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Author(s): Robert A. Pollak
Source: *Journal of Economic Literature*, Vol. 23, No. 2 (Jun., 1985), pp. 581-608
Published by: American Economic Association
Stable URL: https://www.jstor.org/stable/2725625
Accessed: 04-10-2019 16:26 UTC

Journal of Economic Literature
Vol. XXIII (June 1985), pp. 581–608

A Transaction Cost Approach to Families and Households

By Robert A. Pollak
University of Pennsylvania

This research was supported in part by the National Science Foundation, the National Institutes of Health, and the Population Council. My intellectual debts to Oliver E. Williamson are even greater than the references to his work suggest. I am grateful to Judith Farnbach, Claudia Goldin, Vivian R. Pollak, Samuel H. Preston, and Susan Watkins for helpful comments and conversations during this paper's prolonged gestation. I am also grateful to Gary S. Becker, Peter Davis, Stefano Fenoaltea, Janet T. Landa, Marilyn Manser, and Ann D. Witte for helpful comments. The views expressed are my own and the usual disclaimer applies.

FAMILIES ARE FASHIONABLE. Within the last decade, social scientists have rediscovered families and households as fit subjects for serious analysis. Demographers and historians, anthropologists and sociologists have played the major roles; economists, traditionally preoccupied with markets, have been less involved.[1]

The traditional economic theory of the household focuses exclusively on observable market behavior (i.e., demand for goods, supply of labor) treating the household as a "black box" identified only by its preference ordering.[2] The "new home economics" takes a broader view, including not only market behavior but also such nonmarket phenomena as fertility, the education of children, and the allocation of time. The major analytic tool of the new home economics is Becker's household production model, which depicts the household as combining the time of household members with market goods to produce the outputs or "commodities" it ultimately desires.[3]

[1] Peter Laslett (1972), Tamara K. Hareven (1977), and John Demos and Sarane Spence Boocock (1978) are collections exemplifying the work outside economics. Gary S. Becker's work over the last fifteen years, culminating in his *Treatise on the Family* (1981), is the leading example within economics. For a legal scholar's enthusiastic endorsement of the power of economic analysis in this area, see Richard A. Posner (1980). Victor R. Fuchs (1983), writing for a less specialized audience than Becker, provides an empirical analysis of "how we live" from an economic perspective and discusses its implications for public policy.

[2] On the theoretical side, see Gerard Debreu (1959) or Kenneth J. Arrow and Frank H. Hahn (1971); on the empirical side, Laurits R. Christensen, Dale W. Jorgenson, and Lawrence J. Lau (1975) or Robert A. Pollak and Terence J. Wales (1978, 1980).

[3] The *locus classicus* of the household production literature is Becker (1965). Robert T. Michael and Becker (1973) provide a sympathetic restatement; Marc Nerlove (1974) and Zvi Griliches (1974) express some reservations; Pollak and Michael L. Wachter (1975) emphasize its limitations. Richard A. Easter-

The new home economics ignores the internal organization and structure of families and households. Although this may surprise noneconomists who tend to believe that the internal organization and structure of an institution are likely to affect its behavior, economists find it natural. For the economist the most economical way to exploit the fundamental insight that production takes place within the household is to apply to households techniques developed for studying firms. Since neoclassical economics identifies firms with their technologies and assumes that firms operate efficiently and frictionlessly, it precludes any serious interest in the economizing properties of the internal structure and organization of firms. The new home economics, by carrying over this narrow neoclassical view from firms to households, thus fails to exploit fully the insight of the household production approach. In this essay I argue that the transaction cost approach which recognizes the significance of internal structure provides a broader and more useful view of the economic activity and behavior of the family.

The transaction cost approach has been primarily concerned with firms and the organization of production.[4] The treatment of vertical integration is paradigmatic. Neoclassical economics explains vertical integration as a response to technological inseparabilities; transaction cost economics explains vertical integration as a response to the difficulties of regulating ongoing relationships by means of contracts.[5] Transaction cost analysis of vertical integration posits a situation in which efficiency requires the use of physical or human capital that is specific to the relationship between a particular supplier and a particular customer; since the value of such "idiosyncratic" capital depends on establishing and maintaining the supplier-customer relationship, the willingness of either party to invest in idiosyncratic capital depends on assuring the stability of the relationship. Firms often avoid using contracts to structure complex, ongoing relationships because doing so is hazardous. Short-term contracting is hazardous because, even when contract renewal is mutually beneficial, one party or the other may have advantages that can be exploited in bilateral negotiations over renewal terms; hence, short-term contracts make it risky to accumulate capital whose value is contingent on the relationship continuing and thus discourage investment in such specific capital. The problems of contract renewal can be avoided or at least postponed by long-term contracts, but only if such contracts are "complete" in the sense that they specify the obligations of the parties under every possible contingency. Complete long-term contracts are costly or impossible to write and enforce, however, a reflection of bounded rationality and asymmetric information; and incomplete long-term contracts which fail to deal with every contingency expose the parties to the hazards of bilateral bargaining. To avoid these contracting hazards firms often rely on some more complete form of integration such as merger. Thus, contracting difficulties—the problems of negotiating, writing, monitoring, and enforcing agreements—are central instances of transaction costs, and transaction cost economics asserts that they are significant determinants of the

lin, Pollak, and Wachter (1980) discuss applications to fertility and provide references to the recent literature.

[4] Oliver E. Williamson (1975, 1979, 1981), building on the older institutionalist tradition, on the work of Ronald H. Coase (1937), and on the "Carnegie tradition" (e.g., Herbert A. Simon 1957), has been primarily responsible for developing the transaction cost approach. Other important transaction cost papers are Victor P. Goldberg (1976), and Benjamin Klein, Robert G. Crawford, and Armen A. Alchian (1978).

[5] Time thus plays a crucial role in transaction cost analysis, a point emphasized by Gordon C. Winston (1982, Ch. 12).

organization of production. Since bureaucratic structures have their own characteristic disabilities, internal governance does not eliminate all difficulties associated with a transaction or exchange. Nevertheless, replacing a market relationship by an organization with an appropriate governance structure often safeguards the interests of both parties.

The transaction cost approach focuses on the role of institutions in structuring complex, long-term relationships. Applied to the firm, transaction cost economics studies the boundaries, structure, and internal organization of producing units. To do so, it relaxes the assumption of frictionless efficiency and views the firm as a hierarchical governance structure within which production takes place. By focusing on structure the transaction cost approach provides an alternative explanation of market behavior that traditional economics ascribes to technology, and it illuminates aspects of nonmarket behavior that traditional economics ignores. In many respects the neoclassical and transaction cost approaches are complements rather than substitutes, addressing somewhat different issues and offering somewhat different ranges of admissible explanations.

The transaction cost approach analyzes the "economizing properties of alternative institutional modes for organizing transactions" (Williamson 1979, p. 234). The presumption is that the costs to be minimized include transaction costs, that these costs vary systematically from one institutional mode to another, and that each activity is carried out by the institution that can perform it most efficiently. The transaction cost literature has thus far emphasized production activities and, more particularly, intermediate-product transactions; the central issue has been whether technologically separable activities will be carried out by a single vertically-integrated firm rather than by separate firms dealing with each other through markets. Addressing the fundamental problems of institutional choice—whether particular activities will be mediated by markets or carried out within families, firms, governments, or nonprofit institutions—requires extending the transaction cost analysis from firms to families and to other institutional modes.[6]

The transaction cost literature has virtually ignored families and households.[7] The

[6] Henry B. Hansmann (1980) provides an excellent transaction cost analysis of nonprofit enterprise. There does not appear to be a corresponding transaction cost analysis of the state, although Goldberg (1976) and Williamson (1976) hint at such a theory in their discussions of regulation. The "Chicago School" theory of economic regulation fails to offer such an analysis of the state. On the contrary, it assumes that such an analysis is unnecessary because the state does not differ significantly from other organizations. Posner (1974), for example, asserts: ". . . no persuasive theory has yet been proposed as to why (government) agencies should be expected to be less efficient than other organizations. The motivation of the agency employee to work diligently and honestly is similar to that of the employee of a business firm" (p. 338).

[7] Transaction cost papers often mention in passing that the analysis applies to marriage or the family. Goldberg (1976, p. 428, fn. 9) does so in a sentence in a footnote; Klein, Crawford, and Alchian (1978, p. 323) devote a paragraph to it; and Williamson (1979, p. 258), two paragraphs. Yoram Ben-Porath (1980) is the only sustained transaction cost analysis of issues related to marriage or the family and in some respects my discussion parallels his. He begins by noting that neoclassical economic theory assumes that economic agents—individuals and firms—transact with "the market" rather than directly with other agents; in this sense, neoclassical theory postulates "anonymous" agents and "impersonal" transactions. Ben-Porath's analysis of the family flows from his more general concern with relaxing this assumption and recognizing that the "identity" of economic agents—their ability to recognize and be recognized by one another—is crucial to many types of economic interactions. His title, "The F-Connection: Families, Friends, and Firms and the Organization of Exchange," is indicative of these broader concerns. Ben-Porath emphasizes the changing role of the family in various stages of economic development and the effect of development on the family. In a review of Becker's *Treatise*, (Ben-Porath 1982), he summarizes his own views:

> The traditional family is the epitome of specialization by identity, based on own use of productive services and on mutual insurance and support . . . Modern economic organization is associated with a market structure based on specialization along the impersonal

neglect of families in Williamson's *Markets and Hierarchies* (1975) probably flows from his assumption that "in the beginning, there were markets" (p. 20). While this assumption is clearly intended to provide an analytical rather than an anthropological origin, it is probably responsible for his neglect of family organization as a theoretical or an actual solution to the incentive and monitoring problems encountered by peer groups and simple hierarchies. The neglect of families and households represents a missed opportunity.

