, enduring impact on the rate at which marriages dissolve. Frans van Poppel & Joop de Beer, *Measuring the Effect of Changing Legislation on the Frequency of Divorce: The Netherlands, 1830-1990*, 30 *DEMOGRAPHY* 425, 439 (1993). See Larry D. Barnett, *The Regulation of Mutual Fund Boards of Directors: Financial Protection or Social Productivity?*, 16 *J.L. & POL'Y* 489, 529 n.166 (2008), which contends that the study by van Poppel and de Beer is the most credible study done to date on the impact of divorce law on the divorce rate. If the divorce rate is not materially affected in the long run by changes in law on divorce, the latter presumably reflects the former, i.e., change in law on divorce is likely to be attributable to secular change in the divorce rate.

²⁷ Claude S. Fischer, *The Subcultural Theory of Urbanism: A Twentieth-Year Assessment*, 101 *AM. J. SOCIOL.* 543, 544-46 (1995); Thomas C. Wilson, *Community Population Size and Social Heterogeneity: An Empirical Test*, 91 *AM. J. SOCIOL.* 1154, 1155 (1986).

habitants of the latter.²⁸ It is not coincidence, then, that an individual who resides in a metropolitan setting “reacts with his head instead of his heart”²⁹ and that, given the collective impact of the sociological processes suggested by the foregoing propositions, unconventional activity occurs more often, and is more likely to become acceptable, in an area of high population density. Simply put, tradition and urban life tend to be incompatible because of the group-level effects that a large number of people ineluctably have.

The utility of the just-described theory of urban life has yet to be determined, because the quantitative research necessary to assess it fully has not been conducted.³⁰ In this regard, a recent study merits discussion. The study found that, in the United States, unorthodox beliefs and behavior are more commonly tolerated in metropolitan areas than in nonmetropolitan areas because, and only because, college graduates are a higher percentage of the population of metropolitan areas.³¹ Population density itself did not matter. The study, however, does not disprove the theory of urbanism because the data analyzed in the study suffered from several key limitations.

The first limitation of the data was in the definition of a “metropolitan area.” An area is classified as “metropolitan” on the basis of the number of its inhabitants, i.e., the number of its residents,³² and the criteria for a metropolitan area are established by the U.S. Census Bureau. As the concept was defined during the years covered by the study, a metropolitan area could have had as few as 75,000 residents in New England and as few as 100,000 residents in other regions.³³ The effect of urbanism, however, may not be detectable with the relatively small population size that may be present in metropolitan areas, i.e., the effect may not occur until the number of residents is appreciably larger than 100,000. Second, the impact of population density may be affected as much or more by population density in the geographic location where persons are employed than by population density in the location where they reside, but the study considered only the latter. Third, tolerance of unorthodox beliefs and behavior may not in-

²⁸ GEORG SIMMEL, *The Metropolis and Mental Life*, in *THE SOCIOLOGY OF GEORG SIMMEL* 409, 410 (Kurt H. Wolff trans. & ed., Free Press 1950) (theorizing that a metropolitan area provides a sensory rich environment that promotes intellectual development).

²⁹ *Id.* at 410.

³⁰ Fischer, *supra* note 27, at 568.

³¹ Laura M. Moore & Seth Ovadia, *Accounting for Spatial Variation in Tolerance: The Effects of Education and Religion*, 84 *SOC. FORCES* 2205, 2217 (2006).

³² U.S. CENSUS BUREAU, *STATISTICAL ABSTRACT OF THE UNITED STATES: 2000* (120th ed. 2000), at 908, available at http://www.census.gov/prod/www/abs/statab1995_2000.html.

³³ *Id.*

crease linearly with population density.³⁴ Instead, tolerance may change little or not at all until thresholds of population density are reached, and then it may change markedly.³⁵ The thresholds may be numerous, moreover, and none of them may be at the demographic point that differentiates metropolitan areas from nonmetropolitan areas.³⁶

For these reasons, the study does not refute the theory of urbanism — either its general proposition that urban living raises tolerance or the paths it hypothesizes for the transmission of the impact of urban living on tolerance. The theory, therefore, cannot be disregarded in research to which the theory may be pertinent.

D. *The Institution of Marriage*

A consideration of sociological factors that determine the acceptability by a society and its law of a specific form of marriage should not distract attention from another question regarding marriage. The question, simply expressed, is why marriage is and has been common in social life, i.e., why marriage is an institution of society. Even though a large percentage of marriages terminate in divorce,³⁷ most persons beyond the initial years of adulthood are married. European countries are illustrative. In 2005, the percentage of all adults 30-59 years old who were currently married was 62% in France, 64% in Germany, and 75% in Italy.³⁸ Similar percentages are found in the United States, where adults who were currently married and living with their spouse in 2008 comprised between 57% and 68% of

³⁴ See SIMMEL, *supra* note 28, at 419 (hypothesizing that, after a threshold has been reached, the advantage in intellectual sophistication possessed by city dwellers over persons outside cities advances geometrically).

³⁵ The hypothesis that social change typically occurs abruptly rather than gradually — i.e., that social change typically involves thresholds — is consistent with the thesis that metropolitan areas increase the intensity of and conflict between subcultures. Fischer, *supra* note 27, at 545, 548. Intensity and conflict, by their very nature, are conducive to sudden change.

³⁶ The thresholds at which population density effects a change may not be the same in all geographic areas. Instead, the thresholds may differ between geographic areas, and the difference(s) may depend on such variables as economic structure and social values. Claude S. Fischer, *Toward a Subcultural Theory of Urbanism*, 80 AM. J. SOCIOL. 1319, 1330 (1975).

³⁷ The rate at which marriages fail is most accurately measured with cohort data. In the United States, almost half of all first marriages that occurred during the 1980s among ever-married women who were 15-44 years old in 2002 had ended in divorce by 2002. ANJANI CHANDRA ET AL., U.S. DEP'T OF HEALTH AND HUMAN SERVS., FERTILITY, FAMILY PLANNING, AND REPRODUCTIVE HEALTH OF U.S. WOMEN: DATA FROM THE 2002 NATIONAL SURVEY OF FAMILY GROWTH 90 tbl.51, VITAL AND HEALTH STATISTICS, Series 23, No. 25 (2005), http://www.cdc.gov/nchs/data/series/sr_23/sr23_025.pdf.

³⁸ Computed using data obtained from the United Nations Economic Commission for Europe, UNECE Statistical Database (Population), Population 18 and plus, selected age groups, by Marital Status, Age, Sex, Measurement, Country and Year, <http://w3.unece.org/pxweb/DATABASE/STAT/30-GE/01-Pop/01-Pop.asp>.

all adults at ages 30-34 to 65-74.³⁹

The societal properties that are responsible for the form(s) of marriage accepted by a society and its law at a particular time, and that are responsible for changing the accepted form(s) of marriage,⁴⁰ probably cannot be completely separated from the reasons that marriage is an institution. The attenuation or disappearance of any of the reasons that marriage is ingrained in a society can be expected to promote the emergence of new types of relationships (marital and/or non-marital) that the society will be pressured to recognize in its law. The continuation or dissipation of these reasons is likely to depend, in turn, on the properties of the society.

An explanation of the institutional nature of marriage begins with the assumption that a society is a system, i.e., an organized set of components. If the assumption is correct, marriage did not become and has not remained a societal institution as the result of chance. Rather, marriage is an institution because it has played an important role in the larger social system. Not coincidentally, the Congress of the United States has described marriage as “an essential institution of a successful society.”⁴¹ Although the congressional statement does not explain *why* marriage is essential to a society, the explanation may be found by treating marriage as social capital.⁴² From the perspective of social capital, the institution of marriage is important to a society because marriage acts as a *resource*. Marriage, that is, supplies benefits to a society.

What exactly are the benefits that society derives from marriage? Three major benefits of marriage will be enumerated below.⁴³ The listed benefits,

³⁹ U.S. Census Bureau, tbl.A1. Marital Status of People 15 Years and Over, by Age, Sex, Personal Earnings, Race, and Hispanic Origin, 2008, <http://www.census.gov/population/www/socdemo/hh-fam/cps2008.html>.

⁴⁰ The forms of marriage that a society may approve are not confined to opposite-sex marriage and same-sex marriage, both of which may be permitted. Other forms of marriage are defined by the number of spouses that an individual is allowed. The latter forms are monogamy (in which an individual can have just one spouse at a time), polyandry (in which a female can have two or more husbands concurrently), and polygyny (in which a male can have two or more wives concurrently). By definition, a society that requires monogamy does not permit polyandry or polygyny, but a society that does not limit itself to monogamy can permit both polyandry and polygyny.

⁴¹ Personal Responsibility and Work Opportunity Reconciliation Act of 1996, Pub. L. No. 104-193, § 101(2), 110 Stat. 2105, 2110 (1996).

⁴² See James S. Coleman, *Social Capital in the Creation of Human Capital*, 94 AM. J. SOCIOL. S95 (1988) (proposing the concept of, and discussing forms of, social capital).

⁴³ The enumerated benefits are derived from research that was conducted during the last half-century in the United States. These benefits, however, may be partially or completely absent in other historical eras and in societies that are not similarly structured. Thus, while the enumerated benefits were identified from research on a nation whose ideal form of marriage has been monogamy involving persons of opposite sex, different benefits may be found in social systems with opposite-sex polygyny and/or polyandry. CLAUDE LÉVI-STRAUSS, *THE ELEMENTARY STRUCTURES OF KINSHIP* 38, 43-44, 267, 371 (James Harle Bell, et al. trans. 1969). See Thomas V. Pollet & Daniel Nettle, *Market Forces Affect Patterns of Polygyny in Uganda*, 106 PROC. NAT'L ACAD. SCI. U.S. 2114 (2009) (finding that the

it will be noted, partly overlap and can reinforce each other.

One contribution of marriage to a society is in perpetuating the society. More exactly, marriage is the social arrangement that a society employs, or emphasizes as an ideal, for rearing children. A child who is being raised by a married couple may be the genetic product of one or both of the current members of the marriage; alternatively, the child may be the genetic product of other individuals and have been reared (as the result of, for example, adoption) by one or both of the current members of the marriage. Children who grow up with their genetic parents, however, are more likely to enjoy a variety of advantages (e.g., in physical and mental health) than children who spend their years as minors in other settings.⁴⁴ Thus, to the extent that intact marriages are increased by the ideal that Western countries have established for marriage, the social systems in these countries possess an especially effective mechanism promoting their continuation. During recent decades, however, the importance of this benefit in European nations and in the United States has evidently been eroded by increases in the proportion of married women who bear no children.⁴⁵

Childrearing, however, is not the sole societal benefit of marriage. Marriage acts as a resource of society in a second way — it contributes to the welfare of the population of the society. For example, marriage improves the psychological health of the married couple (and of their children) if the marriage remains unbroken.⁴⁶ Additionally, marriage is associated with financial well-being; i.e., income and wealth are higher among individuals

likelihood of polygyny was related to land ownership among men and to the sex ratio). Cf. R. Jean Cadigan, *Woman-to-Woman Marriage: Practices and Benefits in Sub-Saharan Africa*, 29 J. COMP. FAM. STUD. 89 (1998) (finding social benefits from same-sex marriage between women). Moreover, the research that underlies the benefits enumerated in the text has reached conclusions that have been questioned. Pietro Saitta, *La Genitorialità "Sociale" e la Sua Regolazione. Una Rassegna Europea* 17 (Interuniversity Ctr. for Research on Sociology of Law, Info. and Legal Insts., Working Paper No. 18, 2006), available at <http://www.cirsdig.it/indexeng.html>. Accordingly, the benefits we name in the text are intended to be a provisional list. The reader should keep in mind, however, that the popularity of marriage in a society is evidence that marriage furnishes important benefits in the society even though these benefits (i) may be other than, or in addition to, the listed benefits; (ii) may not be the same in all types of societies; and (iii) may be altered by change in social, economic, and demographic conditions.

⁴⁴ Linda J. Waite & Evelyn L. Lehrer, *The Benefits from Marriage and Religion in the United States: A Comparative Analysis*, 29 POPULATION & DEV. REV. 255, 259 (2003).

⁴⁵ Gunnar Andersson et al., *Cohort Fertility Patterns in the Nordic Countries*, 20 DEMOGRAPHIC RES. 313, 323, 332 (2009), available at <http://www.demographic-research.org/Volumes/Vol20/14/default.htm>; Laurie Chancey, *Voluntary Childlessness in the United States: Recent Trends by Cohort and Period 18–21 (May 2006)* (unpublished M.A. thesis, Louisiana State University) (on file with author); Tomas Frejka, *Parity Distribution and Completed Family Size in Europe: Incipient Decline of the Two-Family Model?*, 19 DEMOGRAPHIC RES. 47, 49–50, 52, 54, 56, 58, 61 (2008), available at www.demographic-research.org/Volumes/Vol19/4/default.htm.

