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### Theoretical Implications for Marriage

The general theory of marriage based on price theory that was presented in Chapter 3 can be applied to the study of a variety of aspects of marriage. This chapter develops some hypotheses regarding incidence of marriage and divorce, consensual unions, distribution of power in the house hold, and incidence of dowry and bride wealth. It also summarizes other hypotheses regarding divorce, intermarriage and polygamy that are developed elsewhere in the book.

This chapter starts by summarizing the theoretical framework found in the previous chapter. The theory is then extended in ways amenable to the study of various aspects of marriage. The compensation for spousal labor, the quasi-wage  $w^*$ , is decomposed into components capturing various aspects of marriage. In the discussion found at the end of this chapter one can find a partial comparison between this theory of marriage and two alternative theories widely used by social scientists who engage in the study of marriage: resource theory and sociobiological theory.

This market theory of marriage is an expansion of labor economics. It views wives and husbands as performing a variety of labor-services for each other in the framework of marriage or sexual cohabitation (we temporarily ignore formal and ceremonial distinctions). The term *spousal labor* is used to include any task people perform for the benefit of a spouse or partner

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and beyond their own needs. Examples of such tasks include child-bearing, child-rearing, household chores, or spouse counseling.

The exact composition of spousal labor varies from marriage to marriage and from culture to culture. Parenting services are an important component, but they are by no means essential to marriage.<sup>1</sup> People with no intention to bear children marry in many societies. Some spousal labor is performed exclusively by women (childbearing, for example), and in most societies many other services are performed principally by women.

Most people are ready to perform spousal labor. The amount of time they are willing to devote to such activity depends on the hourly compensation involved. The relationship between readiness to work as a spouse and compensation level for such work can be depicted as a supply of spousal labor. A supply of spousal labor depicted in panel *a* of Figure 3.4 indicates how individual *i* is willing to supply more hours of spousal labor at a higher compensation level  $w^*$ .

Most people are interested in obtaining spousal labor. For instance, a man's demand curve indicates how much female spousal labor he wants to obtain at different levels of compensation. Most women are also interested in obtaining spousal labor from men. A woman's demand curve indicates how much male spousal labor she wants to obtain at different levels of compensation. Generally, the cheaper a service, the more its users will rely on it, and therefore demands for spousal labor are downward-sloping.

Men and women involved or interested in marriage are interrelated via markets for spousal labor. Markets for spousal labor (or marriage markets) are obtained when aggregate demand for spousal labor and supply of spousal labor are juxtaposed. In the marriage market for women, the demand for spousal labor is by men and the supply of spousal labor by women, while in the marriage market for men the demand for spousal labor is by women and the supply of spousal labor is by men.

A market equilibrium is obtained at the intersection of demand and supply. In the markets for men's and women's spousal labor depicted in panels *a* and *b* of Figure 3.4, the equilibrium  $w_m^*$  and  $w_f^*$  stand respectively for the average compensation that men are willing to offer women and that women are willing to offer men in order to

have a spouse work for them.<sup>2</sup> Marriage tends to occur between individual men and women who satisfy each other's demand for spousal labor at the equilibrium  $w^*$  levels. A net transfer occurs if the value of one spouse's labor, as valued in the relevant marriage market, exceeds the value of the other spouse's labor. As women typically engage in more spousal labor than men, such net transfer is typically "paid" by the husband to the wife. This transfer is termed the compensation for women's spousal labor or women's spousal income.<sup>3</sup>

The word "paid" has to be interpreted in a general way, for unlike compensations for other types of labor, the compensation for women's spousal labor is mainly non-monetary. In most societies, this compensation can be decomposed into the following elements: a material component consisting of goods and services consumed by the wife (including food and shelter), and a non-material component consisting e.g. of household services performed by the husband for the wife's benefit, expected stability of the relationship, or relative power of the wife in the home.

Market forces establish an equilibrium value of quasi-wage  $w^*$ , but do not specify the form compensations for spousal labor may take. Cultures vary widely in the rules, guidelines, and customs by which they regulate total compensation for spousal labor and its components. In societies where marriage is basically the only honorable way by which women can make a living, the material compensation for spousal labor takes on more relative importance than in societies where women have other ways to support themselves materially. Laws can affect the size and composition of compensations for spousal labor, e.g., by determining how a husband's property passes to his wife, by requiring that certain powers be given or be taken away from women, or by punishing husbands who abuse their wives.<sup>4</sup>

Certain forms of compensation for spousal labor are found only within a particular cultural context, while other forms are found in many cultures. Trade-offs tend to occur between the different components. The following aspects of marriage may be components of the compensation for spousal labor.

