

**Heterogeneous Human Capital, Uncertainty,
and the Structure of Plans:
A Market Process Approach to Marriage and Divorce**

Steven Horwitz

Department of Economics
St. Lawrence University
Canton, NY 13617
TEL (315) 229 5731
Email sghorwitz@stlawu.edu

Peter Lewin

School of Management
University of Texas at Dallas
School of Management
P.O. Box 830688, SM 31
Richardson, TX 75083-0688
TEL (972) 883 2729
Email plewin@utdallas.edu

Revised December 2006
Version 2.6

Steven Horwitz gratefully acknowledges the support of the Earhart Foundation. A much earlier version of this paper was presented at the SEA meetings in November 2000. We thank the participants for useful feedback.

Heterogeneous Human Capital, Uncertainty, and the Structure of Plans: A Market Process Approach to Marriage and Divorce

Abstract. The family has not been exempt from the multiple and rapidly-occurring changes in the world today, particularly in market economies. The number of marriages has declined, age at first marriage has risen, the number of divorces has risen sharply, the fertility rate has declined, and the division of labor within families has changed, not always in ways that might be expected. This paper subjects these developments to a market-process analysis, drawing on the voluminous work occurring in family economics. The Austrian theory of capital, with its emphasis on capital heterogeneity, is relevant. Emphasis is placed particularly on the importance of the structure of human capital within marriage, and how investments in such human capital has been affected by the uncertainty that these changes have produced. Investments in marriage-specific human capital and in general human capital (particularly as they relate to child-care) are examined. This is then related to the incidence of divorce and the causes and spoils from divorce. The advent of no-fault divorce seems to have been seminal in this regard. We end with a brief glance at the future.

Key Words: Capital heterogeneity, no-fault divorce, marriage, marriage-specific human capital, market process, plan-disequilibrium, covenant marriage.

JEL classification: D10, D13, D80, J22, J24, K19

Introduction

A salient feature of the post-revival work in Austrian economics is the attempt to incorporate and account for endogenous change. The best work in the last 30 years has emphasized the importance of examining the social and economic institutions that underlie the patterns of economic outcomes we observe and understanding the way in which those institutions continue to change. As distinct from standard neoclassical economics (with which it shares much in common), recent work in Austrian economics has given special attention to decision-making in conditions of real-world uncertainty (radical, genuine, as opposed to parametric, uncertainty). Starting with individuals who form expectations in particular institutional environments, informed by their own particular knowledge-base, Austrian approaches recognize that expectations, and the plans and valuations to which they lead, may differ among individuals, giving rise to a situation of “plan disequilibrium.” The market process approach associated with the Austrian school allows for imperfect information, structural uncertainty, and disequilibrium outcomes.

This approach has gained relevance lately because of the variety, extent and rapidity of the social changes that have occurred and are still occurring. There is generally a growing recognition in economics of the need to include and account for changes in the underlying institutions within which transactions of various types occur.¹ However, one institution that plays a central role in the lives of economic actors has yet to be subject to an analysis along these lines. There has not yet been a fundamentally Austrian/market process analysis of the causes and

¹ For example, some recent contributions to the theory of the firm (Lewin 2006, Lewin and Phelan 1999, Sautet 2000, Foss 1997, Langlois 1992) and to the problem of transition to market economies in Eastern Europe (Boettke 1990, 1993).

effects of the far reaching changes in the family as a social institution.² This paper offers a partial remedy for that gap.

Families and firms

Traditionally we distinguish between households and firms, although the household economics that has been developed in the last three decades could be interpreted to imply that the household is merely a special type of (small) firm. Though there are important similarities between firms and households, such an interpretation obscures the essentially distinct characteristics of households and their role in the broader institutional context. Households produce goods and services for their own consumption and not for the market. This is a defining characteristic, and is what distinguishes them from firms, which are organizations that specialize in production for the market (Demsetz 1997).³ This distinction has important implications.⁴ Because they produce for the market, firms exist in a competitive environment in which organizational form and fitness represents one aspect of their general capabilities. Firms jealously guard their competitive advantages and the capabilities that produce them. Households do not exist in an environment that could meaningfully be called “competitive” in this sense, and

² Horwitz (2005a, 2005b) explores a broader Hayekian approach to the family as a social institution and its role in the broader social order. In this paper, we deploy a more narrowly “Austrian” approach in analyzing the internal workings of the family as a social institution.

³ From this perspective, Coase’s (1937) problem of accounting for the existence of the firm disappears. It exists because of the potential to add value by specializing. A firm may be one or more persons. So Coase’s other problem, accounting for firm boundaries, remains (see generally Demsetz 1997).

⁴ It is certainly possible in this taxonomy to conceive of firms existing within households as in family agriculture or cottage industries, but this is less relevant to the modern Western institutional setup. In our conclusion, however, we speculate on the possibility that current and future institutional changes affecting the family may in some ways bring it a little closer to the old agricultural “family-firm.”

therefore do not find imitation a threatening prospect.⁵ Quite the contrary: the prospect of generally peaceful, prosperous and stable households is of benefit to all.

To the extent that successful household forms are valued and can be imitated, we might expect them to proliferate in the population. The family's overriding preoccupation with reproduction strongly reinforces this fact, and the values of the offspring can often be presumed to be strongly correlated with those of the parent(s).⁶ Evolution in a stable institutional and economic environment could, therefore, be expected to produce stable family forms (Bergstrom 1996). Given that we have seen dramatic changes in family structure take place over the past half century, it seems reasonable to look first for explanations of these changes in the increasing pace of change in the economic and institutional environments. Some of the changes in these environments (expanding work opportunities for women, technological advances in household production, the availability of convenient and inexpensive birth control, etc.) are well known and will not be rehearsed in detail here. We shall pay special attention instead to aspects of the legal and social environment that have not received as much attention or have not achieved the same degree of consensus (such as the advent of no-fault divorce and the awarding of child custody). In so doing we shall focus to a large extent on the effects of changes in the legal structure within which the family is formed, exists, and is dissolved. Much of the literature focuses on uncovering the essentials that characterize families and comparing them cross-sectionally across populations, income-groups or other relevant features. We focus on "big-picture," long-term changes that have occurred and are occurring over time, and how particular environmental changes have both

⁵ We are, of course, assuming the existence of a peaceful social environment and, therefore, exclude crime "families" from this discussion.

⁶ "Family" is a subset of "household." We shall be concerned in this paper only with households that are families. A family takes a longer-term perspective than households in general, and there is an indefiniteness to their life as an institution that is not true of other household forms, such as roommates. As we shall see, this longer run perspective sets up the possibilities of opportunism, lock-in and similar problems.

altered the incentive for members of the family to acquire certain types of human capital and thus the effects those decisions have on observed outcomes. Specifically, we look at ways in which the legal and social environment have created coordination-reducing uncertainty, leading in turn to more “plan disequilibrium” in the realm of marriage and family.

In exploring the economics of the family, some historical context is required. The family is arguably the oldest, and perhaps the most important, of all social institutions, and over the course of its long history, it has varied markedly in size, composition, and form. Until recently, however, it was almost invariably characterized by the existence of marriage, where “marriage” connoted not only the presence of a strong (implicit and explicit) contractual obligation between a man and a woman, but also, importantly, the achievement of an enduring and differential social and legal status, that of a “married person” (Rowthorn 1999). To the extent that, in more recent years, the distinction between a “married” person and an “unmarried” person has been blurred, important social and economic consequences have followed, not least of all for the family itself.