⁴⁶ Waite & Lehrer, *supra* note 44, at 257–59; Richard A. Easterlin, *Explaining Happiness*, 100 PROC. NAT'L ACAD. SCI. U.S. 11176, 11179 (2003); Steven Stack & J. Ross Eshleman, *Marital Status and Happiness: A 17-Nation Study*, 60 J. MARRIAGE & FAM. 527 (1998).

who are married than among individuals who are not.⁴⁷ In turn, the enhanced financial assets of married couples aid the children whom they rear. Indeed, the greater financial assets of a married couple seem to explain many of the advantages possessed by the children raised by the couple.⁴⁸

Lastly, marriage serves as a resource for society in at least one additional way — by helping to strengthen communities. Because of the social roles attached to marriage,⁴⁹ life styles are substantially altered by marriage, and in spite of sex differences in marital roles, marriage embeds individuals in more social networks. To be precise, marriage leads men (but not women) to join voluntary associations, and it reduces withdrawals by both men and women from voluntary associations.⁵⁰ The positive effect of marriage on membership in voluntary associations has consequences that bolster communities. Greater participation in voluntary associations in the United States improves the performance of state governments,⁵¹ and in both the United States and Europe, greater participation in voluntary associations increases the trust that individuals have in other people.⁵² Trust is an especially important benefit of involvement in voluntary associations, because trust has a pervasive impact on societal quality. Thus, a rise in the level of trust in a society promotes the quality of government⁵³ and fosters not only adequate physical infrastructure in a country but adequate educational facilities as well.⁵⁴ An increase in trust in a country also lowers the overall ho-

⁴⁷ Waite & Lehrer, *supra* note 44, at 258, 264.

⁴⁸ *Id.* at 264.

⁴⁹ Thomas Rotolo, *A Time to Join, A Time to Quit: The Influence of Life Cycle Transitions on Voluntary Association Membership*, 78 SOC. FORCES 1133, 1136–37 (2000) (noting that studies have found that, following marriage, women are more likely to focus on activities inside the home and men are more likely to focus on activities outside the home).

⁵⁰ *Id.* at 1146–47, 1150–51, 1155–56. The impact of marriage was independent of the impact of childbearing and the age of children. The impact of marriage, therefore, may be partly a function of the difference in marital roles that is a component of current differences in gender roles.

⁵¹ Stephen Knack, *Social Capital and the Quality of Government: Evidence from the States*, 46 AM. J. POL. SCI. 772, 779 (2002).

⁵² Paul Dekker & Andries van den Broek, *Civil Society in Comparative Perspective: Involvement in Voluntary Associations in North America and Western Europe*, 9 VOLUNTAS: INT'L J. VOLUNTARY & NONPROFIT ORG. 11, 23 n.9, 33 (1998); see Paul Dekker & Andries van den Broek, *Involvement in Voluntary Associations in North America and Western Europe: Trends and Correlates 1981-2000*, 1 J. CIV. SOC'Y 45, 53–56 (2005) (finding that higher levels of voluntary association participation were related to higher levels of trust, but concluding that the direction of causality could not be established). The ranking of the United States and European nations on rates of participation in voluntary associations varies with the type of association that is the basis for the ranking. James E. Curtis et al., *Voluntary Association Membership in Fifteen Countries: A Comparative Analysis*, 57 AM. SOCIOL. REV. 139 (1992).

⁵³ Knack, *supra* note 51, at 779; Rafael La Porta et al., *Trust in Large Organizations*, 87 AM. ECON. REV. 333, 335–36 (May 1997).

⁵⁴ La Porta, *supra* note 53, at 335–36. The study omitted “socialist” countries. *Id.* at 334. In measuring the adequacy of infrastructure, the study considered air transportation, ports, power supply, roads, and telecommunications. *Id.* at 335 tbl.1.

micide rate.⁵⁵

A society is thus broadly, albeit indirectly, benefited by the institution of marriage, and even if the benefits are not fully recognized by the members of the society, the benefits will cause a society to resist change in the form(s) of marriage that it accepts and that its law thus authorizes. More generally, a society will not alter its law for any new social arrangement that it considers a threat to key societal values. To the extent a change in law is incompatible with social values, the change will destabilize the society, and if the disruption is severe, the change eventually will be reversed. In the United States, for example, the acceptance of liquor manufacture, transportation, and sale was replaced in the early part of the twentieth century by a nationwide ban on these activities. However, the ban seems to have materially increased crime and just temporarily reduced liquor consumption, and it was rescinded thirteen years later.⁵⁶

Given the uncertainties that accompany any major change in an important aspect of social life, there should be no surprise that a society resists altering its law in order to accommodate a new and unconventional social arrangement. Same-sex non-marital partnerships and same-sex marriage are such arrangements, of course. However, some countries in Europe have concluded that same-sex non-marital partnerships and same-sex marriage are socially beneficial and have adopted law allowing these relationships.⁵⁷ We now review this law.

II. LAW IN EUROPE ON SAME-SEX NON-MARITAL PARTNERSHIPS AND SAME-SEX MARRIAGE

The present study is confined to fourteen countries that were members of the European Union (“E.U.”)⁵⁸ from 1995 through 2003. Twelve countries were members of the E.U. when it was formally established in 1993,⁵⁹ and

⁵⁵ Daniel Lederman, et al., *Violent Crime: Does Social Capital Matter?*, 50 *ECON. DEV. & CULTURAL CHANGE* 509, 529 (2002); Richard Rosenfeld, et al., *Social Trust, Firearm Prevalence, and Homicide*, 17 *ANNALS EPIDEMIOLOGY* 119, 124 (2007).

⁵⁶ The history and impact of the amendment to the U.S. Constitution that was the basis for the ban, and of the federal legislation that implemented the amendment, are described in Joshua Kaplan, *Unmasking the Federal Marriage Amendment: The Status of Sexuality*, 6 *GEO. J. GENDER & L.* 105, 115–18, 121–22 (2005).

⁵⁷ An historical marker for the inception of these changes is the Resolution on Equal Rights for Homosexuals and Lesbians in the EC. 1994 O.J. (C 61) 40.

⁵⁸ The structure of the European Union is described in DUNCAN E. ALFORD, *EUROPEAN UNION LEGAL MATERIALS: A GUIDE FOR INFREQUENT USERS* (2005), http://www.aallnet.org/products/pub_llj_v97n01/2005-03.pdf.

⁵⁹ Treaty on European Union, July 29, 1992, 1992 O.J. (C 191) art. R, <http://eur-lex.europa.eu/en/treaties/dat/11992M/htm/11992M.html>. The twelve original members were Belgium,

three more countries became members in 1995.⁶⁰ All of the fifteen countries that comprised the E.U. from 1995 through 2003 were located in the geographic regions generally labeled Northern Europe, Southern Europe, and Western Europe.⁶¹ Of the fifteen countries, however, one — Germany — was omitted from the study because until 1990 it was divided between separate sovereign nation-states (West Germany and East Germany)⁶² each of which had its own social and economic institutions.⁶³ For historical reasons, then, Germany and data on it are not comparable before and after 1990.

The next expansion of the European Union occurred in May 2004, when ten countries were added as E.U. members.⁶⁴ The ten countries appreciably increased the social, cultural, and economic heterogeneity of the E.U.,⁶⁵ however, and as a result, the universe of the study reported in Part III *infra* was limited to the countries (other than Germany) that comprised the E.U. from 1995 through 2005. In alphabetical order, the countries in the study were Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden, and the United Kingdom. The preceding set of fourteen countries avoids the greater heterogeneity of the E.U. stemming from the countries added in 2004, and because the fourteen countries belong to a recognized geographic region, they are a meaningful universe.

Of the fourteen countries included in the study, ten adopted statutes that

Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, and the United Kingdom. *Id.* The Treaty, which required ratification by signatory countries, was in effect as of November 1, 1993. Volker Roben, *Constitutionalism of the European Union After the Draft Constitutional Treaty: How Much Hierarchy?*, 10 COLUM. J. EUR. L. 339, 340 n.3 (2004).

⁶⁰ Europa, The History of the European Union: 1995, http://europa.eu/abc/history/1990-1999/1995/index_en.htm. The three countries that joined the E.U. in 1995 were Austria, Finland, and Sweden. *Id.*

⁶¹ Wikipedia, Northern Europe, http://en.wikipedia.org/wiki/Northern_Europe; Wikipedia, Southern Europe, http://en.wikipedia.org/wiki/Southern_Europe; Wikipedia, Western Europe, http://en.wikipedia.org/wiki/Western_Europe. Several nation-states in these regions — most notably, Iceland, Norway, and Switzerland — have not become E.U. members. Europa, The EU at a Glance, http://europa.eu/abc/european_countries/others/index_en.htm.

⁶² Arthur B. Gunlicks, *The Impact of Unification on German Federalism*, in THE BERLIN REPUBLIC: GERMAN UNIFICATION AND A DECADE OF CHANGES 131, 131–36 (Winand Gellner & John D. Robertson eds. 2003) [hereinafter THE BERLIN REPUBLIC].

⁶³ Mi-Kyung Kim & John D. Robertson, *Analysing German Unification: State, Nation and the Quest for Political Community*, in THE BERLIN REPUBLIC, *supra* note 62, at 3, 7; Winand Gellner & Gerd Strohmeier, *The 'Double' Public: Germany After Reunification*, in THE BERLIN REPUBLIC, *supra* note 62, at 59, 60–61.

⁶⁴ Europa, The History of the European Union: 2004, http://europa.eu/abc/history/2000_today/2004/index_en.htm. The ten countries were Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic, and Slovenia. *Id.*

⁶⁵ Natalie Shimmel, *Welcome to Europe, but Please Stay Out: Freedom of Movement and the May 2004 Expansion of the European Union*, 24 BERKELEY J. INT'L L. 760, 774–76 (2006).

explicitly recognized same-sex non-marital partnerships or same-sex marriage; all did so during the time period covered. The year 1989 starts the time period because that is the first year in which any of the fourteen countries adopted such law⁶⁶; the year 2005 ends the time period because none of the fourteen countries adopted such law during 2006, 2007, or 2008.⁶⁷

The ten countries that have law conferring a formal status on same-sex non-marital partnerships or same-sex marriage are listed below. Two text boxes are used: Box 1 identifies the countries with legislation approving same-sex non-marital partnerships; Box 2 identifies the countries with legislation approving same-sex marriage.⁶⁸ The year of adoption of the legislation in each country is shown in parentheses immediately after the name of the country. Two countries — The Netherlands and Sweden — are in both boxes because after adopting law that authorized same-sex non-marital partnerships, they approved legislation that authorized same-sex marriage.

⁶⁶ Of the fourteen countries, only one (Denmark) changed its law before 1995 to recognize same-sex unions. Denmark was a member of the European Economic Community, the forerunner of the European Union. Treaty on European Union, *supra* note 59, at art. G.; Roger J. Goebel, *The Treaty of Amsterdam in Historical Perspective: Introduction to the Symposium*, 22 *FORDHAM INT'L L.J.* S7, S18–19 (1999); Roger J. Goebel, *The European Union in Transition: The Treaty of Nice in Effect; Enlargement in Sight; A Constitution in Doubt*, 27 *FORDHAM INT'L L.J.* 455, 473 n.73 (2004). Accordingly, the pre-1995 change in law by Denmark is included in the study.

⁶⁷ The data for the study were compiled in 2009.

⁶⁸ IAN CURRY-SUMNER, ALL'S WELL THAT ENDS REGISTERED? THE SUBSTANTIVE AND PRIVATE INTERNATIONAL LAW ASPECTS OF NON-MARITAL REGISTERED RELATIONSHIPS IN EUROPE (Intersentia 2005); Patrick Festy, *Legalizing Same-Sex Unions in Europe: Innovations and Paradoxes*, *POPULATION & SOCIETIES*, June 2006, at 1; ILGA–Europe, *Marriage and Partnership Rights for Same-Sex Partners: Country-by-Country*, (2009) http://www.ilgaeurope.org/europe/issues/lgbt_families/marriage_and_partnership_rights_for_same_sex_partners_country_by_country; Marriage Law Foundation, *International Survey of Legal Recognition of Same-Sex Couples*, <http://marriagelawfoundation.org/publications/International.pdf> (last visited Feb. 18, 2011); Kees Waaldijk et al., *More or Less Together: Levels of Legal Consequences of Marriage, Cohabitation and Registered Partnership for Different-Sex and Same-Sex Partners: A Comparative Study of Nine European Countries* (2004), http://www.ined.fr/fichier/t_publication/1034/publi_pdf1_document_de_travail_125.pdf; Wikipedia, *Timeline of Same-Sex Marriage*, http://en.wikipedia.org/wiki/Timeline_of_same-sex_marriage.

Box 1:
Countries Legalizing
Same-Sex Nonmarital
Partnerships

Denmark (1989)
Finland (2001)
France (1999)
Luxembourg (2004)
The Netherlands (1998)
Portugal (2001)
Sweden (1994)
United Kingdom (2004)

Box 2:
Countries Legalizing
Same-Sex Marriage

Belgium (2003)
The Netherlands (2001)
Spain (2005)
Sweden (2009)

III. ANTECEDENTS OF LAW ON SAME-SEX NON-MARITAL PARTNERSHIPS AND SAME-SEX MARRIAGE

The research to be reported in Part III tests the assumption that law on same-sex non-marital partnerships and same-sex marriage does not develop by chance. Instead, differences between countries and change within countries in social, demographic, and/or economic conditions are believed to account for variation in such law. As a result, the dependent and independent variables in the present research are measured at the country level and thus are aspects of societies, not of individuals.