*Marriage Formality.* Most cultures make distinctions between

formal unions called marriage and informal unions or cohabitation. Even though one notices many moves to equalize the rights of common-law and legal wives (Bruch 1981), it still remains true that under most circumstances legal wives are entitled to more protection in case of separation or husband's death. As a result, formal marriages tend to be more stable than cohabitating unions. The higher expected stability associated with marriage formality can be viewed as a component of the compensation for spousal labor, to the extent that people prefer a commitment from their mate.

It may be assumed that women have a higher desire for commitment than men due to the higher costs they may anticipate from an unexpected marital disruption, especially if children are involved. Consequently, given that net transfers of compensations for spousal labor tend to go from husband to wife rather than *vice-versa*, women may obtain part of their net compensation for spousal labor in the form of a promise of increased stability.

*Power.* To the extent that people generally prefer to be more in control of their lives, they prefer to make decisions related to their relationship with their spouse and the spousal labor they perform. Power is used in the sense of *orchestration power* and is defined following Safliios-Rothschild (1976) as "the power to make not only the important and frequent decisions that do not infringe upon their time but that determine the family life style and the major characteristics and features of their family." The higher her total compensation for spousal labor, the more a married woman is likely to have power in household decision-making.<sup>5</sup> Factors associated with high compensations for women's spousal labor are therefore likely to increase these women's power. A few such factors are analyzed in this chapter, leading to a number of hypotheses.

*Dowry and Bridewealth.* Another aspect of marriage also relates to  $w^*$ , but is of a different nature. In certain cultural contexts, bridewealth or dowry payments are negotiated prior to marriage. Bridewealth and dowry are very different from each other. *Bridewealth* is usually paid to the wife's relatives prior to marriage, with the wife rarely benefiting from that payment. *Dowry* is usually paid by the wife's relatives to the couple getting married.

Such transfer payments at marriage originate from rigid rules

regarding compensation levels for spousal labor after marriage. If elements of women's compensations for spousal labor are fixed by law or tradition, individual variations in spousal compensations after marriage will be limited. Consequently, one may find transfers negotiated prior to marriage which capture some of the positive or negative differences between the net compensation for women's spousal labor set by law and the value of such compensation, had market-clearing  $w^*$  been allowed to operate.<sup>6</sup> For instance, if women's equilibrium  $w^*$  is very low, and the  $w^*$  set by law exceeds the equilibrium  $w^*$  (which is especially likely when a substantial portion of the compensation for women's spousal labor consists of in-kind and indivisible goods such as housing), one may find a compensatory dowry payment made prior to marriage. Such payment is a transfer from the wife's family to the groom (or his family). In contrast, if the equilibrium  $w^*$  in the market for women's spousal labor is substantial relative to a society's standard of living, but laws and customs prevent women from receiving compensations for spousal labor corresponding to their market value after marriage, then one tends to find transfer payments called bridewealth, which are paid by the groom and his family to the relatives of the bride who control her marriage decision.

*Polygamy.* Within a different cultural context, that of a polygynous society, the number of co-wives in a household can be viewed as a component of the value of spousal labor.<sup>7</sup> One expects that in a polygynous household at least one category of spousal labor that husbands supply to wives will on average be inferior to what it would be in a monogamous situation, namely spousal labor necessitating the husband's physical availability and readiness.<sup>8</sup> In a polygynous society, women with low  $w^*$  are less likely to obtain monogamous privileges than women with high  $w^*$ .<sup>9</sup> Hypotheses regarding polygamy are derived in Chapter 11.

### **Overview of Hypotheses**

This book offers hypotheses covering a wide range of dependent variables related to marriage: incidence and timing of

marriage, cohabitation and marriage formality, conjugal power, bridewealth and dowry, intermarriage, divorce and polygamy. These hypotheses are summarized in Table 4.1, which lists dependent variables in columns 1 to 8, and explanatory variables in rows 1 to 12.<sup>10</sup> The numbers in the boxes indicate the hypothesis number used throughout this book. The hypotheses are numbered sequentially according to their order of appearance in Parts Two to Four. (Another set of hypotheses regarding productivity at work and earnings is found in Part Six). Footnotes at the end of the table refer readers to the chapter in which the hypothesis is presented. Where no chapter is mentioned, the hypothesis is presented later in this chapter.

