

Marriage as an Institution: A New Institutional Economic Approach

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ABSTRACT

This paper provides an introduction to the field of New Institutional Economics and explores several institutional features of marriage with this theoretical tool. I argue marriage is an institution designed to solve a large number of contracting problems that mostly arise out of procreation. Institutional details, therefore, are not cultural window dressings, but rather are purposeful constraints on behavior that increase the welfare of a society.

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If all the world and love were young, And truth in every shepherd's tongue, These pretty pleasures might me move, To live with thee and be thy love.

[Raleigh's Nymph's Reply to the Shepherd]

1. Introduction

1.1. A Brief History of Economic Institutional Thought

The economics profession has come almost full circle with respect to its relationship with institutions. Adam Smith, David Ricardo, and John Stuart Mill were all familiar with the institutions of their day and all certainly believed they were important. In his *The Theory of Moral Sentiments* Smith wrote of values like virtue, sympathy, ambition, merit, happiness; he wrote of the sense of duty, of custom, and fashion; and he wrote about how these moral sentiments influenced the behavior and lives of ordinary people. In his more well known *The Wealth of Nations* Smith deals with the rules under which farmers contract with one another, incentives under different educational systems, the structure of churches, and various other institutions from governments to merchant associations. Although Mill's *Principles* is a thorough articulation of classical economics, his work on slavery, female emancipation, and religion show that he was keenly aware of factors other than traditional economic forces influencing behavior. For classical economists, “the rules of the game” were always important.

With the development of mathematical tools for analyzing market behavior, economists began a long hiatus with institutional analysis. Coming of age with Marshall in the nineteenth century, economists began using an analytical framework that centered on individual utility and profit maximization in a *frictionless* setting where a volunteer auctioneer called out exact market clearing prices. In this framework behavior boils down to fundamentals in preferences and production, with all coordination taking place through a price mechanism that bears little resemblance to real markets. The critical work of Samuelson, Arrow, and Debreu

in the middle of the twentieth century provided the essential proofs of a series of theorems regarding this competitive model of behavior, and truly represented an intellectual triumph. This work showed that under certain conditions a competitive model *had* a general equilibrium, and this equilibrium was *efficient*.

This “neoclassical” model was designed to explain movements in formal prices and quantities observed in the market for goods and inputs. As such, the model is extremely successful. Despite their reputations for disagreement, when it comes to predictions of price and quantity movements based on changes in economic fundamentals, economists sing with one voice. Secondary issues of “how competitive” a market is remain contentions in various schools of thought and anti-trust cases, but there is strong consensus on the predictions and empirical success of the basic model applied to standard markets.

In the 1960s and 1970s Gary Becker, a master at the details of the neoclassical model, began applying the apparatus to situations where no formal markets existed. He examined issues of discrimination in and outside the labor force, the allocation of time throughout the day, and the decision to procreate. Eventually Becker focused on family matters and created an entire field of “family economics.”¹ In this literature, the neoclassical model is applied to the household division of assets and decision making; household production and investment; fertility; matching and spouse selection; divorce and child support. In all of this neoclassical work, the issue *always* revolves around two questions: “how much” and “at what price.” How many children will people have as their education rises? How many divorces will occur if wives work? How much would a spouse have to pay to prevent their partner from leaving through divorce? These are all neoclassical questions, and economists have answered them with neoclassical models ... quite successfully.

What is notably absent from the neoclassical tool kit, however, is any consideration of how *institutional* features matter for decisions. For example, in a typical

¹ See Becker (1991) for the definitive neoclassical treatment of family matters.

Becker-model of the family a household acts like a “firm” to combine various inputs from a man and woman to produce household goods. It is irrelevant whether or not the couple is married or common-law, Catholic or Muslim, or share the output of their union or have one party hired by a wage. Room mates combine inputs to produce household goods as well, and the neoclassical model is just as applicable in explaining their behavior. As I will show below, consideration is lacking because institutional details do not matter in a neoclassical model — not one iota. The driving force in a neoclassical model is that individuals cooperate to maximize gains from trade and production. Whatever the optimal outcome is, is independent of the rules under which the trade and production takes place, because everyone in the model operates in a frictionless environment. This very unintuitive assumption is what makes institutions irrelevant in a neoclassical model. Since they are irrelevant, economists of the past 60 years have ignored them.

1.2. Institutional Details of Marriage

Ignore them or not, the details are still there, and eventually even economists began to wake up and realize they had taken the institutional details of everything, including marriage, for granted. Indeed, the institutional details of marriage are so deeply intertwined within our culture and our everyday life that most of us often fail to realize they result from private and social choices. We fail to see the detail, the tradition, and the meaning of so many of its characteristics. Furthermore, we fail to appreciate how significant the characteristics are, to the point of denying any importance.² On the contrary, when we stop to think about the customs, norms, and legal aspects of marriage, they are very puzzling. Consider the following brief and incomplete list.

1. In our western culture it is common for males to present an engagement ring at the time of the marriage proposal. The ring often contains a diamond.

² Casual empiricism suggests that academics have much less appreciation for the institutional character of marriage than the average citizen.

Diamond engagement rings, however, are a relatively recent phenomena, only becoming common in the 1930s and 1940s. At that time the diamond was quite large, and represented a substantial investment on the part of the male. Since that time diamonds have continuously diminished in size. Why would a young couple starting out invest so much of their wealth on something so frivolous as a diamond ring?

2. Brides spend a tremendous amount of time choosing a wedding dress. Like the engagement ring, the dress represents a substantial investment, and is purchased by the bride or her family. Once worn, the dress is often kept in a sealed box, never to be opened or worn again. It is considered bad luck to wear the dress again in case of remarriage. Why is there no rental market for wedding dresses? Items that are expensive and seldom used are often rented (like a car in a city one visits). At the same time, grooms often wear tuxedos. Although the tuxedo could be worn again, it is almost always rented. Why the difference?
3. During the wedding ceremony a number of vows are made. Each partner agrees to forsake all others. When we enter other types of contracts in our lives, this sort of exclusion is rare. A tenant/landlord lease does not exclude the right to rent another apartment. An employment contract usually does not prevent other employment. If there are gains from being married, why should these gains be restricted to one person?

