THE RULE OF ONE-THIRD

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Abstract

The Rule of One-Third guaranteed wives a life interest in one-third of their husband's estate upon marital dissolution. We document the ubiquity of this legal construct and demonstrate that children's outcomes are imperiled absent a wife's residual claim on her husband's estate. Using ancient Roman law as an example, we argue that the patriarch, or paterfamilias, is the primary legal entity with an interest in creating and enforcing the Rule of One-Third. In a game-theoretic model, we show that the Rule of One-Third obtains when mothers and fathers are equally important in producing children's human capital and when it is enforced by the paterfamilias or by modern legal institutions. The Rule of One-Third places the cost of marital dissolution on the household rather than society and solves a contracting problem between the husband and wife when each is specialized in tasks the other cannot perform well.

I. Introduction

Until recent times, a married woman typically retained a life interest in one-third of the common family estate upon dissolution of the marriage. This "Rule of One-Third" occurs with striking frequency over thousands of years in numerous societies, including ancient Egypt, classical Rome, medieval Norway, nineteenth-century Scotland and England, France under the Napoleonic Codes, and South Carolina in 1977. A wife's claim during her life on her husband's estate, known as the "dower right" at common law, is also observed in civil-law regimes.[1] Such rights were part of a broader legal setting in which males retained control over household property but were obligated

[1] We refer to all such arrangements as "dower" even though dower is a common-law term.

to support their wives and children.[2] Why did so many societies independently guarantee the wife one-third of her husband's estate upon marital dissolution? Indeed, why not one-half or nothing at all?

In this paper, we document the pervasiveness of the Rule of One-Third and present a game-theoretic model that explains the dower right. The model shows that the Rule of One-Third solves a contracting problem: if marital dissolution occurs after child rearing, then the husband's optimal strategy is to leave the wife with nothing as she has completed her primary household duty. Without some ex ante commitment device, the husband cannot credibly commit to providing his wife a share of household wealth ex post. We show that without a guaranteed residual claim on her husband's estate, a wife will seek to appropriate resources that could otherwise go to children as insurance against household dissolution. Underinvestment in children limits their ability to function in society and can dilute familial wealth.

The second issue we address is the enforcement of the Rule of One-Third. Because husbands would like to renege on promises ex post, individually they have no incentive to establish a law that circumscribes their own behavior. We view dower as a social mechanism to facilitate credible precommitment by the husband. However, there was a family member with an individual incentive to enforce precommitment: the paterfamilias. This institution was part of Roman law, the body of law that has perhaps had the greatest influence on Western civilization. The paterfamilias was the male head of the Roman household, typically the grandfather, who held powerful control rights over household property and family members.[3] We examine this institution and establish that the paterfamilias possessed both the incentive and the power to enforce a wife's claim on her husband's estate, enabling credible commitment. The creators of modern legal regimes serve as an analog for the enforcement power of the paterfamilias.

The last topic we examine is why the dower right is typically one-third. Using a parameterized model, we demonstrate that the Rule of One-Third obtains if mothers' and fathers' marginal impacts on their children's human capital are equal. Since men have historically specialized in resource acquisition and women in child rearing, each provides different inputs into the creation of children's human capital. We conclude that the Rule of One-Third arose to solve a contracting problem between the husband and wife when each is specialized in tasks the other cannot perform well.

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[2] The ability of men and women to contract around these arrangements varied across societies. See Rick Geddes & Dean Lueck, The Rationale for Coverture in the Common Law (Working paper, Stanford Univ. 2001).

[3] J. A. C. Thomas, Textbook of Roman Law (1976). Similar arrangements existed in some Eastern family-law regimes. See Mikihiko Wada, Abolition of the House (ie) Under the Occupation—Or the Two Faces of Koseki: A Janus, 26 Law in Japan 99, 104 (2000).

II.   Marriage and Its Dissolution

Before addressing household dissolution, we discuss three motivations for institutionalized marriage.[4] First, resource flows from the man to the woman have traditionally been an essential part of the marriage decision. Historically, a woman needed a man to provide her with the resources upon which her and her children's survival depended. As a result, a man's ability to acquire resources, and his commitment to sharing them, became a primary female mating criterion. Because of the high cost of pregnancy and child rearing (both metabolic and in forgone mating opportunities), "ancestral women required reliable signs of male commitment before consenting to sex."[5]

Second, marital investments are highly specific assets, creating a demand for long-term contracts.[6] Gary Becker wrote, "Since married women have been specialized to childbearing and other domestic activities, they have demanded long-term 'contracts' from their husbands."[7] Since it is not possible for complete vertical integration in which one party legally owns the other to occur within marriage, transactions cost economics predicts that long-term contracts will result.[8] This outcome has been observed in quite different institutional settings.[9] Similarly, Douglas Allen views state intervention in marriage as a way to avoid high transactions costs between men and women.[10]

Third, during the time period examined, women had limited opportunities to acquire resources. Many societies had laws and social norms prohibiting women from fully participating in labor markets without their husband's permission.[11] These laws and norms increased a woman's incentive to marry.

Laws mandating payments to women upon household dissolution arose because they shifted costs from society as a whole to the man or to his estate.

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[4] See, for example, Gary S. Becker & Kevin M. Murphy, The Family and the State, 31 J. Law & Econ. 1 (1988); Douglas W. Allen, An Inquiry into the State's Role in Marriage, 13 J. Econ. Behav. & Org. 171 (1990); Yoram Weiss, The Formation and Dissolution of Families: Why Marry? Who Marries Whom, and What Happens upon Marriage and Divorce? in Handbook of Population and Family Economics (Mark R. Rosenzweig & Oded Stark eds. 1997).

[5] David M. Buss, The Evolution of Desire 49 (1994).

[6] See Lloyd Cohen, Marriage, Divorce, and Quasi Rents; or, "I Gave Him the Best Years of My Life," 16 J. Legal Stud. 267 (1987), for an early articulation of this point.

[7] Gary S. Becker, Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education 30 (3d ed. 1993).