Given gender asymmetry in marriage, hypotheses are specified by gender. For simplicity, each aspect of marriage will be studied mostly from the perspective of one gender, generally women's.

In explaining these various aspects of marriage, we use explanatory variables at both the micro-individual level and the macro-aggregate level. *Macro* level explanatory variables include characteristics of nations, cultures, and marriage markets. They influence individual marital behavior by influencing things such as the importance of children, the existence and costs of substitutes for spousal labor, the relative number of men and women in a marriage market, the size of a marriage market, inequality among men, inequality among women, and the prohibition of polygamy. The *micro* explanatory variables included here are female wage, female income, female spousal productivity, male income, male spousal productivity, and previous divorce. Examples of indicators of spousal productivity, i.e. productivity in spousal labor, are education (assuming other effects of education have been controlled for) and age. Variables such as physical appearance and basic personality characteristics are also very important in influencing marital behavior. However, relative to the variables covered here, they are relatively more difficult to measure and are not as likely to produce macro-level changes or differentials in marriage.

The hypotheses all deal with partial effects, i.e. when looking at the effect of a particular variable, it is assumed that all other variables are held constant. These hypotheses deal with comparative statics in the sense that

we compare two situations differing in terms of one element, and the dynamic process of change is overlooked.

In this chapter little evidence is reported regarding the validity of these hypotheses. Some of the hypotheses are tested in later chapters. The hypotheses can be tested using (1) cross-cultural comparisons. For instance, does a particular society have certain laws or customs, such as dowry or bridewealth, polygamy, or consensual union, (2) individual variations in such aspects of marriage within a given society, or (3) time series.

The rest of this chapter explains many of the hypotheses. The following discussion is organized by dependent variable, i.e. by column in Table 4.1. At the end of the chapter, there is a brief discussion by row--i.e. by explanatory factor--as well. Table 4.1 starts by summarizing the five hypotheses dealing with women's labor supply that were derived in the previous chapter. Column 1, labelled "woman in the labor force," also includes additional hypotheses that will be presented in later chapters. The next column contains hypotheses regarding incidence of marriage, to which we turn now.

### **Incidence of Marriage and Divorce**

Incidence of marriage can be measured in many different ways, such as percentage of the population married by a certain age, likelihood that a particular individual or group is married, or average age at marriage. High incidence of marriage also tends to be associated with low divorce rates. Any factor causing an increase in the supply or demand of spousal labor is expected to increase the incidence of marriage.<sup>11</sup> A systematic inquiry into factors that can possibly explain increases in demand and supply of spousal labor leads to a series of hypotheses. Many of these hypotheses regarding the incidence of marriage are similar to hypotheses that have previously been developed in the sociological and economic literature. The discussion starts with three macro level factors: demand for children, cost of substitutes for spousal labor, and numbers of men and women (sex ratio).

### *Macro Level*

***Demand for Children.*** The demand for spousal labor is a positive function of the demand for children. The individual demands for spousal labor by both men and women depend on the value of children. In all societies, given the scarcity of substitutes for a wife's childbearing capacity, the value to men of motherhood services is an important component of the value they place on a unit of spousal labor.<sup>12</sup> Men to whom children are very important may also be willing to supply more spousal labor to their wives than men who do not care much about children.

Women's demand for men's spousal labor and their supply of spousal labor also depends on the demand for children. Women placing importance on having children within wedlock and wanting more such children have a higher demand for spousal labor by men than women who do not. The importance of legitimate children to women can also be seen as a factor leading to a large supply of spousal labor by women.<sup>13</sup>

The higher the demand for women's spousal labor, and the higher the supply of women's spousal labor, the higher the incidence of marriage. Likewise, the higher the demand for men's spousal labor, and the higher the supply of men's spousal labor, the higher the incidence of marriage. At this stage marriage stands for any monogamous relationship between men and women, and variations in marriage formality are ignored. Given that an increase in the demand for children causes an increase in all demands and supplies of spousal labor, it follows that

#### *Hypothesis 6*

*The more important children--in particular, legitimate children--are in a society, the higher the incidence of marriage and the lower the incidence of divorce.*

This implies that where children are more important, and where it is more important to have children within wedlock, one expects to find a higher percentage of the population who will have married at least one time before they reach the end of their reproductive career. One also expects to find an inverse relationship between number of children per marriage (typically a function of

importance of children) and divorce, as the same reasons who lead people to marry will lead them to stay married.