A. Independent Variables

To identify variables that potentially explain between-country differences and within-country change in the law of European Union countries on same-sex non-marital partnerships and same-sex marriage, we start by examining quantitative studies that focused on the relationship between the characteristics of jurisdictions and the likelihood of adoption by the jurisdictions of law pertinent to interpersonal sexual activity. The law that was the subject of these studies either expressed a preference for opposite-sex sexual activity over same-sex sexual activity or explicitly repudiated policies grounded on such a preference. In the pages that follow, we review six such studies. Our review begins with the only one of the six (viz., “the Soule study”) that involved the topic of marriage.⁶⁹

As of 2006, ninety percent of the states in the United States explicitly prohibited same-sex marriage through their state constitution and/or through a state statute,⁷⁰ a situation that is in line with the antipathy that is prevalent among Americans toward the legalization of same-sex marriage.⁷¹ Using the thirty-five states that had adopted such a prohibition by 2000, the Soule study regressed whether a state did so at a particular time between 1973 and 2000 on a series of state-level independent variables.⁷² Most of the independent variables were political in nature, however, because the study was concerned with the role of political elites, processes, and protesters in altering law.⁷³ Nonetheless, three sociological-demographic characteristics of states were included as independent variables — viz., the geographic region in which each state was located (South versus non-South); the percentage of the inhabitants of each state that resided in an urban area; and the percentage of the inhabitants of each state that had earned a college degree.⁷⁴

None of the three sociological-demographic variables in the Soule study was found to have a statistically significant relationship to the dependent

⁶⁹ Sarah A. Soule, *Going to the Chapel? Same-Sex Marriage Bans in the United States, 1973-2000*, 51 SOC. PROBS. 453 (2004).

⁷⁰ Justin Reinheimer, *Same-Sex Marriage Through the Equal Protection Clause: A Gender-Conscious Analysis*, 21 BERKELEY J. GENDER L. & JUST. 213, 214–15 (2006).

⁷¹ David Masci, Pew Forum on Religion & Public Life, *Public Opinion on Gay Marriage: Opponents Consistently Outnumber Supporters* (July 9, 2009), <http://pewforum.org/docs/?DocID=424>.

⁷² Soule, *supra* note 69, at 456 n.3, 457, 463.

⁷³ *Id.* at 454–55, 459–62.

⁷⁴ *Id.* at 465–66. The three sociological-demographic variables were considered by the investigator to be control variables. Accordingly, they were included in the regression equation only for the purpose of removing their influence on the dependent variable so that the impact of each political variable on the dependent variable could be accurately estimated. Nonetheless, the investigator reports the regression coefficients for each of the three sociological-demographic variables. *Id.* at 467 tbl.2, 470 tbl.3.

variable, i.e., to whether a state adopted an explicit ban on same-sex marriage.⁷⁵ Statistically significant relationships to the dependent variable existed for independent variables measuring the presence in states of political-interest organizations, but if law is a macrosociological phenomenon, these relationships are not surprising. In a macrosociological framework, political-interest organizations are expected to be precursors of law because the properties of society are believed to create societal needs that give rise to such organizations that, in turn, shape law. Political-interest organizations thus transmit the needs of society to lawmaking bodies. If this line of reasoning is correct, political-interest organizations offer just a superficial explanation of the content of law at a particular point in history and of the shifts that occur over time in the concepts and doctrines of law. Instead, the roots of law lie elsewhere.

The seeming lack of influence of the sociological-demographic variables in the Soule study merits discussion. In this regard, two features of the study are notable. The first concerns the reliance by the study on tests of statistical significance to decide whether a relationship existed between an independent variable and the dependent variable. The study did not obtain its data using a sample drawn from a universe but, rather, included all members of the universe, viz., all states in the United States during the time period covered by the study. Because sampling was not employed, tests of statistical significance were unnecessary.⁷⁶ Moreover, even when tests of statistical significance are applied to data from a sample, it should be kept in mind that significance levels are arbitrary criteria for reaching decisions on null hypotheses and that unthinking reliance on a significance level can cause relationships that exist and that are important to be overlooked.⁷⁷

If the statistical significance of the regression coefficients in the Soule study is disregarded, two of the sociological-demographic variables in the study — education and geographic region — have utility as predictors of the odds that a state will formally ban same-sex marriage. Specifically, the percentage of state inhabitants who held a college degree was inversely related to the odds of a ban, i.e., lower educational attainment was associated with a greater likelihood that same-sex marriage would be formally proscribed. In addition, states located in the South were more likely to prohi-

⁷⁵ *Id.* at 467 tbl.2, 469, 470 tbl.3.

⁷⁶ Denton E. Morrison & Ramon E. Henkel, *Significance Tests Reconsidered*, 4 AM. SOCIOLOGIST 131, 134 (1969) (noting that significance tests are inappropriate when analyzing data on all of the members of a population).

⁷⁷ James K. Skipper, Jr. et al., *The Sacredness of .05: A Note Concerning the Uses of Statistical Levels of Significance in Social Science*, 2 AM. SOCIOLOGIST 16, 16–17 (1967).

bit same-sex marriage than states located in other regions.⁷⁸

The second feature of the Soule study that warrants mention is its measurement of the other sociological-demographic variable it included — the degree to which state populations were urbanized. For this variable, the Soule study evidently used U.S. Census Bureau data on “urban” areas,⁷⁹ but at least since 1970 - the earliest year for which the study included data on the variable⁸⁰ — an area could be classified as urban with as few as 2,500 inhabitants.⁸¹ However, the theory of urbanism discussed *supra* in Part I-C contemplates that population density will generate the effects only when the number of people in an area far exceeds 2,500. The theory, therefore, was not tested by the Soule study.

The second study to be reviewed was concerned with country-level characteristics that explain differences between countries in law on consensual same-sex sexual activity (“the Frank-McEneaney study”).⁸² The study is pertinent here because whether law accepts such activity is likely to be correlated (albeit imperfectly) with whether law recognizes same-sex non-marital partnerships and same-sex marriage; i.e., all else being equal, countries that change their law to allow consensual same-sex sexual activity will be more inclined to alter their law to authorize same-sex non-marital partnerships and same-sex marriage.⁸³ In accounting for the degree to which the law of countries allows consensual same-sex sexual activity, the Frank-McEneaney study emphasized inter-country variation in individualism and employed country-level indicators of individualism, especially (i) an index of the degree of commitment by each country to human rights, (ii) whether the dominant religious tradition of each country was Anglo-American Protestant, and (iii) the extent of authorships in each country of articles in pro-

⁷⁸ Soule, *supra* note 69, at 467 tbl.2, 470 tbl.3.

⁷⁹ *Id.* at 465–66.

⁸⁰ *Id.*

⁸¹ U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1970 (91st ed. 1970), at 2; U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1980 (101st ed. 1980), at 2; U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1990 (110th ed. 1990), at 4; U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 2000 (120th ed. 2000), at 4.

⁸² Frank & McEneaney, *supra* note 15.

⁸³ For law in the United States, see *Lawrence v. Texas*, 539 U.S. 558, 604–05 (2003) (Scalia, J., Rehnquist, C.J., and Thomas, J., dissenting). The dissent in *Lawrence* argued that the rationale used by the Court to protect private same-sex consensual sexual activity under the liberty guarantee of the federal constitution gives same-sex couples a constitutional right to marry. *Id.*

The adoption of law that permits consensual same-sex sexual activity may not be followed immediately by the adoption of law that authorizes same-sex non-marital partnerships and same-sex marriage. However, the time elapsing between the former and the latter is unlikely to be long when judged in historical terms.

fessional journals in psychology.⁸⁴ Additional country-level variables were included as explanatory or control variables, e.g., gender equality, involvement in world affairs, population size, and gross domestic product per capita.

Based on levels of statistical significance, the main finding of the Frank-McEneaney study was that an increase in individualism raised the likelihood that the law of a country would allow same-sex sexual activity among men. On the other hand, variation between countries in individualism was not related to the degree to which the law of countries permitted same-sex sexual activity among women. As to egalitarianism in sex roles — which the investigators viewed as a correlate of individualism⁸⁵ — the study found that greater gender equality contributed to the adoption by countries of law accepting same-sex sexual activity both among men and among women. Neither gross domestic product per capita nor population size, however, affected the content of law on same-sex sexual activity.⁸⁶

Unfortunately, the Frank-McEneaney study furnishes just minimal assistance in pinpointing independent variables for the data analysis to be undertaken *infra*. One reason the Frank-McEneaney study is not of major help is that its chief independent variable was individualism and its concern was with whether individualism was a cause of law on same-sex sexual activity. However, the macrosociological framework for the data analysis below regards individualism as a general factor that *includes* same-sex sexual activity and the social arrangements for it, not a factor that *affects* the acceptability of such activity and arrangements. Furthermore, even if the Frank-McEneaney study had been concerned with the determinants of individualism, it may not have contributed to understanding multiple types of social activities and arrangements, because individualism is unlikely to be a single social form with homogeneous content. Instead, individualism probably encompasses a variety of social forms, and the social activities and arrangements comprising individualism may not have a common set of societal causes. Thus, even though same-sex sexual activity, same-sex non-marital partnerships, and same-sex marriage share some similarities on the surface, they may differ sufficiently as social forms that their antecedents are not identical.

In a similar vein, the degree to which nations are involved in world affairs, though found by the Frank-McEneaney study to be a predictor of the

⁸⁴ Frank & McEneaney, *supra* note 15, at 924.

⁸⁵ *Id.* at 917–18.

⁸⁶ *Id.* at 932–33 tbl.3.

lawfulness of same-sex sexual activity,⁸⁷ would be treated as a dependent variable in the macrosociological framework employed here. In this framework, the manner and extent of participation of nations in world affairs is considered to be a response to nation-level economic, technological, and demographic conditions.

The explanatory variables for the data analysis that follows, in short, omit a measure of individualism in a country as well as a measure of the involvement of a country in world affairs. While both were key independent variables in the Frank-McEneaney study, they are not regarded as independent variables by the framework that prompted the research reported *infra*.

However, one explanatory variable for the instant data analysis can be derived from the Frank-McEneaney study, although the variable is of uncertain promise. The variable is societal wealth. If statistical significance is set aside as a criterion for decisions on the null hypothesis,⁸⁸ the Frank-McEneaney study indicates that higher gross domestic product per capita expands the adoption of law that accepts same-sex sexual activity among men but that gross domestic product per capita has essentially no impact on the adoption of law that accepts same-sex sexual activity among women. The difference in impact by the sex of participants in sexual activity is potentially important. If law that permits same-sex sexual activity is germane to law that permits same-sex non-marital partnerships and same-sex marriage, as suggested earlier,⁸⁹ the effect of wealth on the latter law may vary with the sex of the participants in the relationship. Specifically, the impact of wealth on law directed at such relationships may be limited to relationships between men.

The remaining four studies to be reviewed will be considered together because of the similarity of their dependent variables. All of the studies

⁸⁷ In all models, the regression coefficients were positive and statistically significant for the relationship between the extent to which countries were involved in world affairs and the extent to which the law of the countries permitted same-sex sexual activity among men and among women. *Id.* at 932–33 tbl.3. The lawfulness of same-sex sexual activity was measured by an ordinal-level variable. *Id.* at 922 tbl.1.

⁸⁸ The Frank-McEneaney study was confined to countries that were independent in 1984 as well as in 1995, and it had data for 84 such countries. *Id.* at 921, 937 n.11. The number of countries that were independent in both years but were omitted from the study is not reported. Consequently, whether the study encompassed all of the countries in its defined universe cannot be ascertained. Assuming that the study had data for less than its entire universe, the procedure for deciding whether to include a country should have been, but was not, described by the investigators. *See id.* at 921. If a random sampling procedure was not used, a prerequisite to the use of tests of statistical significance was absent. EARL R. BABBIE, *SURVEY RESEARCH METHODS* 307–09 (1973).

⁸⁹ See *supra* note 83 and accompanying text.

were concerned with whether law prohibiting discrimination on the basis of sexual preference had been adopted by the governments of states, counties, or cities in the United States. The law that was examined in these studies barred discrimination in employment, in housing and/or public accommodations, and/or in lending⁹⁰ — topics on which state and local governments in the United States traditionally legislate. The preceding topics, although involving facially different activities, are closely related in terms of whether law covers them, i.e., the law of a jurisdiction is unlikely to ban discrimination on one of the topics without banning discrimination on others.⁹¹

A further reason to consider the four studies jointly is that, while two of the studies have notable limitations that should be kept in mind,⁹² the findings of the four studies in combination are not inconsistent. Consequently, the four studies together help in identifying the antecedents of law on discrimination that is directed at persons who prefer to engage in sexual activity with members of their own sex.

What independent variables for the current project are suggested by these four studies? On the one hand, law banning sexual-preference discrimination in a jurisdiction may become more common with increases in the educational attainment of jurisdiction inhabitants⁹³ and with increases

⁹⁰ John B. Dorris, *Antidiscrimination Laws in Local Government: A Public Policy Analysis of Municipal Lesbian and Gay Public Employment Protection*, in GAYS AND LESBIANS IN THE DEMOCRATIC PROCESS: PUBLIC POLICY, PUBLIC OPINION, AND POLITICAL REPRESENTATION 39 (Ellen D.B. Riggle & Barry L. Tadlock eds. 1999); Donald P. Haider-Markel & Kenneth J. Meier, *The Politics of Gay and Lesbian Rights: Expanding the Scope of the Conflict*, 58 J. POL. 332 (1996); Marieka Klawitter & Brian Hammer, *Spatial and Temporal Diffusion of Local Antidiscrimination Policies for Sexual Orientation*, in GAYS AND LESBIANS IN THE DEMOCRATIC PROCESS: PUBLIC POLICY, PUBLIC OPINION, AND POLITICAL REPRESENTATION, *supra*, at 22; Kenneth D. Wald et al., *The Politics of Gay Rights in American Communities: Explaining Antidiscrimination Ordinances and Policies*, 40 AM. J. POL. SCI. 1152 (1996).