Like the firm, the family is an organization that engages in joint production. Family members combine their resources and efforts to produce outcomes that they value. The most obvious is children; others are love and companionship, a clean home, insurance, nutrition, education and training (and various other types of human capital). The fruits of family production depend, as with production generally, on the scope for the division of labor. In general, the more specialized family members are and, more importantly, become over time, the greater the rewards to family production in comparison to alternatives. In this way, greater advantage can be taken of differences in any natural or acquired comparative advantage between family members. From this perspective, it is well known that the benefits of producing certain goods and services within the household, as opposed to on the market, have been declining. The

degree of specialization of family members, specifically of husband and wife, has dramatically decreased as, from one side, women have entered the work-force in large numbers, reducing the advantages of having a specialized male bread-earner around and, from the other, as substitutes for household production have become more numerous and affordable, reducing the advantages to having a specialized female responsible for household production. These two trends are also self-reinforcing: as families are increasingly benefiting from two incomes, they can both afford to purchase market substitutes for household production and the additions to the labor force have helped make such substitutes more widely available and affordable. One of the ironies of this remarkable trend is that a fair number of women entering the labor force are engaging in labor (e.g., teaching, healthcare, accountancy, and other personal services) quite similar to what their mothers or grandmothers might have performed, except that they are selling it in the market rather than applying it directly to household production.

Marriage is also occurring later and the incidence of marriage has declined at all ages. The age at first marriage for men has risen from 23.1 in the immediate post-World War II period to 26.6 by the mid-1990s, and continued to rise slowly in the 2000's. For women, the change is from 20.4 to 24.5 over the same period.⁷ The mid-1990s figures represent a later age than even the relatively high ages of first marriage witnessed in the late 19th century. Jacobsen (1998: 157) also documents the decline in the percentage of men and women married at various age groups. (The big exception to this decline are those 65 and over, who, due to longer lifespans, are now more likely to be married rather than widowed.) Likewise, and more remarkable⁸, the incidence of divorce has risen dramatically in the last 100 years, and the fertility rate has fallen

⁷ By 2003 the age for men was 27.1 and 25.3 for women (U. S. Bureau of the Census, http://www.census.gov/acs/www/Downloads/MedAge_revised_final.ppt ; see also Jacobsen 1998: 154).

⁸ As noted in the text, the rise in the age of marriage represents a recovery from the rather abnormally low ages seen in the two decades following World War II, but the decline in the incidence of marriage and the rise in the incidence of divorce are both significant accelerations of what were more slowly moving long-run trends.

dramatically. Although the internal organization of firms (not to mention the role of any individual firm within the market) is becoming more specialized, that of families is becoming less so.

The rest of the paper first considers the relationship between marital dissolution and human capital investment, then we take a closer look at the rise in the divorce rate. Insofar as it is possible to make such a distinction, the first discussion looks at the *consequences* of a rising divorce rate while the latter sections look at its *causes*. We end with some general conclusions.

The effects of the declining benefits of marriage on human capital acquisition

An important aspect of a market process approach is its understanding of “capital.” The resources that comprise inputs into the production process, and the intermediate goods that are produced prior to the final product, are characterized as “capital.” Decision makers form capital combinations in pursuit of gain (utility, profit, etc.). Because production plans take time to unfold to their expected results, the entire process of production through capital combinations is assumed to take place in a world of fragmentary knowledge and structural uncertainty. The producer combines the resources he *believes* will be most suitable for producing the output he *believes* that consumers will want.⁹

In the eyes of the producer, the production process represents an integrated and complementary capital structure. Each of the capital items is believed to “fit” with the others in a structure that will produce the desired output. Frozen in time at the onset of the production process, this complementarity characterizes the structure created by the producer. The producer

⁹ This emphasis on the beliefs of the producer as driving behavior is characteristic of market process approach and its thoroughgoing subjectivism and is particularly appropriate to the analysis of “plan failure”. The producer is not assumed to be maximizing some “objective” function, rather he is simply assumed to be making what he believes are the best choices given the information he has available.

is in an “individual equilibrium” with respect to the capital structure he has created and the plan he hopes to execute. The equilibrium here is not with respect to the objective conditions, but rather the relationship between the capital structure and the goal of the plan.

In addition, the Austrian approach to capital emphasizes the “heterogeneity” of capital resources. Capital goods are seen as being specific to a range of uses, with the degree of specificity varying across the economy. Capital is not understood as an undifferentiated, homogenous “lump” of stuff that can be applied with equal effectiveness to any production plan. The very complementarity of a firm’s production plan depends upon its ability to fit together heterogeneous capital inputs into an integrated and complementary structure (Lachmann 1978 [1956]). The multi-specific nature of capital also means that the “refitting” of capital goods (or the “re-training” of human capital) is not costless, and that the capital-using decisions of firms must take this into account. Where the capital structure of the firm must evince complementarity, the use of capital across the whole economy is characterized by degrees of substitutability. When production plans fail, changes must be made and new combinations must be created out of existing capital.

This analysis applies with equal force to non-human and human resources. For our purposes, almost all that is true of non-human capital holds for human capital as well. Each individual is a producer of a structure of human capital that includes all of the various skills, knowledge, education, experience and the like that each has acquired over a lifetime. The choices made by individuals about the skills and knowledge they acquire will differ, and any attempt at an integrated production plan that includes human actors will have to take account of the heterogeneity of human capital. Human actors will also have to consider the gains and losses of the particular human capital investments they make, facing the same sort of uncertainty faced

by market entrepreneurs who are attempting to invest in physical capital. Seen from this perspective, a marriage (and by implication, a family) is an attempt to create an integrated structure of human capital within a household that is consistent with the plan the couple has to engage in the market and household production necessary to sustain the household. That plan can either succeed over time or fail, just as in a firm.

In a world of structural uncertainty, the possibility of one's plan being executed to perfection may well be small. The unfolding future holds genuine surprises that must be dealt with along the way. At each step in the production process, the possibility of plan failure arises. From a market process perspective, plan failure is evidence of disequilibrium. If things do not turn out as planned, there were erroneous expectations by at least one market actor, implying that we could not have been in economy-wide equilibrium (Hayek 1937). Producers who see profits below expectations, or losses, or even unplanned negative cash-flows, must make adjustments in the face of this evidence of plan failure. *Disequilibrium entails equilibrating adjustments.*

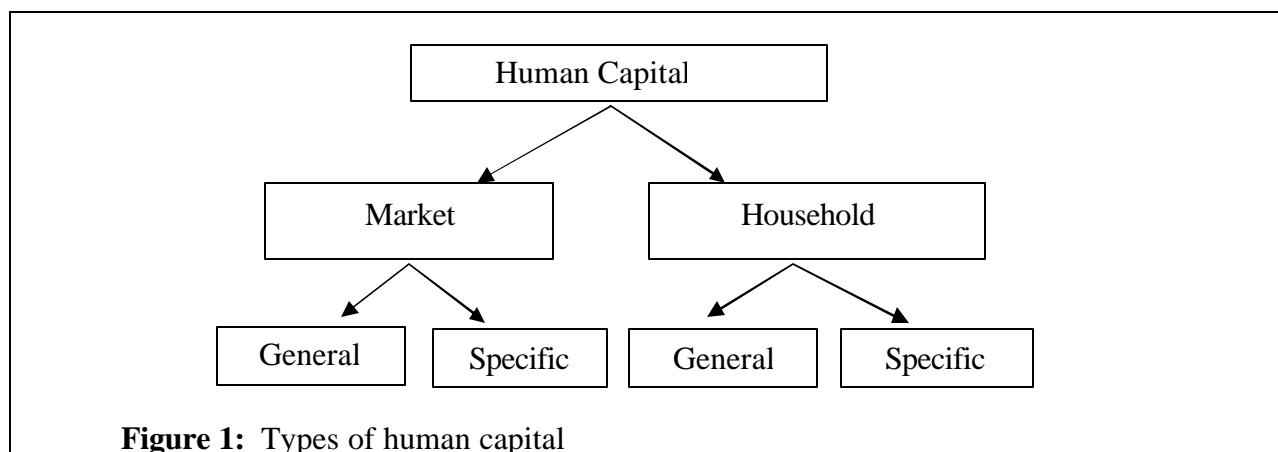
We consider divorce to be evidence of plan failure. Plan failure is linked to the reliability of expectations, which is in turn related to the degree of uncertainty that producers face. In an environment of faster change, for example, there may be more uncertainty and more plan failure. Of course producers will try to respond to the increased number of failed plans by hedging against uncertainty, perhaps by using (human) capital that is more versatile (i.e., less specific) and that can therefore be applied to a larger range of production processes, or possibly by shortening their planning horizons if they believe that uncertainty increases with the length of the planning horizon. If uncertainty is great, we would expect these sort of adaptations to take place and to see evidence of them manifested in a variety of market outcomes. We shall see below that

ongoing demographic changes surrounding marriage and the family can be interpreted as reflecting similar rational responses to heightened uncertainty in the social world.