At the ceremony the vows state “for better or for worse.” This means a married couple are partners. When the marriage does well, they each benefit. When the marriage goes poorly, they each suffer. Consider what the options could be. A husband could hire his wife for a fixed sum per month, or vice versa. To state such a proposition seems preposterous, but this just points to the ubiquitous nature of sharing in marriage. One spouse never hires the other, even though, for any given marriage service (child care, sex, cooking, gardening, companionship, etc.) one can purchase the service in the market place. In other human relations we do not always share, why is sharing the *only* way marriage gains are divided?

The ceremony often ends with “till death do us part.” Marriage is a bargain intended for life. Again, few other human interactions are for life. Even at a Canadian university there is mandatory retirement. Given that people inevitably get tired of one another, why would marriage be for life?

Although the exact wording of the vows vary from wedding to wedding, in essence every set of vows contain the same basic elements. Furthermore, marriage is defined legally, and everyone within a given legal jurisdiction has the same legal marriage.³ Once again, all work contracts are not the same, all delivery contracts are not the same, all leases, franchises, and wills are not the same. Why then, should all marriages legally be the same?

4. The role of wives has changed an enormous amount in the past three hundred years. Under the common law doctrine of coverture, wives were at one time the property of their husbands (hence the term “man and wife” and the question “who gives this woman to marry?”). Wives could not vote, own property, enter contracts, or run an enterprise — they were not legal persons. Over the past two hundred years there has been a transfer of property rights from husbands to their wives. What explains this transfer? Why would men, who apparently “owned” and controlled everything, voluntarily give these property rights up?
5. One aspect of marriage that makes it an institution rather than a private contract is the involvement of third parties. These involvements are both formal and informal. For example, sexual behavior, both inside and outside the marriage has historically been regulated. Until recently, a husband could not be convicted of raping his wife. Individuals with close blood ties have not been allowed to marry, and prostitution has generally been illegal and frowned upon. Morality laws are often called “victimless” crimes, and are often criticized as merely reflecting puritan or Victorian values. However, regulation of sexual behavior is common across all cultures and time periods, especially in relation to marriage.

³ This was universally true until Louisiana became the first jurisdiction to allow for different types of marriage when they introduced “covenant” marriage in the late 1990s.

Third party involvement in marriage is extensive. Parents often have a say regarding the choice of spouse. If not a formal say, there are pressures placed informally and through threats of withholding wealth transfers. Historically churches have played a role regulating marriage behavior. Failure to conform could result in expulsion from the church or the faith community. Of course, the state is heavily involved in regulating marriage.

The state controls who gets married. Until extremely recently, marriage was the sole domain of one man and one woman. Polygamous, same-sex, and nonsexual unions were never allowed to marry. Other entry conditions include age of consent, and blood relations.

The state also controls the terms under which a marriage may end. Grounds for divorce were historically very limited. In the late 1960s countries began to introduce “no-fault” divorce which, as discussed, amounted to a unilateral ground for divorce. A ground that did not require evidence or consent from the married partner. Property division rules are controlled by the state. Historically these rules varied from title (ownership depended on legal title only), to equitable (ownership based on contribution), to community (ownership split by fixed fraction, historically $1/3$, but recently $1/2$). Child and spousal awards are also controlled by the state. Child support was historically given based on the “best interests of the child” and have in recent years been based on pre-determined guidelines. These guidelines are usually a function of a minimum number of parameters, like the number of children and the non-custodial parent income. With the introduction of no-fault divorce, most jurisdictions eliminated the doctrine of alimony, but it was eventually replaced with spousal support. Spousal support was designed for “retraining” and was to help the non-working spouse transition to the work place. Recently there has been a movement for guidelines in the awarding of spousal support as well.

This is just a short list of some of the institutional details of marriage, but for an economist, to ask these questions is to highlight the fact they have ignored them

for a very long time.

1.3. A Man Named Coase

That is, they mostly ignored them until a shy Englishman named Ronald Coase wrote an obtuse paragraph about a cave in an article on the U.S. Federal Communication Commission in which he pointed out the neutrality of institutions in the economic model. The paragraph sparked the interest of a journal editor named Aaron Director, brother-in-law of the most famous of all neoclassical economists Milton Friedman. Though Director had but a two-year college diploma for credentials, he was a keen economist who was aware of the limits to the neoclassical model and eager to point them out to the rest of the profession. Director invited Coase to come to the University of Chicago and arranged to have him discuss his preposterous conjecture at a dinner party.⁴ He did so and was then asked to write his ideas for the *Journal of Law and Economics*. That article was not only the basis for Coase's Nobel prize in 1991, it remains the most cited article in law and economics, and it led to the creation of the field the New Institutional Economics (NIE).

Although Coase's article is 45 years old, and although it has had a profound influence in the fields of economics and law, most social scientists think of Gary Becker when the words "family" and "economics" are used in the same sentence. This is unfortunate because the marriage of economic theory with institutional detail is proving to be very fertile. What is an institution, why do we have them, how much does behavior depend on them, and what happens when they change? These are the types of questions addressed by economists in the New Institutional field. In this paper I intend to briefly introduce the reader to the field of New Institutional Economics. This introduction must necessarily begin with Coase's fundamental idea, and the key role transaction costs play in the neoclassical model.

⁴ The evening has become a famous part of economic folklore, and is written about in Kitch (1983). There he quotes George Stigler, "The [evening] was one of the most exciting intellectual events of my life." (p. 221).

I then move on to discuss some institutional features of marriage, and then show how the institutional approach deals with these. In conclude with the common sense notion that marriage is an institution, and that the institutional details matter.