There is plenty of empirical evidence showing that marriage is related to the demand for children, and particularly legitimate children. For instance, the incidence of marriage is considerably higher in countries where fertility rates are high than in countries where fertility rates are low. It has also been found that children often act as a deterrent to divorce.

***Cost of Household Help.*** The demand for spousal labor is a positive function of the cost of other services that could substitute for spousal labor. Both the individual demands for spousal labor by men and by women depend on the cost of these alternatives. For instance, if men do not like to cook, or are not allowed to cook as is the case in some cultures, they are more likely to desire spousal labor. Also, the harder it is for women to find substitutes for husband's spousal labor and the more costly such substitutes, the higher women's demand for spousal labor. Where women have restricted property rights, for instance, wealthy women have a high demand for husbands as managers of their property.

At the same time, if it assumed that spousal labor complements activities people perform for their own satisfaction, the higher the costs of substitutes to spousal labor, the more individual men and women will be willing to supply such labor.<sup>14</sup>

Given that an increase in the cost of substitutes to spousal labor is expected to cause increases in all demands and supplies of spousal labor, it follows that

*Hypothesis 7*

*The more costly substitutes to spousal labor, the higher the incidence of marriage and the lower the incidence of divorce.*

An example of evidence supporting Hypothesis 7 can be found in the effect of the AIDS epidemic on monogamous relationships. Casual sexual relationships are a substitute for monogamous sexual relationships, one aspect of the exchange of spousal labor. Even though we are not witnessing significant increases in the incidence of marriage since the epidemic became a serious

problem (many other factors affect changes in incidence of marriage over time), monogamous relationships--often taking the form of cohabitation--may be on the rise (Cooper 1992). Another example can be found among the Kanuri, a people living in Eastern Nigeria. Kanuri custom prohibits men from cooking and grown sons often do not have the option of eating at their mother's home. This increases their demand for spousal labor and helps explain why the percent of women who are married is very high among the Kanuri (Cohen 1971).

***Marriage Squeezes.*** Marriage squeezes for men tend to occur when the sex ratio--the number of men divided by the number of women--exceeds 1, and the opposite is true of marriage squeezes for women. As was shown in Chapter 3, the larger the number of men (or the smaller the number of women) in a society, the higher the aggregate demand for women's spousal labor, and the larger the total amount of spousal labor performed by women (assuming the number of women is constant.) Furthermore, increasing numbers of men in the market results in a higher aggregate supply of spousal labor by men, which does not mean a higher incidence of marriage among men.<sup>15</sup> Such increase in the relative number of men can cause a marriage squeeze for men. In interpreting the following hypotheses it is important to remember that, so far, marriage has been defined as a monogamous union, whether formalized or not.

**Hypothesis 8.1**

*Marriage squeezes for men in a society are expected to be associated with a higher incidence of marriage among women than marriage squeezes for women.*

If the number of women increases, and monogamy is legally imposed as the only legal form of sexual union,<sup>16</sup> a symmetric argument implies that

**Hypothesis 8.2**

*Marriage squeezes for women in a society are expected to be associated with a higher incidence of marriage among men than marriage squeezes for women.*

A higher incidence of marriage tends to be associated with a

lower incidence of divorce. Therefore, Hypothesis 8.1 is related to Hypothesis 8.3:

*Hypothesis 8.3*

*Marriage squeezes for men in a society are expected to be associated with a lower incidence of divorce among women than marriage squeezes for women.*

Likewise, the number of men, the number of women, sex ratios and marriage squeezes are also expected to be associated with variations in divorce among men. Let us now turn to the effect of some individual (micro) differences within a population--the effect of income, education and age--on the incidence of marriage.

***Micro Level***

Here it is worth noticing that these variables are likely to have a different impact on various measures of the incidence of marriage. In particular a distinction needs to be made between effects on likelihood of marriage and likelihood of divorce. A distinction also needs to be made between variations over time experienced by particular individuals, and variability across individuals.