Applied to the family, the transaction cost approach generalizes the new home economics by recognizing that internal structure and organization matter. It treats the family as a governance structure rather than a preference ordering or a preference ordering augmented by a production technology. This has two consequences for the analysis of the family. First, by focusing on the family's ability to provide incentives and monitor performance and on how its ability to do so differs among activities and societies, it clarifies which activities are carried out by the family. Second, by emphasizing the role of institutions in structuring complex, long-term relationships, the contracting perspective of the transaction cost approach elucidates allocation and distribution within the family.

Because of the central role of unobservable variables (e.g., preferences, household technology, genetic endowments), the new home economics view of the family does not lead simply or directly to a model capable of empirical implementation.[8] Unobservable variables also play a key role in the transaction cost approach; and, even in the context of the firm and vertical integration, the transaction cost approach is often charged with failing to provide a framework for empirical research. Not surprisingly, the offspring of the marriage of the subject matter of the new home economics with the analytical orientation of the transaction cost approach is not a system of equations that an econometrician could estimate. Nevertheless, because the ability of the transaction cost approach to provide a framework for empirical analysis is a crucial issue, throughout this essay I identify topics and areas of research suggested by the transaction cost approach.

My primary purpose, however, is to describe an *approach*, not to specify a *model*. This paper is an essay, not a research program or agenda. The methodological justification for such an enterprise is that an occasional exploratory essay is useful because formal models are self-contained constructs and cannot tell us what phenomena are worth modeling.[9]

dimensions of transactions. . . Thus, in a modern economy, the family sheds much of its productive activities and specializes more in affective relationships and joint consumption [p. 61].

[8] Michael T. Hannan (1982), in a review of Becker's *Treatise*, points out that Becker fails "to make clear exactly what kinds of evidence would be inconsistent with the theory." He emphasizes the crucial role of unobserved variables, wonders "whether *any* data could be shown convincingly to be inconsistent with the theory," and hence is "not prepared to agree that the theory has already gained a high degree of empirical verification" (p. 71, emphasis in original).

[9] Critics of the transaction cost approach often object that it is difficult or impossible to test, refute or falsify, claiming that it explains everything and, therefore, explains nothing. Williamson (1979, p. 233) discusses this criticism and argues that carefully formulated versions of the transaction cost approach are not vulnerable to it. We have already seen that this objection is sometimes raised against the new home economics (Hannan 1982, p. 71). The objection is often expressed in the positivistic language that Paul A. Samuelson's *Foundations of Economic Analysis* (1947) has made familiar to economists. Twenty years after Thomas S. Kuhn's *The Structure of Scientific Revolutions* (1962), many philosophers of science are pessimistic about the possibility of "testing" competing theories or paradigms, even in the physical sciences. Closer to home, it is not clear what set of observations would cause economists to abandon the neoclassical theory of consumer behavior, or even to reject the version of it which assumes that preferences (for unobservable "commodities")

The paper is organized as follows. In the first section I examine the advantages and disadvantages of family governance and apply the analysis to two types of economic activity: production for home consumption and production for a market. In the second section I turn to the internal organization of families and households, focusing on allocation and distribution within the family. I begin by analyzing marriage as a "contracting problem." I then argue that the transaction cost approach is broadly consistent with bargaining models of marriage, and examine the roles of marriage-specific capital from a bargaining perspective. Finally, I discuss social exchange theory and its relationship to the transaction cost approach. Section III is a brief conclusion.

I. *The Family as a Governance Structure for Economic Activity*

The advantages of the family as a governance structure for organizing particular activities flow from its ability to integrate those activities with preexisting, ongoing, significant personal relationships.[10] I examine the advantages of family governance and its corresponding disadvantages in Section A. In Section B I discuss the role of transaction cost considerations in the family's production for its own consumption, focusing on the family's role as a provider of insurance, that is, protection against the economic consequences of uncertain, adverse events. The family has been the traditional source of such protection throughout history; even in advanced industrial societies some types of insurance continue to be provided by the family, while others are provided by the market, and still others by the state. In Section C I examine the role of transaction cost considerations in family governance of market-oriented work by discussing family farms and family-managed firms, that is, firms in which several family members play active managerial roles. Finally, in Section D, I compare the characteristic advantages and disadvantages of family governance with those of market governance and argue that certain identifiable types of activities are more efficiently organized through markets while others are more efficiently carried out by families.

A. *Advantages and Disadvantages*

The advantages of family governance can be grouped into four categories: incentives, monitoring, altruism, and loyalty. All of the family's incentive advantages arise because its members have claims on family resources; some of these advantages can be analyzed in a single period setting, while others depend on the anticipated continuity of family membership. Even in a one-period setting family members have reason to take account of the effects of their actions on family wealth. The strength of this incentive effect depends on the size of the family and on its sharing rule: It is weakest in large families with equal sharing, and strongest in small ones with sharing rules conditioned on individual behavior. Those incentive advantages that arise only in a multiperiod setting and that depend on expectations of lifelong family membership make individuals reluctant to sacrifice long-run benefits for short-run gains. Without such expectations individuals would be less certain that their claims would be honored in the future and, hence, would act to move family consumption or income toward the present. Furthermore, individuals may value family consumption and income beyond their own lifetimes because of their concern for the welfare of their own children or grandchildren. Thus, prudential and dy-

are exogenous and identical over time and space (George J. Stigler and Becker 1977). Similarly, it is not clear what set of observations would convince sociologists that tastes are exogenous.

[10] Burton Benedict (1968, p. 2) refers to such relationships as "affectively charged."

nastic considerations combine to give family members direct, long-term interests in the family's well-being.

Because economic relationships are entwined with significant personal ones, the family commands rewards and sanctions not open to other institutions. Severe misconduct involves not simply the risk of dismissal from a job but also the risk of ostracism or expulsion from the family, a penalty drastic enough that it is likely to be an effective deterrent to serious malfeasance.

The monitoring advantages of the family also flow from the entwining of economic and personal relationships. Diligence and work habits, consumption patterns and lifestyles are more likely to be observable because the network of relationships involving "economic activity" and "family" are integrated. The family's informational advantages are greatest when its members live together as a joint or extended family household—a common arrangement in many developing countries. But monitoring advantages, although facilitated by communal living arrangements, do not depend exclusively on them: Social contacts within the family provide information unavailable to outsiders.

"Altruism," based on "love," "affection," and "caring," serves to limit opportunistic behavior within the family.[11] The affectional relationships among family members, whatever their basis, may provide a relatively secure and stable foundation for a wide range of activities.

"Family loyalty" provides a convenient rubric for discussing dimensions of incentives and monitoring that economists are trained to ignore. Although what we call family loyalty may be a consequence of altruism or of the particular incentive, monitoring, and altruism attributes of the family, it is useful to treat loyalty as a separate category and to examine its social and psychological basis.

The social basis of family loyalty rests on generally accepted norms or standards of conduct regarding the treatment of family members which are enforced through reputation. Individuals perceived as fulfilling family obligations are rewarded with respect and esteem and those perceived as violating them are punished by loss of reputation. The value and importance of reputation varies from one society to another: In traditional societies with little geographical mobility, reputation may be an important factor in personal and business success, and loss of reputation a significant penalty.

The psychological basis of family loyalty depends on individuals' internalizing society's values, standards, and expectations. Fulfilling family obligations becomes a source of pleasure, pride, and satisfaction, and violating them a source of guilt. The rewards and sanctions are thus internalized, incorporated into individuals' preferences and values.

The value of loyalty is not confined to families. Nations, clubs, and firms attempt to instill and foster loyalty in their citizens, members, employees, and managers. Indeed, the language of loyalty itself relies heavily on family metaphors. Citizens are urged to support "Mother Russia" or the "Fatherland"; college students join "fraternities" or "sororities"; workers join labor unions whose names often include the word "brotherhood"; firms like "Ma Bell" have encouraged employees to view them as a family and in doing so claim their allegiance, support, and love. These attempts to encourage loyalty reflect its instrumental value to organizations, as Albert O. Hirschman (1970) and Alchian and Harold Demsetz (1972, p. 790–91) have

[11] Becker uses the term "altruism" to refer to a very special type of interdependent preferences. I discuss Becker's notion of altruism and his theory of allocation within the family in Section IIB.

argued. Almost unconscious reliance on family metaphors to describe or foster loyalty suggests that family ties are recognized as ties that bind.[12]

Notwithstanding its advantages, family governance has four characteristic disadvantages. First, conflict may spill over from one sphere into the other. Although the family may function harmoniously, bound together by ties of affection and interest, even the most casual empiricist must recognize the possibility of discord. The largely anecdotal literature on family firms emphasizes conflicts between parents and children and conflicts among siblings.[13] Conflicts between parents and children centering on the desire of children for independence and of parents to retain control may be continual sources of friction and may pose particularly difficult problems of leadership succession for family firms. Sibling tensions and rivalries whose roots lie buried in early childhood can influence the behavior and relationships of middle-aged men and women as their generation assumes control of the family firm. By linking the firm and the family, the family's stability becomes a source of strength for the firm, but the family's instability becomes a source of weakness.