[8] While stopping short of slavery, family law traditionally recognized property rights held by a husband in his wife. In the English law of coverture, for example, rape was a violation of a property right held by a husband, not a crime against the woman. See, for example, Joel P. Bishop, Commentaries on the Law of Married Women under the Statutes of the Several States, and at Common Law and in Equity (1875).

[9] Paul Joskow, Asset Specificity and the Structure of Vertical Relationships: Empirical Evidence, 4 J. Law, Econ. & Org. 95 (1988).

[10] Douglas W. Allen, An Inquiry into the State's Role in Marriage, 13 J. Econ. Behav. & Org. 171 (1990).

[11] Marylynn Salmon, Women and the Law of Property in Early America (1986).

Such laws internalized within the household the cost of socially detrimental outcomes such as indigent women and children.[12] By raising the cost of household disintegration, dower rights increased the gravity of the marriage decision, raising social stability. This presumes, of course, that dower rights are enforced, an issue we examine in Section III*B*.

III.   LEGAL INSTITUTIONS

A.   *The Rule of One-Third*

The Rule of One-Third occurs with striking frequency across time and cultures. William H. Cord provides a standard definition of the dower right in English common law and suggests a link to rearing children: "Dower is the right the wife has in the husband's land if she survive him. It is the provision the law makes for the widow of the lands or tenements of her husband, for her support and the nurture of her children."[13] This right was considered so important that it was included in the Magna Carta by King Henry III, though the Rule of One-Third long predates English common law.[14] In discussing the wife's share in her husband's property in ancient Egypt, P. W. Pestman states, "From the time of the New Kingdom onwards many cases are known in which the wife acquires this (one-third) share in the case of dissolution of the marriage which devolves on their children after her death. . . . The right of the wife to her one-third part is not more than a right to her share in the common property at the time the marriage is dissolved."[15]

Table 1 provides a sample of jurisdictions and time periods that established dower rights. The table shows a surprising degree of conformity to the Rule of One-Third, suggesting a common motivating factor.[16] In the Appendix,

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[12] *Parens patriae* refers traditionally to the role of the state as guardian of persons under legal disability. We view the state in its *parens patriae* function as playing a similar enforcement role to the paterfamilias, with similar motivations.

[13] William H. Cord, A Treatise on the Legal and Equitable Rights of Married Women 501–2 (1885). The definition of dower in *Black's Law Dictionary* also links it to investments in children. For the period we examine, death was a more frequent cause of marital dissolution than divorce. Indeed, in many American states, such as Alabama, Hawaii, and Massachusetts, dower applied only in case of death.

[14] Some of the earliest known laws deal with support of wives after marital dissolution. For example, the Laws of Ur-Namma of Sumer and Akkad (circa 2100 B.C.), par. 9, states, "If a man divorces his first-ranking wife, he shall deliver 30 shekels of silver." Martha T. Roth, Law Collections from Mesopotamia and Asia Minor 18 (1995).

[15] P. W. Pestman, Marriage and Matrimonial Property in Ancient Egypt: A Contribution to Establishing the Legal Position of the Woman 139 (1961).

[16] Many civil-law systems adopted a rule of community property that allocates one-half of the community (as opposed to separate) property to the wife upon marital dissolution. See, for example, Alvin E. Evans, The Ownership of Community Property, 35 Harv. L. Rev. 47 (1922). We analyze a one-half split of household assets in Section V. Other variations on the Rule of One-Third are minor. For example, in reference to polygamy under traditional Muslim law,

TABLE 1

WOMEN'S PROPERTY RIGHTS AT MARITAL DISSOLUTION

Jurisdiction and Time Period	Summary of the Rule
Code of Hammurabi, 1792–1750 B.C.	1/3 of land if husband killed in battle but son too young to administer it[a]
Code of Hammurabi, 1792–1750 B.C.	1/2 of husband's property, she shall raise the children[b]
Ancient Egypt, New Kingdom, 1580–1085 B.C.	1/3 right to common property upon marital dissolution[c]
Rome under Justinian, A.D. 527–565	1/3 of property if husband divorces without cause[d]
Norway and Iceland, tenth century	Sometimes 1/2 but typically 1/3[e]
France and England, High Middle Ages	Widow traditionally gets 1/3[f]
England before Edward I	Widow gets dower right of 1/3[g]
Sweden, 1875	1/4 of community property[h]
Traditional German law	Widow is entitled to 1/3 of husband's property or inherits 1/2 of the common fund[i]
United States, nineteenth century (community property states)	Wife has right to 1/3 of husband's estate[j]
England, pre-1834	Wife is entitled to 1/3 of any estates of inheritance held in his life, called her "dower right"[k]
Scotland, 1875	Wife is entitled to 1/3 of inheritance left by husband; right is called her "terce"[l]
India, 1925	Christian widow and children entitled to 1/3 of estate[m]
Malaysia, 1968	Divorced wife is entitled to 1/2 if she has cultivated the land, 1/3 if she has not[n]
South Carolina, 1977	Widow has life interest to 1/3 of all real estate her husband acquired during the marriage[o]

NOTE.—See the Appendix for the details of rules in each jurisdiction.

[a] James B. Pritchard, Ancient Near Eastern Texts Relating to the Old Testament 16 (1969).

[b] Martha T. Roth, Law Collections from Mesopotamia and Asia Minor 18 (1995), par. 137.

[c] P. W. Pestman, Marriage and Matrimonial Property in Ancient Egypt: A Contribution to Establishing the Legal Position of the Woman 139 (1961).

[d] J. A. C. Thomas, The Institutes of Justinian: Text, Translation and Commentary 34 (1975).

[e] Trubner & Co., The Rights of Women: A Comparison of the Relative Legal Status of the Sexes in the Chief Countries of Western Civilization 12–13 (1875).

[f] Frances Gies & Joseph Gies, Women in the Middle Ages 232 (1978).

[g] 2 Frederick Pollack & Frederic W. Maitland, The History of English Law before the Time of Edward I 403 (1898–99).

[h] Trubner & Co., The Rights of Women: A Comparison of the Relative Legal Status of the Sexes in the Chief Countries of Western Civilization 18 (1875).

[i] Trubner & Co., The Rights of Women: A Comparison of the Relative Legal Status of the Sexes in the Chief Countries of Western Civilization 23 (1875).