Within marriage, the most important (but not the only) dimension along which human capital can vary is that of (labor) *market-specific* human capital versus *household-specific* human capital. Market-specific human capital (MHC) may, of course, be firm-specific or more general in nature, but it is more useful in the labor market generally than it is in the household. It is oriented to the earning of income, so it aids in household production only indirectly. By contrast, household-specific human capital (HHC) is oriented primarily towards direct household production. The most obvious and important type of HHC consists of the skills associated with child-care, but it would also include skills for house cleaning, gardening, laundry, car-pooling, cooking and the like. Since human capital accumulation takes time and effort, and thus has an opportunity cost, specialization in household production involves specializing also in the accumulation of specific human capital. Given that the household as a production unit requires inputs in the form of market-earned income combined with household human capital, most of human history has seen household members specialize in one or the other, with men in the labor market and women in the household as the historically most common combination in the industrial world.

The pattern of specialization may follow actual or perceived comparative advantages, as, for example, when it is believed that women have a comparative advantage in child-care, and small initial differences in comparative advantage may, through the accumulation of specific human capital, become magnified over time as human capital accumulation is subject to increasing returns (learning by doing) (Becker 1981). Some human capital is also “marriage specific” in that it has more value inside a particular marriage than outside of it. That is, HHC

may be specialized to a particular household (*relationship specific*) or it may be more generally applicable. (See Figure 1 below).¹⁰



The human capital investment decision is thus influenced by family members' expectations of the duration of the marriage. A marriage of unexpectedly shortened duration, either because of early death of either spouse or because of an increased likelihood of divorce as the marriage unfolds, implies a shortened payoff period and increases the danger of a "capital loss" from the accumulation of HHC and especially marriage-specific human capital. Thus anything that engenders the expectation of a higher probability of marital dissolution is likely to inhibit the accumulation of HHC. This process is enhanced by the falling gains from specialization in the household. We next consider the effect of known high and rising divorce rates on the human capital structure formed in households. Then we consider the effect more generally of the increased uncertainty associated with marriage. We proceed from the assumption that the amount and type of human capital a person has and the specialized activities in which a person engages are mutually determined within the household.

¹⁰ This taxonomy has been anticipated in the literature in various ways (see for example, Chiswick and Lehrer 1990: 191). The treatment here is, arguably, more extensive yet only scratches the surface. It is ripe for further elaboration and research.

There is a self-reinforcing process at work here. For a variety of reasons, women's work-force participation¹¹ has increased dramatically in the last half century. At the same time (as we shall explain) the gains from marriage that are achieved by sector (home or market) specific specialization have fallen. With lower potential gains from marriage, both husband and wife tend to reduce marriage-specific investments in human capital, which in turn lowers the cost of divorce. The lower cost of divorce results from the reduction the losses associated with marriage-specific human capital that is near-useless after a divorce, due precisely to its over-specificity and the corresponding high costs of "re-training." The lower cost of divorce therefore increases the incidence of divorce. A rising divorce rate implies a higher perceived probability of divorce and this produces important and different reactions in husband and wife regarding the accumulation of human capital. Those reactions, in turn, reduce the costs of divorce, themselves making divorce more likely.

Although the gender division of labor within households has become more equal in recent decades, it is perhaps surprising that although wives have entered into previously predominantly male occupations, husbands have not, to the same extent, taken on more typically female dominated household tasks, particularly child-care but also other household chores that constitute what Arlie Russel Hochschild (1989) termed the "second shift." Married men increased their hours spent on housework from 4.5 hours per week in 1965 to 11.1 hours in 1985. That improvement is notable, but that 11.1 figure compares to 22.4 hours per week for married women (Robinson 1988, cited in Jacobsen [1998: 122]).¹² Our analysis below offers an

¹¹ We should perhaps qualify this by pointing out that, in fact, the rise in the aggregate female work-force participation rate is due mainly to the influx of middle-class white women. Black women's labor-force participation rates have not increased that much; they were always high. The same is true of participation rates among the working class, even whites. Yet the change in the aggregate has been significant.

¹² Jacobsen (1998: 137n7) indicates that preliminary data from the mid-1990s shows little change from the mid-1980s numbers (see also Robinson and Goldberg 1997 and Hill 1985).

explanation for the fact that women have made significant progress toward equality in the market, but less so in the division of household labor; what Hochschild (1989: 45) refers to as the “stalled revolution.” Central to that analysis is the influence of children on the prospect of marital dissolution.

Whomever gets the children will have to be ready to engage in an increased amount of household production. This is true even for a parent with substantial means to be able to afford to pay for child-care, since child-care is to a great degree “relationship specific.”¹³ In the modern industrialized societies of the West, the majority of divorces, when there are children, result in child custody going to the mother.¹⁴ This may be because it is generally accepted, that, because of innate or acquired differences between men and women, the latter are more able and willing to take care of the children, and this has become entrenched in the law.¹⁵ Also, most divorces occur early in the marriage, when the children are young. The divorce-rate age profile tends to be bimodal; the divorce rate declines with the duration of marriage, as “bad” marriages are weeded out and others are “locked-in” by specialized human capital investments – of which more below – and rises slightly toward the end of the life cycle when the children are out of the home.

¹³ Just how important is the parent’s (particularly the mother’s) time, especially in the early years of life, is a matter of some considerable controversy. For the argument in the text it remains sufficient that there is a widespread *perception* that child-care is intrinsically mother-time-intensive. The evidence suggests that the best child-care, whether parental or market-purchased, takes place in environments where the child-care provider is spending significant, high-quality, time with the child. Moreover, the better the parenting at home, the better the child-care outcomes in other settings will be. Put differently, good parenting and high-quality day care are complements not substitutes.

¹⁴ Historically and cross culturally this is not the case. In more male-dominated societies, where the husband-father may be presumed to have some “ownership” rights over other family members, he may as a matter of course gain custody regardless of the circumstances surrounding the divorce (Coontz 2005). See also the interesting discussion in Grossbard-Schechtman and Lemennicier (1999), in which different types of marriage law régimes interact with the economic and demographic environment to affect the gains from marriage and the likelihood of divorce.

¹⁵ It is important to distinguish between *legal* custody and *physical* custody. Divorced parents may share legal custody (the right to make decisions about and for the child) but the division of physical custody might be anywhere from mom-only to dad-only to equal. For the purposes of analyzing household behavior, it is physical custody that matters. Our assumption is that even in cases where the parents have joint legal custody, the children spend significantly more time in the physical custody of the mother.

Given that divorce is likely to occur early in marriage, and given that custody is most likely to be awarded to the wife, we may expect an increased probability of divorce to increase the bargaining power of the husband and weaken that of the wife in the matter of the allocation of household tasks and investment in HHC. (We ignore for the moment the possibility of negating this by a pre-nuptial contract.) The wife is pulled in two directions by the joint prospect of divorce and single parenthood:

1. As the probability of divorce increases, she is inclined to accumulate more MHC than she otherwise would as a form of insurance against being unable to provide for herself and her children.¹⁶
2. On the other hand, in anticipation of having to take care of her children without a partner, she is more likely to agree to specialize in those household tasks, and thus accumulate more HHC than she otherwise would. Or, in what amounts to the same thing economically but not socially, men anticipating a divorce have less incentive to engage in household production if they assume that the wife will have custody of the children most of the time.