Second, inefficient behavior or slack performance may be tolerated because of the difficulty of evaluating and disciplining family members. Objective and dispassionate evaluations of the ability and performance of family members are difficult to make. Furthermore, acting on adverse evaluations may provoke deep-seated resentment persisting through generations. The threat of ostracism gives family firms an advantage in controlling gross malfeasance; but because of its severity and because its use imposes significant costs on others in the family, ostracism is not a credible threat against shirking, slack performance, or minor infractions. The family has available a wide range of social rewards and sanctions that it could in principle use to express its approval or disapproval of an individual's actions or behavior; in practice, however, the family may not be able to calibrate and utilize these rewards and sanctions effectively. It is unclear whether family governance is more or less effective than nonfamily governance in discouraging minor infractions and slack performance. Furthermore, nepotism may prove a serious problem for the family firm.[14]

Third, the capacities, aptitudes, and talents of family members may fail to mesh with the needs of the family's economic

[12] Janet T. Landa (1981) analyzes the role of ethnic ties as well as kinship ties and the importance of gradations in these relationships in establishing the reliability of trading partners. Landa and Janet W. Salaff (1982) examine the rise and fall of the Tan Kah Kee Company, a Singapore-based family firm which they describe as the largest Chinese-owned rubber manufacturing and exporting firm in Southeast Asia in the 1920s (p. 21). Drawing on Landa's analysis, they show that kinship and ethnic ties played an important role in the growth of the firm. They attribute the fall of the Tan Kah Kee Company to the collapse in rubber prices during the Depression and the consequent necessity of ceding control of the firm to "outsiders" (i.e., British bankers and their agents). Landa and Salaff provide extensive references to the literature on family firms in sociology, anthropology, and development economics.

[13] Peter Davis (1983) summarizes this literature and presents an analytical framework that is broadly consistent with the transaction cost analysis developed here. An article in *Fortune,* "Family Business is a Passion Play," (Gwen Kinkead 1980) gives the flavor of the popular literature.

[14] Nepotism may be an even more serious problem in other governance structures, and it is likely to be most serious in those that delegate substantial discretionary authority to individuals who lack commitment to the organization's objectives. It is no coincidence that the term "nepotism," from the Italian *nepotismo,* "favoring of 'nephews,'" was first used to describe practices of the pre-Reformation Catholic Church: "A euphemistic use of 'nephew' is that of the natural son of a pope, cardinal or other ecclesiastic; and from the practice of granting preferments to such children the word 'nepotism' is used of any favouritism shown in finding positions for a man's family" ("Nephew," *Encyclopaedia Britannica,* 11th ed. 1911).

activities. The problem is not that certain activities require training; traditionally families have assumed responsibility for children's education and for vocational training. The problem is that certain activities require special talents. Whether the talent mix available within the family in a particular generation meshes well with the requirements of the family's activities depends in part on genetics and in part on luck. When no available family members manifest the required aptitudes, then such activities, if they are to remain within the family, must be carried on without suitable personnel. Whether family governance entails substantial inefficiencies depends on the ability of alternative governance structures to achieve better matches between individuals and activities. Thus, family governance is most efficient in activities requiring talents that are difficult for nonfamily institutions to evaluate and in those not requiring rare or unusual aptitudes.

Fourth, size limitations implied by family governance may prevent the realization of technologically achievable economies of scale. The boundaries of the family or kin group relevant for organizing economic activity are influenced by economic considerations, not rigidly determined by biology. Nevertheless, because expansion weakens the incentive and monitoring advantages of family governance, the family is ill-equipped to exploit scale economies.[15] Insurance, an activity in which limited scale implies limited risk-spreading, provides a range of illustrations, including some in which the balance of advantages and disadvantages favors family governance.

[15] Family firms, if they are to grow in size and complexity to exploit economies of scale, face the problem of integrating professional nonfamily managers with family managers. The growth possibilities of a family firm are severely constrained if it is unable or unwilling to attract and accept nonfamily managers, yet success in introducing nonfamily managers may undermine its character as a family firm.

B. *Family Governance of Production for Home Consumption: Insurance*

Home is the place where, when you have to go there,
They have to take you in.

Robert Frost
"The Death of the Hired Man"

The household production approach, with its emphasis on prices and technology, has dominated the analysis of activities in which households or families produce goods for their own consumption. This analysis captures the essence of some household "make-or-buy" decisions, but other household production activities—such as the provision of education, health care, and insurance—are better analyzed from a transaction cost perspective.

Protection against the adverse economic consequences of old age, separation and divorce, unemployment, or the illness or death of an earner can be provided in many ways. In many societies the family is the principal provider of such protection. In advanced industrial societies the family, the market, and the state provide varying degrees of protection against these and other adversities. Market insurance typically provides monetary benefits according to an explicit schedule. The state sometimes provides monetary benefits according to an explicit schedule (e.g., aid to dependent children) and sometimes benefits in kind (e.g., direct provision of care for the sick, handicapped, or disabled); such benefits, whether in cash or in kind, are not always characterized as insurance. The family, in contrast, typically provides benefits in kind rather than in cash and according to an implicit rather than an explicit schedule.

Family provision of benefits often entails restructuring domestic arrangements so that family members who had previously lived in separate households form a single residential unit. Unemployed young adults and recently separated or divorced individuals and their children often move in with parents; orphans are taken in by relatives; elderly parents often move in with their children. Because the household and the nuclear family tend to coincide, the terms "household" and "family" are often used interchangeably.[16] This usage is misleading even for advanced industrial societies and it is seriously misleading for developing countries. Analysis of household formation—the establishment of separate households by the young and the elderly, or as a consequence of separation or divorce—and, more generally, analysis of the role of kin ties in economic relationships requires maintaining the distinction between households and families.[17] Although the phrase "household production" is too well-established to be displaced by "family production," in the provision of insurance and in many other activities, the fundamental unit is not the household but the family.

The insurance literature identifies two reasons why market insurance may be inefficient: "adverse selection" and "moral hazard."[18] Adverse selection arises when each individual knows his probability of loss better than potential insurers (asymmetric information) and when individuals can opportunistically misrepresent their loss probabilities to potential insurers.[19] This conjunction of asymmetric information and opportunism leaves individuals without credible ways of communicating to a potential insurer their true risk characteristics. Under these circumstances potential insurers find it costly or impossible to distinguish between high-risk and low-risk individuals and, hence, the market must charge everyone the same premium. Low-risk individuals may find this premium excessive and choose to self-insure (i.e., to cover their own losses instead of purchasing market insurance). With a continuum of risk-classes, it may be impossible for market insurance to operate at all: there may be no premium level that would induce purchases by a group of individuals whose total expected losses would be covered by their total premium payments.[20] Moral hazard arises because individuals can undertake activities that alter the probabilities they will suffer losses or that mitigate the magnitudes of losses that do occur. Because insurers cannot easily monitor whether individuals have undertaken such activities and because individuals can opportunistically misrepresent whether they have done so,

[16] For example, Laslett (1972) uses the term "family" to refer to a household—a co-resident domestic group—and much of his work has been devoted to documenting the predominance of nuclear households in Europe during the last three centuries.

[17] Fuchs (1983) provides an overview and references to the literature on many of these issues. On separation and divorce, see Becker, Elisabeth M. Landes and Michael (1977). On the establishment of separate households by the young and the elderly, see Marjorie B. McElroy (1985) and Michael, Fuchs and Sharon R. Scott (1980), respectively. For work emphasizing the strength and importance of kin ties and challenging the myth that the predominance of nuclear households implies the irrelevance of other family relationships, see, for example, Philip J. Greven, Jr. (1970), Michael Anderson (1971) and Hareven (1977, 1978).

[18] Mark V. Pauly (1974), Michael Rothschild and Joseph E. Stiglitz (1976), and Charles Wilson (1977). Two important and widely cited papers going well beyond the insurance issues are Arrow (1963) and George A. Akerlof (1970). Isaac Ehrlich and Becker (1972) discuss the role of "self-protection" as a substitute for market insurance.

[19] Williamson (1975, p. 31–33) terms this conjunction of asymmetric information and opportunism "information impactedness."

[20] In the "lemons" paper (Akerlof 1970) the used-car market serves to illustrate this phenomenon. Sellers know the quality of the cars they are offering for sale, but potential buyers know only the average quality of used cars sold in the market. These circumstances can give rise to two distinct problems. First, as Akerlof points out, "it is quite possible to have the bad driving out the not-so-bad driving out the medium driving out the not-so-good driving out the good in such a sequence of events that" no transactions take place (p. 239)—that is, the only equilibrium may be one in which there is no trade. Second, as Rothschild and Stiglitz (1976) point out, equilibrium may fail to exist. Wilson (1980) shows that price-setting conventions can play a crucial role in markets with adverse selection.

market insurance arrangements may provide protection against the economic consequences of uncertain, adverse events only at the cost of substantial inefficiency.

The state has certain advantages over market insurers in dealing with adverse selection and moral hazard. Compulsory insurance—whether provided by the market, as with automobile liability insurance, or by the state, as with social security—avoids adverse selection by preventing low-risk individuals from opting out. State-imposed standards of conduct can reduce moral hazard, but asymmetric information and opportunism pose problems for the state as well as for market insurers. While state enforcement may be more effective than private enforcement, it is hardly a panacea: Requiring recipients of unemployment compensation to seek work has proved difficult to enforce.

As a provider of insurance, the family has three important transactional advantages over the market and the state. First, adverse selection is limited because outsiders cannot easily join the family nor insiders easily withdraw. Second, information disparities between individuals and their families are generally smaller than those between individuals and nonfamily insurers. Proximity yields substantial monitoring advantages, permitting the family to assess health or intensity of job search more easily, economically, and accurately than the market or the state. Third, both family loyalty and cultural norms limit opportunistic behavior. Virtually every society condemns cheating one's family far more strongly than cheating strangers—blood is thicker than water.

As a provider of insurance the family also has characteristic disabilities. First, conflicts originating in personal relationships can impinge on the insurance arrangement. Such conflicts may make those obligated to provide benefits unwilling to do so, especially when the benefits call for restructuring living arrangements by combining households. Additionally, disputes growing out of the insurance arrangement itself are potential sources of family conflict.

Second, it is difficult to make objective and dispassionate evaluations of risk and of the extent to which individuals undertake to alter these probabilities or mitigate the magnitude of losses. Furthermore, once such evaluations of family members are made, they may be difficult to act on: Poor risks, once identified, cannot easily be excluded from participation in family insurance arrangements.