2. The New Institutional Economics (NIE)

*Time drives the flocks from field to fold
When rivers rage and rocks grow cold, ...
The flowers do fade, and wanton fields
To wayward winter reckoning yields;*

[Raleigh's Nymph's Reply to the Shepherd]

An institution, according to Douglass North, is the “humanly devised constraints that shape human interaction.”⁵ Laws are institutional devices, but so are social norms and conventions like peer pressure and ostracism. Marriage, is an institution that is made up of many complex layers of formal and informal rules. From religious wedding vows to threats of violence within the home, behavior within marriage is influenced by the structure of these different rules. In recognizing the existence of institutions, economists tend to ask three questions: what impact on behavior do these rules have; what explains the existence of such rules; and what would the optimal set of rules look like?

The New Institutional Economics is not a substitute for neoclassical economics since it accepts almost all of the fundamental principles that define the field of economics. Rather, the NIE is built on top of these principles.⁶ Whereas neoclassical models are able to predict changes in quantities and prices, NIE models are able to predict changes in the *way* trade and the *form* price take place. For example, a neoclassical Becker-model might explain why there are gains to household production, but a NIE model might explain why couples *share* this output rather, than say, have one spouse hire the other. In a model of household production the “family is a

⁵ North, p. 3, 1990.

⁶ In the same way Microsoft's *Windows* sits on top of the DOS operating system. Indeed, it is the insistence of using economic principles that separates this field from the old institutional economics of the early twentieth century. That school of thought felt that institutional analysis should replace economic ideas.

firm” metaphor is simply a cute means of describing the model. In NIE the concern is exactly “ why is a family *not* like a firm, or what explains the organization of the family?”

For the purposes of introduction, the NIE has two critical characteristics. First, it views long lived institutions as efficient and therefore proper subjects of economic inquiry. Second, it adds to the neoclassical analysis the assumption that “transaction costs” are positive. Understanding transaction costs is critical to the study of institutions because economists believe that institutions are chosen (either explicitly through a conscious act or implicitly through trial and error) to maximize the gains from trade net of transaction costs. As I will briefly argue below, and have argued in detail elsewhere, when transaction costs are zero, then the institutional rules do not matter.⁷ When transaction costs are positive (which they always are), then institutions have significant consequences for the allocation of resources.

2.1. **Efficient Institutions Survive**

In a famous paper Alchian (1950) argued that the process of natural selection works on firms over time. In a competitive environment firms that survive are those that can offer the best deal to their customers while still maintaining revenues above cost. Firms that do not meet this requirement simply go out of business. Alchian pointed out that since firms were adopted by an environment that selected profit maximizing strategies, the actual or perceived motivation of the owners of the firm were irrelevant. One might accomplish the profit maximizing strategy while being completely unaware of the reasons for success. Likewise, one might ponder a strategy for a long time and conduct the most sophisticated survey’s of consumer preferences, but if in the end prices and quantities are set incorrectly, then the environment rejects the firm with no consideration for the research effort. Motivation may help for the survivability of firms, but it is not necessary. The market for firms is one of self-selection, and only those firms that are efficient and

⁷ For a detailed, but accessible, discussion of transaction costs, see Allen (1999).

maximize profits survive. Those firms that fail to meet a market test, fail and are not observed.

It is a powerful argument, and it applies to all types of behavior and institutions beyond firms. Any institution that exists in a competitive environment must satisfy the condition of maximizing wealth if it is to survive. Consider the case of the family. The basic family structure centered around one man and one woman acting as the residual claimants to their union has existed as long as written records have existed. Families have proven to be a very efficient method of raising children and passing human capital from one generation to another. There have been attempts to raise children outside of families since the time of the ancient Greeks, yet each case has not survived. Thus, when an economist considers the existence of families and marriage, they start with the premise that the institution has strong survival characteristics relative to other methods of organization trying to achieve the same purpose. This argument of an efficient institution provides the license to use economic tools to analyze the institution. The NIE approach to a long lasting institution such as marriage is one of respect. One is hard pressed to find any institution that is as long lasting as the covenant relationship between one man and one woman that we call marriage. From the economic point of view, this form of organization must have some powerful characteristics that allow it to be so robust across time, location, and cultures.

At the same time, looking closely we see that in minor ways family structures change over time and across locations. In some cultures entire extended families live under one roof, in others not. Some cultures have bride prices, dowries, and polygamy. At one time a marriage required the blessing of a church and then a state. Despite the relatively minor variations, several features of marriage have always been common, and the most common of all is that marriage is a union between one man and one woman. One objective of the NIE is to explain the variation of marriage institutions across time and space.

2.2. Institutions Are Functions of Transaction Costs

In discussing institutions as if they matter, we are implicitly assuming that transaction costs are positive. Transaction costs are the critical concept for understanding the NIE, and therefore, the NIE approach to and marriage. In the next subsection I focus on the Coase Theorem, an idea that hinges on the concept of transaction costs.

The Coase Theorem with an Application to No-Fault Divorce

The Coase Theorem is a simple, but not obvious, subtle idea. The Coase Theorem states “the allocation of resources is independent of the distribution of property rights when transaction costs are zero.” That is a compact statement if ever there was one, and it requires significant elaboration. For the moment we will simply interpret the Coase Theorem to mean that “rules do not matter when individuals can bargain costlessly.” To help understand the Coase Theorem, and its relationship to the institution of marriage, let’s consider a simple analysis of the no-fault divorce revolution that swept through the western world in the 1970s. In the context of changing divorce laws, the Coase Theorem says that divorce law changes should have had *no* impact on the divorce rate. I will now go through a detailed example to help establish this.

Our personal experience tells us that the Coase Theorem is wrong. Historically divorce was relatively unheard of. Now divorce is common place, and for certain cohorts of marriages, the probability that a divorce will occur over the life of the marriage approaches 0.5. There are many factors that influence the rate of divorce, and one of them is the actual divorce law. In Canada, prior to 1968, the divorce law in most provinces was a “fault” based law. This meant that in order for a divorce to take place an actual fault (like adultery, desertion, or cruelty) had to be committed and proved in a court. In 1968 the federal government passed the Canada Divorce Act, which introduced a type of “no-fault” divorce by allowing unilateral separation as a ground for divorce. As the name suggests, with this type of law, no actual fault

had to be committed. It was enough for one of the parties to the marriage to be dissatisfied with the marriage and initiate divorce proceedings.