[j] Patricia Luce, Marriage and Law Reform in Nineteenth-Century America, in Marriage and Property: Women and Marital Customs in History 151 (Elizabeth Craik ed. 1991).

[k] Trubner & Co., The Rights of Women: A Comparison of the Relative Legal Status of the Sexes in the Chief Countries of Western Civilization 85 (1875).

[l] Trubner and Co., The Rights of Women: A Comparison of the Relative Legal Status of the Sexes in the Chief Countries of Western Civilization 87 (1875).

[m] Chandrakala Anandrao Haté, Changing Status of Women in Post-independence India 237 (1969).

[n] Inche Ahmad Ibrahim, The Muslims in Malaysia and Singapore: The Law of Matrimonial Property, in Family Law in Asia and Africa 191 (J. N. D. Anderson ed. 1968).

[o] Victoria L. Eslinger & Lucy Knowles, The Legal Status of Homemakers in South Carolina 20 (1977).

we detail the legal sources used to construct Table 1.

The evidence also suggests that the Rule of One-Third was related to child support. In some jurisdictions, the wife's dower right was expanded to one-half if there were no children from the marriage. For example, in referring to twelfth-century England, Margaret M. McCaughan writes, "The husband could not alienate his land so as to bar the wife's right to dower unless he had her concurrence. Dower did not extend to the husband's chattels but from the 12th century the wife was entitled to one-third of the husband's personalty if there were children, and to one-half if there were none."[17] This is consistent through time. Referring to U.S. states, Thomas Atkinson writes, "Typically the spouse is entitled to a third or half of both real and personal property, though in some jurisdictions the share is dependent on the number of children and in a few the spouse counts as a child and gets a child's share."[18]

The dower right at common law was virtually sacrosanct. The wife could not be deprived of it by will, and all of the husband's blood relatives were subject to the wife's share.[19] During her husband's life, she held an inchoate dower interest, which amounted to an encumbrance preventing him from dividing his property without her consent.[20] Nor was dower subject to his debts, either during his lifetime or after his death.[21]

The Rule of One-Third did not operate in an institutional vacuum. Societies that promulgated dower rights were patriarchal, with husbands retaining management and control rights over household persons and property but facing specific support duties toward their wives and children. In the next section, we examine the workings of a legal institution that enforced household duties, the paterfamilias in Roman family law.

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the Koran, Part 4 (Surat al-Nisa [The Women]), 4:12, states that "[s]he or they inherit the one-fourth in the absence of offspring capable of inheriting a share of the estate." Ibrahim A. Khairallah, The Law of Inheritance in the Republics of Syria and Lebanon 9 (1941).

[17] Margaret M. McCaughan, The Legal Status of Married Women in Canada 9 (1977).

[18] Thomas E. Atkinson, Handbook of the Law of Wills and Other Principles of Succession Including Intestacy and Administration of Decedents' Estates 63 (1953). While many states had modified the law of dower by 1953, it was still prevalent enough to merit discussion by legal analysts.

[19] *Id.* at 62.

[20] While we do not explicitly examine dower's companion institution, curtesy, it is interesting to note that *Black's Law Dictionary* provides this definition of curtesy: "At common law, a husband's right, upon his wife's death, to a life estate in the land that his wife owned during their marriage, assuming that a child was born alive to the couple." This definition indicates that curtesy was also linked to investments in children. See, for example, Neely v. Lancaster, 1 SW 66 (Ark. 1886), finding that the surviving husband's right of tenancy by curtesy still existed at common law under the Arkansas constitution of 1874 and was linked to the existence of children.

[21] Atkinson, *supra* note 18, at 105.

B.   *Paterfamilias*

It is difficult today to conceive of the vast power held by the paterfamilias over family members and property in republican Rome. Subject only to the restraints of a family council, the paterfamilias had power over life and death of family members.[22] A. S. Gratwick summarizes the authority of the pater-familias:

The powers of the *paterfamilias* within the *familia* are very real; the law regards him as the absolute monarch of a tiny realm, and the regulations governing these tiny kingdoms are like international law written small. *Patresfamilias* are all expected to conform to certain rules of conduct, but their internal affairs are their own. Anything which I use—land, money, slaves—or which I produce—crops, earnings, children—are not mine but belong to my *paterfamilias*, and only become mine absolutely when I become *paterfamilias* myself by the combined decease of father, his father, his, and so back: meanwhile what I have is on sufferance. I cannot marry without his consent, and it would be difficult to avoid his explicit advice to marry X's daughter because of the pressures he could exert. It is he, not I or my wife, who decides whether on birth our children should be raised or got rid of. He can tell me to divorce my wife without having to justify his decision—though this would cost him money, because the dowry would have to be repaid. In scandals affecting the reputation of the family he is the ultimate authority recognised by the State, and he can sit with a family tribunal with the power of life and death over anyone in his *potestas*. . . . Since men generally did not marry before their middle twenties, the breeding-cycle of males was roughly twenty-five to thirty years. Consequently, a young man could not normally expect to pass out of *patria potestas* before his middle years, if he lived that long, unless his grandfather and father should both die relatively young.[23]

Several points are noteworthy. First, the paterfamilias was typically the household's grandfather, rather than the young father, and he might be in control for a substantial period of time. Second, the paterfamilias was able to determine the fate of the children born to the household, including whether children in his domain lived or died. Children were often killed by "exposure" (literally leaving them outside to die) to limit family size, influence the quality of children, and protect family lines from bastards.[24]

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[22] Thomas, *supra* note 3, at 414–15.

[23] A. S. Gratwick, Free or Not So Free? Wives and Daughters in the Late Roman Republic, in Marriage and Property: Women and Marital Customs in History 42 (Elizabeth Craik ed. 1991).

[24] The power of the paterfamilias to expose children was curtailed by the time of Constantine (circa A.D. 300), but substantial powers over children remained. Thomas, *supra* note 3, at 415, states, "Finally, Constantine ruled that to kill one's child was the crime of parricide (*parricidium*) and, by the time of Justinian, the *ius vitae necisque* had been reduced to a power to inflict reasonable chastisement. While it was an effective operation, the *ius vitae necisque* postulated that the *pater* had accepted the child into the family in the first place. For he could expose *neonati* rather than enlarge the family, a practice accepted in classical law and, though forbidden in the later fourth century, in fact surviving for Justinian to legislate on the subject."