Third, because the family or kin group is relatively small, risks cannot be spread widely enough to realize fully the advantages of insurance. This problem is most serious in situations involving small probabilities of large losses. Furthermore, when family members face risks that are positively correlated, the family's ability to protect itself through self-insurance is even more limited than its size would suggest. For example, family members working in the same industry or growing the same crops in the same region are poorly positioned to provide each other with unemployment insurance or crop insurance. Thus, since the effectiveness of insurance depends on both the size of the insured group and on the independence of the risks to which its members are exposed, the transaction cost advantages of family insurance are balanced by technical disadvantages.

Insurance is typical of a substantial class of economic activities for which the transaction cost advantages of family governance often outweigh the technical advantages of nonfamily governance. The balance between these advantages and disadvantages is not immutable, as demonstrated by the shifting of some, but by no means all, insurance functions from the family to the market, to nonprofit institutions, and to the state. With insurance, as with the provision of education and health care, market governance entails substantial transaction cost difficulties. Hence, in societies in which these functions are not carried out by the family, they tend to be assumed by nonprofit institutions and the state rather than by profit-oriented firms.

C. *Family Governance of Market-Oriented Work: Family Farms and Family-Managed Firms*

The family-managed firm and the family farm solve different organizational problems: The family-managed firm is a response to the difficulty of supervising managers, the family farm a response to the difficulty of supervising workers.[21] Despite the differences between supervising managers and supervising workers, the advantages and disadvantages of family-managed firms and family farms are similar, and both illustrate the role of family governance of market-oriented work.[22]

The family farm—typically worked jointly by a married couple and their children or, in many societies, by members of an extended family who live together in a single household—is the dominant form of agricultural organization in the United States and in most developed and developing countries.[23] The family farm can be regarded as an organizational solution to the difficulty of monitoring and supervising workers who, for technological reasons, cannot be gathered together in a single location.

When agricultural tasks can be monitored easily in terms of inputs or outputs, family farms are often overshadowed by other forms of agricultural organization. For some crops and some tasks hired labor can be concentrated into work gangs and supervised directly, so plantation agriculture is possible.[24] For other crops and tasks (e.g., harvesting) output can be measured directly and workers paid on a piece-rate basis. Thus, agricultural wage labor, hired on a daily or a seasonal basis, is important in both developed and developing countries. Nevertheless, since most farm tasks are not susceptible to either of these forms of supervision or monitoring, the family farm is the dominant form of agricultural organization.[25]

[21] I distinguish family-managed firms both from firms that are merely family-owned and from those in which only a single family member participates in management.

[22] In both cases the focus on the incentive properties of family governance of market-oriented activity suggests a comparison with consumer or producer cooperatives or labor-managed firms. Jaroslav Vanek (1969) makes strong claims for the advantages of the latter:

> Without any doubt, labor-management is among all the existing forms of enterprise organizations the optimal arrangement when it comes to the finding of the utility-maximizing effort, i.e. the proper quality, duration and intensity of work, by the working collective. Not only is there no situation of conflict between management and the workers that might hinder the finding of the optimum, but the process of self-management itself can be viewed as a highly efficient device for communication, collusion control and enforcement among the participants [p. 1011].

Whether labor-managed firms actually realize these advantages is an open question; Williamson's analysis of the disabilities of peer group organization of production suggests that they may not. Furthermore, the ability of a family to realize these alleged advantages must depend on its internal organization and structure: A hierarchical family (e.g., patriarchal) would not operate in the manner Vanek suggests, although it might offer other advantages for organizing production.

[23] Family farms accounted for 67.6 percent of the value of farm products sold in the U.S. in 1974, the most recent year for which these data were reported in the *Statistical Abstract of the United States* (10th ed., 1984, p. 653, Table 1143).

[24] Plantation agriculture is sometimes compatible with slavery. Stefano Fenoaltea (1984), in a rich and fascinating paper, argues that the "pain incentives" to which slaves can be subjected make slave labor more suitable for "effort-intensive" than "care-intensive" activities, and that the threat of sabotage makes slave labor more suitable for land-intensive than capital-intensive activities. Thus slave gangs were better suited to the cotton and corn agriculture of the American South than to the vine and olive arboriculture of the Mediterranean.

[25] Discussions of agricultural organization in economics have focused almost exclusively on other issues. The principal focus has been on sharecropping, and while incentive and monitoring issues are sometimes mentioned (along with risk aversion and imperfections in capital and other markets) family aspects of agricultural organization are ignored. In particular, most discussions assume that the sharecropper is an individual worker. Similarly, discus-

Empirical work on agricultural organization has seldom distinguished between family and nonfamily labor, although recent research suggests the importance of doing so.[26] The transaction cost approach draws attention to this distinction by offering two reasons why family and nonfamily labor might be imperfect substitutes: the incentive and monitoring advantages of family organization which I have emphasized in this essay and the idiosyncratic information and knowledge of local conditions that family members are likely to possess.[27] The transaction cost approach generates interesting empirical research projects in this field because it helps to analyze the degree to which family and nonfamily labor are imperfect substitutes in various types of agricultural production and it helps to sort out the roles of incentives and asymmetric information.[28]

Managers in family-managed firms have expectations of a continuing relationship with the firm and claims on its profits and, therefore, are subject to different and perhaps more effective rewards and sanctions than managers in other firms. Both types of firms can reward successful managers with salary increases and promotions, but performance is often difficult to assess and managers may be able to manipulate short-run indicators of performance at the expense of the long-run objectives of the firm. Because family managers expect a continuing relationship with the firm, they are less tempted to sacrifice long-run advantages for short-run gains.[29]

The behavior of family managers can usually be monitored more easily than that of nonfamily managers. The general principle requires no further elaboration, but it must be qualified by the observation that family members living three thousand miles apart may monitor each other less effectively than managers in nonfamily firms located in a small city. Family relationships are not the sole determinant of monitoring costs.

Sally Griffen and Clyde Griffen (1977) emphasize the role of family loyalty and trust in business in nineteenth-century America. Discussing families' use of bankruptcy laws, they write:

> In the Darwinian jungle of small business in the United States, survival frequently involved use of family relationships, founded in trust, to take advantage of loopholes in the law [p. 154].
>
> The family proved most useful in all of these

sions of rural labor markets often treat labor as homogeneous, failing to distinguish among men, women, and children and seldom offering integrated models of family labor supply. See Howard N. Barnum and Lyn Squire (1979) and Hans P. Binswanger and Mark R. Rosenzweig (1984). Peter Murrell (1983) offers a transaction cost analysis of sharecropping, although he does not discuss the role of the family.

26 Anil B. Deolalikar and Wim P. M. Vijverberg (1983a) provide references to the literature and report evidence on the heterogeneity of family and nonfamily labor using district-level data from India. Deolalikar and Vijverberg (1983b) report similar findings using farm-level data from India and Malaysia.

27 Rosenzweig and Kenneth I. Wolpin (1985), for example, build a model of intergenerational transfers around the "specific experience" hypothesis.

28 Binswanger and Rosenzweig (1982) view agricultural organization as a consequence of the interplay between asymmetric information and what they term the "material conditions of agriculture" (p. 58). Thus, they argue, differences in the characteristics of the technology from one crop to another have predictable effects on the organization of production. For example, with trees whose continued value depends on pruning and maintenance (e.g., coffee, cocoa, apples) "an owner is unlikely to rent out his trees to a tenant-operator in a contract whose duration is less than the productive life of the tree, given the difficulty of assessing maintenance intensity in the short-run" (p. 47). On the other hand, "coconuts do not require pruning" and "tenancy in coconut trees is quite frequent in India" (p. 49). Although they recognize that family labor has both informational and incentive advantages over nonfamily labor (pp. 31–35), they do not systematically examine the family as a solution to the problems posed by asymmetric information in the context of particular agricultural technologies.

29 Nonfamily firms can and do attempt to provide incentives that bind managers to the firm and induce them to take a long view. Profit-sharing, for example, gives managers an interest in the short-run performance of the firm, while pension plans and stock options represent (among other things) attempts to tie managers' rewards to the long-run performance of the firm as a whole and their interests to the long-run interests of the firm.

legal maneuverings because of trust between its members. Family members could betray that trust—wives could leave their husbands and parents could let their children remain stranded—but the assumption apparently was that they would not or, at least, that relationships outside the family would be even less trustworthy. The same need for trust and loyalty in a mobile society undoubtedly accounts for the frequency of family members in business partnerships in the city. No less than 48% of the firms ever run as partnerships in Poughkeepsie brought together relatives at one time or another [p. 156].

Neoclassical theory obviates the need for distinguishing between family and nonfamily governance by assuming that all firms are frictionless profit-maximizers. Because of this theoretical presumption and the paucity of statistical data, economists have virtually ignored family firms. The major exceptions fall into two subfields—development economics and economic history—but as a consequence of the limitations of theory and data, the treatment of family firms is largely anecdotal.

The transaction cost approach cannot provide the data, but it does provide a theoretical rationale for distinguishing between family and nonfamily firms and it suggests that their behavior might differ systematically. Two behavioral dimensions in which comparisons seems especially promising are efficiency and innovation. Recently developed techniques for measuring the efficiency of firms (Finn R. Førsund, C. A. Knox Lovell, and Peter Schmidt 1980) could be used to compare the efficiency of family and nonfamily firms in particular industries. It is often asserted that family firms are technologically conservative and slow to exploit newly emerging profit opportunities; on the other hand, it is also often asserted that owner-entrepreneurs are more likely than professional managers to be innovators. It would be interesting to know whether, controlling for firm size and for industry, family firms are more or less likely to innovate than nonfamily firms. Although the transaction cost approach offers a set of reasons why the efficiency and innovativeness of family and nonfamily firms might differ, it does not offer unambiguous predictions about which will be more efficient or more innovative. Hence, a finding that family and nonfamily governance differ systematically in efficiency, innovativeness, or other behavioral dimensions would not constitute a "test" of the transaction cost approach.[30] It would demonstrate, however, its fruitfulness in suggesting interesting topics for investigation.