In practice, fault divorce often amounted to a mutual divorce, which meant that both parties had to agree to the divorce before it could occur. This was because it was generally too costly to prove a fault had taken place. Those committing adultery are usually secret about it, and evidence for cruelty may be only circumstantial. As a result, couples would often work out a property/custody settlement on their own, go to court, and possibly perjure themselves by admitting to a fault that may or may not have occurred. In Canada, the fault of choice was “mental cruelty.” Under such circumstances the property right over who gets to decide on whether or not there is a divorce is the spouse that least wants the marriage to end, because it was critical that both spouses agreed to the divorce.⁸

With no-fault divorce we have the opposite situation. Since either spouse can leave the marriage and start divorce proceedings, in effect the law becomes unilateral. With no-fault divorce, agreement to the divorce is not necessary. This means the property right to divorce is now in the hands of the spouse that most wants the divorce.

The switch from fault (mutual) to no-fault (unilateral) divorce provides an interesting test of the Coase Theorem. The Coase theorem is simply the application of economic reasoning to a situation where bargaining is free and the rules have changed. The Coase theorem predicts no change in divorce when the law switches. This is because, those marriages that should end in divorce because they are inefficient should still end in divorce, while those that are efficient should stay married, regardless of the law. Let us consider a simple numerical example.⁹ Table 1 shows the values of being married and divorced for a particular couple.

⁸ Economists use the term “property right” to mean one’s ability to exercise a choice. Hence, in the case of a mutual divorce, the party least interested makes the choice.

⁹ Here I deploy the economists rhetoric of collapsing everything of value into a simple number. This turns out *not* to be a neutral simplifying device.

TABLE 1

	Husband	Wife	Total
Married	\$50,000	\$50,000	\$100,000
Divorced	\$60,000	\$30,000	\$90,000

In this example, the total value of being married is \$100,000, while the total value of being divorced is only \$90,000. This is what economists would call an “efficient” marriage. Of course, if the numbers that represent total value were reversed, this would be an inefficient marriage. However, it is also the case that the husband prefers being divorced to being married, while the wife prefers being married to being divorced. What will happen under the two different legal regimes? If the couple is married in a fault jurisdiction, then the husband must get his wife’s consent to divorce. In effect he will have to pay her for the divorce. The husband, though, is only willing to pay \$10,000 to his wife, while the wife will not accept anything below \$20,000. Since the husband is unwilling to compensate his wife for the damage divorce will cause her, she does not consent to the divorce and the divorce does not happen, which is the efficient outcome. If the couple is married in a no-fault jurisdiction, then the husband can just leave the marriage. In this case the wife must pay him to stay. Since she is willing to pay him up to \$20,000 in this example, and since he is willing to accept any payment greater than \$10,000, a deal is reached, and again there is no divorce.

Notice what happened. The actual legal rules do not matter for the allocation of resources (in this case whether or not a divorce happens) when the couples can freely and completely bargain. This is the Coase Theorem, the argument Coase put forward 45 years ago. Coase, however, was merely pointing out the implications of the neoclassical model. The neutrality result comes about because of the assumption of zero transaction costs, which is one of the cornerstone assumptions of the neoclassical model. Since the divorce rate in Canada tripled after the introduction of no-fault divorce legislation, however, it is obvious that the Coase theorem

did not apply. It did not apply because transaction costs are never zero. I now turn to a brief discussion of property rights and transaction costs in order to better understand the Coase Theorem and its role in explaining institutions.

Property Rights and Transaction Costs

To begin understanding transaction costs we must be explicit about the meaning of “economic” property rights. Economic property rights are one’s ability to freely exercise a choice. Choices over goods can be boiled down to excluding others, deriving income, and transferring goods. The extent of an individual’s property rights depends on the extent to which he or she is able to make these choices. As a result, we should seldom think of economic property rights as all-or-nothing rights, since our ability to make choices is often circumscribed. For example, we often say things like “My home is my castle, I’m free to do what I want.” But at closer inspection this is not true. One cannot mine for gold in the average back yard, one may not be allowed to build a ten foot fence, or park six cars on the front lawn. One does not own the air space above his house, nor can one stop a neighbor’s music or BBQ smells from coming into their yard. Just as importantly, one can seldom prevent with certainty a burglar invading their home and making off with “their” property. When thinking about it, most of the things one “owns”, are owned incompletely; that is, one’s economic property rights are incomplete.

Property rights are said to be *incomplete* when someone else holds the rights. Goods are complicated bundles of rights, and not all the rights are held by one individual. All laws and regulations are assignments of legal property rights to different people. Hence, I may not own the mineral rights to a parcel of land, but someone else might. At other times, property rights are said to be *imperfect* when it is too costly to enforce them. To “trespass” is to use someone else’s legal property without their permission. If children take a short cut across a lawn on their way to school, the owner’s property rights over the lawn are limited by his reluctance to enforce them. This points to an important distinction. To the lawyer,

property rights are always “legal” rights; that is, one’s rights to use property under the law. Hence a trespasser has no legal right to the property. But if the trespasser is unhindered, the economist would say he has an “economic” property right. Most of the time the two definitions overlap, but there are many instances when they do not. The distinction is important because behavior depends on economic rights, not legal rights.¹⁰

The distinction between legal and economic property rights raises an important point. When economic property rights are reduced, then wealth is lower, and when economic property rights are eliminated or absent, then wealth is zero. This is true at an individual level and a social one. Consider a slave. A slave, by definition has no legal rights, and in practice very few economic ones as well. A slave has no wealth, has no incentive to increase his human capital, and no ability to trade with others. The absence of property rights makes the slave the poorest of all people.

Most often legal property rights are tied closely to economic property rights. If I am the legal owner of my computer, then I am usually the one that knows the password, has access to the room where it is stored, and gets to play the games. However, if my computer gets stolen, I am still the legal owner, but my economic property rights are eliminated. The value of the computer to the thief, however, is lower than for me because the ability to use the computer may be restricted (he may not know the password), and the ability to sell the computer is also reduced. For these reasons, stolen property sells for vastly reduced prices on the black market. Once again we see that a reduction in property rights reduces wealth.