Thus even as women are accumulating additional MHC in anticipation of being a single mother, the relative burden of household production shifts toward them as well. These effects are true both in individual marriages where a divorce increases in likelihood and with respect to marriages in general in an environment of relatively high divorce rates.

¹⁶ Johnson and Skinner (1986) found evidence that women tend to increase their labor supply in the years immediately prior to a marital separation. This evidence supports the view that the women in question are rationally increasing their market human capital as a form of insurance when they perceive that the likelihood of divorce has increased significantly. Note, this is also consistent with the view that the increase in labor force participation raised the probability of divorce by increasing the stress in the marriage. Further investigation is needed to determine which direction of causation is most prominent.

A first response might be that increased child support payments by husbands, or the expectation thereof, could address this problem. Doing so may help mitigate the effects of 1. but not 2. Indeed, to the extent that better child support payments may be anticipated, the wife is likely to accumulate more HHC as the relative urgency of having sufficient MHC to earn a living is reduced by the expectation of the husband's higher payments. Compelling higher or more reliable support payments will not help (and indeed will aggravate) the inequalities of the "second shift." In general, *wives are likely to have a less market-specific human capital structure, even though the increase in the probability of divorce, ceteris paribus, increases the rate of labor force participation.* More specifically, although married women participate more in the workforce than they used to, their MHC structure is likely to be more general and less specific in nature than their husbands' (see figure 1 above) because the accumulation of more specific market-based human capital involves a greater sacrifice of HHC, which remains relatively more valuable to them to the degree that the cultural expectation remains that women shoulder a disproportionate burden of household production. Our point here is that the human capital structure that the cultural norm generates is reinforced by current divorce and custody law.

For example, a rise in the probability of divorce in a specific marriage involving children would be likely to discourage the wife from spending time acquiring training for specific types of MHC. Although we might expect to see wives in such situations attempt to increase their more general forms of MHC (such as computer skills, or perhaps finishing off a college degree), it would be less likely that they would be willing to take the time to invest acquiring very time-intensive specialized skills. This point is reinforced by the fact that single mothers are also likely to prefer jobs that offer them flexibility in scheduling and other compensating differentials. Such

jobs are more likely to involve more general forms of MHC (such as retail positions or secretarial work) rather than fairly specific ones (such as a professional job that demanded a great deal of travel or that had a high decay rate in the MHC necessary to keep current). It also remains to be seen what the effects of the rise in telecommuting has on this argument. To the extent that child-care and market work can be combined to take advantage of economies of scope in a single mother's time, it might make it more likely that women anticipating divorce will be able to invest in more specific forms of MHC, both during the marriage and afterward. An increase in the ability of divorced mothers with small children to earn good incomes while working at home would further reduce the benefits of marriage and reduce the losses associated with post-divorce custody.

The incentives facing the husband reinforce these conclusions. If the wife is expected to get the children in a divorce settlement, and if we focus on the costs of custody, then the loss from a divorce is likely to be greater for her than for her husband. This ignores the loss to the husband who desires custody, which could be substantial and which may in some cases outweigh the cost savings.¹⁷ Our assumption is that such cases are rare (although we note one such example below) and that, in general, the husband gains from the wife taking on the majority of the child-care. In any event, given the way custody usually goes, the husband is unlikely to plan for having to engage in any significant child-related household production after a divorce, whatever his feelings. *Given the labor market participation rates of women, a rising divorce rate thus works to reduce the amount of HHC that husbands accumulate.*

In an earlier era, when the household division of labor was more specialized, there was little incentive for men to acquire HHC, and with the decline in that specialization, men have

¹⁷ See Grossbard-Schechtman and Lemennicier (1999), in which the possibility that children may be used as hostages is discussed.

indeed acquired more than they used to. Strict theory would suggest, as McKenzie and Tullock (1975) argued over 30 years ago, that as men's and women's wage rates equalized, their opportunity cost of doing housework would equalize, thus the hours each devoted to that activity would equalize. As we noted earlier, this has not been the case. Men's contributions to household production have not kept up with the equalization of market wage rates for women. Our discussion here is offered as a possible answer to that puzzle, as we see the effects of the higher divorce rate and the likelihood of the mother getting physical custody causing a reduced effort in household production that partially offsets the increase coming from the lower relative opportunity cost (i.e., the smaller gains from specialization) of men engaging in household production.

This is true even for families that do not end in divorce. (In this way our discussion resembles the "separate spheres" non-cooperative bargaining model of Lundberg and Pollak 1993.) The wife, given the rising likelihood of divorce, and given the strong likelihood that she will get custody, has less leverage over her husband to get him to invest in HHC than she might have if divorce rates were lower or if physical custody were more equally shared. As a result, she is more likely to live with an imbalance in the gender division of labor in the household, where she continues to shoulder the bulk of the household duties in spite of working full or part-time in the labor market, and in spite of the fact that her husband is likely working fewer hours than his father did.¹⁸ The expectation that divorce is more likely is sufficient to generate the changes in each spouse's human capital structure.

The incentives for working mothers to accumulate household-specific human capital, and the corresponding incentives that lead working fathers to see little reason to acquire those skills,

¹⁸ See Jacobsen (1998: 107-11) for an overview of the evidence showing the decline in men's labor force participation at different age groups, and Cox and Alm (1999: 55) for data about the decline in the average length of the work day, week, year, and lifetime. A good illustration of this problem is found in Hochschild (1989, chapter 4).

provide an explanation for the unequal contributions to the second shift by husbands and wives. Furthermore, the process that produces the inequality of the second shift and that also produces the resulting leisure gap between husbands and wives (favoring the former) is self-reinforcing. If women fearing the joint prospect of custody and divorce have the (intrinsic or acquired) comparative advantage in child rearing, such fears will tend to be reinforcing as that advantage makes it more likely that they will be awarded custody. Legal and cultural institutions have evolved from, and perpetuate asymmetry in, the awarding of child custody, and this provokes asymmetry in the investments which, in turn, reinforce the asymmetry in child custody awards.

No-fault and the spoils of divorce

Is this situation “remediable?” Could not husband and wife anticipate these “inequities” and contract around them? A premarital payment (a bride price) for example to the wife (or her family) might serve this purpose, or the marriage contract may incorporate the contingency of divorce and specify payments between the parties in proportion to their contribution to the human capital of the family as a unit *and according to who is judged to be at fault*, thus providing a disincentive for opportunism (see, for example, Rowthorn 1999: 670ff). To the extent that this is possible (and it may be only to a limited extent owing to the intrinsic incompleteness of contracts), it will tend to encourage increased specialization in either household or market production, since it reduces the risk of divorce and the perils (to either spouse) of being locked into an unprofitable human capital structure. However, the recent and widespread trend in divorce law has been towards no-fault divorce, implying that any party may leave the marriage for any reason, coupled with a reluctance to apply considerations of fault in divorce settlements. This tends to raise the risks of divorce and puts a greater burden on prior

contracts to safeguard the financial position of the abandoned spouse, thus explaining the rise in the use of pre-nuptial agreements in the post-no-fault era.

There is some disagreement on the effects of the introduction of no-fault divorce.¹⁹ A complete contracting model would suggest that the parties would contract around any such effects in the long run through side payments. Thus a spouse contemplating abandoning the marriage may be deterred from doing so by a contract that divided the spoils according to the relative contributions to the net-worth of the marriage by either spouse.²⁰ The classic case is that of a husband whose wife's earnings has put him through medical school, prior to her settling down and having children, and who now finds a younger more attractive woman (Cohen 1987; Grossbard-Schechtman and Lemennicier 1999). Should the husband be liable to compensate the wife for her contribution to his human capital investment, including the long term earnings she has forgone by not accumulating extra market human capital (as she was working and could not continue her education)? A suitable contract would negate the effects of a no-fault law by requiring a degree of compensation that would, in effect, transform it into a consensual divorce (as would be predicted by the Coase Theorem). Thus there would be no long-term effect on the incidence of divorce from the introduction of a no-fault divorce system and the abandonment of a consensual one. In the short-term one would expect a bump in the divorce rate as some spouses took advantage of the new law which had not been anticipated in the marriage contract.