D. *Assessment: Family vs. Nonfamily Governance*

Family governance of economic activities is likely to assure loyal and trustworthy performance; nonfamily governance is likely to assure technical competence and skill. The relative importance of these sets of attributes varies from society to society and from sector to sector. The possible combinations are exhibited in Table 1. One would expect family governance to predominate in low-trust environments (that is, in societies in which nonfamily members are not expected to perform honestly or reliably) and in sectors utilizing relatively simple technologies (that is, in sectors using technologies which a high proportion of adults in the society are capable of mastering quickly).[31] Conversely, nonfamily governance would

[30] The analysis proposed here is relevant for both family firms and family farms.

[31] Edward C. Banfield's *The Moral Basis of a Backward Society* (1958) explains the economic and political backwardness of southern Italy by "the inability of the villagers to act together for their common good or, indeed, for any end transcending the immediate material interest of the nuclear family" (p. 10). Banfield argues that this cultural ethos, which he terms "amoral familism," with its emphasis on the nuclear family rather than some larger group (e.g., the extended family or nonfamily political, religious or social groups) is pathological (p. 163). He does not, however, discuss the forces that bind the nuclear family together, nor does he offer a convincing analysis of the origins of amoral familism (p. 153–54).

TABLE 1
ENVIRONMENT, TECHNOLOGY, AND ORGANIZATIONAL FORM

	Simple technology	Complex technology
Low-trust environment	family governance	?
High-trust environment	both family and nonfamily governance	nonfamily governance

predominate in high-trust environments and in sectors using complex technologies. In the case of high trust and simple technology, family and nonfamily governance may coexist. In the final case, low trust and complex technology, both family and nonfamily governance encounter serious difficulties, and neither form may be viable. The relative decline of family-based economic activities in advanced industrial societies may reflect a shifting balance between the importance of their characteristic advantages and disabilities—a secular movement from low-trust and simple technology environments favoring family governance to high-trust and complex technology environments favoring nonfamily governance.

This discussion and the corresponding table have focused on only one feature of the technology, its complexity, and only one feature of the environment, the reliability and trustworthiness of nonfamily members, implicitly holding fixed other features of the technology and the environment. Another feature of the technology, the minimum efficient scale of production, and another feature of the environment, the trustworthiness of family members and the stability of family ties, deserve further attention.

Like increases in complexity, increases in minimum efficient scale favor market governance over family governance. Such increases may reflect technological innovations or, as Williamson (1975, Chs. 8, 9; 1981, Section 4) has stressed, organizational innovations such as the multidivisional or M-form firm, the conglomerate, and the multinational corporation. Technological innovations over the last two-hundred years have increased minimum efficient scale and thus favored nonfamily over family governance. Organizational innovations have also favored larger units by making it administratively feasible to take advantage of technically feasible economies of scale and scope.

Decreases in the trustworthiness and reliability of family ties also favor nonfamily over family governance. Economists have tended to view the family as a harmonious unit and to regard conflict and discord as aberrations of little relevance for economic analysis. In the next section I consider issues related to the causes and consequences of such conflicts.

II. *Internal Organization of Families*

The family's internal organization is a determinant of its effectiveness as a governance structure for economic activities and for distribution within the family. I begin in Section A by examining marriage from a contracting perspective, emphasizing the difficulties of using contracts to structure complex, ongoing relationships. In Section B I turn to allocation and distribution within the family, bargaining models of marriage, and the roles of marriage- or family-specific capital. In Section C I discuss social exchange theory, arguing that it is broadly consistent with approaches emphasizing bargaining. Section D summarizes the case for bargaining models.

A. *Marriage and Contract*

Individuals desire secure long-term family relationships to provide a stable environment in which to live and to rear children and, in Becker's terminology, to reduce the risks associated with accumulating marital-specific or marriage-specific capital.[32] This requires an institutional structure that is both flexible enough to allow adaptive, sequential decisionmaking in the face of unfolding events and rigid enough to safeguard each spouse against opportunistic exploitation by the other. Marriage is a governance structure which, more or less satisfactorily, accommodates these requirements.

In *Ancient Law* (1861) Sir Henry Sumner Maine identified the progress of civilization with a movement *"from Status to Contract."* He argued that modern society is founded on obligations that individuals create for themselves by voluntary agreements and promises rather than on obligations involuntarily and automatically imposed on them because of their status within the family. Maine's thesis provides a starting point for several recent discussions of marriage. Tony Tanner (1979), for example, begins by quoting several long passages from Maine and views adultery against this background: ". . . adultery can be seen as an attempt to establish an extracontractual contract, or indeed an anticontract . . ." (p. 6) that threatens the fabric of society. "For bourgeois society marriage is the all-subsuming, all-organizing, all-containing contract. It is the structure that maintains the Structure . . ." (p. 15). For this reason ". . . the problem of transgressing the marriage contract . . . is at the center . . ." of the late eighteenth- and early nineteenth-century novel (p. 12).

Like Tanner, Lenore J. Weitzman (1981) begins with Maine but she denies that his thesis applies to family law: ". . . marriage has not moved from status to contract" (p. xix). The tension between the status and the contract views of marriage is summarized in a recent family law case book by Walter O. Weyrauch and Michael B. Katz (1983):

> *Maynard, Ponder,* and *Ryan* relate to the nature of marriage as seen in the light of Sir Henry Sumner Maine's famous statement, 'that the movement of the progressive societies has been a movement *from Status to Contract.'* In legal practice this statement has never had the same significance it has had for scholarship, but relational and contractual aspects of marriage have lived side by side relatively undisturbed. These cases illustrate that legal practice can live with and accommodate apparent contradictions with ease. *Maynard* stands today for the proposition that marriage is something more than a mere contract, that it is a status or a relationship and, as such, subject to regulation by the government.
>
> *Ponder,* on the other hand, . . . , continues to be relied on for the seemingly opposite proposition that marriage is contract rather than a mere relationship, and that legislation regulating marriage could conceivably impair the obligation of contract if it affects vested rights. . . . *Maynard* can be cited whenever an argument in support of the police power of the state to regulate marriage is made, while *Ponder* can be cited in support of the contractual autonomy of marital parties to regulate their own affairs. In an extreme case this may be done within the same case, and *Ryan* demonstrates this capacity to draw from contradictory sources for support [p. 59].

Firms do not marry, but transaction cost analysis argues that they often resort to merger or vertical integration to avoid us-

[32] Becker uses the phrase "marital-specific capital" to refer to capital that would be "much less valuable" if the particular marriage dissolved (Becker, Landes and Michael 1977, p. 338). "Children are the prime example, especially young children, although learning about the idiosyncrasies of one's spouse is also important . . ." (Becker 1981, p. 224). Becker, Landes and Michael also include "working exclusively in the nonmarket sector" (pp. 1142, 1152), as marriage-specific capital. I return to marriage-specific capital in Section B.

ing contracts to structure complex, ongoing relationships. Short-term contracts require frequent renegotiation, making it risky to accumulate capital whose value is contingent on the relationship continuing and discouraging investment in such specific capital. Complete long-term contracts which specify every possible contingency are costly or impossible to write, a reflection of bounded rationality and asymmetric information. Incomplete long-term contracts which fail to specify every possible contingency are perilous because uncovered contingencies must be dealt with through bilateral negotiations under circumstances that may give one party or the other a strategic advantage. While the parties have some control over how complete their contract is to be, more complete contracts are relatively expensive to write and relatively rigid to apply. To avoid these contracting hazards firms often rely on some more complete form of integration such as merger. Since bureaucratic structures have their own characteristic disabilities, internal governance does not eliminate all difficulties associated with a transaction or exchange. Nevertheless, replacing a market relationship by an organization with an appropriate governance structure often safeguards the interests of both parties.

Comparing marriage and merger calls attention to the difference between individuals and firms. When two firms merge, at least one of them loses its legal identity and disappears. When two individuals marry, this is not the case, or, more precisely, this is no longer the case. Sir William Blackstone (1765), describing marriage under eighteenth-century common law, wrote:

> By marriage, the husband and wife are one person in law . . . [T]he very being or legal existence of the woman is suspended during marriage, or at least is incorporated and consolidated into that of the husband, under whose wing, protection, and cover she performs everything; and is therefore called . . . a femme-covert; and her condition during her marriage is called her coverture.[33]

Thus under the eighteenth-century English common law the parallel between marriage and merger was striking: the wife's legal personality was merged with and submerged in her husband's.

Recent legal scholarship that emphasizes the diversity of contracting modes provides a closely related analysis of these issues. Ian R. Macneil (1978) distinguishes among "classical," "neoclassical," and "relational" contracting.[34] The classical paradigm ignores any relationship between the parties other than that established by the contract itself: The parties' identities are irrelevant, since they may be viewed as trading with the market rather than with each other. The classical paradigm thus adopts a discrete transactions view that is very close to the economist's stereotype of contract law. Neoclassical and relational contracting arose in response to the difficulties of using contracts to structure complex, long-term relationships. Neoclassical contracting introduces a governance structure, often involving third-party arbitration, to reduce these hazards. Relational contracting goes a step further in this direction by treating the ongoing relationship between the parties rather than the contract as central. Collective bargaining is the leading example. Thus, the disabilities of contracts for structuring complex, long-term relationships apply to both commercial and personal contracts.

In Macneil's terminology marriage is a relational contract. The feature that

[33] After quoting this passage Weitzman (1981) goes on to quote Justice Black: "this rule has worked out in reality to mean that though the husband and wife are one, the one is the husband" (p. 1). U.S. v. Yazell, 382 U.S. 341, 359 (1966).