⁹¹ Haider-Markel & Meier, *supra* note 90, at 335–36.

⁹² The study by Klawitter and Hammer was limited to counties having a population of at least 100,000. Klawitter & Hammer, *supra* note 90, at 26. In the study by Haider-Markel and Meier, the dependent variable was whether discrimination based on sexual preference was prohibited by states. However, a state whose government had not adopted law against sexual-preference discrimination was evidently counted as having such law as long as a minimum percentage of the population of the state resided in cities that had such law. See Haider-Markel & Meier, *supra* note 90, at 335. The investigators do not identify the threshold percentage that determined the classification of states on the dependent variable.

⁹³ Dorris, *supra* note 90, at 48–49; Haider-Markel & Meier, *supra* note 90, at 341 tbl.1. In the study by Haider-Markel and Meier, however, education had a regression coefficient that was statistically significant at or below .10 for just law barring sexual-preference discrimination in public-sector employment and law barring sexual-preference discrimination in private-sector employment. With the .10 significance level as the maximum for rejecting the null hypothesis, the educational attainment of jurisdiction inhabitants was not related to the presence in the jurisdictions of law forbidding sexual-preference discrimination in credit, education, housing, public accommodations, or union practices. The sign and magnitude of coefficients that had a significance level above .10 are not reported. Haider-Markel & Meier, *supra* note 90, at 342 tbl.2.

The study by Klawitter and Hammer, in which the dependent variable was whether county and city

in the numerical size of jurisdiction populations.⁹⁴ On the other hand, law banning sexual-preference discrimination is not predicted by the income of jurisdiction inhabitants under the most commonly used criteria for statistical significance,⁹⁵ but if statistical significance is ignored, jurisdictions are more likely to have such law as the income of their inhabitants rises.⁹⁶

The research that we report *infra* employs four explanatory variables measured at the country level. All were suggested by the macrosociological framework that was considered *infra* in Part I of the present article and/or by the studies that were just reviewed. Three of the variables — education, population density, and wealth — have sociological substance or accompaniments. Each of the three variables is a plausible antecedent of whether law recognizes same-sex non-marital partnerships and same-sex marriage, because rising levels of education, population density, and wealth are believed to increase rationality and individualism.⁹⁷ As rationality and

law barred sexual-orientation discrimination in private-sector employment, found that none of the levels of the ordinal scale for educational attainment had a regression coefficient that was statistically significant at or below .10; i.e., the regression coefficients for the dummy variables for educational attainment did not differ from the reference category (education beyond a Bachelor's degree) at .10 or below. Klawitter & Hammer, *supra* note 90, at 29 tbl.2.1, 33.

The study by Wald, et al. did not estimate the relationship between the educational attainment of jurisdiction inhabitants and whether the jurisdictions had law forbidding sexual-orientation discrimination. Instead, the study included two independent variables for the relative presence of higher education in a jurisdiction — (i) the number of colleges and universities in each jurisdiction and (ii) the aggregate number of students enrolled in the colleges and universities of a jurisdiction as a percentage of the population of the jurisdiction. Wald et al., *supra* note 90, at 1160. These independent variables had regression coefficients that were not statistically significant at or below .05. *Id.* at 1165 tbl.2.

⁹⁴ Dorris, *supra* note 90, at 48–49; Klawitter & Hammer, *supra* note 90, at 29 tbl.2.1, 33; Wald et al., *supra* note 90, at 1165–66. The study by Haider-Markel and Meier included an independent variable for the percentage of the inhabitants of a state who resided in an urban area as of 1990. Haider-Markel & Meier, *supra* note 90, at 339, 347. The study did not report the regression coefficient for this variable because the coefficient failed to reach statistical significance at .10 or below. *Id.* at 341 tbl.1, 342 tbl.2. However, an area was “urban” only if it was classified as such by the U.S. Census Bureau. *Id.* at 347. The minimum population for an urban area in 1990 was 2,500. U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1992 4 (112th ed. 1992). Urban areas, because of the small populations they can contain, are inappropriate for assessing the theory of urbanism. See *supra* text accompanying and following note 81.

⁹⁵ Dorris, *supra* note 90, at 48–49; Klawitter & Hammer, *supra* note 90, at 29 tbl.2.1, 33. See Wald et al., *supra* note 90, at 1163–65, 1172. In the study by Wald et al., the .05 significance level was employed in deciding whether to reject the null hypothesis; the sign and magnitude of the regression coefficient for income are not reported. *Id.* at 1165 tbl.2.

The study by Haider-Markel and Meier contained no measure of income or of any other aspect of wealth. Haider-Markel & Meier, *supra* note 90, at 339, 347.

⁹⁶ Dorris, *supra* note 90, at 48–49; Klawitter & Hammer, *supra* note 90, at 29 tbl.2.1, 33. The study by Dorris used data on almost all cities with a law prohibiting sexual-preference discrimination; these cities were compared to a randomly chosen sample of cities that had a population of at least 2,500 but did not have a law prohibiting sexual-preference discrimination. Dorris, *supra* note 90, at 46, 54–57. For the study by Klawitter and Hammer, the universe was counties with at least 100,000 inhabitants in 1980, and data were obtained for almost all of these counties. Klawitter & Hammer, *supra* note 90, at 26, 36 n.3. While tests of statistical significance may be appropriate in the study by Dorris, they are inappropriate in the study by Klawitter and Hammer.

⁹⁷ *The Roots of Law*, *supra* note 10, at 630–31, 678–79; SIMMEL, *supra* note 28, at 409–10.

individualism intensify and diffuse in a society, at least some of the established lifestyles of the society will become less acceptable to participants in the society. Among the lifestyles that may come under pressure to change is the conventional form of marriage.

The fourth explanatory variable included in the instant research is cultural in nature. Three out of the six prior studies of the impact of jurisdiction conditions on jurisdiction law have included an indicator of culture, e.g., the composition of state populations in terms of religion or the geographic region in which states were located.⁹⁸ Another study — of factors that affect voting by the public on state prohibitions of same-sex marriage — lends additional credence to the proposition that law is shaped by culture.⁹⁹ In the research undertaken here, the indicator of culture is the total fertility rate (TFR). The TFR is the projected number of children that 1,000 females who are 15 years old in a given year will have during their childbearing period, i.e., from age 15 through age 49.¹⁰⁰ The TFR is not a measure of actual lifetime childbearing, because it is calculated by summing the number of births per 1,000 women at all ages from 15 through 49 in a particular year. The calculation thus assumes that the age-specific birth rates in the year for which the calculation is done will remain constant for the next thirty-five years. However, even though the TFR depicts no more than “the completed fertility of a synthetic cohort of women,”¹⁰¹ it is a potentially useful indicator of culture relevant to marriage. A relationship exists between childbearing and social values relevant to the role of women,¹⁰² and due to the way the TFR is computed, the TFR quickly incorporates changes in birth rates. In doing so, the TFR rapidly reflects shifts in social values pertinent to gender roles¹⁰³ and, given the link between gender-role beliefs and whether couples marry or cohabit,¹⁰⁴ to mar-

⁹⁸ Dorris, *supra* note 90, at 47–48; Soule, *supra* note 69, at 465; Wald, *supra* note 90, at 1161–62.

⁹⁹ Rory McVeigh & Maria-Elena D. Diaz, *Voting to Ban Same-Sex Marriage: Interests, Values, and Communities*, 74 AM. SOCIOLOGICAL REV. 891, 907 (2009) (finding that, in counties in which sex roles and families were conventionally structured, voters tended to be strongly opposed to same-sex marriage).

¹⁰⁰ Sharon Estee, *Nativity: Measures Based on Vital Statistics*, in THE METHODS AND MATERIALS OF DEMOGRAPHY 371, 391–93 (Jacob S. Siegel & David A. Swanson eds., 2d ed. 2004).

¹⁰¹ *Id.* at 392 (describing the TFR as a depiction of “the completed fertility of a synthetic cohort of women”).

¹⁰² See Gayle Kaufman, *Do Gender Roles Matter?: Family Formation and Dissolution Among Traditional and Egalitarian Men and Women*, 21 J. FAM. ISSUES 128 (2000).

¹⁰³ Childbearing has been found to be a function of traditionalism in sex roles. S. Philip Morgan & Linda J. Waite, *Parenthood and the Attitudes of Young Adults*, 52 AM. SOCIOLOGICAL REV. 541, 544 (1987); Steven L. Nock, *The Symbolic Meaning of Childbearing*, 8 J. FAM. ISSUES 373, 385, 388 (1987).

¹⁰⁴ Marin Clarkberg et al., *Attitudes, Values, and Entrance into Cohabitation versus Marital Unions*, 74 SOC. FORCES 609, 622 (1995) (finding that, for women and for men, nontraditional views of

riage. As a result, the TFR offers a potentially useful measure of culture in a society, i.e., of the key assumptions that characterize a society and that mold the views and behavior of its population.¹⁰⁵

B. Measurement of Variables and Sources of Data

The instant study employed a combination of time-series data and cross-sectional data. Such a data set, which is commonly labeled “pooled time series,”¹⁰⁶ permits variation to be examined both across space and across time.¹⁰⁷ Pooled time series, therefore, are particularly appropriate for attempts to explain differences between and changes in the law of nation-states. As explained in Part II,¹⁰⁸ the instant study focused on fourteen countries that were members of the European Union during the period from 1995 through 2003, and it includes data on these countries through 2005.¹⁰⁹ In order to capture fully the variation in all of the variables of interest to the study, the dependent variable (law on same-sex unions) was coded, and data on the independent variables were included, for each country for every fifth year from 1970 through 2005. We chose 1970 as the initial year because (i) 1970 is approximately two decades prior to the year (1989) in which the first country in the study approved legislation to recognize same-sex non-marital partnerships or same-sex marriage and because (ii) we assume that changes in law, although often sudden, are typically responses to shifts in the properties of societies that have occurred slowly.¹¹⁰ Because at least two decades of data were used for the independent variables prior to the adoption of law authorizing same-sex unions in the ten countries whose law was changed between 1989 and 2005 to authorize such unions,¹¹¹ we believe that the data allow results from which causality can be plausibly inferred.

In coding the dependent variable (which was assigned the mnemonic label LAW), a statute authorizing same-sex non-marital partnerships was not distinguished from a statute authorizing same-sex marriage. No distinction was made between the two types of statutes because of the small number of

sex roles raise the likelihood of cohabitation and reduce the likelihood of marriage).

¹⁰⁵ Edgar H. Schein, *Culture: The Missing Concept in Organization Studies*, 41 ADMIN. SCI. Q. 229, 236 (1996).

¹⁰⁶ Another name often applied to this type of data is “cross-sectional time-series.”

¹⁰⁷ Lois W. Sayrs, *Pooled Time Series Analysis*, in QUANTITATIVE APPLICATIONS IN THE SOCIAL SCIENCES, at 1, 7 (Sage University Paper No. 70, 1989).

¹⁰⁸ See *supra* notes 58–65 and accompanying text .

¹⁰⁹ See *supra* note 67 and accompanying text.

¹¹⁰ *The Roots of Law*, *supra* note 10, at 616; *Law as Symbol*, *supra* note 14, at 334.

¹¹¹ See *supra* notes 66–68 and accompanying text.

countries with law recognizing same-sex marriage.¹¹² The dependent variable was thus coded as a dummy, i.e., 0 or 1. A country with a statute permitting same-sex unions (either non-marital partnerships or same-sex marriage) was coded 1 starting in the year in which its statute was adopted and was coded 0 in each prior year. A country that did not have such a statute between 1970 and 2005 was coded 0 in all years.¹¹³ The code of 1, once applied to a country, continued until the end of the time series for the country since no country adopted and subsequently rescinded legislation that authorized same-sex unions. Furthermore, of the four countries with a statute authorizing same-sex marriage, two (The Netherlands and Sweden) had initially adopted law permitting same-sex non-marital partnerships and later adopted law permitting same-sex marriage. Each of these countries was coded 1 from the year in which it had a statute permitting same-sex non-marital partnerships.

Let us now turn to the independent variables, i.e., the variables that have been hypothesized as explanations of the dependent variable. Given the time period for which data were required, it is not surprising that the available measures of the independent variables were not numerous, and as a result, the measures that were chosen for the study were not necessarily ideal. Nonetheless, the measures that were used permit a credible test of the ability of each independent variable to predict the presence or absence of law on same-sex unions. An assessment of the relationship, if any, between the former and the latter is thus possible.

We list below each independent variable and specify the measure that we used for it. The name of the independent variable is followed in parentheses by the mnemonic label that the regression equation used for the variable. Data on the independent variables were included in the regression analysis for eight years, viz., 1970, 1975, 1980, 1985, 1990, 1995, 2000, and 2005. Country-level data were used for all of the independent variables. Missing data were infrequent.¹¹⁴

¹¹² See *supra* note 68 and accompanying text.