The evidence on this is mixed (see Peters 1992 and Allen 1998 for opposing views), but seems to support the case for a positive effect on the divorce rate (see the survey by Rowthorn 1999: 671-678, also Parkman 1998). This evidence suggests that such effects cannot be

¹⁹ See Parkman (2000) for a book-length economic critique of no-fault.

²⁰ As Grossbard-Schechtman and Lemennicier (1999) point out, the calculation of such 'net worth' is inherently problematic. Husband and wife will most likely have quite different estimates, as such estimates are based on different expectations and costs that are subjective in nature.

contracted around because of transactions costs and an extreme reluctance or impossibility of taking fault into account in divorce settlements. The move to no-fault was a reaction to couples having to either fake “faults” to get a divorce, or engage in costly monitoring of each other’s behavior to prove fault at the time of the divorce. No-fault was a clear transactions cost reducer. However, rather than being an exogenous cause of a reduction in the permanence of marriages, it was more likely an endogenous result of changes in the institution. By the 1950s and 60s, marriage had changed from a primarily economic (and before that, political) institution, to one centered around human happiness and psychological/emotional goals.²¹ As a result, marital partners, especially women, wanted out for reasons beyond the canonical “abuse, adultery, and abandonment.” They wanted to leave because they simply were not happy. No-fault was the response of legal institutions to this change in the institution of marriage. That change has, however, opened the possibility of the sort of opportunistic behavior noted above, which in turn has reduced further the benefits of marriage.

If one thinks of marriage as, at least in part, a contractual obligation, it is perhaps surprising that no-fault divorce as a norm would gain wide acceptance. Contractual obligations in general are, after all, predicated on the notion of performance and responsibility, with penalties for default. This is an important basis for a free and stable society based on market transactions. It is not clear why one would think a marriage contract to be so different as not to fulfill a similar purpose. Without it, as Rowthorn has remarked, it becomes difficult for the parties to make *credible commitments* to each other (1999: 663) and thus discourages the type of investments that make marriage attractive and durable. If partners to a marriage cannot be assured that the other will live up to the terms of the contract, they are less likely to invest in the sorts of relationship-specific forms of human capital that are necessary to sustain the marriage and the

²¹ See Coontz (2005) for a history of marriage that provides the support for this argument.

larger family that might result. It is here where the analogies to the firm make some sense: only where employees believe that their relationship with the firm will be ongoing will they be willing to invest in firm-specific forms of human capital.²² Such investments must be undertaken in an environment that promises a continuing relationship because firm-specific human capital investments make employees less marketable outside the firm.²³ In an environment where the probability of divorce is greater, marital partners have less incentive to do the very things necessary to sustain the marriage.

With rising economic opportunities for women and increased market substitutes for women reducing the net gains from marriage, perhaps the weakening of the ability of partners to make credible commitments to each other is not quite so problematic as it would have been a couple of generations ago. One way in which the marital contract differs from others is that the parties to the contract may well have legal obligations to third parties that emerge from the contractual relationship (e.g., children). In the current environment, the opting out of the marriage contract might be relatively costless for the contracting parties, but might have high costs for the children they are raising. No-fault divorce might well have been an understandable outcome of changes in the institution of marriage in terms of the preferences of husbands and wives, but the impact on children is not so clearly neutral. More generally, this discussion points out a paradox at the heart of the current cultural status of marriage: any specific marriage can be dissolved at largely at will, but we somehow need to continue the institution in one form or

²² Such analogies can be pushed much further, for example, in fruitfully considering the relationship between spouses to be closely analogous to the relationship between employer and employee as has been done in the definitive work of Grossbard-Schechtman (see for example Grossbard-Schechtman 1993). Work-in-marriage or “spousal labor” is a crucial determinant of labor supply more generally and, consistent with our arguments, differential patterns of human capital accumulation.

²³ One might view the institution of tenure in academia, especially at smaller schools, in precisely this way. Tenure encourages faculty at smaller schools to make the school-specific investments in human capital that are so necessary for colleges to function efficiently (e.g., committee work, getting to know the profile of the student body, creating relationships with administrators or trustees). It is not without some substance that the hiring of tenure-track faculty is sometimes analogized to a marriage.

another. The concern is whether the incentives that lead to more frequent divorce are also threatening the whole institution.

It is worth noting that the incentives created by no-fault do not necessarily apply only to the case of women afraid of being abandoned. Such a law may result in overly generous divorce settlements to the party who is primarily responsible for the break-up of the marriage. If there are children involved, and women are most likely to receive custody, the husband may find himself “deprived of his family home and paying a large part of his income to support a family from which he has been effectively expelled...[M]en will [thus plausibly] become increasingly mistrustful. ... Any system which makes generous, unconditional awards following divorce is inviting abuse” (Rowthorn 1999, 671).

Rowthorn notes a recent legal initiative that would appear to preserve the option to make marriage a more binding contract. In the late 1990s, the state of Louisiana introduced a twin-track system allowing couples to choose the kind of marriage they wanted. One type allows speedy, unilateral, no-fault divorce; the other is ‘covenant’ marriage, which is harder to terminate and for which speedy divorce is only available in the case of fault at the request of the injured party. The definition of fault is narrowly drawn. Couples can convert from no-fault to covenant marriage, but the reverse is not allowed (Rowthorn 1999: 685). It remains to be seen if this will serve as a standard for other legal jurisdictions. Evidence from Louisiana, however, suggests that very few couples are choosing this option.²⁴ This suggests that they desire the flexibility of current no-fault divorce law, even though it might work to the pecuniary disadvantage of women and create problems for children. There may well be strong non-pecuniary reasons that women wish to be able to leave marriages with the fewest transaction costs possible.

²⁴ Pardee (2001) indicates that only about 1-2% of couples statewide were choosing the covenant option in 2000.

The new dilemma that women face is that while they can make a go of it in the market by themselves and in that way do not “need” marriage as before, what they need is a partner for is household production, especially child-care. If they do not have sufficient income to purchase the kind of child care they want, they may look to marriage to provide the complementary HHC, or at least for enough MHC in a mate that enables them, the wife, to engage in household production and still have significant income, or for them together to be able to afford market substitutes for child care. Put somewhat differently, the decline in the benefits of marriage have mostly been in terms of the loss of uniqueness of men’s market incomes and the increased ability to purchase the outputs of household production on the market rather than having to produce them within the household.

Child custody laws and norms and rising divorce rates are thus ancillary and partial explanations of both the rise in labor force participation of married women and also of the persistent gender wage gap. If, statistically, either party were equally likely to obtain the children (if it were a matter of circumstance and fault), work-force participation among men might be more variable and overall more similar to those of women, human capital structures would be more similar and so also would earnings patterns. Under the current institutional environment, married women invest in less and/or different types of MHC. As a result they tend to crowd into different kinds of jobs: those that are more flexible, requiring less specific human capital and which allow them to continue to accumulate HHC. Due to these compensating differentials, these jobs tend to be lower-paying. The circumstances surrounding divorce and custody will tend to lead women to invest in MHC that is less likely to generate large incomes, and to look for jobs with flexible work conditions that allow them to continue to accumulate HHC.

Explaining the fall in the number of marriages

In the big picture, the story of the last half century is one of fewer marriages, fewer children and more divorces. In other words, fewer marriages are occurring and more are failing. Although the demographic and economic developments usually offered in this context seem to explain satisfactorily the falling rate of marriage, it is not clear that rising divorce rates, some of whose consequences we have noted above, have been equally well-explained.