In the next section, we develop a model that explains the incentive of the paterfamilias to enforce the Rule of One-Third. The paterfamilias is a convenient expositional device that allows us to explicitly model the goals of the law. That is, the model's predictions are robust to the abolition of the paterfamilias. John Demos and others show that nuclear families existed in the West as early as 1600.[25] The fact that the Rule of One-Third persisted in many jurisdictions codified in law after 1600 without enforcement by explicit patersfamilias lends support to our hypothesis that this rule has an efficiency basis.[26] Below we use the term "paterfamilias" to refer generally to the household head or institution imposing rules on the disposition of the husband's estate.[27]

IV. A Model of Dower

In this section, we examine the choices faced by a wife within the household. As discussed in Section II, if a man sought to reproduce, typically a woman would not comply unless their relationship were formalized in order to maintain the resource flow men brought to the household. In this traditional setting, the man is specialized in bringing resources into the household and the woman is specialized in child rearing. David Buss writes that "[f]rom her husband's perspective, her (the wife's) parenting skills constitute a valuable and virtually irreplaceable resource."[28] Yet this resource has no value to the husband once the children are raised. As a result of this devaluation, a wife faces a decision when she is part of the household that impacts her post-child-raising consumption.

The set of household decisions by the husband and wife are illustrated in Figure 1. The figure suggests three noteworthy outcomes given the resource flow to the wife, nodes A, B, and C (the model below shows that there is a continuum of equilibria, but we initially focus on three stark cases). At node A, the household remains intact, and the time the mother spends with her children is highest, as she has no incentive to engage in other activities to acquire resources. As a result, children's human capital is highest when the household remains intact.

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[25] John Demos, A Little Commonwealth: Family Life in Plymouth Colony (2d ed. 2000).

[26] See Becker & Murphy, *supra* note 4, for other examples of efficiency in family law.

[27] Legal institutions similar to paterfamilias persisted in Eastern legal systems well into the twentieth century. For example, in referring to the powers of the senior male househead in Japan as late as 1946, Wada, *supra* note 3, at 104 n.16, states, "Some representative examples of these powers were: right to designate the residence of the house members; right to include new members in the house; right to eliminate certain members from the house; right to consent to marriage or adoption of the house members. One essential *duty*, on the other hand, of the househead was to support the family members. A typical exercise of the power of a househead would be therefore: the consent of a househead was necessary for the house members to marry, and the househead could eliminate from the house those who married without his consent, and did not have to support them any longer."
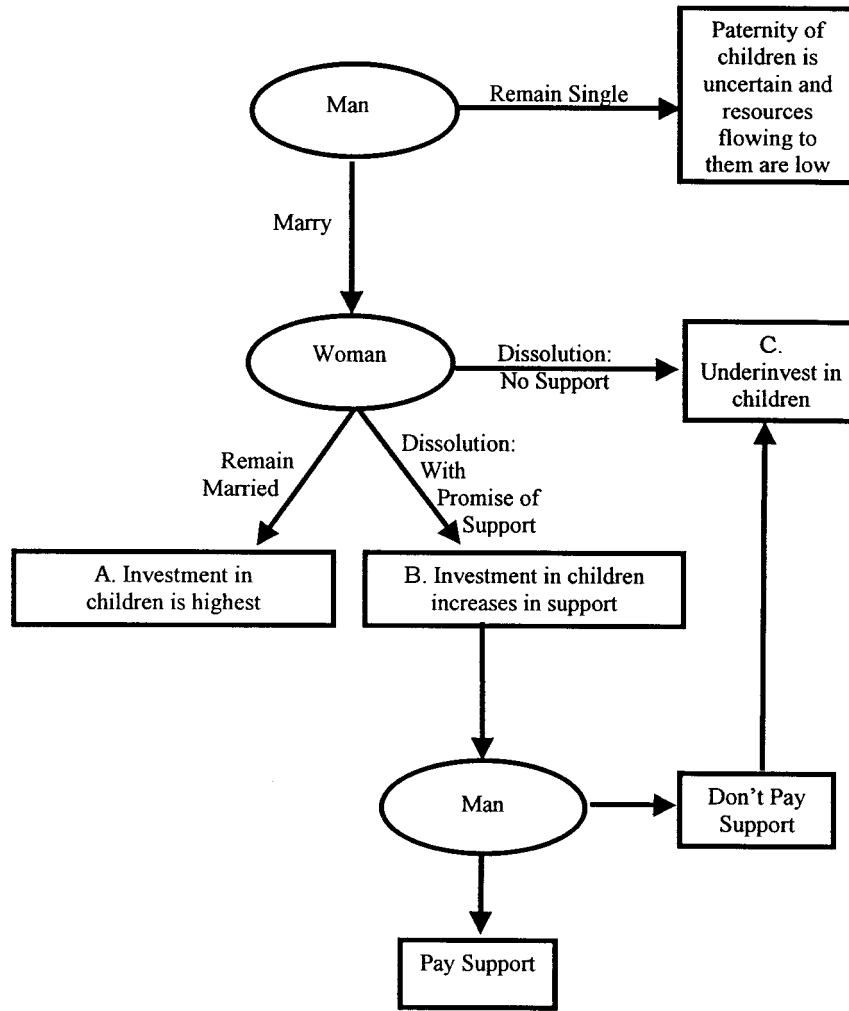
[28] Buss, *supra* note 5, at 186.

FIGURE 1.—Marriage, household dissolution, and investments in children

Next, consider the situation when the household dissolves. Given this eventuality, the wife must decide how much time to spend nurturing children versus acquiring resources independent of her husband. While married women in traditional societies faced restricted earning opportunities, there was a set of internal and external income-earning activities to which they could devote time.[29] Below we show that, without institutional guarantees,

[29] See, for example, David M. Schaps, Economic Rights of Women in Ancient Greece (1979), for a discussion of women's labor market opportunities in ancient Greece.

married women have strong incentives to earn income to insure against household dissolution.