¹¹³ Sweden was coded 0 in all of the years included in the study, because its law recognizing same-sex marriage was not enacted until 2009.

¹¹⁴ Because the study included fourteen countries and sought data on four independent variables for each country in eight years, the number of cells requiring data was 448 ($14 \times 4 \times 8 = 448$). Three of the 448 cells had no data for the regression analysis. (See, in addition, *infra* note 121.) Of the three cells with no data, two were for school-life expectancy (discussed in the text *infra*) in Luxembourg in 1990 and 1995; the third cell was for the total fertility rate in Luxembourg in 1975. We assume that the missing data were not a function of what would have been observed and were thus "missing at random." The present study employed maximum-likelihood estimates of regression coefficients and odds ratios, which estimates are not rendered inaccurate by data that are missing at random. See SOPHIA RABEHESKETH & ANDERS SKRONDAL, MULTILEVEL AND LONGITUDINAL MODELING USING STATA 207 (2d ed. 2008).

- *Wealth* (mnemonic label GDP). The indicator of wealth was the gross domestic product per person in each country. Gross domestic product per person was measured in current U.S. dollars and took into account differences in prices between countries.¹¹⁵
- *Culture* (mnemonic label TFR). As explained in Part III-A *supra*,¹¹⁶ culture was measured by the total fertility rate.¹¹⁷
- *Education* (mnemonic label EDUCALL). The measure of education is school-life expectancy in each country of both males and females, i.e., of males and females combined.¹¹⁸ School-life expectancy is calculated for a country by summing the enrollment ratios¹¹⁹ that exist during a designated school year at all of the ages within an age range. Because it assumes that these age-specific enrollment ratios do not change with the passage of time, school-life expectancy estimates the total number of years of schooling for a child who reaches school age in the designated year.¹²⁰ In the instant study, the calculation of school-life expectancy included all levels of education (primary, secondary, and tertiary).
- *Population density* (mnemonic label URBANPOP). The measure of population density in each country was the percentage of the population residing in an area that was classified as an “urban agglomeration” and that, in 2007, had at least 750,000 people.¹²¹

¹¹⁵ The data on gross domestic product per person are from ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, GROSS DOMESTIC PRODUCT: GDP PER HEAD, US \$, CURRENT PRICES, CURRENT PPPS, <http://stats.oecd.org/index.aspx?queryid=558> (last visited Dec. 6, 2010). The data are based on purchasing power parities, which are discussed in ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, METHODOLOGICAL MANUAL ON PURCHASING POWER PARITIES 261 (2006), www.oecd.org/std/ppp/manual (last visited Dec. 6, 2010).

¹¹⁶ See *supra* notes 98–105 and accompanying text.

¹¹⁷ The data on total fertility rates are from the following sources: U.N. DEP'T OF ECON. & SOC. AFFAIRS, Population Div., *Partnership and Reproductive Behaviour in Low-Fertility Countries*, 72 *tbl.22* U.N. Doc. ESA/WP.177 (May 2003), available at <http://www.un.org/esa/population/publications/reprobehavior/partrepro.pdf> (data for 1970 through 2000); U.N. ECON. COMM'N FOR EUROPE, *Total Fertility Rate*, http://w3.unece.org/pxweb/Dialog/varval.asp?ma=02_GEFHFertilityRate_r&ti=Total%20Fertility%20Rate%20by%20Country%20and%20Year&path=../DATABASE/Stat/30-GE/02-Families_households/&lang=1 (data for 2005) (last visited Jan. 19, 2011).

¹¹⁸ The data on school-life expectancy that were used in the instant study are from UNESCO Institute for Statistics, Historical Data, Table 3 - Total Enrolment, School Life Expectancy and Expenditure on Education, http://www.uis.unesco.org/ev.php?ID=7660_201&ID2=DO_TOPIC (last visited June 1, 2009) (on file with author).

¹¹⁹ UNESCO INSTITUTE FOR STATISTICS, EDUCATION INDICATORS: TECHNICAL GUIDELINES 7 (2009), http://www.uis.unesco.org/ev.php?ID=5202_201&ID2=DO_TOPIC (follow “English” hyperlink) (last visited Dec. 13, 2010).

¹²⁰ See *id.* at 7.

¹²¹ U.N. DEP'T OF ECON. & SOC. AFFAIRS, Population Div., *World Urbanization Prospects: The 2007 Revision Population Database, Panel 2: Urban Agglomerations – Population Residing in Agglo-*

Although the definition of “urban” may not have been uniform across countries¹²² and the population of an “urban agglomeration” in a country may have been less than 750,000 in some of the eight years, the measure we use here gauges the percentage of the population of a country that was living in large urbanized centers during the period from 1970 to 2000. The measure thus allows a test of the impact of population density that has been propounded by the theory of urbanism.¹²³

Based on the empirical and theoretical work that has been reviewed in this article,¹²⁴ the odds that a country will by law authorize same-sex non-marital partnerships or same-sex marriage can be expected to rise with increases in the wealth (GDP), school-life expectancy (EDUCALL), and density of the population (URBANPOP) of the country. As each of the foregoing explanatory variables increases, rationality and individualism are likely to become more intense and/or more prevalent. On their face, greater rationality and individualism are incompatible with law that is designed to restrict personal choice and, hence, with law that does not authorize same-sex unions. If the prior reasoning is correct, the odds ratios for GDP, EDUCALL, and URBANPOP will exceed 1.00.¹²⁵

The sole independent variable expected to have an odds ratio below 1.00

meration as Percentage of Total Population (2008), <http://esa.un.org/unup/index.asp?panel=2>. The term “urban agglomeration” is defined as “the de facto population contained within the contours of a contiguous territory inhabited at urban density levels without regard to administrative boundaries. It usually incorporates the population in a city or town plus that in the sub-urban areas lying outside of but being adjacent to the city boundaries.” U.N. DEP’T OF ECON. & SOC. AFFAIRS, Population Div., *World Urbanization Prospects: The 2007 Revision Population Database, Glossary* (2008), <http://esa.un.org/unup/index.asp?panel=6>.

The United Nations Population Division reports “no data available” for Luxembourg on this measure. U.N. DEP’T OF ECON. & SOC. AFFAIRS, Population Div., *World Urbanization Prospects: The 2007 Revision Population Database, Panel 2: Urban Agglomerations – Population Residing in Agglomeration as Percentage of Total Population: Luxembourg* (2008), <http://esa.un.org/unup/index.asp?panel=2>. In the instant study, URBANPOP for Luxembourg was coded zero in each of the eight years from 1970 to 2005, because in none of these years did urbanized areas of Luxembourg have a combined population of 750,000 or more. Indeed, the largest total population of urban areas of Luxembourg during this period was 378,000 in 2005. U.N. DEP’T OF ECON. & SOC. AFFAIRS, Population Div., *World Urbanization Prospects: The 2007 Revision Population Database, Panel 1: Urban and Rural Areas - Total Population: Luxembourg* (2008), <http://esa.un.org/unup/index.asp?panel=1>.

¹²² U.N. DEP’T OF ECON. & SOC. AFFAIRS, Population Div., *World Urbanization Prospects: The 2007 Revision Population Database, Glossary* (2008), <http://esa.un.org/unup/index.asp?panel=6> (noting in the definition of “urban population” that “areas [are] classified as urban according to the criteria used by each area or country”).

¹²³ See *supra* Part I-C.

¹²⁴ See *supra* Parts I-A–D, III-A.

¹²⁵ When interpreting the data, odds ratios rather than regression coefficients were considered because, unlike regression coefficients, odds ratios have intuitive meaning. See *Law as Symbol*, *supra* note 14, at 327–28 (explaining the concepts of probability, odds, and odds ratios). Moreover, as explained in *infra* note 164, regression coefficients in the instant study could not be compared in terms of the magnitude of their impact on the dependent variable.

is the total fertility rate (TFR). Cultural values that do not favor childbearing probably promote unconventional arrangements between women and men, including unconventional forms of pairings for sexual activity and marriage. If so, the odds that a country will adopt law recognizing same-sex unions will be related inversely to the TFR of the country, i.e., a secular decline in TFR can be expected to raise the odds that such law will be enacted. Given the coding of the dependent variable, the odds ratio for TFR is hypothesized to be less than 1.00.¹²⁶

C. Statistical Technique¹²⁷

The data in the present study were analyzed with maximum-likelihood logistic regression. Least-squares (i.e., linear) regression was unsuitable¹²⁸ because the dependent variable was coded 0 or 1 and hence was binary.¹²⁹ However, while the measurement of the dependent variable dictated the form of regression, it did not require a particular type of regression model. When data comprise pooled time series, different types of models are available. In the instant research, the question was whether a fixed-effects regression model or a random-effects regression model was appropriate. Unfortunately, a clear answer to the question does not exist because of the nature of the data and of the phenomenon under investigation. A brief review of the reasons for the lack of certainty may be helpful.

Studies of the societal factors that shape law do not select cases with a probability sampling procedure but include all or almost all of the jurisdictions in a bounded geographic area. In this respect, the instant study is typical. Fixed-effects models do not assume that the jurisdictions in a study of the societal antecedents of law have been chosen with a random sampling procedure or that the dependent variable is distributed normally.¹³⁰ Using this criterion, accordingly, a fixed-effects model would be preferable to a random-effects model for the data analysis *infra*.

¹²⁶ Each hypothesis in this and the preceding paragraph assumes, of course, that all other causal variables remain constant.

¹²⁷ The authors want to thank Antonio Di Pino for commenting on the statistical aspects of their research. These aspects are described in Part III-C and Part III-D.

¹²⁸ An explanation of the difference between least-squares regression and logistic regression, and the reason for using the latter when the dependent variable is binary, is found in J. SCOTT LONG & JEREMY FREESE, REGRESSION MODELS FOR CATEGORICAL DEPENDENT VARIABLES USING STATA 113–16 (2d ed. 2006) and in Fred C. Pampel, *Logistic Regression: A Primer*, in QUANTITATIVE APPLICATIONS IN THE SOCIAL SCIENCES, at 1, 1–18 (Sage University Paper No. 132, 2000).

¹²⁹ See *supra* notes 112–113 and accompanying text.

¹³⁰ See RABE-HESKETH & SKRONDAL, *supra* note 114, at 61; Michael M. Ward & J. Paul Leigh, *Pooled Time Series Regression Analysis in Longitudinal Studies*, 46 J. CLINICAL EPIDEMIOLOGY 645, 650 (1993).

However, fixed-effects models also pose a disadvantage in studies of the societal antecedents of law, because such models do not create confidence that the findings they produce can be applied to jurisdictions (e.g., nations) other than those included in the data.¹³¹ Fixed-effects models assume that jurisdictions influence law in unique ways; random-effects models do not make this assumption.¹³² In believing that jurisdictions themselves influence only by chance the relationship to law of each independent variable, random-effects models are more compatible with the goal of building theory,¹³³ a goal of the sociological framework that underlies the present study.

The type of model that was most appropriate for the present study, therefore, was unclear — each type of model has a feature that recommends it for research on the societal antecedents of law, and each has a feature that makes it of uncertain suitability for such research. Nonetheless, a choice had to be made, and while neither type of model is entirely satisfactory, a random-effects model was selected. One of the bases for the choice was that the number of countries and the number of years in the study (viz., fourteen and eight, respectively) were evidently insufficient for a fixed-effects model but adequate for a random-effects model.¹³⁴ In addition, a random-effects model was preferable because of the advantages it offers even if the number of countries had been adequate for a fixed-effects model.¹³⁵

The findings reported in Part III-D below are from data analyses performed with Stata release 10.1. The XTLOGIT command for a random-effects model was used to estimate the regression coefficients and odds ratios for the independent variables.¹³⁶

¹³¹ Ward & Leigh, *supra* note 130, at 649 (“[T]he results of fixed effects models are restricted to, or conditional upon, the individuals included in the study, and generalization to other groups can be problematic.”).

¹³² See EMILIO J. CASTILLA, *DYNAMIC ANALYSIS IN THE SOCIAL SCIENCES* 97, 108–09 (2007).

¹³³ Random-effects models are more suitable than fixed-effects models when the findings of a study can be generalized beyond the cases included in the study. JOSEPH M. HILBE, *LOGISTIC REGRESSION MODELS* 503 (2009).

¹³⁴ See RABE-HESKETH & SKRONDAL, *supra* note 114, at 51, 61–62 (noting that a random-effects model is appropriate when the number of clusters — here, the number of countries — exceeds ten and when, for “a good number of clusters,” cluster size — here, the number of years for each country — is at least two; but that a fixed-effects model requires “large” cluster sizes to estimate parameters specific to clusters).

¹³⁵ CASTILLA, *supra* note 132, at 108–09.

¹³⁶ STATA CORP., *STATA LONGITUDINAL/PANEL-DATA REFERENCE MANUAL RELEASE 10*, 205–21 (2007).