Marriage may be looked at as a contractual project with an uncertain lifetime. It may terminate because of the death of either spouse or because of divorce. The longer the expected duration of the marriage, *ceteris paribus*, the higher the expected benefits from a “good” marriage (or the losses from a “bad” one – which is a contributing factor to the increase in time spent searching for a suitable mate, of which more below). Thus, the substantial increase in lifespan has tended to increase the benefits from marriage but also make it more likely that divorce rather than death will be the terminating factor. In addition, the cost of divorce has fallen. Changes such as the advent of no-fault rules and the disappearance of the stigma of divorce have made it easier for either party to dissolve the marriage in the face of a relevant unexpected outcome. *Ceteris paribus*, a fall in the cost of divorce would decrease the benefits from marriage because, as we have noted, the credible commitments that are often central to the joint production process central to a marital household are more difficult to make. The effect on a reduction in the cost of divorce works both directly and indirectly, through its effect on the accumulation of marriage-specific HHC, to increase the number of divorces and the probability of divorce. Some simple math illustrates this:

$$p = f(s,c) ; f_s < 0, f_c < 0$$

$$s = h(p,k) ; h_p < 0, h_k > 0$$

where, p = the (expected) probability of divorce, s = the value of specific HHC accumulated, c = the cost of divorce, and k is the number of children in the family. So,

$$| dp/dc | = | f_c(1 + f_s h_p) | > | f_c |$$

The total effect on the probability of divorce of a decline in the cost of divorce exceeds the direct effect alone in that investment in marriage-specific human capital is reduced (Becker 1981: 329n).

The cost of divorce, considered as an independent variable, could by itself be expected to account for part of the explanation of the decline in marriage benefits and the rise in divorce. A fall in the cost of divorce has implied a rise in the incidence of “bad” marriages. Looking only at the falling cost of divorce, people should be more inclined to enter into riskier marriages, since the cost of a mistake (the discovery at any point of time that the benefits are less than expected) can be more easily undone. Thus, a decline in the cost of divorce by itself should produce an *increase* not a *decrease* in the number of marriages, because the cost of making a bad marriage has gone down.²⁵ In addition, for the same reason, the search time for a suitable marriage partner should be reduced (which runs counter to the effect of increased lifespan mentioned above).

However, both of these implications run counter to the empirical reality that marriages are occurring less often and later. Of course, the decline in the cost of divorce is not an exogenous

²⁵ However, there has been some media attention to the rise of so-called “starter” marriages, where people in their 20s get married and divorce after a few years, normally before children are present. This has been characterized as a way for the partners to “test” marriage as an institution. These sorts of marriages are what one would expect with the lower costs of divorce. However, they have not been so frequent as to outweigh the effects we describe below that are causing reductions in the number of marriages.

event. It is plausibly the outcome of political and other initiatives in response to the perception that marriage benefits have declined, with no-fault divorce being one obvious example (Rowthorn 1999: 676).²⁶ So one may logically extend the search for more ultimate explanations.

Perhaps the “most ultimate” of causes is the expanding of opportunities for women in the labor market that has accompanied the increasingly complex division of labor and capital that are part of economic development. Labor-saving technological advances in household production would explain greater work-force participation by women, including married women, but it does not imply a decrease in the benefits of marriage. To the extent that the same degree of specialization could be accomplished without the household labor of the wife, the benefits of marriage might be enhanced (with the addition of the wife’s income and the extra home time available) and not reduced. A two-income household can take advantage of pooled income and economies of scale and scope in production and consumption to have differential benefits over two single-person households. In addition, the availability of household labor time from two adults might also be a net benefit, depending on whether or not the demand for household production increases more quickly than the supply grows when the household expands.

To explain the decline in marriage benefits, one must appeal to a relative rise in the wage rate available to women, and the accompanying increase in the cost of her time in the home. This, indeed, implies a reduction in scope for the division of labor in the home. *Thus, the division of labor in the economy as a whole, by increasing labor-market opportunities available to women, has reduced the division of labor within the family.* This is another way of looking at the increase in purchases of market substitutes for household production. It is the very same set of

²⁶ This contrasts with the perspective of Grossbard-Schechtman and Lemennicier 1999, who see causation going in the other direction; namely, that the legal environment, including no-fault divorce statutes, have reduced the gains from marriage. No doubt causation goes in both directions. The apparent unpopularity of optional covenant marriages in Louisiana lends credence to our interpretation but, obviously, more work on this is required.

economic forces that have provided women with labor force opportunities in eateries, child-care centers, and the household appliance retail sector, not to mention the professions, that have also reduced the degree of specialization necessary in the family. The scope of household production has shrunk as the scope of market production has widened. Changes in household technology and the availability of market substitutes for household production (and the increased income needed to afford them) have continued the long historical trend of more and more productive activity taking place outside of the household rather than in. With fewer things needed to be done within the organizational form of the household, the benefits of marriage, the primary way in which households are formed, have declined substantially, leading to fewer and later marriages.

As noted, another self-reinforcing process is in play here: a perception of a decrease in the benefits of marriage (to which one may be committed a longer time because of the increase in life span) plausibly leads to changes in the legal and cultural environment that reduce the cost of divorce, and this, in turn, further reduces the benefits from marriage and raises the probability of divorce. This also explains the decline in the incidence of marriage and the increase in age of (first) marriage. The latter is reinforced by noting that the opportunity cost of marriage is rising most rapidly at young ages when women are accumulating MHC, and tends to diminish with the increasing costs of accumulation. The dramatic increase in labor market opportunities for women has, therefore, two effects on the marriage rate. First, it increases the opportunity cost of marriage by increasing the opportunity cost of time spent in acquiring HHC rather than MHC, especially very specific forms of MHC. This cost is especially high in the early years in the job market where such forms of MHC are especially valuable on the margin and declines with the decreasing net benefits of further specific MHC as women (and men) age. Second, it reduces the

direct benefits of marriage by shrinking the sphere of activities that need to be done through household production. The finer division of labor that the presence of more women has brought to the marketplace has helped to create the very substitutes for household production that reduce the net benefits of marriage.

Uncertainty, plan failure, and the causes of divorce

The rise in the relative wage of women, increase in female labor force participation, decline in fertility, and decline in the cost of divorce thus combine (and interact) to explain the dramatic changes in the structure of marriage and the family over the last four decades. There is, however, an additional factor at work in this dynamic. We refer to the level of uncertainty produced by the rapid social and economic changes that have occurred over this period. Certainly, at least since the 1970's, there have been far-reaching and fundamental changes that have affected the workplace for both men and women and which have implied a loss of certainty with regard to lifetime careers that not surprisingly may have affected the ability to plan family life as well. This may be an ancillary and important influence on marital dissolution, and, indeed, the rise of single parent households (including those with never married parents).

Divorce may be said to occur in one of the two following circumstances:

1. the benefits from marriage turn out to be lower than expected, such that the net benefits of continuing the marriage are negative
2. the benefits from marriage, though they turn out as expected, become exhausted, so that the marginal net benefits of continuing the marriage are negative.

In the case of 2. it seems difficult to argue that divorce is an instance of "plan failure." As average life-spans continue to grow, we should not be surprised to see marriages exhausting

themselves. Given that marriage as being centrally about romantic love took hold in the 18th and 19th centuries when life expectancies at the age of marriage were shorter, it may well be the case that the institution is just incompatible with “until death do us part” when death might not take place for 50, 60, or 70 years after marriage. If sustaining the intensity of the marital relationship beyond a certain number of years becomes increasingly difficult, we would expect to see more divorces late in life, and there is some evidence to support this expectation.²⁷ If there is some sort of upper time limit to the sustainability of marriages, longer life spans might also contribute to the delayed entrance into marriage, as that becomes a way to avoid being alone or miserable at the end of one’s life by trying to ensure that the marriage will indeed reflect “until death do us part.” Given any reasonable discount rate, a willingness to give up current marital benefits for ones in the distant future suggests that the net benefits of marriage at a young age are quite low and/or that the benefits of marriage at the end of life are quite high. The former is compatible with the arguments advanced above, and the latter seems intuitively plausible as the companionship and joint resources of marriage would become more important when people retire from market production and return to the home, and potentially face illness and rising medical costs, toward the end of life.