[34] Williamson (1979) develops the implications of Macneil's analysis for the transaction cost approach. See also Macneil (1974, 1980).

makes classical and neoclassical contracting inappropriate for structuring labor relations agreements—their inability to view specific disputes in the context of a continuing relationship requiring adaptive, sequential decisionmaking—makes them at least equally inappropriate for structuring marriage. Relational contracting provides a more instructive model.

Weitzman (1981) and others have recently urged that privately negotiated marriage contracts be treated like other contracts, enforceable through the courts, but not accorded special treatment.[35] The contracting analysis of Williamson and Macneil draws attention to the range of contracting modes and implies that relational contracts, because they are likely to be less complete than other contracts, are more dependent on legal rules and on institutions for their interpretation and articulation. This dependence on rules and institutions signals a larger role for the state, organized religion, or custom, and a correspondingly smaller role for the contracting parties than is typical in classical and neoclassical contracting.[36] This is evident in labor law, where relational contracting is most fully developed: Special rules and institutions have been created to circumvent the perceived defects of classical and neoclassical contracting.[37] Treating marriage contracts "like any other contract" is to treat them as classical contracts. But marriage contracts, because they are relational contracts, do require "special treatment": Dispute resolution would require special rules and perhaps special institutions.[38] Privately negotiated marriage contracts articulated through public rules and institutions that reflect society's values and mores might yield results not very different from those obtained through a system of family courts.[39]

[35] Weitzman describes marriage as a contract whose terms are imposed by the state rather than negotiated privately by the parties and examines the terms of that state-imposed contract. She then offers examples of privately negotiated marriage contracts and argues that such "intimate" contracts provide a means of redressing the sexual imbalance which she believes remains present in family law and of providing the certainty, clarity, and assurance that are often absent in family courts. Her argument relies heavily on an analogy between personal relationships and business or commercial ones: Our legal system recognizes the advantages of allowing individuals and firms considerable latitude in structuring business relationships by privately negotiated contracts; why not allow individuals similar latitude in structuring their personal, intimate relationships? This analogy provides some support for the use of contracts to structure personal relationships, but it also draws attention to the difficulties of doing so. Privately negotiated contracts can increase individuals' abilities to determine the duties and obligations of their personal relationships. Using contracts to structure complex, long-term relationships, whether commercial or personal, is intrinsically hazardous, however, and certainty, clarity, and assurance are not to be found in relational contracts.

[36] Because all contracts are subject to certain general rules of law, this distinction is one of degree. Although economists sometimes assume that contracting parties are free to strike any mutually advantageous bargain, this assumption is unwarranted: In the United States some contract provisions are unenforceable because they have been prohibited by statute; others are unenforceable because the courts have held them "contrary to public policy."

[37] These rules affect not only dispute resolution under existing collective bargaining agreements but also the conditions under which collective bargaining takes place in the absence of a prior contract or after the expiration of an existing agreement. Recently some U.S. courts have held that, even absent a collective bargaining agreement or an individual contract, "employers cannot dismiss employees arbitrarily or in bad faith." In Europe protection against dismissal without cause is provided through legislation (William B. Gould 1982, p. 7). Clyde W. Summers (1983) provides a brief overview in his introduction to a recent symposium on "employment at will." Mark R. Kramer (1984, pp. 243–47) summarizes recent developments in this rapidly changing area of the law.

[38] This would be true even absent children and the third-party effects associated with them. The presence of children provides a further rationale for state regulation of marriage and the family.

[39] As Becker (1981, p. 27, fn. 6) notes, Chinese, Japanese, and Christians have generally relied on oral and customary rather than written marriage contracts. In Christian Europe marriage was historically governed not by the state but by the Church through canon law and ecclesiastical courts. The Jewish marriage contract, the Ketuba, is traditionally written. In Islamic law marriage is a civil contract

B. *Allocation and Distribution within Families*

Economists have considered three models of allocation and distribution within families: Samuelson's family consensus model, Becker's altruist model, and recent bargaining models. Although these models usually focus on husbands and wives, they also provide a framework for examining relationships between parents and children. Samuelson's consensus model, explicitly articulated in Samuelson (1956), resolves the problem of intrafamily allocation and distribution by postulating a family social welfare function. Samuelson begins by noting that "the fundamental unit on the demand side is clearly the 'family' " (p. 9), and goes on to pose what he terms the "Mr. Jekyll and Mrs. Jekyll" problem: How can we expect family demand functions to obey any consistency conditions? This question, a crucial one from the standpoint of revealed preference theory, provided the motivation for Samuelson's theory of intrafamily allocation:

> Of course, we might try to save the conventional theory by claiming that one titular head has sovereign power within the family and all of its demands reflect his (or her) consistent indifference curves. But as casual anthropologists we all know how unlikely it is in modern Western culture for one person to "wear the pants." It is perhaps less unrealistic to adopt the hypothesis of a consistent "family consensus" that represents a meeting of the minds or a compromise between them. (Perhaps Arrow will produce a proof that such a consensus is impossible.) [p. 9].

Samuelson goes on to consider what he characterizes as "one extreme polar case of family organization":

> This family consists of two or more persons: each person consumes his own goods and has indifference curves ordering those goods, and his preferences among his own goods have the special property of being independent of the other members' consumption. But since blood is thicker than water, the preferences of the different members are interrelated by what might be called a "consensus" or "social welfare function" which takes into account the deservingness or ethical worths of the consumption levels of each of the members. The family acts *as if* it were maximizing their joint welfare function [p. 10].

While Samuelson's approach determines allocation and distribution within the family, this is not his principal concern even in the section of "Social Indifference Curves" entitled "The Problem of Family Preference." His primary point is the logical parallel between distribution in the family and distribution in society. His secondary point, crucial for demand analysis, is that the Mr. Jekyll and Mrs. Jekyll problem can be finessed: The consensus or family social welfare function approach provides a rationale for treating family demand functions as if they were individual demand functions. But because Samuelson's "consensus" is postulated, not derived, his family is simply a preference ordering. Samuelson's concern is to keep the lid on the "black box," not to look inside.

The second model of allocation and distribution within the family is the altruist model articulated in Becker (1974, 1981).[40] Becker, unlike Samuelson, is primarily concerned with intrafamily allocation. He begins by postulating that the

(John L. Esposito 1982, p. 16) but the parties' latitude to specify its terms is circumscribed (N. J. Coulson 1964, pp. 189–91; Esposito 1982, pp. 23–24).

The special legal rules and institutions governing marriage and the family in the U.S. may be viewed as society's response to the difficulties inherent in structuring such relationships. Four features deserve attention. A standard form marriage "contract" is imposed on the parties to avoid problems of overreaching and unconscionability; specialized courts are responsible for administering family law; courts generally refuse to intervene in ongoing marriages; and the legal system provides a complex and unsatisfactory set of rules in the one area in which they cannot escape involvement: marital dissolution.

[40] Becker (1973) proposes an alternative model of allocation and distribution within the family in which outcomes are essentially determined by the market.

family contains one "altruistic" member whose preferences reflect concern with the welfare of the others.[41] Becker then argues that the presence of one altruist in the family induces purely selfish but rational family members to behave altruistically and that the resulting intrafamily allocation is the one that maximizes the altruist's utility function subject to the family's resource constraint. He concludes that individual differences can be submerged and the family treated as a single harmonious unit with consistent preferences, those of the altruist, without arbitrarily postulating Samuelson's family social welfare function: "In my approach the 'optimal reallocation' results from altruism and voluntary contributions, and the 'group preference function' is identical to that of the altruistic head, even when he does not have sovereign power" (1981, p. 192, footnote omitted).

Becker's claims have been challenged. Marilyn Manser and Murray Brown (1980, p. 32) argue that Becker's conclusion depends not merely on the presence of an altruist but also on implicitly introducing a particular bargaining rule, the rule that the household maximizes the altruist's utility function. Manser and Brown are correct that Becker's analysis is seriously flawed, although Becker is correct that his result does not depend on the altruist having sovereign power. Neither Becker nor Manser and Brown have analyzed the conditions under which Becker's results hold. In addition to the dictatorial case, it also holds when the altruist is a player in an asymmetric bargaining game in which he can offer the others all-or-nothing choices.[42,43]

Bargaining models of allocation and distribution within families, developed independently by Manser and Brown (1980) and by McElroy and Mary J. Horney (1981), treat marriage as a cooperative game.[44,45] These models do not require that either spouse be altruistic, although one or both may be. Spouses are assumed to have conflicting preferences and to resolve their differences in the manner prescribed by some explicit bargaining model.[46] The utility payoffs to the spouses if they fail to reach agreement—called

[41] Becker's use of the term "altruism" differs from its meaning in sociobiology, although Becker (1976) claims they are closely related.

[42] And in which the others are not allowed to form coalitions.

[43] Becker mentions that his result need not hold in the case of "corner solutions" (1981, pp. 191–92). Under my interpretation, corner solutions are relevant when the altruist does not have enough resources to move the others to his preferred allocation by offering them an all-or-nothing choice. To see that Becker's solution does not follow from altruism alone, consider a family with two altruists. Alternatively, consider a family with one altruist and one egoist, but suppose that the egoist has dictatorial power or that the egoist can offer the altruist an all-or-nothing choice. Becker's result depends not on altruism, but on implicit assumptions about power or, equivalently, about the structure of the bargaining game.

[44] A cooperative game is one in which "the players have complete freedom of preplay communication to make joint *binding* agreements"; a non-cooperative game is one in which "absolutely no preplay communication is permitted . . ." (R. Duncan Luce and Howard Raiffa 1957, p. 89; emphasis in original). Simone Clemhout and Henry Y. Wan, Jr. (1977) is the only paper I know that models marriage as a non-cooperative game.