***Income.*** Consider overall increases in income over time, or a comparison between low-income and high-income societies. Consider income which originates from sources other than labor and assume wages are constant. Income changes can affect marriage due to shifts in both demand for spousal labor and supply of spousal labor. Let us look at the demand side first. The higher their income, the more people tend to desire most goods and services, including spousal labor. Goods whose demand increases with income are called normal goods in economics. It is assumed that goods produced by spouses are normal from the perspective of both men's and women's demand for the spousal labor needed to produce such goods. For instance, as people's income increases, they may demand more spousal labor in the form of feedback through communication, intimacy, gourmet meal preparation, entertainment, etc. It implies that (everything else being constant) demand for spousal labor is likely to increase as income

increases. We now turn to the supply side.

Men and women are generally less willing to work as their income increases, and this includes reduced willingness to supply spousal labor. This is where the so-called *independence* effect comes in. If they can afford it, many individuals prefer to work less in general, which includes less work in spousal labor. Consequently, one expects lower supplies of spousal labor as income increases. Increases in income are thus expected to be associated with lower supply and higher demand for spousal labor by both men and women. In other words, within a market for women's spousal labor for instance, an increase in income causes shifts in demand and supply going in opposite directions. As pointed out in Chapter 3, in equilibrium a market for spousal labor establishes a quantity--the amount of spousal labor supplied, which corresponds to certain levels of incidence and timing of marriage--and a quasi-wage  $w^*$  for spousal labor. Figure 3.4 shows such shifts in demand and supply due to income increases.

The net effect of these four shifts caused by an increase in income--two left-ward shifts in supply and two right-ward shifts in demand in two different markets--is ambiguous in terms of their impact on quantity of spousal labor supplied. Within each market--spousal labor by men and women--it is not clear whether shifts in demand will dominate shifts in supply or *vice-versa*.<sup>17</sup> If a right-ward shift (increase) in demand exceeds a leftward shift (decrease) in supply we expect an increase in quantity of spousal labor supplied, corresponding to an increase in incidence of marriage. However, if a left-ward shift in supply exceeds a right-ward shift in demand, we expect a decrease in the incidence of marriage. People will marry more and divorce less if the income effect on demand for spousal labor dominates the income effect on supply of spousal labor.

It follows that when all individuals in a marriage market experience changes in income,

#### Hypothesis 9

*There is no clear prediction regarding the effect of income on incidence of marriage. An income effect on marriage will be positive if the effect of income on demand for spousal labor dominates its effect on the supply of spousal labor.*

Previous studies analyzing income effects on marriage and

divorce have often overlooked one or the other of these two sides. For instance, in analyzing such income effects Becker (1973) has basically ignored the supply of spousal labor. He assumed income affects gain from marriage, and his concept of gain from marriage corresponds to the sum of the consumer surpluses under the demand for spousal labor by men and women. Consequently, his theory leads to the prediction of positive effects of permanent expected income (see below) on the likelihood of marriage. Other studies have overlooked the demand side, focussing on the independence effect related to supply.

The effect of income on marriage and divorce depends also on whether an income change is expected to be permanent or transitory. A transitory increase in income is expected to last over a short period and is likely to have a limited effect on behavior. In contrast, increases in permanent income--expected to last over a long future period--are likely to have a substantial impact on demand and supply of spousal labor. The effect of income on marriage and divorce is also a function of how many people experience similar changes in income. If expected changes in income are limited to selected individuals in a marriage market, this may induce such individuals to prefer a strategy of sequential marriage and divorce, the partner chosen to suit individual needs at a particular stage in the life-cycle. If a significant proportion of the individual men or women in a marriage market experience similar changes in income, income changes are not expected to have much of an impact on marriage and divorce (see Chapter 10).

A further determinant of income effects on marriage and divorce is the extent to which income changes are expected or unexpected at the time of marriage. Unexpected changes can lead to changes in demand and supply of spousal labor. To the extent that conditions in marriage markets and quasi-wages for spousal labor based on market conditions do not change, such unexpected changes can cause excess demand or excess supply of spousal labor, and therefore may cause divorce.

*Hypothesis 9'*

*Unexpected changes in income lead to divorce.*

Expected changes may not affect the demand or supply of spousal labor as much as unexpected changes, and therefore are less likely to cause divorce.