Another option is that we may well see the rise of “serial marriages.” Paradoxically, it is conceivable that divorce could be planned, like short term ventures in business. It could be, that, in the current situation, with declining benefits from marriage, people plan shorter marriages; and this too is not at variance with the observed behavior in the marriage market. If there is an

²⁷ Some partial evidence for the idea that marriages may just “run their course” comes from data on the number of divorces among people over 60 in Michigan. In 1980, a total of 943 people between 60 and 95 filed for divorce. In 1990, that number was 2,108 and in 1998 it was 2,180, with the largest increases taking place in the over-70 group. See Edgar (2000). These marriages may indeed represent an exhaustion of the gains from marriage. Most of the people interviewed by Edgar, including those consulting counselors and lawyers, offer explanations consistent with our interpretation.

upper time limit on the sustainability of marriage, we might well begin to incorporate that into our plans, leading to more marriages, but of shorter length, as well as more divorce. However, neither these “serial” marriages nor late-life divorces need be seen as plan failures. Do note, however, that the expectation of engaging in serial marriages would imply a much lower payoff for investments in relationship-specific human capital, and thus would increase the likelihood of divorce and the prevalence of multiple short-term marriages. In terms of Austrian capital theory, the rise of serial marriages means less investment in specific forms of human capital, which in turn reduces the fineness of the complementarity of the household production plan, reducing its productivity. More general human capital is, *ceteris paribus*, less productive, especially in the intimacy of the marital relationship.

Nevertheless, though in these sorts of cases it may not be a very surprising event for the husband and wife, divorce is surely an instance of “plan failure” in the eyes of the non-adult children of the divorcing family, even if (as is often the case) it may be preferred to the continuation of a bad marriage. Whatever the plan, it is hard to argue that, in general, it is the best-case scenario for the parties involved. So, even if we take a probabilistic approach, and note that divorce, though it may not be a planned outcome, is one that has a substantially higher probability than heretofore, and, therefore, is not really unexpected, still, relative to the best-possible outcome (a successful continuing marriage) it is an instance of plan failure. Either way then, conditions may have conspired to render the environment more uncertain in a way that makes divorce more likely.

Anything that has made planning a successful marriage more difficult is a candidate in this regard. Douglas Allen (1998) suggests that no-fault divorce became more valuable after 1970 in part because of a significant change in the degree and type of work done by women after

World War II. In particular, the variance in female work patterns became greater and more difficult for potential mates to predict, so that more marriages occurred where mistakes in partner selection were made. Difficulties in predicting the wife's working pattern implies the complementary difficulty of predicting her productivity within the marriage (1998: 133). Allen (1998: 135) argues, "... [T]he variance in the type of marital contribution of women as wives has increased over the last fifty years." In other words, during the 1970s, it began to become more difficult for men to know exactly what a given woman's contributions to market and household production would be, given the flux in gender roles and opportunities that were taking place, and continue today. Further, Allen documents (quoting Ganong and Coleman 1992), that the variance in expectations between the spouses has increased as well. "Generally, young women expect more success for their future husbands than young men do for their future wives" (Ganong and Coleman 1992: 60-61).

The changes in workforce behavior among women have taken place in a context where large numbers of people still hold traditional views on the roles of women, and where just as large a number hold more progressive views. To the extent that these expectations are not communicated accurately or do not remain constant, they create problems in estimating the value of future productivity within marriage:

Hence when a man is assessing the marital contribution of a woman, he is more likely to make a mistake than in the past, since larger variances in expectations and actual work behavior increases the noise in estimation (Allen 1998: 136).

Allen continues:

On the other side of the marriage market, women have not experienced a large change in problems of estimating the productivity of future husbands (Ibid: 136).

This may be true, but labor market changes involving men certainly may have made it more difficult for women to find reliable spouses with whom to form a stable marital union. This may be the case particularly at the bottom of the economic and educational scale and among minority groups (see Coontz 1992: Chapters 10 and 11) where the earnings of young males are lower and unemployment rates are higher than that of whites.

Allen's discussion complements nicely one by Gillian Hadfield (1998). Hadfield conjectures that the distribution of labor-market jobs by gender may be a matter of coordination of human capital investment planning, as potential mates use the labor market as a signaling device. By observing the job in which a potential mate is engaged, one receives a signal about the degree to which his/her human capital is complementary to one's own. Cross cultural comparisons reveal that what emerge as male-jobs and female-jobs are highly variable and largely unrelated to any intrinsic characteristics of the job.

[E]ven in a world in which both men and women are equally adept at learning how to grow wheat or bake bread, if each of these skills requires substantial human capital investments before an individual knows with whom they will be breaking bread, there is a strong tendency for an economy to become organized along gendered lines: either men farm and women bake or vice versa. Trying to break out of these gendered categories, which are ultimately arbitrary from an economic point of view (on the assumption of zero differences between men and women) puts an individual at great risk of not finding a partner with whom he or she can combine skills so as to have bread to consume (Hadfield 1999: 143).

To the extent that this is true, that is, to the extent that men and women use labor market patterns to make successful predictions about beneficial human capital complementarities for marriage,

and to the extent that gender work-force patterns have undeniably become more variable, this too will make successful mate selection a more difficult task, and will help account for rise in the rate of divorce. Social uncertainty has made it more difficult for people interested in marriage to create “production plans,” as the human capital complementarity that is central to such plans is harder to predict accurately. This is the social equivalent of noisy price signals for physical capital. Just as noisy price signals are more likely to produce failed production plans, noisy signals about human capital will produce more divorces. And such divorces are fruitfully understood as plan failures.

From this perspective it is entirely possible, perhaps plausible, that the notable changes in the family that we have discussed above, may be the manifestation of a society in short-term transition, a disequilibrium situation.²⁸ Clearly, the economy of the U.S. has recently gone through, and may still be going through, a restructuring, during which the nature of work and the workplace has changed radically. The advent of the new information-based economy has transformed the career-track and the relationship between worker and employer, and has rendered much accumulated human capital obsolete. In so doing, it has also upset the ideal typical expectations that are central to social coordination, thus rendering accumulated social wisdom equally obsolete. In a society in this sort of economic and social transition, it becomes harder to predict accurately the behavior of others with respect to work, family, and gender roles, thus making plan failure more likely. The decline in marriage rates and later average age of first marriage may be ex ante responses to both lower average benefits of marriage early in life and

²⁸ From an Austrian market process perspective markets are never really in equilibrium. Individuals always have plans that are inconsistent at some level (see Lewin 1997) – such is the nature of rivalrous competitive activity. We are referring here to an increase in the unpredictability of plans. That is, plans always face a certain degree of uncertainty, but, with the increase in the rate of social change the level of uncertainty has risen, perhaps temporarily.

greater variance around that lower mean, due to the uncertainty associated with cultural and economic transitions. The higher divorce rate may be an ex post response to the same factors.

From an evolutionary standpoint, the current average family “strategy” of late marriages, frequent divorces and, most importantly, few children, cannot be a stable or dominant one. Logically something must eventually replace it. It would, for example, certainly be overwhelmed eventually by a persistent “natalist strategy” dedicated to the production of at least three children who are, in turn, dedicated to the same strategy. A society that is not committed to at least replacing itself will eventually disappear, though, of course, it would take many generations. Similarly, a society that began with only a small proportion of its families dedicated to its replacement would take many generations to become overwhelmed by them. As Bergstrom (1996: 1912) has noted:

Perhaps the low birth rates currently observed in the West do not represent long-run equilibrium. ...In most countries of Western Europe and North America, low average birth rates have been present for only three or four generations – far too short a time for vertical transmission [across the generations] to replace the low-fertility norm.