[45] Manser and Brown and McElroy and Horney are specifically concerned with marriage rather than the family, but the analytical issues are similar. The differences between models of allocation between husbands and wives and between parents and children are twofold. First, marriage can be treated as a two-person game, while allocation between parents and children may involve more than two players and, hence, raises the possibility of coalition formation. Second, timing issues, which deserve more attention than they have thus far received in models of marriage, become crucial in models involving parents and children.

[46] Alvin E. Roth (1979) provides a survey of alternative bargaining models. Manser and Brown and McElroy and Horney consider the Nash solution (John F. Nash 1950) to the bargaining problem, and Manser and Brown also consider the Kalai and Smorodinsky solution (Ehud Kalai and Meir Smorodinsky 1975). Sharon C. Rochford (1984) analyzes the implications for assignment or matching in the marriage market of a model in which allocations within marriages are determined by Nash bargaining with transferable utility.

"threat points" in cooperative game theory—play a dual role in bargaining models. They are essential both to determining the negotiation set—the set of utility payoffs which are Pareto optimal and individually rational (i.e., better for both parties than failing to reach agreements)—and to determining a particular solution, often a unique solution, within the negotiation set. In some bargaining models the threat point corresponds to the payoffs associated with clearly defined "next best" alternatives for each party; in a bargaining model of marriage, for example, the next best alternative for one or both spouses to remaining in a particular marriage might be becoming and remaining single. Usually, however, the threat point corresponds to the expected utility taken over some set of alternatives, for example, the expected utility associated with leaving the present marriage and searching for another spouse.[47]

Bargaining models of intrafamily allocation, in contrast to Becker's model, emphasize the role played by threat points or alternatives in determining allocation and distribution within the family. Thus, investigating whether threat points or alternatives affect intrafamily allocation and distribution may permit us to distinguish empirically between bargaining models and Becker's model.[48]

Bargaining models explicitly embed the problem of intrafamily allocation and distribution in a game-theoretic context, and therefore they provide an intellectually satisfying framework for addressing these issues. Game-theoretic models serve a similar function in industrial organization: Posing the duopoly or bilateral monopoly problem in game-theoretic terms does not resolve the difficulties inherent in modeling the interaction of two firms that recognize their mutual interdependence. For both families and firms, however, the game-theoretic formulation exposes the fundamental nature of the analytical problem.

The transaction cost approach, although broadly consistent with the spirit of the bargaining models, implies that one-period bargaining models are seriously deficient. Neither adaptive sequential decisionmaking, required to deal with new information and unfolding events, nor a governance structure, required to protect each spouse against changes in threat points that strengthen the bargaining position of the other and leave the disadvantaged spouse vulnerable to opportunistic exploitation, has any place in one-period models. Formulation of multiperiod bargaining models depends, however, on developments in the theory of cooperative games.[49]

Focusing on opportunism and the need for a governance structure that limits its

[47] In bargaining models the threat point almost never involves the threat of physical violence. Economists' models of conflict, whether between husbands and wives or between workers and firms, seldom recognize even the possibility of violence. Ann D. Witte, Helen V. Tauchen and Sharon K. Long (1984) summarize the sociological literature on family violence, which distinguishes between "expressive" violence (i.e., violence as an end in itself) and "instrumental" violence (i.e., violence as a means of coercion). They then propose a game-theoretic model in which violence and credible threats of violence can be instruments of social control and can affect allocation within the family.

[48] This is too simple. In the market-determined model of Becker (1973) alternatives outside the marriage completely determine allocation within marriage. That model, however, implies a negotiation set which reduces to a single point and, not surprisingly, all models give identical predictions in this case. In Becker (1974, 1981) the negotiation set is determined by the alternatives available to each spouse, but the altruist chooses the point in the negotiation set he prefers. Thus, unless the altruist chooses a "corner solution," changes in alternatives which do not eliminate the allocation chosen by the altruist from the negotiation set cannot force him to a less preferred allocation. Finally, there remains the empirical problem of identifying threat points or alternatives.

[49] If marriage is modeled as a non-cooperative game, then the multiperiod formulation is a supergame in which the constituent game changes from one period to another.

scope allows us to understand better the dual role of family- or marriage-specific capital. Marriage-specific capital is defined by two characteristics: It increases productivity in the household and it is worthless if the particular marriage dissolves.[50] Thus, other things being equal, an increase in marriage-specific capital widens the gap between remaining in a particular marriage and leaving it, either to become and remain single or to search for a better marriage. By widening this gap the accumulation of marriage-specific capital stabilizes the marriage and reduces the risk of further investment in productive marriage-specific capital.[51]

Becker, Landes and Michael (1977, p. 1142) characterize "working exclusively in the nonmarket sector" as a form of marriage-specific investment. This characterization fails to recognize the two distinct channels through which working exclusively in the nonmarket sector affects both marital stability and intrafamily allocation. Working in the home creates nontransferable skills that increase productivity in the marriage; these skills represent marriage-specific capital which increases the payoff associated with remaining in a particular marriage. But a decision to work exclusively in the nonmarket sector is also a decision not to acquire market human capital. Thus the effects of such a decision on the payoffs are twofold: Because marriage-specific capital has been accumulated, it increases the "married payoff"—the payoff associated with remaining in the marriage; and, because market human capital has not been accumulated, it decreases the "divorced payoff"—the payoff associated with leaving the marriage and starting work in the market sector.[52]

The relative importance of the married payoff and divorced payoff depends on the rates at which marriage-specific and market human capital accumulate. There are two polar cases. In the first, productivity in the home depends on the accumulation of marriage-specific human capital while wages are independent of experience in the market sector: In this case, working exclusively in the nonmarket sector affects marital stability and intrafamily allocation only by increasing the married payoff; the divorced payoff at a given future date will be the same regardless of whether the intervening period has been spent exclusively in the nonmarket sector. In the second polar case, productivity in the home is independent of experience in the nonmarket sector while wages depend on accumulated experience in the market sector: In this case working exclusively in the nonmarket sector affects marital stability and intrafamily allocation solely by decreasing the divorced payoff; the married payoff will be the same regardless of whether the intervening period has been spent exclusively in the nonmarket sector. In this second case working exclusively in the nonmarket sector involves no accumulation of marriage-specific human capital. Between these poles lies a continuum of cases in which marriage-specific capital and market capital both accumulate at nonzero rates. It is an unresolved and virtually unexplored empirical issue whether

[50] In some respects a spouse acquiring marriage-specific capital is analogous to a worker acquiring firm-specific human capital. A major difference is that in labor markets workers are protected by the firm's need to maintain its reputation so it can hire workers in the future, while in marriage markets this protection is attenuated.

[51] Becker is well aware that marriage-specific capital plays both of these roles (Becker, Landes and Michael 1977, p. 1152; Becker 1981, p. 224).

[52] The bases for these comparisons are the payoffs that would be realized at a particular future date in each of the two states—remaining in the marriage and leaving it—if the individual had not worked exclusively in the nonmarket sector. The married payoff refers to the total to be divided between the spouses; in a bargaining model the division of this total depends on the threat point (i.e., the divorced payoff). The "total to be divided between the spouses" is a problematic notion without special assumptions such as transferable utility.

working exclusively in the nonmarket sector increases marital stability primarily by increasing marriage-specific capital, thus increasing the married payoff, or primarily by failing to increase market capital, thus decreasing the divorced payoff.[53]

Becker, Landes and Michael (1977, p. 1152) also characterize children as marriage-specific capital "since one parent usually has much less contact with the children after dissolution."[54] This characterization is misleading for two reasons. First, unlike marriage-specific capital, children do not disappear when a marriage dissolves; typically one parent or the other is granted custody of the children. The observation that one parent usually has much less contact with the children after dissolution suggests that children are like public goods within the marriage, not that they are marriage-specific capital. Second, like working exclusively in the nonmarket sector, children increase the payoff associated with remaining in a marriage and reduce the payoff associated with leaving it.[55,56] Hence, the presence of children affects both marital stability and intrafamily allocation through two distinct channels. The increased payoff associated with remaining in the marriage reflects the "productivity" of children as sources of satisfaction in the intact marriage. The reduced payoff associated with leaving reflects the role of children as "hostages."[57,58]

The transaction cost approach suggests a number of empirically implementable research projects on allocation within the family—between husbands and wives, between parents and children, and among children. Allocation between husbands and wives is difficult to investigate empirically because of the pervasiveness of public goods within the household. Neglecting corner solutions, Becker's altruism model implies that the allocation between spouses depends on the sum of their resources, but not on each spouse's individual wealth, income, and earning power except as they affect this total: The altruist's utility function is maximized subject to the family's resource constraint. The transaction cost approach, like the bargaining models, suggests that the allocation between spouses depends systematically on the individual wealth, income, and earning power of the spouses as well as on their sum. Although the transaction cost approach does not imply a specific

[53] Marriage-specific capital is, by definition, idiosyncratic to a particular marriage. The discussion could be generalized, however, to consider the role of human capital which is specific to the household sector but not to a particular marriage. This distinction is analogous to that in the labor market literature between firm-specific and industry-specific human capital.

[54] Becker (1974, p. S23, fn. 36) notes that children "would be a specific investment if the pleasure received by a parent were smaller when the parent was (permanently) separated from the children."

[55] Pollak and Wachter (1975, p. 273–76) criticize the new home economics literature for failing to distinguish between "household production processes" that produce observable and measurable commodities and those that produce "satisfaction" or unmeasurable commodities such as "child services."

[56] Utility payoffs to each spouse in the event of dissolution are conceptually unambiguous. Utility payoffs to each spouse when the marriage remains intact presuppose a particular solution to the problem of distribution within marriage.

[57] Williamson (1983) discusses the use of hostages to lend stability to bilateral governance structures. He argues that reciprocal selling arrangements and product exchanges among rival firms, practices usually condemned as anticompetitive, under certain conditions may represent exchanges of hostages that facilitate socially beneficial trading.