Formalizing, denote c_w as the wife's consumption and d and e as her time inputs into the external labor market and child raising, with total time normalized to unity. The per-unit-of-time earning ability of women is ω, and the transfer a wife receives from her husband is X. Because men and women are specialized in the inputs they provide to children, we follow Gary Becker and specify a production function for human capital that takes into account inputs of time from mothers and resources from fathers.[30] To concretize the analysis, we choose functional forms for the production function for children's human capital, h, and for utility. The human capital production function is

$$h = e^{\sigma}\tau^{\eta} \tag{1}$$

for parameters $\sigma, \eta \in (0, 1)$, with the transfer provided by fathers being $\tau > 0$. Mothers receive utility from their own consumption and from their children's human capital, with $U(c_w, h) = \ln c_w + \beta \ln h$ for $\beta > 0$.

Using these functional forms, the decision faced by a wife is the time allocation problem

$$\max_{d,e} \ln c_w + \beta \ln h \tag{2}$$

subject to

$$c_w = \omega d + X, \qquad 1 = d + e, \qquad h = e^{\sigma}\tau^{\eta}.$$

In this problem, a wife's consumption is the sum of the transfer from her husband, X, and her labor income, ωd.[31] The second constraint shows that the wife's total available time is normalized to unity.

The time spent nurturing children that maximizes (2) is

$$e^* = \frac{\beta\sigma(X + \omega)}{\omega(1 + \beta\sigma)}. \tag{3}$$

Importantly, (3) shows that the time a mother spends nurturing her children is increasing in the transfer from her husband, X.[32] Thus, greater support from the husband results in more time spent by the wife in raising children's

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[30] See Becker, *supra* note 7. Most production functions for human capital use only time inputs, as in Robert E. Lucas, Jr., On the Mechanics of Economic Development, 22 J. Monetary Econ. 3 (1988); and Robert Tamura, From Decay to Growth: A Demographic Transition to Economic Growth, 20 J. Econ. Dynamics & Control 1237 (1996). For alternative specifications, see Paul J. Zak *et al.*, Immigration, Fertility, and Growth, 26 J. Econ. Dynamics & Control 547 (2002); and Paul J. Zak & Kwang Woo Park, Population Genetics and Economic Growth, J. Bioeconomics (forthcoming).

[31] We ignore the intertemporal and stochastic aspects of this problem as they do not substantially affect the solution.

[32] To keep e^* well defined requires that $X \leq \omega/\beta\sigma$.

human capital. Time spent nurturing children also increases as the relative weight a mother places on her children's human capital, β, increases, and as her productivity in producing human capital σ rises. Equation (3) also shows that when women have a paucity of outside options (ω is small), they will optimally spend more time child rearing. Thus, model (2) provides a rationale for a traditional legal structure: if women have no ability to earn outside income ($\omega \leq \beta\sigma X$), then the human capital of children is as high as possible ($e^* = 1$).

Continuing with the cases of model (2) depicted in Figure 1, node B portrays the circumstance in which the marriage ends with a dower right. In this case, the wife has less incentive to acquire outside income as resources continue to flow to her after household dissolution. As (3) shows, as the wife's residual claim on her husband's estate X increases, investment in children rises as does their human capital.[33]

At node C, marital dissolution absent a dower right ($X = 0$), a woman will use part of the time that would be spent nurturing children to acquire resources. By (3), this results in the lowest investment in children's human capital relative to an intact household (node A) or household dissolution with a dower right (node B) but acts to insure the wife's consumption.

Note that the wife's behavior at node C does not suggest that mothers do not care about their children. The implication is more subtle: women care about their children but also about their own consumption.[34] A similar low-investment-in-children equilibrium occurs when parents cannot coordinate in other models.[35] There is a large body of evidence showing that, in modern times, children from single-parent families spend less time in school, have lower incomes over their lifetimes, are more likely to divorce, and have shorter lives.[36] Much of this effect occurs through the loss of income that a

[33] Having wealth from dower or other means may increase a woman's desirability in re-marriage, a case we do not consider here.

[34] Indeed, a woman's consumption must be maintained at some minimum level or she will not be able to effectively care for her children. Furthermore, underinvestment in children's human capital does not violate Hamilton's kin selection theory. See William H. Hamilton, The Genetical Evolution of Social Behavior, 7 J. Theoretical Bio. 1 (1964). Evolutionary biology demonstrates that parents have an interest in bringing their offspring to reproductive maturity. See, for example, Theodore C. Bergstrom, Economics in a Family Way, 34 J. Econ. Lit. 1903 (1996); or Richard Dawkins, The Selfish Gene (1976). This level of investment is presumably much lower than that required for children to function at a high level in complex societies, including marrying "well" and protecting inherited wealth.

[35] Yoram Weiss & Robert J. Willis, Children as Collective Goods and Divorce Settlements, 3 J. Lab. Econ. 268 (1985); and Robert J. Willis, A Theory of Out-of-Wedlock Childbearing, 107 J. Pol. Econ. S33 (1999).

[36] See Joan S. Tucker *et al.,* Parental Divorce: Effects on Individual Behavior and Longevity, 73 J. Personality & Soc. Psychol. 381 (1997); or Paul R. Amato, Children of Divorced Parents as Young Adults, in Coping with Divorce, Single Parenting and Remarriage: A Risk and Resiliency Perspective (E. Mavis Hetherington ed. 1999).

father contributes to the household.[37]

Since the choices in model (2) are fairly obvious, it would not be difficult for a wife to solve for the most likely outcome. Indeed, as Figure 1 illustrates, because the man has an incentive to promise support but not to follow through ex post, and since it is impossible to guarantee that the household will remain intact, without an institution to enforce dower rights the wife will behave as if she is at node C. That is, a woman's best option ex ante is to acquire outside resources to insure her consumption if the household dissolves.