A second point, already mentioned indirectly, is that when property rights are perfect, wealth is maximized — this is the Coase Theorem. Hence we can conceive of a spectrum of property rights varying from completely absent to perfect, with the level of wealth ranging from zero to some maximum level along this spectrum. Of course, we live in neither extreme. Our property rights are never perfect, but neither

¹⁰ Thus, economic rights are a function of legal rights.

are they completely missing. Even in times of slavery, as in the American South, slaves had some economic rights, including (sometimes) the right to purchase their freedom (manumission). Other things equal, maximizing individuals will always prefer better defined property rights because in this case wealth is higher. These better defined rights, however, are costly to achieve, and in equilibrium we would expect the optimal level of rights would equate the marginal value of rights with their marginal costs. *The costs of establishing and maintaining property rights are called transaction costs.*

Hence we see that property rights are fundamentally linked to transaction costs. If transaction costs are zero, then economic property rights are complete, wealth is maximized and the Coase Theorem holds. If transaction costs are positive in a nontrivial way, then property rights will be incomplete, and the Coase Theorem will not hold. If transaction costs are so large that property rights are absent, then we have a world of anarchy.

Now we come to the most important point. If we think of an institution as a *distribution of property rights*; that is a set of rules and constraints that define our ability to exercise choices, then institutions are irrelevant when transaction costs are zero. Since institutions clearly matter, in order to understand them we must understand transaction costs. The grand hypothesis of NIE is that *institutions are chosen to maximize the gains from trade and production net of transaction costs.* Within this hypothesis we see the neoclassical framework (maximizing the gains from trade) combined with the institutional setting (net of transaction costs).

As an application, this means to understand marriage requires an understanding of the transaction costs involved. For example, to understand why the divorce rate did increase with the introduction of no-fault divorce we need to understand the transaction cost reasons for why the spouses were prevented from bargaining around their difficulties. Before I discuss the role of transaction costs in marriage and how they relate to no-fault divorce rules, I sketch out a general NIE theory of marriage.

3. The NIE Approach to Marriage

A honey tongue, a heart of gall, Is fancy's spring, but sorrow's fall. Thy gowns, thy shoes, thy beds of roses, Thy cap, thy kirtle, and thy posies Soon break, soon wither, soon forgotten- In folly ripe, in season rotten.

[Raleigh's Nymph's Reply to the Shepherd]

3.1. A NIE Theory

Economists studying the institution of marriage almost all conclude that the central transaction cost issue revolves around procreation. Other reasons for marriage have been proposed, including specialization based on household production, gains from exploiting household goods, and the like. However, for marriage to survive across so many cultures and generations, it must be driven by something extremely fundamental, and procreation issues appear to be the most robust explanations. Hence, all of the constraints we observe placed on marriage are often interpreted as responses to the transaction costs that arise to create and successfully raise children to adulthood. Here I briefly sketch a theory of marriage, highlight some transaction cost issues, and then return to address some of the institutional details above.

Let's start with the following assertion: individuals have a strong desire to procreate.¹¹ In order to have successful procreation it is necessary that off-spring be successful and abundant — though given limited resources, there is a trade-off in the quality and quantity of children. That is, the mere birth of children does not satisfy the desire to procreate. Individuals want their own genetic off-spring and their genetic grand-children to succeed in life.

The complication in procreation is that it takes at least two individuals to accomplish the task, and it requires at least one man and one woman. Unfortunately,

¹¹ It is irrelevant where this desire comes from. Perhaps it is hard wiring resulting from the evolutionary forces of self-selection. Perhaps it comes from the Biblical command to “go forth and multiply.”

no two humans work together with one mind and soul, and fundamental differences between men and women exacerbate this problem. Thus, constraining this procreative objective are the physical abilities and differences between men and women, differences in preferences over ethical behavior, the dynamics of life-cycle events, the selfish nature of each individual, and the “technology” of procreation.¹²

The NIE, like ordinary economics, assumes that both men and women are selfish individuals. Neither acts out of benevolence for the other unless it improves their own welfare. Furthermore, every individual generates utility from a wide variety of goods and services. Thus, even though everyone wants to procreate, they want other things in life as well. In the context of sexual behavior and procreation this leads to serious coordination problems.

Different Demands for Sex

Consider some of the preferences, incentives, and constraints between men and women. Men have a higher demand for physical sex than women, but their demand falls throughout their lifetime.¹³ For women, their demand for sex rises over the first part of early adulthood, and then falls over the latter half. For men, the demand for sex is almost completely testosterone drive. The hormone testosterone, often called the “male sex hormone”, varies over the life of both men and women. Like male desire and other male sex hormones, it is at its highest level during the late teens and early twenties. It then gradually falls over a male’s lifetime. Though exogenous changes in male hormones explain the fall in male sex drive, it is compounded by external pressures as well. Male incomes increase during the first twenty to thirty years in the workforce, and this raises the opportunity costs of all leisure activities, including sexual pursuits. Increased workloads and overtime are physically taxing,

¹² In terms of this last factor, I want to take as a starting point successful procreation requires the inputs of a father and a mother, not just in the creation of new life, but in the rearing as well. Despite mounting evidence on this point, I recognize the statistical troubles in identifying the relative contributions of “marriage” and “healthy home” in the success of children. Here I ignore the current debate on the subject and make this an assumption.

¹³ The following argument comes from Allen and Brinig, (1998).

and reduce the desire for sex. As well, increases in family size put pressure on husbands to produce more income, and this also raises the cost of sex.

For women, the hormonal balance is more complicated, and sex drives in women are not thought by sexologists to depend so heavily on hormonal levels. The effect of hormones on female sex drives can be ambiguous. For example, the onset of menopause, where the ovaries reduce the output of the female hormone estrogen, can make intercourse less pleasurable for women, while at the same time the fall in the risk of pregnancy can make sex more enjoyable. Many researchers conclude that the increased sexual desire by women throughout their late 20s and 30s results not only from hormonal changes, but also from a gradual acquisition of sexual knowledge. To the extent that women are raised in a more sexually protected environment that discourages sexual experimentation before marriage, and to the extent sexual enjoyment increases with experience, then young women simply will not enjoy sex as much at young ages as they will later. Presumably sexual desire corresponds with greater enjoyment. On the other hand, it also appears that the demand for sex on the part of women falls quite rapidly after their mid 40s to 50s. Hence, although the demand for sex rises for women over the first half of their adult lives, it also appears to fall faster than men's in the second half.