Two questions remain: 1) as economic development spreads worldwide, will the human race as a whole settle into fertility patterns that are sustainable in the long-run; and 2) will the recent changes in work, family, and gender roles in the Western world ever settle into patterns that will reduce the current uncertainty, or will new social institutions develop to help actors navigate that uncertainty should it continue?

Conclusion

We have taken a broad look at some diverse aspects of the changing scenery surrounding modern family life. Much remains to be done to understand fully the momentous changes that have and are occurring. And, it is clear, whatever diagnosis one finds persuasive, there is no going back. The family will never be the same. Families have changed all throughout human history. They have varied in size, duration, composition, and function. They will continue to change. What the future family will look like is anyone's guess. We have suggested that the current trend toward smaller families of shorter duration may not be a stable evolutionary strategy. To the extent that families have a comparative advantage in the transmission of certain types of valuable human capital across generations (Horwitz 2005b), and to the extent that such families are held together by altruistic behavior manifesting in the desire for and care of children in numbers large enough to reproduce the family unit, one may expect such behavior to eventually overwhelm other, more individualistic behaviors.

Indeed, the possibilities for future developments, portending a rise in the fertility rate, are many. The fundamental "challenge" that faced families in the industrial era was that "work" and "home" became geographically separate, creating the need for a more distinct division of labor between market and household. In agricultural families, work and home were most often the same place, enabling wives to contribute both to the market work of the farm and the household production of the home (although this was mitigated by the larger number of children associated with rural families). In a world of telecommuting, where work and home are once again converging but without an economic need for large families, we may well see families that blend work and child-care in creative ways. To the extent such changes lower the cost of child-care, it may well bring fertility back up. That is, if women can work more easily while pregnant and

either parent can work more easily (and not have to purchase child-care on the market) while the children are very young, it may well raise family size. The post-industrial era may recapture the blurred lines between work and home of the pre-industrial era, but with enough wealth to enable families to reproduce themselves and invest the human and financial capital necessary to prepare those children for the lives they will lead into the future.

References

- Allen, D. W. 1992. "Marriage and Divorce: Comment," *American Economic Review* 82: 679-685.
- Allen, D. W. 1998. "No-fault Divorce in Canada: Its Cause and Effect," *Journal of Economic Behavior and Organizations* 37: 129-149.
- Becker G.S. 1981 *A Treatise on the Family* Cambridge: Harvard University Press.
- Bergstrom, T. C. 1996. "Economics in a Family Way," *Journal of Economic Literature*, 34: 1903-1934.
- Chiswick C. & Lehrer E. 1990. "On Marriage-Specific Capital: Its Role as a Determinant of Remarriage," *Journal of Population Economics* 3: 193-213.
- Coase, R. H.. 1937. "The Nature of the Firm," *Economica*, 4, November.
- Cohen, L. 1987. "Marriage, Divorce, and Quasi-Rents; or, 'I Gave Him the Best Years of My Life'," *Journal of Legal Studies* 16: 267-303.
- Coontz, S. 1992. *The Way We Never Were*, New York: Basic Books.

- Coontz, S. 2005. *Marriage, a history: From obedience to intimacy or how love conquered marriage*. New York, New York: Viking.
- Cox, W. M. & R. Alm. 1999. *Myths of Rich and Poor: Why We're Better Off Than We Think*, New York: Basic Books.
- Demsetz, H. 1997. *The Economics of the Business Firm : Seven Critical Commentaries* Cambridge University Press.
- Edgar, J. 2000. "Marriage Plunge Getting Colder," *Detroit Free Press*, May 31.
- Foss, N. 1997. "Austrian Insights and the Theory of the Firm," *Advances in Austrian Economics* 4: 175-198.
- Ganong L. & Coleman M. 1992. "Gender Differences in Expectations of Self and Future Partner," *Journal of Family Issues* 13: 55-64.
- Grossbard-Schechtman, S. 1993. *On the Economics of Marriage: A Theory of Marriage, Labor, and Divorce* Boulder: Westview Press.
- Grossbard-Schechtman, S. A. & Lemennicier, B. 1999. "Marriage Contracts and the Law-and-Economics of Marriage: an Austrian Perspective." *Journal of Socio-Economics*, 28: 665-690,.
- Hadfield, G. 1999. "A Coordination Model of the Sexual Division of Labor," *Journal of Economic Behavior and Organization*, 40: 125-53.
- Hartmann, H. J. 1981. "The Family as the Locus of Gender, Class and Political Struggle: The Example of Housework," *Signs* 6: 366-394.
- Hill, M. S. 1985. "Patterns of Time Use," in Juster, F. T. and Stafford, F. P. eds. *Time, Goods and Well Being* Ann Arbor: University of Michigan.
- Hochschild, A. R. 1989. *The Second Shift*. New York: Avon.

- Horwitz, S. 2005a. "Two Worlds at Once: Rand, Hayek, and the Ethics of the Micro and Macro-cosmos," *Journal of Ayn Rand Studies*, 6: 375-403
- Horwitz, S. 2005b. "The Functions of the Family in the Great Society," *Cambridge Journal of Economics*, 29: 669-84.
- Jacobsen, J. P. 1998. *The Economics of Gender*. Malden, MA: Blackwell.
- Johnson, W. R. & Skinner, J. 1986. "Labor Supply and Marital Separation," *American Economic Review* 76: 437-54
- Lachmann, L. M.. 1978 [1956]. *Capital and Its Structure*, Kansas City: Sheed Andrews and McMeel.
- Langlois, R. N. 1992. "Transaction-cost Economics in Real Time." *Industrial and Corporate Change* 1: 99-127.
- Lewin, P. 1997. "Hayekian Equilibrium and Change," *Journal of Economic Methodology* 4: 245-266.
- Lewin P. 2006. "The Firm in Disequilibrium: Contributions from the Austrian Tradition" *Advances in Austrian Economics*, Forthcoming.
- Lewin, P. & Phelan, S. 1999. "Firms, Strategies, and Resources: Contributions from Austrian Economics," *The Quarterly Journal of Austrian Economics* 2: 3-18.
- Lundberg, S. and Pollak, R. A. 1993. "Separate Spheres Bargaining and the Marriage Market," *Journal of Political Economy* 101: 988-1010.
- McKenzie, R., & Tullock, G. 1975. *The New World of Economics*. Homewood, IL: Richard Irwin.
- Pardee, J. 2001. "A Prenuptial for the Masses: Examining the Theory and Implementation of Covenant Marriage in Louisiana." M.A. Thesis, Sociology, Tulane University.

- Parkman, A. 1998. "Unilateral Divorce and the Labor-Force Participation Rate of Married Women, Revisited," *American Economic Review* 88: 671-678.
- Parkman, A. 2000. *Good Intentions Gone Awry*: Lanham, MD: Rowman and Littlefield.
- Peters, E. 1992. "Marriage and Divorce: Reply," *American Economic Review* 82: 686-691.
- Robinson, J. P. 1988. "Who's Doing the Housework," *American Demographics* 10, 12: 24-28.
- Robinson, J. P. and Godbey, G. 1997. *Time for Life: The Surprising Ways Americans Use Their Time*, University Park: The Pennsylvania State University Press.
- Rowthorn, R. 1999. "Marriage and Trust: Some Lessons from Economics," *Cambridge Journal of Economics*, 23: 661-691.
- Sautet, F. 2000. *An Entrepreneurial Theory of the Firm* New York and London: Routledge.
- Vaughn, K. I. 1994. *Austrian Economics in America: The Migration of a Tradition* Cambridge: Cambridge University Press.