Empirically, whether we compare countries or individuals within a given society, there does not seem to be a clear association between income and incidence of marriage. More on income effects on divorce, including an empirical analysis, is found in Chapter 10.

**Wages.** When analyzing the effects of changes in wages that can be obtained in the labor market, we need to make a distinction between own wage effects--i.e. the effect of changes in a person's own wage--and spouse's wage effects. Let us start with own wage effects. People who can earn higher wages in the labor market are likely to experience a decrease in their supply of spousal labor. This follows from the choice people often have between earning income by working in a regular job or by working as a spouse in the context of marriage, a choice available to women more than men. So on the supply side, increases in wage clearly cause left-ward shifts in supply, what could be called independence effects. More precisely, this follows from both an income effect and a substitution effect (substitution between two kinds of labor). Again, demand and supply of spousal labor are expected to be affected in opposite directions. Even if an increase in wage is compensated by a corresponding reduction in income, i.e. we have a compensated wage effect, such increase in wage is likely to cause an increase in the demand for spousal labor. This follows from the possible substitution between own time and spouse's time in the household. The higher the wage, the more an individual will seek to replace his or her own time in the household for others' time, including labor by a spouse.<sup>18</sup>

When spouse's wages increase, people are expected to demand less spousal labor. They substitute other services and commercial goods for spousal labor. They may also replace spousal labor with their own labor, which implies that they supply more spousal labor themselves. When all wages change, we thus have a complex case of demand- and supply-driven shifts in markets for male and female spousal labor. Consider a specific example, the case of an increase in female wages, which can be interpreted as an own wage effect for women, and as a spouse's wage effect for men.

When female wages increase, both the demand for female

spousal labor by men and the supply of female spousal labor by women decrease, which clearly implies less marriage among women. However, the demand for male spousal labor by women and the supply of male spousal labor by men is expected to increase, which implies more marriage among men. To the extent that the effects of an increase in female wages on female spousal labor dominate the effects of an increase in female wages on male spousal labor, it is predicted that

Hypothesis 10

*Higher female wages are expected to be associated with a lower incidence of marriage, especially so, the more women's spousal labor is important in comparison to men's spousal labor.*

This implies that women earning higher wages are less likely to be married and more likely to divorce. Empirical evidence in support of this hypothesis is mixed (see Oppenheimer 1992). The absence of conclusive evidence in support of Hypothesis 10 and the apparent association between a time trend towards higher female wages and lower participation of men in the labor force suggests that we can not ignore male spousal labor when analyzing the effect of female wages on the incidence of marriage.

When male wages increase we expect both the supply of spousal labor by men and women's demand for men's spousal labor to decrease. At the same time, the supply of women's spousal labor and men's demand for women's spousal labor are expected to increase. To the extent that changes in the market for women's spousal labor dominate changes in the market for men's spousal labor, it is predicted that

Hypothesis 11

*Higher male wages are expected to be associated with a higher incidence of marriage, especially so, the more women's spousal labor is important in comparison to men's spousal labor.*

This explains why many studies have found male income and

proportions of men employed to be positively associated with incidence of marriage, whereas male unemployment is negatively associated with incidence of marriage (e.g., Oppenheimer 1992; Lichter, McLaughlin, Kephart and Landry 1992).

When all wages rise, the total predicted effect on marriage is not clear. Assuming male spousal labor does not matter and combining hypotheses 10 and 11 leads to a prediction found in Becker (1973), namely that the lower the relative wage of women in comparison to that of men, the higher the incidence of marriage. Many researchers, including Becker (1973) and Cigno (1991), have explained drops in the incidence of marriage over time as a function of a historical increase in the relative wages of women. Other studies indicate no clear effect of relative female wage on marriage timing, (Oppenheimer 1992) which is consistent with this analysis, assuming men's spousal labor matter, i.e. men's work in marriage varies and is an important aspect of any analysis of incidence of marriage or marriage timing.

***Education and Productivity in Household Labor.*** The analysis of the effect of education on the incidence of marriage is somewhat more complex. Education can affect the markets for marriage in at least four ways. It can affect (1) income, (2) preferences, (3) wages in the labor market, and (4) productivity in spousal labor. (Even if we control for income and wage, education can affect future incomes and wages).