The result of these different demands for sex is that bargaining positions for each spouse can change throughout the marriage. If sex is *one* dimension over which couples bargain, then it is possible for the ownership of sex within a marriage to change during the marriage lifetime. Consider Figure 1, which modifies a graph found in Allen and Brinig (1998). This graph assumes a married couple is the same age, and that the demand for sex of the wife exceeds the demand of the husband at some point.¹⁴ The demand for sex by the husband is high at 19, and falls throughout his life. The demand for sex for the wife is low at 19, peaks in her 30s and then begins to fall. Such a graph divides a life-cycle into three sections. In the first stage,

¹⁴ These assumptions make the argument easier, but they are not necessary.

the “property right” to consensual sex belongs to the wife, since her demand is the lowest. This is also true in the third stage of the life-cycle. However, in stage II the ownership over sex switches over to the husband.

So what? Well, as a couple moves through their life together, various unexpected things happen. One spouse gets a large promotion at work, one spouse is discovered to be infertile, an illness arrives, or a third party competitor for affection enters the relationship. One way couples manage these shocks is to bargain with one another. An individual who faces better options outside the marriage may demand and get a larger share of the marital pie. An individual who experiences a negative shock in one dimension, may compensate their spouse by providing more of other valuable attributes in the marriage to compensate for the loss. Failure to adjust like this may lead to marital breakdown. An important element of bargaining in marriage is over sex, and for most of the marriage the ownership of this valuable commodity usually belongs to the wife. Unfortunately for the wife, in stage II of the life-cycle, she may lose this bargaining chip, and this could put the marriage in jeopardy. Allen and Brinig (1998) show how this transfer of ownership over sex can cause marital breakdown across couples of different ages, how it explains frequency of sexual behavior within the marriage, and how it explains patterns of adultery rates across men and women.

The general point here is that, culturally speaking, this difference between men and women is well known.¹⁵ In designing rules for couples interested in procreation, this sort of problem would need to be taken into consideration. As I will argue below, some women become particularly vulnerable to abandonment in their 30s and 40s.

¹⁵ In the movie *Annie Hall* the screen split and the audience observes the following two conversations:

Woody Allen to psychiatrist: “Almost never. Only three times a week.”

Diane Keaton to psychiatrist: “Constantly. At least three times a week.”

Everyone knows what they are talking about.

This is the very time they need bargaining power, yet the life-cycle production of hormones might take it away. Anticipating this, women may be reluctant to marry, but this thwarts the drive to procreate. A demand for institutional protection arises.

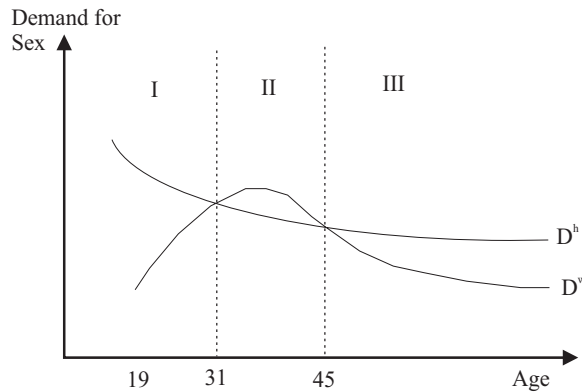


Figure 1
Demands for Sex Over the Life-Cycle

Specific Assets

Economists divide costs into various categories. One important category of costs are *sunk costs*. A sunk cost is a cost that cannot be avoided, and as a result they do not effect behavior at the margin. “There’s no point in crying over spilled milk” is an application of the notion of a sunk cost. One cause of sunk costs is an investment in an asset that is *specific* to one particular use. Once the investment is made, the asset cannot be resold since there is no other use for that asset. By its very nature, marriage involves many specific investments that create all sorts of sunk costs.

When a spouse invests time and energy to learn the preferences of their partner, those investments are sunk. The knowledge is of no use in any other relationship.¹⁶ When both parties make specific investments into the marriage it helps to stabilize the union because to leave is forgo the investment. That is, suppose a husband

¹⁶ This explains why close family members get upset when given “cash” for a present or they receive a gift they don’t like. Purchasing an appropriate gift demonstrates that a sunk investment was made into the relationship.

and wife each make a relational investment of \$2000. If they were to separate and look for other partners, they cannot sell their relational capital. It only has value as long as the relationship lasts. Hence, sunk investments in marriages are generally encouraged, especially if they are made together.¹⁷ Thus married couples have the same friends, attend the same churches and clubs. They tend to enjoy hobbies together, vacation together, and sleep in the same bed. Culturally we tend to punish individuals who don't behave this way through social norms and outright ostracism.

On the other hand, specific investments have a darker side.¹⁸ When one spouse invests more in specific assets than the other, that person can be exploited within the relationship. To provide a concrete example, suppose a husband and wife both make an investment of \$100 into a marriage, with the agreement that they will divide the gains from the marriage 50–50. Suppose the husband's investment, however, is in his career while the wife's investment is in cooking skills particular to her husband. Once each investment is made the husband might attempt a renegotiation with his wife. For example, he might ask for a split of 80–20 in his favor with the threat if she fails to agree he will leave. If he leaves his career investment goes with him, but the wife's investment is lost. The wife might agree to a smaller share, rather than lose her investment in the marriage. Had she anticipated this behavior on the part of her husband, she may not have made the investment to begin with — but then the marriage would suffer.

This line of reasoning is more relevant than the above example suggests. Historically a wife made a tremendous specific investment into a marriage through pregnancy. Prior to effective birth control and before modern anti-biotics, family sizes were large and a woman could expect to spend a large fraction of her adult life bearing and raising children. Given the desire to raise one's own genetic children, this investment is virtually worthless outside the marriage. On the other

¹⁷ See Williamson (1983) for the theory of how sunk investments can support social interactions.