D. Data Analysis

The XTLOGIT command, in estimating the regression coefficient and odds ratio for an independent variable in a model, computes the standard error of the regression coefficient and reports the probability under the null hypothesis that the independent variable is unrelated to the dependent variable. Table 1 and Table 2 (presented *infra*) include all of the preceding information for readers who are interested in it, but the conclusions reached in the instant study were *not* grounded on the probability that a coefficient or odds ratio reported by Stata would have occurred by chance if the null hypothesis was accurate; i.e., our conclusions were not based on the level of statistical significance of a coefficient or odds ratio. Levels of statistical significance were ignored for two reasons. First, the data were analyzed with maximum-likelihood regression. While the minimum number of observations needed to obtain credible results from tests of statistical significance for maximum-likelihood regression has not been extensively investigated,¹³⁷ the use of such tests with fewer than 100 observations has been labeled “risky,” and even fewer than 500 observations may be insufficient.¹³⁸ Under these guidelines, the use of tests of statistical significance in the instant study was dubious because the number of observations was just 110.

The second reason that statistical significance was not a criterion in drawing conclusions from the data in this study involves a fundamental assumption of the tests that compute statistical significance. Specifically, such tests presuppose that the data to which they are applied come from a relatively small number of cases selected from a substantially large universe and that the cases selected for study were obtained with a random sampling procedure.¹³⁹ The instant investigation, however, covered every country in the defined universe whose government exercised sovereignty over an unchanged geographic area during the time span of interest. Because the countries in the study were not chosen randomly out of a larger universe, tests of statistical significance are unnecessary if not inappropriate.

The initial regression analysis employed data on all fourteen countries and all four independent variables,¹⁴⁰ but the odds ratio for TFR was sus-

¹³⁷ DAVID W. HOSMER & STANLEY LEMESHOW, APPLIED LOGISTIC REGRESSION 339 (2d ed. 2000).

¹³⁸ J. SCOTT LONG, REGRESSION MODELS FOR CATEGORICAL AND LIMITED DEPENDENT VARIABLES 54 (1997).

¹³⁹ BABBIE, *supra* note 88, at 308.

¹⁴⁰ For this analysis, the number of observations was 109.

pect. Specifically, the odds ratio for TFR diverged from 1.00 in the opposite direction from what had been predicted,¹⁴¹ and the magnitude of the odds ratio for TFR appeared implausible.¹⁴² Accordingly, there seemed to be a distinct possibility that TFR was affected by one or more influential outliers and/or that TFR was subject to excessive collinearity. An influential outlier is a case (here, a country) that, on the dependent variable, diverges from the prediction made by the regression model for that case (country), and the divergence distorts the odds ratio obtained for an independent variable.¹⁴³ Excessive collinearity exists when change in the amount or condition of one independent variable in a regression model corresponds so closely to change in the amount or condition of another independent variable that, when both independent variables are included in the regression model, their odds ratios are unstable and cannot be estimated with an acceptable degree of confidence.¹⁴⁴

We begin with the potential problem of influential outliers. Unfortunately, a recommended statistical procedure for locating such an outlier from a regression analysis of data with a binary dependent variable¹⁴⁵ is unavailable for the XTLOGIT command, but even if the procedure could have been used, the detection of an influential outlier remains a largely subjective process.¹⁴⁶ Given the uncertainty involved in investigating and identifying influential outliers, we attempted to ascertain whether an influential outlier might be present in our data by using the XTLOGIT command with a series of datasets from each of which one of the fourteen countries had been removed. Because a different country was omitted *seriatim*, each resulting thirteen-country dataset differed in terms of one country.

A finding from the above procedure was that the odds ratios for TFR (as well as for EDUCALL) was appreciably altered by the omission of two countries — namely, Luxembourg and Sweden — but in a study that has just fourteen cases (countries), a major impact of one or two cases is not necessarily surprising and may not jeopardize the credibility of the conclusions reached from all of the cases included in the study. A plausible proposition is that the present study is dealing with countries that form a *system*. By definition,¹⁴⁷ a system — or at least a system that is viable — has compo-

¹⁴¹ See *supra* text accompanying note 126.

¹⁴² The odds ratio for TFR was 170.949.

¹⁴³ John Fox, *Regression Diagnostics*, in *QUANTITATIVE APPLICATIONS IN THE SOCIAL SCIENCES*, at 1, 21–24 (Sage University Paper No. 79, 1991).

¹⁴⁴ *Id.* at 10–11.

¹⁴⁵ The procedure has been proposed by LONG & FREESE, *supra* note 128, at 151.

¹⁴⁶ VIC BARNETT & TOBY LEWIS, *OUTLIERS IN STATISTICAL DATA 7* (3d ed. 1994).

¹⁴⁷ A system is “[a] group of interacting, interrelated, or interdependent elements forming a com-

nents that do not severely or consistently disadvantage one another,¹⁴⁸ and even when a component deviates on a specific dimension from what was anticipated, the component can still be integral to the system. Furthermore, an unexpected deviation on a dimension by a component of a system will not be an abnormality if (i) the system allows or encourages its components to be within a certain range on the dimension and (ii) the deviating component is within that range. In such a situation, the component should be retained in the data even though it is an outlier and influences the results obtained from the set of all components.

What determines whether a component is an outlier that should be removed from a data set? The question must be answered by the model for the study,¹⁴⁹ and the model will be based on theory.¹⁵⁰ Macrosociological theory, however, has not developed sufficiently to permit a researcher to distinguish (i) an outlier component whose inclusion in a dataset produces biased results from (ii) an outlier component whose inclusion is essential for unbiased results.¹⁵¹ On the other hand, the question may be answered in the instant study by theory regarding the nature of the European Union. A necessary condition for the formation of the European Union was undoubtedly that the founding nations were similar on certain dimensions, and a necessary condition for the continuation and growth of the European Union is undoubtedly the persistence of this similarity. Indeed, the European Union has been funding projects designed to reduce differences among its member nations in economy-related conditions.¹⁵² Assuming, as the instant study does, that the European Union is a system of countries and that the system is viable, a particular country should not be eliminated from the data of the instant study unless a compelling reason exists for doing so. This

plex whole.” AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 1823 (3d ed. 1992).

¹⁴⁸ Because conflict between the components of a system can undermine the stability of the system, a system presumably requires some degree of system integration. Cf. DAVID LOCKWOOD, *SOLIDARITY AND SCHISM* 400 (1992).

¹⁴⁹ BARNETT & LEWIS, *supra* note 146, at 7, 17.

¹⁵⁰ BABBIE, *supra* note 88, at 5–6, 227–28.

¹⁵¹ See Bruce Western, *Vague Theory and Model Uncertainty in Macrosociology*, 26 *SOC. METHODOLOGY* 165, 166 (1996) (observing that current theories in macrosociology are not helpful in analyzing quantitative data).

¹⁵² Council Regulation No. 1164/94, Establishing a Cohesion Fund, 1994 O.J. (L 130) 1, 3–4; European Union, Cohesion Policy 2007–13, *National Strategic Reference Frameworks* 3, 5–7 (2008), http://ec.europa.eu/regional_policy/atlas2007/fiche/nsrf.pdf; European Commission, *Guide to the Cohesion Fund 2000–2006*, 4 (2000); European Commission, European Social Fund, *What is the ESF?*, http://ec.europa.eu/employment_social/esf/discover/esf_en.htm (last visited Dec. 6, 2010). In projects and programs that it funds, the European Union prohibits discrimination based on social and demographic attributes. Council Decision, Community Strategic Guidelines on Cohesion, 2006 O.J. (L 291) 11, 14.

conclusion is reinforced by the small number of countries that are components of the system (European Union); the relevance of each component to a system is presumably greater in a system that has few components than in a system that has many. For the instant study, in short, the retention of a country in the data is likely to be important, and may be essential, if error is to be avoided in identifying the societal antecedents of law in European Union nations.¹⁵³

We turn now to the possibility that TFR suffered from an unacceptable degree of collinearity with another independent variable in the regression model. Collinearity is a frequent problem in data on a set of nations,¹⁵⁴ but in the instant study, Stata kept all of the independent variables in the regression model when it computed the odds ratios even though it drops an independent variable that exceeds its criterion for collinearity.¹⁵⁵ Nonetheless, the failure to abandon a variable is not conclusive evidence that the degree of collinearity is acceptable. Indeed, the retention by any statistics software of an independent variable in a regression model does not ensure that excessive collinearity is absent.¹⁵⁶

Because the odds ratio obtained for TFR may have been biased by collinearity between TFR and another independent variable, TFR was taken out of the regression model, and the odds ratios for the remaining three independent variables (GDP, EDUCALL, and URBANPOP) were estimated. Notably, the odds ratios for the three independent variables in the three-variable model were not dissimilar in magnitude to the odds ratios for these variables in the four-variable model, and the direction of the relationship between each independent variable and the dependent variable (LAW) was the same in both models.¹⁵⁷ In terms of the direction of the relationships, the odds ratios for each independent variable exceeded 1.00 in both models.¹⁵⁸

Why not retain TFR in the regression model and eliminate another independent variable? Besides the unexpected direction and suspect magnitude

¹⁵³ See generally part III-D of chapter 9 in Larry D. Barnett, *The Place of Law: The Role and Limits of Law in Society* (2010) (unpublished manuscript).

¹⁵⁴ Western & Jackman, *supra* note 2, at 414.

¹⁵⁵ See STATACORP, *supra* note 136, at 9, 205, 207.

¹⁵⁶ HOSMER & LEMESHOW, *supra* note 137, at 140.

¹⁵⁷ In the four-variable regression model — i.e., in the model that included TFR as an independent variable — the odds ratios for GDP, EDUCALL, and URBANPOP were 1.000609, 1.76051, and 1.349848, respectively. The odds ratios for these variables in the three-variable model are reported *infra* Table 1 and Table 2.

¹⁵⁸ After eliminating from a regression model an independent variable affected by collinearity, the odds ratios for the remaining independent variables may be biased. Fox, *supra* note 143, at 15–19. Given the consistency between the odds ratios for GDP, EDUCALL, and URBANPOP in the three-variable model and in the four-variable model, the elimination of TFR does not seem to have created such bias.

of the relationship of TFR to LAW, TFR was excluded because, during the time period covered by the study (1970 to 2005), a secular decline occurred in the total fertility rate of each of the four E.U. countries that did *not* enact law authorizing same-sex unions, namely, Austria, Greece, Ireland, and Italy. The decline is presented graphically in Figure 1. Under the rationale we followed for placing TFR in the regression model, the direction in which the total fertility rate moved in these four countries would have raised the odds that the countries would approve legislation recognizing same-sex unions. None of the four countries adopted such legislation, however, and their inaction in this regard undoubtedly had an appreciable impact on the odds ratio that was estimated for TFR using data on all of the fourteen countries.

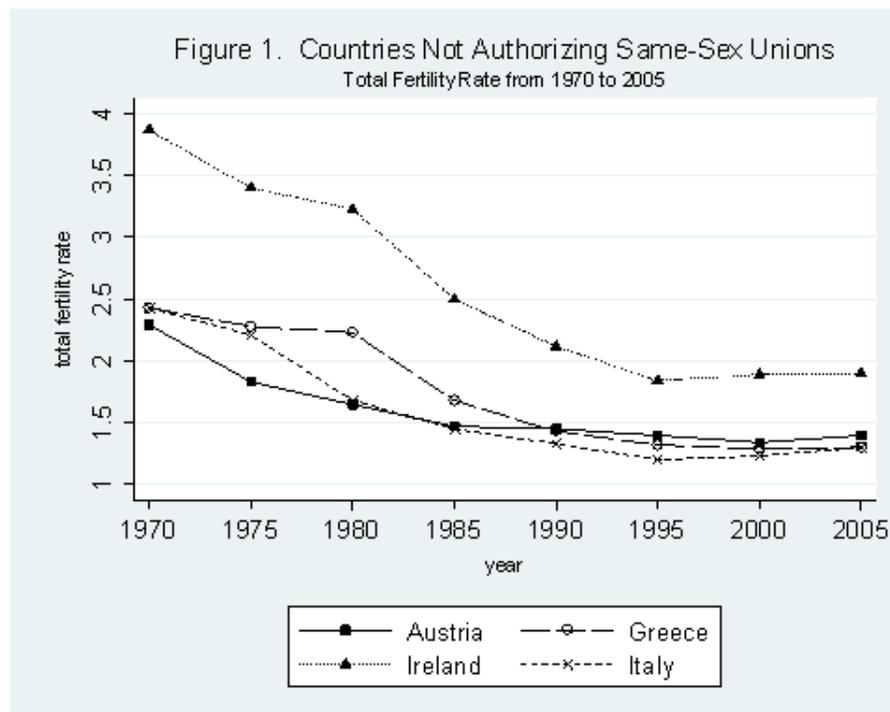


Table 1 and Table 2 report the results of the regression analysis for the three-variable model.¹⁵⁹ The results in Table 1 were generated by the de-

¹⁵⁹ The entries in the bottom panel of the tables are explained in STATA CORP, *supra* note 136, at 210–11, and in RABE-HESKETH & SKRONDAL, *supra* note 114, at 58, 102–04.

fault quadrature approximation in XTLOGIT; the results in Table 2 were generated by XTLOGIT with 15 quadrature points.¹⁶⁰ Significance levels, which are derived from the standard errors of the regression coefficients, are given for two-tailed tests,¹⁶¹ but as explained earlier, the criterion for drawing conclusions about an independent variable in the regression model was the odds ratio for the variable — whether, the degree to which, and the direction in which the odds ratio deviated from 1.00.