In order to reach the higher investment-in-children equilibrium at node B, the wife must choose an amount of nurturing time when children are young. The husband therefore retains the ability to renege on his promise of support after children are raised. Knowing this, it is difficult for the husband to credibly precommit to support his wife.[38] A way out of this dilemma is to place legal restrictions on the man if the household dissolves. As discussed in Section III*B*, the paterfamilias in ancient Rome had both the legal authority and the interest in children's outcomes to enforce dower rights. Indeed, the paterfamilias has an "encompassing interest" in protecting the outcomes of his progeny,[39] so grandfathers have a substantial incentive to enforce the dower right. With such an enforcement mechanism, the equilibrium moves from node C to node B, and children (and ex-wives or widows) are better off.

V.   The Size of a Woman's Claim on Her Husband's Estate

Model (2) demonstrates that in order to move away from the low investment equilibrium a wife must be guaranteed a portion of her husband's estate.[40] In this section, we present a model to determine the amount of a woman's claim on her husband's estate that would be chosen by the paterfamilias or under a modern legal regime. This model assumes that married women solve the time allocation problem (2), and that patersfamilias will

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[37] Robert H. Haveman & Barbara Wolfe, Succeeding Generations: On the Effects of Investments in Children (1994); and Sara McLanahan & Gary Sandefur, Growing Up with a Single Parent: What Hurts, What Helps (1994).

[38] This is particularly so since behavior in a marriage has the characteristics of a "credence" good, where quality is difficult to ascertain even after purchase. The nonrepetitive nature of marriage magnifies this characteristic. See Margaret F. Brinig & Michael V. Alexeev, Fraud in Courtship: Annulment and Divorce, 2 Eur. J. L. & Econ. 45, 49 (1995).

[39] Martin C. McGuire & Mancur Olson, Jr., The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force, 34 J. Econ. Literature 72 (1996).

[40] Evidence for this from modern times is provided by Shelly J. Lundberg, Robert Pollak, & Terry Wales, Do Husbands and Wives Pool Their Resources? 32 J. Hum. Resources 463 (1997), which finds that expenditures on children rise when more income is allocated to wives relative to husbands.

enforce strictures regarding the portion of their son's estate that is transferred to the wife upon marital dissolution. Because the paterfamilias makes this choice, he is the first mover in this game; that is, this is a Stackelberg game.

Define W as the present value of the husband's wealth, with α_w and α_c being the proportion of wealth that is transferred to his wife and children, respectively. The remaining portion of the husband's wealth, $1 - \alpha_w - \alpha_c > 0$, is retained by himself (in the case of divorce) or returned to the paterfamilias (if the husband dies). As shown in (3), the time a mother puts into nurturing her children, e, increases as the woman's share of her husband's estate increases, $de/d\alpha_w > 0$, where in model (2), $X = \alpha_w W$. Similarly, the transfer of resources that men provide for their children is $\tau = \alpha_c W$.

The paterfamilias is assumed to have preferences over his son's consumption, c, and over the human capital of his grandchildren, h. The latter occurs because the paterfamilias seeks to protect his lineage and wealth. The preferences of the husband coincide with those of the paterfamilias (since in time the son will assume this role), but the age of the paterfamilias allows him to commit to a course of action to which his son cannot. Moreover, the paterfamilias is empowered to make the allocation decision regarding his son's wealth because, in most cases, the son's wealth comes from the paterfamilias himself.[41]

Because we seek to solve for particular values of α_w and α_c, we choose a functional form for the paterfamilias's utility, that being $U(c, h) = \ln c + \gamma \ln h$ for $\gamma > 0$. To simplify notation, note that the woman's reaction function to her claim on her husband's estate (3) is linear in the payment she receives from her husband, $e = \delta \alpha_w W$.[42]

Using these functional forms, the paterfamilias chooses the shares α_w and α_c to solve

$$\max_{\alpha_c, \alpha_w} \ln c + \gamma \ln h \qquad (4)$$

subject to

$$c = (1 - \alpha_w - \alpha_c)W, \qquad e = \delta \alpha_w W,$$

$$h = e^\sigma \tau^\eta, \qquad \tau = \alpha_c W.$$

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[41] An alternative specification of the paterfamilias' decision problem would model preferences over his grandchildren's consumption rather than their human capital as in a bequest model. See Kathleen McGarry, Inter Vivos Transfers and Intended Bequests, 73 J. Pub. Econ. 321 (1999); B. Douglas Bernheim, How Strong Are Bequest Motives? Evidence Based on Estimates of the Demand for Life Insurance and Annuities, 99 J. Pol. Econ. 899 (1991); and B. Douglas Bernheim *et al.,* The Strategic Bequest Motive, 4 J. Lab. Econ. S151 (1986). As long as a child's consumption is increasing in his or her human capital, the solution will be similar.

[42] Assuming the husband's wealth W is large, we ignore the constant term in (3).

The solution to (4) is

$$\alpha_w^* = \frac{\gamma\sigma}{1 + \gamma(\sigma + \eta)}, \qquad (5)$$

$$\alpha_c^* = \frac{\gamma\eta}{1 + \gamma(\sigma + \eta)}. \qquad (6)$$

The wealth division rules (5) and (6) are the paterfamilias's attempt to both maintain his son's consumption and secure good outcomes for his grandchildren. Solution (5) clearly shows that optimality requires a positive transfer to the widow or ex-wife, $\alpha_w^* > 0$.

Next, we ask when the split of the husband's estate between himself (or the paterfamilias), his widow, and his children is equal. An equal split requires that $\alpha_w^* = \alpha_c^*$ and, when this obtains, that these shares also equal the share of wealth retained by the husband. Using (5) and (6), the Rule of One-Third obtains upon dissolution of the household when

$$\sigma = \eta = \frac{1}{\gamma}. \qquad (7)$$

Condition (7) demonstrates that the Rule of One-Third requires that the elasticity of the wife's contribution to her children's human capital (σ) equals the elasticity of the husband's contribution to children's human capital (η), and these two equal the reciprocal of the paterfamilias's preferences over his grandchildren's human capital ($1/\gamma$). More simply, condition (7) indicates that the "Rule of One-Third" obtains when fathers and mothers have equal marginal impacts on their children's human capital. This follows directly from the specialization of parents' abilities in the household: women are specialized in child rearing, while men are specialized in earning income. Because children need both resources and nurturing to acquire human capital, equal elasticities for father's and mother's inputs into their children's human capital militate toward a one-third split of the husband's estate when the household dissolves. This result is pleasingly intuitive: children need both parents' inputs to acquire human capital, which indicates that the preferred split of the man's estate between a widow and their children is one-third for the widow, one-third for the children, and one-third for the paterfamilias.