- (1) We saw that the predicted effect of changes in income on the incidence of marriage is ambiguous.
- (2) Education is very likely to affect peoples' expectations of marriage in terms of what marriage means to them (the concept of preferences), but it is not clear *a priori* in what direction.
- (3) To the extent that more education implies higher wages in the labor market, we expect that increased levels of female education will be associated with a lower incidence of marriage, primarily for women, whereas higher levels of male education are expected to increase the incidence of marriage.
- (4) However, to the extent that more educated women are

more productive workers in the household, it follows that higher education is expected to raise the incidence of marriage.<sup>19</sup>

In general, if we consider productivity in spousal labor, whether it originates from better or more education or from other sources,

*Hypothesis 12*

*A higher incidence of marriage is expected among people with higher productivity in spousal labor.*

To the extent that education is an indicator of productivity in spousal labor, more educated people are more likely to be married.

This hypothesis is relevant for women more than men, to the extent that they engage more in spousal labor. Whether education contributes to productivity in the household is an empirical question that will be partially addressed in Chapters 9 and 11 and in Part Six. Another possible variable influencing productivity in spousal labor is age. The more an individual is close to what is considered an optimal age for marriage in a given society, the more this person is likely to be married. Empirical findings confirming this prediction are also found in Chapters 9 and 11.

The next column in Table 4.1 presents hypotheses dealing with the probability of divorce. In general, a prediction of increased incidence of marriage corresponds to a prediction of reduced probability of divorce. Some more specific hypotheses about divorce, which will be developed in Chapter 10, are also summarized in this table.

Next we turn to hypotheses relating the same factors to another aspect of marriage, namely marriage formality.

**Marriage Formality and Cohabitation**

As mentioned above, one of the aspects of marriage that can possibly be interpreted as a compensation for spousal labor is marriage formality. It was assumed that women value the commitment

inherent in a formal marriage more than men do, and that they will therefore opt to translate part of their compensation for spousal labor into marriage formality. In this section a number of hypotheses are formulated regarding the effect of the same factors discussed in the previous section, this time in terms of their effect on marriage formality. The theory of marriage formality presented here takes three steps: (1) effect of a factor on shifts in demand and supply of male and female spousal labor, (2) effect of such shifts on market  $w^*$ 's and on amount of spousal labor supplied, and (3) implications for female spousal income, of which expected stability in the form of marriage formality is one component (as explained earlier in this chapter.) The explanatory variables are in the same order as they appeared above in the discussion of incidence and timing of marriage. Macro-level factors are followed by micro level factors.

### *Macro Level*

***Demand for children.*** The demand for children is the willingness to incur the cost of children and depends on both the value of children and the cost of children. Here it is critical to distinguish between demand for children in general, and demand for legitimate children. Let us consider the value of children irrespectively of their legal status. The demand for spousal labor by both men and women is a positive function of the demand for children. Women and men who demand more children--perhaps because children are more important to them--are also willing to supply more spousal labor than people who have less demand for children.

The higher the aggregate demand for spousal labor, and the larger the aggregate supply of spousal labor, the larger the total amount of time people spend working as spouses. As we saw earlier, this implies a higher incidence of marriage. Likewise, it may also mean that married individuals are spending more time working in marriage as suppliers of spousal labor.

Given that a higher importance placed on children causes both demand and supply to shift to the right in the markets for male and female spousal labor, it is not clear what that will do to the equilibrium (hourly) quasi-wages  $w^*$ 's established in these markets. Even if we assume that these quasi-wages do not change as a result of the

increased demand for children, the net result of increased time spent working as a spouse ( $h$ ) and unchanged  $w^*$  is an increase in women's spousal income, which implies that <sup>20</sup>

Hypothesis 13

*The more importance attached to children, the higher the incidence of marriage formality and the lower the incidence of cohabitation.*

Evidence for this hypothesis can possibly be found in time trends, cross-country comparisons, and cross-sectional data within a given society. Time trends indicate that recent increases in the popularity of cohabitation in the West coincide with a decrease in the demand for children. As for individual comparisons within one culture, people who are formally married typically have more children than people who cohabit.

Instead of looking at the importance of children in general, we may want to consider the importance of legitimate children. Given that such children are typically born and raised by formally married parents, it is obvious that when legitimate children are more important, marriage formality is more likely to be found.