¹⁶⁰ Quadrature approximation is discussed in: RABE-HESKETH & SKRONDAL, *supra* note 114, at 258–62; and Marc Callens & Christophe Croux, *Performance of Likelihood-based Estimation Methods for Multilevel Binary Regression Models*, 75 J. STAT. COMPUTATION & SIMULATION 1003, 1007 (2005). As recommended by RABE-HESKETH & SKRONDAL, *supra* note 114, at 261, the number of quadrature points for the results presented in Table 2 was selected by repeating the regression estimation with an increasing number of points.

¹⁶¹ Stata supplies the significance levels for two-tailed tests. Significance levels under a one-tailed test are one-half those shown in the tables.

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Table 1. Regression of LAW on GDP, EDUCALL, and URBANPOP
(default quadrature method)

Variable	Odds ratio	Regression coefficient	Standard error of regression coefficient	z	p> z
GDP	1.000799	0.000799	0.000679	1.18	0.239
EDUCALL	1.377840	0.320517	0.923837	0.35	0.729
URBANPOP	1.405618	0.340477	0.463411	0.73	0.463
constant		-	36.259020	-	0.291
		38.280300		1.06	
<u>Regression model</u>					
Number of observations =		110			
Number of groups (countries) =		14			
Observations per group (country)					
Minimum =		6			
Maximum =		8			
Average =		7.9			
Log likelihood =		-24.323267			
Wald chi2(3) =		1.96			
Probability > chi2 =		0.5801			
ln(σ_v^2) =		4.273009			
Standard error of ln(σ_v^2) =		1.868620			
σ_v =		8.469780			
Standard error =		7.913399			
ρ		0.9561509			
Standard error =		0.0783444			
Likelihood-ratio test of $\rho = 0$:					
Chibar2(01) = 7.75, probability >= chibar2 = 0.003					

Table 2. Regression of LAW on GDP, EDUCALL, and URBANPOP
(15 quadrature points)

Variable	Odds ratio	Regression coefficient	Standard error of regression coefficient	z	p> z
GDP	1.001221	0.001221	0.0008148	1.50	0.134
EDUCALL	1.504103	0.408196	1.2334540	0.33	0.741
URBANPOP	1.828459	0.603473	0.4715783	1.28	0.201
constant		-57.938500	39.3373700	1.47	0.141
<u>Regression model</u>					
Number of observations =				110	
Number of groups (countries) =				14	
Observations per group (country)					
Minimum =				6	
Maximum =				8	
Average =				7.9	
Log likelihood =				-24.272617	
Wald chi2(3) =				2.45	
Probability > chi2 =				0.4841	
ln(σ_v^2) =				5.099070	
Standard error of ln(σ_v^2) =				1.422154	
σ_v =				12.801150	
Standard error =				9.102608	
ρ				0.9803190	
Standard error =				0.0274386	
Likelihood-ratio test of $\rho = 0$:					
Chibar2(01) = 7.85, probability >= chibar2 = 0.003					

According to the odds ratios in Table 2 — on which we will focus in summarizing the results of the data analysis — the odds that legislation would be enacted by a country to authorize same-sex unions increased by .1221% for every additional U.S. dollar of gross domestic product per person;¹⁶² increased by 50.4% for every additional year of school-life expectancy; and increased by 82.8% for every additional percentage point in the share of the population that resided in an urban agglomeration.¹⁶³ In multiple regression, of course, an odds ratio (and coefficient) for an independent variable estimates the impact of that independent variable on the dependent variable *after* the effects of the other independent variables in the regression model have been statistically removed. For the countries and the time period covered by the instant study, therefore, growth in each independent variable — wealth, education, and urbanism — raised the odds that a country would enact law authorizing same-sex unions, and the contribution of each independent variable to the enactment of such law was evidently of practical importance.¹⁶⁴

¹⁶² The percentage change in the odds of such legislation that is due to a change of one unit in a given independent variable is calculated by (i) subtracting 1.000 from the odds ratio for that independent variable and (ii) multiplying the result by 100. For example, the percentage change in the odds of such legislation from a one-dollar gain in gross domestic product per capita is computed by subtracting 1.000 from the odds ratio for GDP and multiplying by 100, i.e., $1.001221 - 1.000000 = .001221 \times 100 = .1221\%$. However, the percentage change resulting from an increase of more than one unit in an independent variable may not be accurately estimated when multiplying (i) the percentage change attributable to one unit of the independent variable by (ii) the number of units in a larger amount. LONG & FREESE, *supra* note 128, at 216. Accordingly, if gross domestic product per capita rises by \$2,500, the percentage change in the odds of enacting legislation that recognizes same-sex unions may be more or less than $.1221 \times 2,500$.

¹⁶³ The measures of these variables are described in the text accompanying *supra* notes 115 and 118–122.

¹⁶⁴ When pooled time-series data are employed — i.e., when the XTLOGIT command is used — there are no generally accepted Stata statistical techniques that compare regression coefficients for the independent variables in a model and estimate the relative impact of each independent variable on the dependent variable. For example, the LISTCOEF command is unavailable with XTLOGIT, and as a result, the instant study was unable to obtain standardized regression coefficients. The LISTCOEF command is described in LONG & FREESE, *supra* note 128, at 94–98, 464–67. In addition, the PRCHANGE command does not work with XTLOGIT, precluding an alternative approach to assessing the magnitude of the impact of each independent variable in the study. The PRCHANGE command is described in *id.* at 118–22, 216–17.

As explained in note 162 *supra*, the percentage change in the odds of LAW may be inaccurately estimated if the percentage change in these odds due to a one-unit change in a specific independent variable is multiplied by a larger number of units of the same independent variable. Nonetheless, the importance of an independent variable to explaining the dependent variable *may* be roughly indicated by the size of the range (i.e., the difference between the maximum and minimum number of units) of the independent variable in conjunction with the magnitude of the odds ratio for that independent variable. See LONG & FREESE, *supra* note 128, at 216. In the data for the independent variables in the present study, the largest difference within a country over time, or between countries at a single point in time, was \$62,678 for GDP, 7.3 years for EDUCALL, and 38.6 percentage points for URBANPOP.

IV. DISCUSSION

The findings presented in Part III-D *supra* are consistent with the results of earlier research with regard to education and population density, and they are not inconsistent with the results of earlier research with regard to wealth. The relationships to law on same-sex unions that the instant study uncovered, therefore, seem unlikely to be due to chance or to any of the numerous problems that potentially undermine research in the social sciences.

Notably, the findings of the instant study are consistent with the theory of urbanism. The findings indicate that high population density contributes to the emergence of doctrines of law that authorize same-sex non-marital partnerships and same-sex marriage. For the institution of law, then, the level of population concentration in a society matters. Furthermore, the findings as to wealth and education lend credibility to the proposition that the knowledge used by a society exercises a powerful influence on the character of the society and, in turn, on the content of its law. Specifically, improvements in the quality and quantity of knowledge during the last hundred years (if not longer) are likely to have augmented the wealth and educational level of the population of Western nations; increases in wealth and educational attainment probably raised the degree and expanded the prevalence of individualism and rationality; and greater individualism and rationality are likely to have shaped the concepts and doctrines of law in these nations. The extent and magnitude of the impact of the stock of knowledge has not been understood, however, because the impact has been mainly if not entirely indirect.

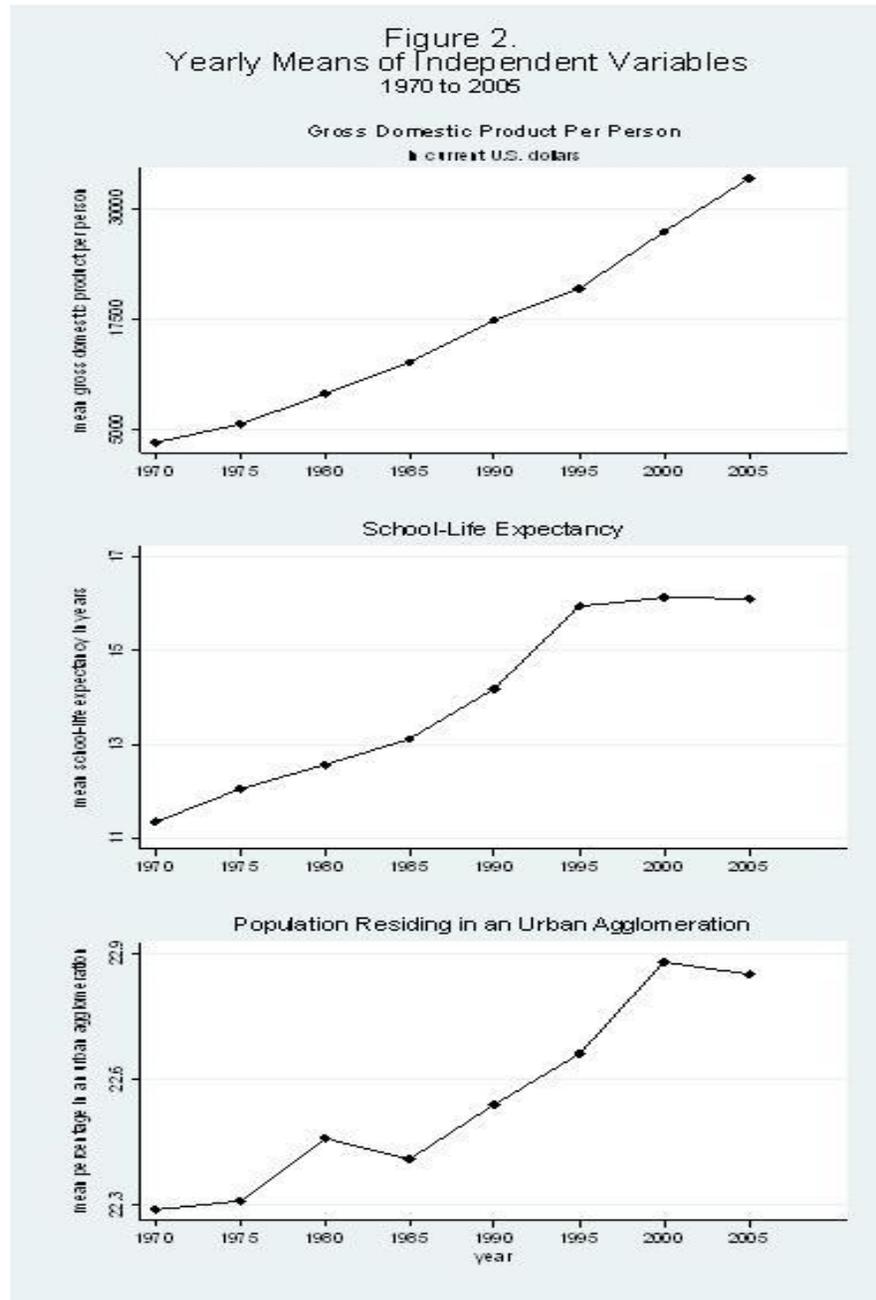
Perhaps some appreciation of the ability of growing wealth, education, and urbanism to shape law on same-sex non-marital partnerships and same-sex marriage can be gained from a visual presentation of the changes that have occurred in these factors in European Union nations. Figure 2 includes three graphs, each of which shows the *mean* of the fourteen countries on one factor at the eight time points from 1970 to 2005. The trends in the graphs are probably known in general terms by most readers, but the graphs delineate precisely the level of each factor and its course over time. Perusal of the graphs indicates that, during the period covered, there were secular increases in all three factors. The upward movement of the factors, together with the magnitude of the movement in wealth and in education, adds credibility to the odds ratios that were reported in Table 1 and Table 2. In short, countries are evidently pushed to adopt law authorizing same-sex non-marital partnerships and same-sex marriage by growth in the stock of

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knowledge and in urbanism.



Although we hope that our study has contributed to understanding the emergence of law recognizing same-sex non-marital partnerships and same-sex marriage, we want to stress that our study should not be taken as an ending point — indeed, it is only a beginning. We are under no illusion that our study provides the definitive word on the societal properties that prompt jurisdictions to adopt law authorizing same-sex unions. On the contrary, our study is no more than a small step in the search for these properties. Nevertheless, we hope that the study adds to what has been learned from prior research on the antecedents of law and that it will prompt others to undertake their own research. The properties of societies that shape law on all types of activities and entities would benefit from the efforts of additional investigators, and in order to assist them, we want to suggest two independent variables that were absent from our explanatory model but that we believe hold promise for understanding the antecedents of law on same-sex unions and on at least some other topics as well.

One of the variables that we recommend for inclusion in future research is the status of women relative to the status of men. Unfortunately, we were unable to find data for a suitable measure of gender status in the years and countries included in our study. The relative status of women may help to account for whether law authorizes same-sex unions because, in research that was recently completed on a nationwide sample of adults in the United States, the odds that morality would be deemed a private matter (as opposed to a public issue) were found to be much higher among women than among men.¹⁶⁵ Given the evidence that social values shape law,¹⁶⁶ a plausible argument can be made that, in the United States, (i) gains in the status of women increased the influence of social values classifying morality as private and (ii) this shift in social values moved the U.S. Supreme Court to rule in a series of cases that the national Constitution is offended by government action designed to penalize adults for consensual, noncommercial, nonpublic sexual activity and its incidents.¹⁶⁷ The cases were decided during the period from 1965 to 2003, and included law-imposed penalties for consensual, noncommercial, nonpublic sexual activity when it involves adults who are of the same sex.¹⁶⁸ Same-sex sexual activity, there-

¹⁶⁵ *Morality and Law*, *supra* note 21, at 588 & n.156 (finding, in an analysis of data from the 1991 General Social Survey, that the odds were 263% higher for women than for men that morality would be considered a private matter).