¹⁸ This argument was first articulated by Cohen (1987).

hand, historically male investments for marriage tended to be in market skills. This asymmetry presents a problem for women because they can anticipate exploitation after the investment is made.

Consider Figure 2, which plots the contributions of a husband and wife overtime in a marriage. The wife is presumed to contribute a great deal at the front of the marriage in the form of children. Even in a marriage where wives work, the likelihood of children is high, making their front end contribution high. For the sake of argument, suppose this contribution is sunk. On the hand, the husband’s contribution to the marriage is low at the beginning of the marriage and peaks later on. Presumably this contribution is mostly in the form of market income, and is not sunk or specific to the marriage.

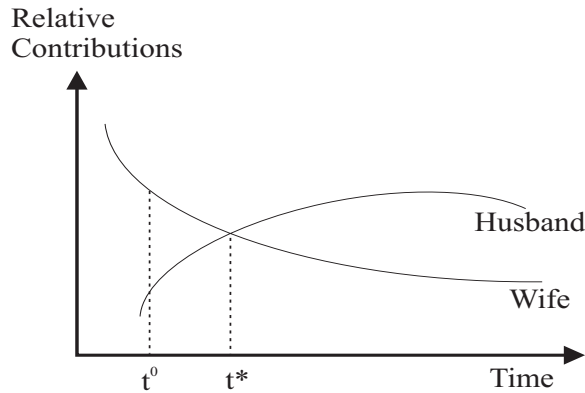


Figure 2
Timing of Marital Contributions

When a couple marries, they may look ahead and see the lifetime contribution they and their spouse will make. At time t^0 both may agree to marry. At time t^* , however, the situation has changed. The husband has a future of high income, that is valuable in *any* relationship. The wife on the other hand has “given him the best years of her life.” She faces either exploitation by her current spouse in the form of a reduced share of the current marriage, or a divorce. Again, biology differences between men and women create a situation of high transaction costs. Both parties

may anticipate this contracting problem (or they may not), but it might be difficult at time t^0 to do anything about it. An institutional innovation may be in order to allow the marriage investments without fear of having them exploited.

“Mothers Babies, Fathers Maybe”

Biology doesn't work solely against women. Let's consider one last biological difference between men and women that leads to a serious transaction cost problem in raising one's genetic children: paternity is more difficult to establish than maternity. One line of research conducted by economists has been in the area of “assortative mating.” Generally speaking, individuals tend to match up with others who are of equal “value.” That is, if we think of individuals as being characterized by many different attributes (age, beauty, education, genetic background, moral character, etc), then we could in principle evaluate these and rank people in terms of quality. Empirically economists and other social scientists find that high valued men marry high valued women, middle quality men marry middle quality women, and on and on. Of course, this does not mean people marry clones of themselves. It turns out this is an equilibrium result given that married couples share and seldom bring significant outside wealth to the marriage.¹⁹

It is an unfortunate fact of life that both men and women have a declining marginal value for the other partner over time. This means they “get tired” of each other.²⁰ It is also a fact of life that the cost of casual sex is lower for men than for women, and given this men will engage in casual sex more often.

A married women might engage in casual sex with another male because it provides an opportunity to “breed up” and improve the genetic quality and future possibilities of her children. A low quality woman will not be able to compete for a high quality male husband in the marriage “market.” However, she can marry

¹⁹ See Allen (1992).

²⁰ A cartoon shows an elderly couple watching the news on TV. The old man says “I'm tired of this talk about same-sex marriage.” The old woman responds “Me too, I've been having the same sex for years.”

a comparable low quality husband and bear the children of the high quality male by committing adultery with the latter. Leaving the raising of the children up to the lower quality male. All of this is possible because paternity is not known with certainty. This, of course, is a problem for men who are contemplating committing their resources to raising a particular family.²¹ Again, high monitoring costs between husbands and wives prevents any type of bargaining solution to this problem, leaving it up for an institutional solution.

Back to No-Fault Divorce

Earlier I used the transition to no-fault divorce as an example of a break-down in the Coase theorem. When countries shifted to no-fault divorce, there was an increase in divorce.²² Why did this happen? Why were couples not able to simply redesign their marriages in light of the new legal regime? The answer: marriage contains enormous transaction costs that *prevent* seamless bargaining among couples.

I now turn to a brief discussion of some of the day-to-day problems that arise in a marriage that might prevent such bargaining from taking place. I do not intend to be exhaustive here, I only wish to point out some other transaction cost problems within marriage. Marriage is an on-going “exchange” where the transaction costs are quite high. As a result it is often possible that divorces happen in no-fault situations that are inefficient. The number and types of transaction costs that may result in inefficient divorces under no-fault divorce laws would seem to be quite large.

²¹ This problem of paternity is present among non-human animals as well. Baker (1996) provides a fascinating tale about how even the design of sperm is based on preventing other male sperm from success in fertilizing an egg. Men produce enough sperm in one shot to technically fertilize all of the women in North America. It has long puzzled biologists why the body wastes this resource. According to Baker, most of a male’s sperm are incapable of fertilizing an egg. Rather there are sperm to block the way, other sperm for fighting enemy sperm. Baker argues that the ubiquitous practice among young married couples to have “routine sex” 2-3 days a week is to maintain an ever present level of fighting sperm in the female body to prevent outside-the-marriage pregnancy.

²² In Canada the divorce rate increased 6-fold within two years of the Divorce Act. See Allen (1998) for a detailed history of divorce law in Canada.

First, quirks in property laws at the time of divorce can easily create situations whereby efficient marriages dissolve. In the past, for example, if a wife contributed to the education of her husband, but the courts did not consider a degree as property, then that contribution was not considered in the marital property settlement. Likewise pension funds, insurance policies, and lost workforce opportunities may or may not be considered property in a given jurisdiction. In some U.S. states there is an automatic split of marital property 50–50 — despite contribution. In other states the courts make an effort to establish each spouse’s contribution to the marriage. In every case imperfect rules are made that allow one spouse to take advantage of the other.