Lawmakers in the wide range of cultures surveyed in Section III appear to have intuitively understood that both parents' contributions were important to children's acquisition of human capital. A simple wealth allocation rule that guarantees that both parents equally contribute to the children's human capital is the equal elasticities rule (7).[43] Indeed, in the absence of information

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[43] Douglas W. Allen, "What Does She See in Him?": The Effect of Sharing on the Choice of Spouse, 30 Econ. Inquiry 57 (1992), shows that sharing rules within marriage also lead to efficient spousal choices.

on the elasticities of mother's and father's inputs into their children's human capital, it is reasonable for lawmakers to assume that they are equal. We have shown that this simple rule leads to better outcomes for children. Further, even though the paterfamilias does not explicitly care about his daughter-in-law in our approach, as long as each household has a paterfamilias, then each man's daughter will also be protected by the Rule of One-Third.

Table 1 shows that some jurisdictions adopted a one-half share of wealth rule for wives upon household dissolution. This institutional arrangement provides an interesting contrast to the Rule of One-Third. Solving the paterfamilias' problem (4) for the shares transferred to children and retained by the husband or the paterfamilias when the wife's share $\alpha_w = \frac{1}{2}$ produces the following results under the equal elasticities rule: $\sigma = \eta = 1/\gamma$. First, ex-wives or widows are clearly better off as their share of their husbands' estates rises by 50 percent, from one-third to one-half. Children's human capital faces two opposing effects. The time women spend nurturing their children, e, rises as the dower share increases. At the same time, husbands' transfers to their children, τ, fall by 25 percent, from one-third to one-fourth. The net effect is that children's human capital rises 12.5 percent when wives receive one-half rather than a one-third share. Finally, husbands' (or the paterfamilias') share falls by 25 percent, from one-third to one-fourth. Thus, this institutional arrangement results in a wife, children, husband split of one-half, one-fourth, one-fourth, which raises outcomes for wives and children at the expense of men.

Given this analysis showing that two of the three parties are better off if the institutional arrangement changes, one must ask why the Rule of One-Third persisted in so many cultures over several millennia. A welfare analysis demonstrates that moving from the Rule of One-Third to the "wife's share is one-half" arrangement results in a welfare loss to the paterfamilias of 5.1 percent. This suggests that the Rule of One-Third is most likely to be associated with patriarchal legal structures such as English common law.[44]

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[44] An additional issue is why various jurisdictions eliminated the Rule of One-Third at different times. Indeed, the common share given to a wife upon divorce in the United States today generally exceeds one-third, and some states mandate an equal division of property. The model shows that the value of the outside option ω required to induce a woman to work full-time is strictly increasing in the transfer from her husband X. As a result, when women are highly valued on the labor market (ω is high relative to X), the importance of the husband's support duties is diminished, and there is less incentive to maintain dower rights. Thus, jurisdictional variations in the rise of specialized market tasks for women, as well as increases in women's schooling and literacy, whereby women had their own sources of income, are related to the decline of the institutions of dower. The general shift from household to market production and increases in household wealth also contributed to dower's disappearance. See Rick Geddes & Dean Lueck, The Gains from Self-Ownership and the Advancement of Women's Rights, Am. Econ. Rev. (forthcoming). A final causative factor is the adoption of no-fault divorce laws that typically grant each spouse one-half of the estate.

VI. Conclusion

This institutional analysis of household dissolution rules indicates that the Rule of One-Third provided incentives for both parents to contribute to their children's human capital. We show that this legal institution arose in societies where men and women were specialized in tasks the other could not perform well. The analysis suggests that lawmakers throughout history intuitively understood that inputs from both parents are important to children's development, and they sought to establish rules encouraging those contributions. Alternatively, the Rule of One-Third may be the result of spontaneous evolution. Friedrich Hayek wrote that "[a]ll the paradigms of culturally evolved institutions, morals, exchange, and money refer to such practices whose benefits transcend the individuals who practice them in the particular circumstances. . . . Such practices can lead to the formation of orderly structures far exceeding the perception of those whose actions produce them."[45] Regardless of the genesis of the Rule of One-Third, our analysis demonstrates that it was an important legal institution arising to solve a contracting problem between men and women that ultimately facilitated vital investments in children's human capital.

APPENDIX

In this Appendix, we detail the legal sources used to construct Table 1.

Code of Hammurabi

"In the case of either a private soldier or a commissary, who was carried off while in the armed service of the king, if his son is able to look after the feudal obligations, the field and orchard shall be given to him and he shall look after the feudal obligations of his father."[46]

"If his son is so young that he is not able to look after the feudal obligations of his father, one-third of the field and orchard shall be given to his mother in order that his mother may rear him."[47]

"If a man should decide to divorce a *sugitu*[48] who bore him children, or a *naditu*[49] who provided him with children, they shall return to that woman her dowry and they shall give her one half of (her husband's) field, orchard, and property, and she shall raise her children; after she has raised her children, they shall give her a share

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[45] Cited in Friedrich Hayek, The Essence of Hayek 318 (Chiaki Nishiyama & Kurt R. Leube eds. 1984).

[46] James B. Pritchard, Ancient Near Eastern Texts Relating to the Old Testament 16 (1969).

[47] *Id.*

[48] "Sugitu: A member of a group or class of temple dedicatees, with special privileges, but always inferior to a *naditu*." Roth, *supra* note 14, at 273.