¹⁶⁶ *The Roots of Law*, *supra* note 10, at 674 n.189 (citing empirical studies that found that social values affect law).

¹⁶⁷ *Morality and Law*, *supra* note 21, at 593–603 (presenting the argument).

¹⁶⁸ *Lawrence v. Texas*, 539 U.S. 558 (2003).

fore, has come to be viewed as a private choice under the Constitution of the United States, and it cannot be suppressed by government.¹⁶⁹ Assuming that the appreciably greater inclination of women than of men to assign morality to the private sphere is not limited to the United States, the status of women can be expected to shape law targeting same-sex relationships in numerous nations. If so, improvements in the status of women in a country, *ceteris paribus*, raise the likelihood that same-sex non-marital partnerships and same-sex marriage will be treated as a private matter and that the law of the country will permit such unions.¹⁷⁰ In sum, future studies of this law, as well as of law targeting social behaviors and arrangements bearing on sexual activity, may benefit from incorporating the status of women into their models.

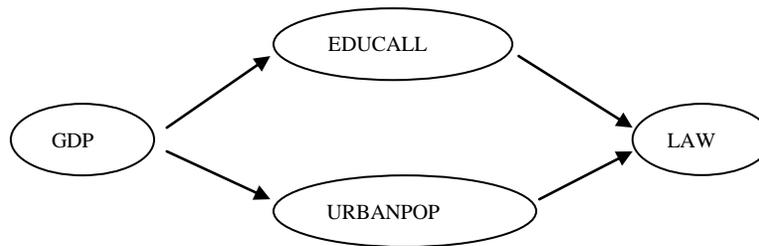
The second independent variable that we recommend for inclusion in future research is relevant to law on all topics rather than to just law on same-sex unions. The variable is the ease with which a country can modify the concepts and doctrines in its law. Unfortunately, a satisfactory measure of this variable does not seem to exist for the countries and years covered by our study. The variable, in being concerned with the process by which concepts and doctrines enter law, involves all lawmaking entities — legislatures, judicial bodies, and administrative agencies. The variable is potentially important insofar as it affects the speed with which law is harmonized with societal properties. Extremes in the structure of the lawmaking process probably arise from major historical events such as wars and economic depressions; i.e., a country may be so disrupted by an event that its lawmaking procedures are reorganized for the purpose of allowing, or of preventing, a material delay in or complete thwarting of new law. In the instant study, the structure of the lawmaking process would have been treated as a factor intervening between (i) the other explanatory variables and (ii) the content of law regarding same-sex unions. The impact of (i) on (ii) would be expected to occur with a delay in countries whose lawmaking process allows alterations in law to be readily blocked. In these countries, the threshold at which law is altered by change in societal properties is likely to be materially higher than in countries whose lawmaking process is conducive to revisions in law.

¹⁶⁹ *Morality and Law*, *supra* note 21, at 594 & n.168.

¹⁷⁰ *See supra* note 83 and accompanying text.

APPENDIX

A social scientist who we asked to critique the instant study questioned whether our regression model was correct in assuming that the independent variables (EDUCALL, GDP, and URBANPOP) concurrently affected the dependent variable (LAW). The independent variables, he believed, have a temporal sequence, and he recommended that our model, and hence our data analysis, incorporate this sequence. Specifically, the reviewer advanced the following propositions: (i) GDP is an immediate antecedent both of EDUCALL and of URBANPOP; (ii) EDUCALL and URBANPOP are immediate antecedents of LAW; and, consequently, (iii) the influence of GDP on LAW occurs indirectly through EDUCALL and URBANPOP.¹⁷¹ The propositions are portrayed in the following diagram:



Although no rationale was provided for the foregoing propositions, the reviewer may have reasoned that basic goods such as food and minerals are not produced by full-time students or by inhabitants of densely populated areas, but that these goods are nonetheless required for full-time schooling and residence in a large city. Under this reasoning, basic goods are the foundation for wealth (as measured by GDP), and the wealth of a society determines the proportion of the population of the society that is able to engage in activities that do not themselves generate basic goods. Societal wealth would thus be the cornerstone for, and possibly would be the driving force behind, average educational attainment and degree of urbanization.

¹⁷¹ E-mail from Antonio Di Pino (Aug. 17, 2009, 8:55:03 EST; Aug. 17, 2009, 11:39:54 EST) (translated by Pietro Saitta) (on file with authors).

The above reasoning is logical and therefore appealing, but the model it yields is dubious. Indeed, the model advanced by the reviewer masks the considerable disagreement that exists regarding the direction of causality between societal wealth, schooling, and the share of the population residing in metropolitan areas.¹⁷² Two particular factors, however, undermine the credibility of the model proposed by the reviewer. First, proposition (i) of the reviewer is not supported by quantitative research. Average educational attainment has been found to contribute to growth in societal wealth, but an impact of the latter on the former — i.e., an impact of societal wealth on educational attainment — is apparently weak.¹⁷³ The direction of causality, therefore, seems to be chiefly from educational attainment to wealth. Moreover, in most of the nations that were included in the instant study, societal wealth does not affect the density of population. Indeed, the reverse evidently occurs in these nations, i.e., degree of urbanization affects the level of wealth.¹⁷⁴

The model proposed by the reviewer is implausible for a second reason as well, namely, the findings presented in Part III-D *supra*. Specifically, the model of the reviewer treats EDUCALL and URBANPOP as variables intervening between GDP and LAW, but if this model is correct and no other variables are positioned between GDP and LAW, a relationship between GDP and LAW should be absent in Table 2 because EDUCALL and URBANPOP are held constant in computing whether GDP is related to LAW. Controls for EDUCALL and URBANPOP, that is, should have removed the ability of GDP to affect LAW if the impact of GDP on LAW occurred through (and only through) EDUCALL and URBANPOP. As Table 2 shows, however, GDP had an appreciable influence on LAW despite the controls for EDUCALL and

¹⁷² Krishna Mazumdar, *An Analysis of Causal Flow Between Social Development and Economic Growth: The Social Development Index*, 55 AM. J. ECON. & SOCIOL. 361, 361–63 (1996) (reviewing the inconsistent positions that exist regarding the direction of causation between social development and economic growth).

¹⁷³ Angela Martin Crowley et al., *Quantitative Cross-National Studies of Economic Development: A Comparison of the Economics and Sociology Literatures*, 33 STUD. COMP. INT'L DEV. 30, 39 (1998); see Evan Schofer & John W. Meyer, *The Worldwide Expansion of Higher Education in the Twentieth Century*, 70 AM. SOCIOL. REV. 898, 900, 916 (2005) (concluding from empirical studies that economic development in countries does not materially enlarge enrollment rates at any level of education).

¹⁷⁴ Mazumdar, *supra* note 172, at 364, 365, 367, 373. Dr. Mazumdar found that, in high-income countries and in low-income countries, the percentage of the population that resides in urban locations affected, but was unaffected by, per capita real gross domestic product; in middle-income countries, the two variables affected each other. *Id.* at 373. The study by Dr. Mazumdar included ninety-two countries, while our study included fourteen. (The fourteen nations in our study are listed in the text in Part II *supra*.) Ten of the fourteen nations in our study were classified as high-income countries by Dr. Mazumdar; three of the nations in our study (viz., Greece, Ireland, and Portugal) were classified as middle-income countries by Dr. Mazumdar. One nation in our study (viz., Luxembourg) was not in the study by Dr. Mazumdar. Mazumdar, *supra* note 172, at 367.

URBANPOP.¹⁷⁵ Of course, even with controls for EDUCALL and URBANPOP, GDP would continue to have an impact on LAW if GDP affects LAW through other intervening variables, but these other intervening variables have yet to be identified and the manner in which they operate is unknown. Indeed, a problem underlying all models that seek to explain the content and evolution of law is that they are in territory that social scientists have only begun to chart.

In the end, then, the reader should keep in mind that social science remains uncertain about whether and how EDUCALL, GDP, and URBANPOP are related to each other. The uncertainty may exist in part because the three variables may not possess simple causal interconnections,¹⁷⁶ but regardless of its source, the uncertainty is a compelling reason to entertain models other than that advanced by the reviewer. A consideration of other models is especially important for the instant study given that the concern of the study is the relationships of these variables to *law* rather than to each other. One plausible model suggests that, in general, average educational attainment and population density are antecedents, not results, of wealth,¹⁷⁷ and that each of the three variables (EDUCALL, URBANPOP, and GDP) have their own impact on LAW. In this model, greater educational attainment and urbanization (i) improve economically relevant skills in a society and (ii) increase rationality, both of which contribute to enlarging gross domestic product per person, i.e., wealth. With gains in wealth and in rationality, increases in individualism can be expected.¹⁷⁸ Contrary to the model proposed by the reviewer, educational attainment and population density may thus start the sequence, with growth in these societal forces adding to wealth and sharpening analytical skills.

In the model just described, the components and concomitants of individualism (e.g., rationality and analytical skills) are fostered by an increase in education, an increase in population density, and an increase in wealth. Individualism is important to the instant article for two reasons. First, an intensification and expansion of individualism may have been a central and

¹⁷⁵ See *supra* notes 162–164 and accompanying text.

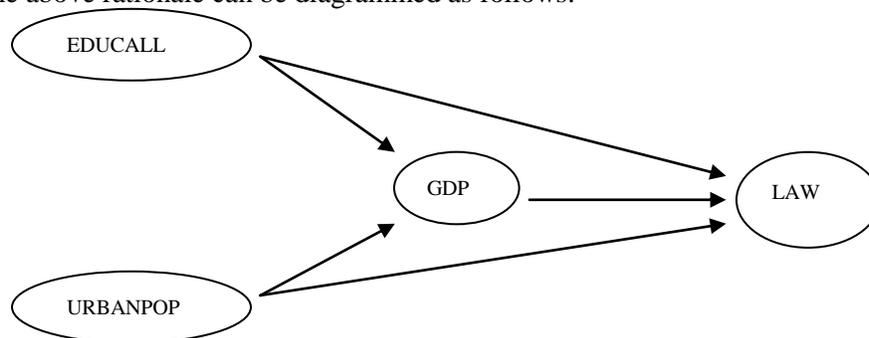
¹⁷⁶ See Mazumdar, *supra* note 172, at 373, 378, 380 (discussing, for countries in each of three levels of gross domestic product per capita, the causal connections found between education measures, gross domestic product per capita, and urban population).

¹⁷⁷ *Supra* notes 173 (education) and 174 (urbanization) and accompanying text.

¹⁷⁸ See *The Roots of Law*, *supra* note 10, at 630–31, 677–79 (contending that increases in knowledge lead to increases in economic wealth and rationality, each of which fosters individualism). A similar sequence of effects from the growth of knowledge is traced in *Law as Symbol*, *supra* note 14, at 336 & n.224.

defining feature of global change in recent history.¹⁷⁹ Second, individualism involves or creates challenges to the conventions of societies. Since opposition to societal conventions from rising and spreading individualism is likely to be broad rather than narrow, individualism undermines traditional lifestyles as a whole, including traditional forms of marriage. As conventional lifestyles become less accepted and less enforceable in a society, law authorizing alternative lifestyles can be expected to follow.

Under the above rationale, then, the relationships between EDUCALL, URBANPOP, and GDP, on the one hand, and LAW, on the other, differ materially from those suggested by the reviewer. The relationships posited by the above rationale can be diagrammed as follows:



What is the most appropriate model for the instant study? The systematic exploration of the societal antecedents of law is in its infancy, and not surprisingly, the picture of these antecedents that social scientists have painted to date is hazy. Because the three independent variables (EDUCALL, GDP, and URBANPOP) in the present study do not clearly have a temporal order in explaining the content of law at any single point in time or over time, they were assumed by the model that was employed in Part III-D *supra* to have concurrent effects on LAW.¹⁸⁰ Models are not developed in a vacuum, of course, and they should not be based solely on existing theory or solely on an analysis of data; rather, models should be grounded on a combination of theory and information from prior empirical

¹⁷⁹ Frank & McEneaney, *supra* note 15, at 912.

¹⁸⁰ Because average educational attainment, societal wealth, and degree of urbanization are correlated, just one of the three was used to capture the influence of all of them in a study of jurisdiction-level antecedents of law. Frank & McEneaney, *supra* note 15, at 926. However, the three variables are different phenomena and should not be deemed interchangeable; each is important in its own right. Thus, the theory of urbanism (explained in the text accompanying *supra* notes 27–29) cannot be tested without a measure of population density, but a test of the theory must also include a measure of average educational attainment and a measure of wealth. The inclusion of data on educational attainment and on wealth allows these variables to be controlled and their effects to be removed so that the impact (if any) of urban life on law can be isolated.

studies.¹⁸¹ The model that was chosen for the instant study satisfies this criterion, and the credibility of the model is bolstered by the findings reported in Table 2. Accordingly, unless future social science research and theory applicable to the societal antecedents of law recommend a model in which EDUCALL, GDP, and URBANPOP are temporally ordered, the most prudent course is to assume that the effects of the variables on law are concurrent.

¹⁸¹ David A. Belsley, *Model Selection in Regression Analysis, Regression Diagnostics and Prior Knowledge*, 2 INT'L J. FORECASTING 41, 43–45 (1986).