[58] The hostage effect has two components. The first is psychological: Even if leaving a marriage with children entailed no financial obligations, leaving such a marriage would be different from leaving a childless marriage. The second is financial: To the extent that parents retain child support obligations after leaving a marriage, the payoff to leaving a marriage with children is less than the payoff to leaving a childless marriage. These costs may be magnified if there are "economies of scale in consumption" that are lost with dissolution. The financial effect on the payoffs of the parents depends on the extent to which child support is borne by the state and how the portion of it not borne by the state is divided between the parents.

bargaining model, by viewing marriage as a governance structure which permits some flexibility while protecting the parties against the hazards of unconstrained bilateral bargaining, it does suggest that alternatives and threat points affect allocation within marriage.

Direct econometric implementation of any model of allocation within marriage depends on identifying and measuring goods, commodities, or activities desired by one spouse but not the other.[59] For example, contributions of husbands and wives to their respective undergraduate colleges are likely to fall into this category. Or, if either or both spouses have children by previous marriages, then the consumption of these children or expenditures on their education are likely to be of more interest to the children's parent than to the other spouse: An uncluttered case would be one in which a widow with children married a widower with children. Using data from a developing country, one might investigate whether the nutrition of a child in such a family depended only on the family's total resources or whether those of the child's parent had an independent effect on the child's consumption. Using contemporary U.S. data, one might investigate whether the educational attainment of a child depended only on the new family's total resources, or whether the resources of the child's parent had a systematic, independent effect. Although the data needed to estimate models based on the transaction cost approach are difficult to obtain, in the long run data availability is endogenous. Data collection by government agencies or by individual researchers—a practice less common in economics than in other disciplines—depends in large part on the apparent demand for such data by the research community.

[59] Empirical implementation need not be either direct or econometric. At least two other strategies are available. The first, which I have already discussed, is indirect and focuses on the implications of the transaction cost approach for marital stability, labor force participation, or other variables for which data are widely available. The second is direct but non-econometric and uses qualitative rather than quantitive evidence. Appealing to narrative case studies does not solve the problem of econometric implementation, but challenges the importance of doing so by implicitly raising the question of what types of evidence are admissible in economics.

C. *Social Exchange Theory*

Social exchange theory, a framework developed by sociologists and social historians which draws heavily on economics, has been used to analyze a wide range of social phenomena, including intrafamily allocation.

Greven's *Four Generations* (1970), a study of colonial Andover, explains the changing relationships between successive generations in terms of changing economic opportunities and alternatives:

> With abundant land for themselves and their off-spring, the first generation established extended patriarchal families, in which fathers maintained their authority over their mature sons, mainly by withholding control over the land from them until late in their lives. The delayed marriages of sons testified to their prolonged attachment to paternal families . . . [p. 268].

Greven argues that age at marriage is a sensitive indicator of the assumption of adult status and responsibility (pp. 31–32), that marriage required parental support (p. 75), and that the first-generation fathers retained legal control of their lands until their deaths (p. 78). In the middle decades of the eighteenth century, the fourth generation "married younger, established their independence more effectively and earlier in life, and departed from the community with even greater frequency than in earlier generations" (p. 272). Many sons in the fourth generation acquired land from their fathers by deeds of gift or sale during the father's lifetime, rather than by bequest at the father's death (p. 241).

Greven explains these changes in terms

generally consistent with a bargaining framework in which threat points (i.e., alternatives or opportunities) play a significant role:

> A combination of circumstances probably fostered the relatively early autonomy of many fourth-generation sons and encouraged their fathers to assume that their sons ought to be on their own as soon as possible. The rapid expansion of settlements and the emigration of many third-generation Andover men had amply demonstrated the opportunities which existed outside Andover for those willing and able to leave their families and begin life for themselves elsewhere. The diminished landholdings of many families and the constantly rising prices of land in Andover during the first half of the century also put great pressure upon sons who wished to remain as farmers in Andover and made it imperative that many sons take up trades instead or move elsewhere for the land they needed [p. 222].
>
> If patriarchalism was not yet gone, it had been made less viable by the changing circumstances. The earlier economic basis which had sustained the attempts by fathers to establish and to maintain their control and influence over the lives of their sons no longer was to be found among the majority of families living in Andover. Only the wealthy and only those with sons who were willing to accede to their fathers' wishes regarding the possession and ownership of the land could still consider themselves to be patriarchs [p. 273].

Anderson (1971) utilizes an explicit conceptual framework for analyzing the impact of urbanization and industrialization on family structure in nineteenth-century Lancashire. His framework is an elaboration of "social exchange theory," which postulates that individuals engage in exchange to maximize "psychic profit."[60] Anderson, however, stresses two considerations that exchange theory neglects: whether reciprocation is immediate or in the distant future, and whether reciprocation is certain or uncertain (p. 9). The exchange theory foundation of Anderson's analysis is consonant with a bargaining approach, and the two additional considerations he introduces, timing and uncertainty, suggest modifying social exchange theory in the same general directions as transaction cost analysis suggests modifying bargaining models.

Anderson documents the effect of children's employment opportunities on their relationships with their parents:

> . . . children's high individual wages allowed them to enter into relational bargains with their parents on terms of more or less precise equality. If, as was usually the case, a bargain could be struck which was immediately favourable to both parties, then all was well, and the relationship continued, though the degree of commitment to such a relationship must often have been low. If a better alternative was obtainable elsewhere the child could take it. The contrast between the choice element in these relationships between urban children and their parents, and the situation in rural areas . . . is very marked. In the rural areas even in the short run, child and father entered a bargaining situation with the child at a very considerable disadvantage, because the father had complete control over the only really viable source of income [pp. 131–32].

Summarizing his findings, Anderson writes:

> . . . one crucial way in which urban-industrial life in the nineteenth century affected family cohesion was by offering to teenage children wages at such a level that they were able to free themselves from total economic dependence on the nuclear family. Because normative controls were weak and because housing, food, and other day to day necessities could be obtained on the open market, many could . . . live as well or better than they could with kin or parents. Some children did desert their families and I have presented some evidence which suggested that even where they did not do so many children were conscious of the existence of this possibility and the alternatives it offered, and used it as a way of bargaining a highly independent relationship with their families [p. 134].

Social exchange theory provides an analytical framework for sociology and social history which appeals strongly to econo-

[60] The basic social exchange theory framework is borrowed from social psychology. The seminal works are George C. Homans (1961) and Peter M. Blau (1964); for an analytical survey and references to the literature see Anthony F. Heath (1976).

mists; its appeal to sociologists and social historians is somewhat less powerful. For example, Michael Katz (1975), a social historian, contrasts Anderson's work on nineteenth-century Preston with his own analysis of nineteenth-century Hamilton, emphasizing the narrowness of Anderson's exchange theory approach. He argues that it "constricts the range of human motivation," and "it assumes a greater degree of rationality than probably underlies ordinary behavior" (p. 302).[61]

D. *The Case for Bargaining Models*

Even without the contracting problems emphasized by the transaction cost approach, bargaining models would often be required to analyze intrafamily allocation. There are three exceptions: (1) there is a family consensus on resource allocation, (2) some "altruistic" family member has the power to choose an allocation from the negotiation set and impose his choice on the others, and (3) the negotiation set is a single point, so there is no surplus over which to bargain. Virtually any other circumstances require a bargaining analysis to determine an equilibrium allocation within the negotiation set.

The negotiation set corresponding to a particular marriage depends on the next-best alternative of each spouse. When the negotiation set is small, determining an equilibrium allocation within it becomes uninteresting: The well-being of each spouse is essentially determined by the negotiation set, not by bargaining within the marriage to determine an allocation within the negotiation set. In the limit, when the negotiation set shrinks to a single point, the well-being of each spouse is uniquely determined by his or her alternatives outside the marriage.[62]

[61] Katz also argues that Anderson's theory "is not supported by the data in his book" (p. 302).

[62] The limit is a limit for the marriage to continue. If the bargaining set is empty, the marriage will presumably dissolve.

A bargaining approach to intrafamily allocation is required because negotiation sets in ongoing marriages are often large and because intrafamily allocation cannot be resolved at the outset. The emergence of a surplus in ongoing marriages can be ascribed to the accumulation of idiosyncratic or marriage-specific capital or, more simply, to a random process in which marriages with empty negotiation sets dissolve while those with nonempty negotiation sets continue. Because bounded rationality precludes complete long-term contracts which specify intrafamily allocations under every possible contingency, intrafamily allocation must be dealt with in an adaptive, sequential way—in short, through bargaining.

III. *Conclusion*

Although the metaphor of household production can usefully be applied to a wide range of activities, the formal framework of the household production model is best suited to analyzing processes that combine household time and purchased inputs to produce well-defined and measurable outputs. The family's role in many economic activities, however, is explicable not in terms of technology but of governance.

The transaction cost approach provides a new perspective on families and households. Unlike the new home economics, which focuses exclusively on household production, it recognizes the importance of household organization and family structure. The transaction cost approach views marriage as a "governance structure," emphasizes the role of "bargaining" within families, and draws attention to the advantages and disadvantages of family organization in terms of incentives and monitoring, and to the special roles of "altruism" and "family loyalty." It also recognizes the disadvantages of family governance: conflict spillover, the toleration of inefficient personnel, inappropriate ability match, and inability to realize economies of scale. If activities are assigned to institutions in an efficient or cost-minimizing fashion, the balance of these advantages and disadvantages plays a major role in determining which activities are carried out within families and which are performed by firms, nonprofit institutions, or the state.

A principal defect of the transaction cost approach is its failure to provide a structure for rigorous econometric investigations. Developing such a framework requires incorporating the insights of the transaction cost approach into formal models and specifying such models in sufficient detail to permit estimation. The present essay represents a first step toward that goal.

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