[49] "Naditu: A member of a group or class of Old Babylonian temple dedicatees, with special inheritance privileges and economic freedoms; some groups lived in cloisters or compounds, others married but were not permitted to bear children; Sumerian lukur." *Id.* at 271.

comparable in value to that of one heir from whatever properties are given to her sons, and a husband of her choice may marry her."[50]

Ancient Egypt, New Kingdom

"In some cases—the fictitious lawsuit just discussed is one of them—it appears that the wife is allotted part of what she and her husband have jointly acquired. As a rule this is a third. From the time of the New Kingdom onwards many cases are known in which the wife acquires this share in the case of dissolution of the marriage which devolves on their children after her death. . . . The right of the wife to her one third part is not more than a right to her share in the common property at the time the marriage is dissolved."[51]

Rome under Justinian

"Divorce by mutual consent remained completely free: repudiation *ex iusta causa* for one of specified faults of the other party (adultery, desertion, taking a concubine, etc.) was valid, the party at fault being penalized; repudiation *bona gratia* (to enter the religious life, on the insanity or presumed death of the other spouse) was valid without penalty; repudiation *sine causa*, while ending the marriage, involved for a woman the loss of her dowry and for a man the loss of one-third of his estate."[52]

Norway and Iceland, Tenth Century

"Of the common fund the husband had the disposal, but as soon as the marriage was dissolved by any means, and the wife had pretaken her landed property and her marriage presents, the rest was divided between the two, sometimes in equal shares, but more often in the ratio of two-thirds to the husband and one-third to the wife."[53]

France and England, High Middle Ages

"At least in the late Middle Ages, widows often profited from marriage contracts that, in place of the traditional widow's third, gave them far more of their husbands' land, even, on occasion, all of it."[54]

England before Edward I

"A system of community need not be a system of equality. We do not mean merely that during the marriage the husband may and, at least in the middle ages, will have an almost unlimited power of dealing with the common fund; we mean also that there is no reason why the fund when it has to be divided should be divided in equal shares. Many schemes of division are found. In particular, it is common that the husband should take two-thirds, the wife one-third."[55]

"A widow is entitled to enjoy for her life under the name of dower one-third of any land of which the husband was seized in fee at any time during the marriage."[56]

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[50] *Id.* at 107, par. 137.

[51] Pestman, *supra* note 15, at 139.

[52] J. A. C. Thomas, The Institutes of Justinian: Text, Translation and Commentary 34 (1975).

[53] Trubner & Co., The Rights of Women: A Comparison of the Relative Legal Status of the Sexes in the Chief Countries of Western Civilization 12–13 (1875).

[54] Frances Gies & Joseph Gies, Women in the Middle Ages 232 (1978).

[55] 2 Frederick Pollack & Frederic W. Maitland, The History of English Law before the Time of Edward I 403 (1898–99).

[56] *Id.* at 404.

Sweden, 1875

"Of the community of gains and movables, implied by marriage, she had the right only to a third in the event of her survivorship."[57]

Traditional German Law

"But by degrees these old customs fell into disuse, and in compensation for her Leibgeding and Morgengabe a woman became entitled as widow to one-third of her husband's property, or inheritress of one-third of the common fund."[58]

United States, Nineteenth Century (Community Property States)

"Many women had no opportunity to acquire property of their own. What constituted a husband's 'separate' estate was often what he had been able to acquire because the wife's domestic services freed him to earn. She had no claim to that property and earnings during his life, and inheritance laws in the common property states treated joint property as the husband's separate property. If she died first, it belonged to her husband, and she could not secure a share of it for her children, her parents, or other kin. If he died first, she could claim only a third of it, and had no control over the disposition of the remainder."[59]

England, Pre-1834

"Community property, just as much as the old *jus mariti* did, [constituted] the assignment by the wife to her husband of all the movable property she possessed. But she had the right of the testamentary disposition of her communal share, and though her husband could dispose by sale or gift of the common fund, he was unable to deprive his widow of what was and is known as her *jus relictae*, i.e. of her right to one-third or one-half of the whole, according as there were or were not children of the marriage."[60]

Scotland, 1875

"The wife, in default of any special contract to the contrary, is entitled to one-third of the inheritance left by her husband at his death. This right is called her *terce*."[61]

India, 1925

"When a male Christian dies intestate having a widow and children or their descendents, the widow is entitled to one-third share while the remaining two-thirds goes to the children or their descendents."[62]

Malaysia, 1968

"The position, therefore, is that throughout Malaya except in Singapore a divorced wife is entitled to a share of all property acquired during marriage. Where she has

[57] Trubner & Co., *supra* note 53, at 18.

[58] *Id.* at 23.

[59] Patricia Luce, Marriage and Law Reform in Nineteenth-Century America, in Marriage and Property: Women and Marital Customs in History 151 (Elizabeth Craik ed. 1991).

[60] Trubner & Co., *supra* note 53, at 85.

[61] *Id.* at 87.

[62] Chandrakala Anandrao Haté, Changing Status of Women in Post-independence India 237 (1969).

in fact assisted in cultivating the land she is entitled to one-half of the property, and in other cases to one-third of the jointly acquired property (*harta sapencharian*) of the marriage.

"In Perak the matter was settled by a Perak State Council minute dated January 18, 1907. In that minute the Council declared and ordered to be recorded

[t]hat the custom of the Malays in Perak in the matter of dividing up property after divorce, which such property has been acquired by the parties or one of them during marriage, is to adopt the proportion of two shares to the man and one share to the woman, and the gifts between married persons are irrevocable either during marriage or after divorce.

"Claims to such property were dealt with by the Court or Collectors of Land Revenue (in the case of land registered in the Mukim Registers), but Kathis were called in as advisors on questions of principle. "The claim of the divorced wife to one-third of the value of the lands acquired during the marriage is not defeated even if it is proved that she was divorced for adultery, nor would she lose her right on *tebus talak* (*khula*) unless the consideration for the *tebus talak* was the waiver of her claim to the *harta sepencharian*."[63]

South Carolina, 1977

"In South Carolina, a woman does have the right to dower at her husband's death. Dower entitles a widow to own for her life one-third of all the real estate her husband acquired during the marriage."[64]

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[63] Inche Ahmad Ibrahim, The Muslims in Malaysia and Singapore: The Law of Matrimonial Property, in Family Law in Asia and Africa 191 (J. N. D. Anderson ed. 1968).

[64] Victoria L. Eslinger & Lucy Knowles, The Legal Status of Homemakers in South Carolina 20 (1977).