Second, government failures to enforce support payments for children and spouse allow the instigating party to avoid some of the costs of their actions. At the same time, child and spousal support guidelines may over-compensate for the cost of children and encourage custodial parents to instigate a divorce to capture the wealth transfer. Hence in either case the private values of the party leaving the marriage can be out of line with the joint value of the marriage.

Third, many family assets may be indivisible or may be public goods, making them difficult and costly to bargain over at the time of divorce. Zelder (1993) makes the case that children are always quasi-public goods, and as a result their presence almost always makes the divorce inefficient. “Public good” is an economic term that essentially means one’s consumption of a good does not hinder the consumption by another. With children, the fact that a father gets utility from a child does not mean the mother cannot also gain utility from a child. This could affect divorce because a father who does not value time with the children can leave a marriage and still get utility from being a father. The mother in using the child as an enticement to stay is limited by the fact that the child is partly a public good.

Fourth, violent reactions by a spouse may make renegotiating the terms of the marriage too costly, and an inefficient divorce or marriage may occur. Inefficient bargains are always the result of a failure to respect the property rights of others.

Given the physical difference between husbands and wives, and given the privacy in which they interact, violence is often a possibility. Either party is capable of threats of violence in order to forcibly dissolve a marriage and enforce a property settlement that does not reflect the true contributions of the parties. Likewise, both parties can force a divorce by destroying the marital capital if they stay together by being abusive, irresponsible, and dissipating financial assets. Similarly, one party may be able to maintain a marriage through threats of force. When violence or threats of violence are involved, inefficient divorces and marriages are likely.

Finally, contracts based on a promise not to leave are essentially unenforceable in court, so this restricts the ability to bargain for the person least wanting to leave and can result in an inefficient divorce. Marriage is such a complicated contract that the list of transaction costs that could lead to breach is probably very long. Thus the question, what happens to the divorce rate when the law changes from fault to no-fault, is ultimately an empirical one that hinges on the level of transaction costs. If transaction costs are high, for example because marital property is difficult to define or child payments are hard to enforce, then the divorce rate should increase with the introduction of no-fault.

Short Answers to Marriage Puzzles

Earlier I listed a series of institutional puzzles in the organization of marriage, most of which have been analyzed by economists. here let me very briefly provide the answers to convince the reader marriage is designed to mitigate transaction costs problems.

Why did large diamond engagement rings arise in the 1930s and 1940s?²³ Prior to this time most common law jurisdictions had “breach of promise to marry laws.” A man who proposed marriage, and then later backed out, could be sued. The usual outcome was not damages, but a marriage. Since loss of virginity was not uncommon during the engagement, a failed engagement meant poorer future marriage

²³ This example is taken from Brinig (1990).

prospects for the woman. When the laws were removed, the future groom posted a performance bond in the form of a diamond ring. As the value of virginity has fallen over time, so has the size of diamond.

During the wedding vows, why do we “forsake all others,” share “for better for worse” until “death do us part?” Procreation requires the proper incentives over the life of the genetic pool. We are hardwired not to value other children like our own. Given the incentives to breed up, we have evolved institutional protection that helps assure us the children we finance are our genetic offspring. It also turns out that sharing is the optimal form of contracting given the nature of procreation production.²⁴ Finally, providing an end-date to a production process that is ongoing creates all types of last-period transaction cost problems. The wedding vows are an attempt to solve these problems with promises.

Why did coveture end? Throughout most of history life was short, and for women it was mostly pregnant during their adult life. This brutal fact of life greatly diminished the incentive to educate women, and lowered their productivity in the market place. Thus, to force wives to remain in home production cost little. On the other hand, given the problem of establishing paternity, the benefit of keeping a wife isolated from other males was high. The outcome was coveture.²⁵ The industrial revolution created a number of occupations for which women had a comparative advantage. As the value of women outside the home increased, and as better controls over pregnancy became available, wealth was higher when wives were given better incentives through becoming legal persons.

Why third parties? Marriage has always been regulated by third parties because the particular transaction costs that often arise prevent private solutions.²⁶ For example, private agreements that make sense at age 19, may come under inefficient breach at age 40, due to the presence of sunk costs. All marriages become better off when constrained by third party institutions.

²⁴ See Allen (1992) for the argument.

²⁵ See Geddes and Lueck (2002) for the analysis.

²⁶ See Allen (1990) for a detailed discussion of third party regulation of marriage.

4. Conclusion

But could youth last and love still breed, Had joys no date nor age no need, Then these delights my mind might move To live with thee and be thy love.

[Raleigh's Nymph's Reply to the Shepherd]

Raleigh was a man who understood the realities of life, and his Nymph's Reply stands in sharp contrast to the naive sweetness of Marlowe's Shepherd. Raleigh would have understood well that marriage is an institution, and the institution matters because the transaction costs that arise over procreation can destroy the potential wealth created by future generations if the institutional constraints are not available to provide proper incentives. Marriage is not about love, in that love is not a necessary or sufficient condition for the institutional constraints. Marriage is not about social status, lowering household expenditures, or tax benefits. Though love, social value, cost savings, and tax credits help increase the value of marriage, they are not the reasons why we have the formal and informal rules regulating entry, exit, and behavior in this ancient institution. Rather, marriage institutions are about creating proper incentives, which often support love, social status, and the like in an effort to raise successful future generations. If one were to design a set of rules that created the right incentives to bear and raise children successfully, it would look like our current marriage institution.

Procreation is a complicated business in terms of transaction costs. Amazingly we have designed a relatively simple institution that has successfully managed these transaction costs for millenia. History has shown that cultures which pay little attention to the incentives of their fundamental institutions pay a heavy price in terms of extinction or perpetual poverty. The western world began major tinkering with marriage in the 1970s during the no-fault revolution, and we continue to do so with changes to custody, property, and support laws. Of course, the recent debate over allowing other non-procreative relationships to marry represent even more fundamental changes. If marriage is designed to solve transaction costs problems arising from procreation, then these reforms are likely to have dire social consequences.

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