**Cost of Household Help.** The analysis regarding demand for children can also be applied to the effect of the cost of household help (by others than a spouse.) The higher the cost of household help, the larger the demands for spousal labor and the supplies of spousal labor. This tends to cause an increase in women's net income from spousal labor, and therefore in the expected stability component of that income. Therefore,

Hypothesis 14

*The more costly are substitutes to spousal labor, the higher the percentage of the adult population that is formally married and the lower the incidence of cohabitation.*

**Marriage Squeezes.** The more men in a marriage market, the higher the aggregate demand for female spousal labor, the higher the supply of male spousal labor, which may cause a marriage squeeze for

men. In such circumstances the value of female spousal labor may be high, and therefore

Hypothesis 15

*A marriage squeeze for men is expected to be associated with a higher incidence of marriage formality and a lower incidence of cohabitation among women, than a marriage squeeze for women.*

This is true if we limit ourselves to a sample of women who either cohabit or are formally married (i.e. single status is ruled out). Chapter 5 explores this in further detail. If the number of women increases relatively to that of men, causing a marriage squeeze for women, and men only have a choice between marriage and cohabitation it follows that a marriage squeeze for women is expected to be associated with a lower incidence of marriage formality and a higher incidence of cohabitation among men than a marriage for women.

Given these gender differences in preference for cohabitation, it follows that if a distinction is introduced between marriage and cohabitation, marriage squeezes will not have the exact opposite effect on incidence of marriage among women (Hypothesis 8.1) and on incidence of marriage among men (Hypothesis 8.2). This follows from a stronger preference for cohabitation among men than among women. When cohabitation is a third alternative, marriage squeezes have a larger impact on incidence of marriage among women than on incidence of marriage among men. For instance, a marriage squeeze for men implies that more women enter relationships, be they marriage or cohabitation. At the same time, a marriage squeeze for men implies a higher ratio of marriage to cohabitation. Therefore, women marry more in a situation of marriage squeeze for men for two reasons: they enter more relationships and they are more likely to convince men that these relationships should be marriages. In contrast, when there is a marriage squeeze for men, men are less likely to enter relationships, but these relationships are more likely to be marriages than other unions. Thus, for women two forces work in the same direction, whereas for men these same two forces work in opposite directions. This can be stated as

Hypothesis 8.4

*Variations in marriage squeeze are expected to be associated with more variation in the proportion of married women than in the proportion of married men.*

Let us now turn to the effect of individual differences within a population--for instance, the effect of income, education and age--on the formality of marriage and the incidence of cohabitation.

*Micro level*

Given that the hypotheses depend on the assumption of women's relative preference for expected stability, we need to analyze the effects of male and female characteristics separately. As this theory is developed in more detail in Chapter 9, the following hypotheses are stated briefly here.

***Female Income.*** Women who have access to income which does not originate from working either as a spouse or on a job, are likely to have a higher demand for spousal labor than women unable to rely on such non-work income (see above). The demand for their spousal labor on the part of men is likely to be high, for men hope to benefit from some of that income.<sup>21</sup> Rich women are likely to supply less spousal labor<sup>22</sup>, so that it is not clear what will be the effect of female income on the amount of spousal labor actually supplied by women. However, it is clear that income is likely to raise a woman's  $w^*$ . The net spousal income of rich women is likely to exceed that of poor women, implying more marriage formality if the proportion of spousal income going to expected stability and material benefits remain constant. Furthermore, it is possible that rich women value material benefits received from a husband less than poor women do, and rich women may get a higher proportion of their spousal income in the form of expected stability. It follows that

Hypothesis 16

*Women with higher incomes are more likely to be formally married and less likely to cohabit than women with lower*

*incomes.*

Evidence for this hypothesis is presented in Chapter 9.

**Female Wage.** Women who can earn higher wages in the labor market are likely to experience a decrease in their supply of spousal labor, as explained earlier. An increase in female wages is also likely to cause an increase in women's demand for spousal labor and a decrease in men's demand for spousal labor (due to substitution between alternative factors of production within the household). This implies that the total amount of time women with high wages spend in spousal labor is likely to be less than the time women with low wages spend, and there is no clear prediction regarding the market  $w_f^*$ . In addition, the demand for male spousal labor by women and the supply of male spousal labor is expected to increase, which implies more  $w_m^*h_m$ . This implies that the net spousal income of women is likely to decrease when their wages increase. From that perspective, we expect less expected stability and more cohabitation. However, if women have incomes from sources other than spousal labor, they are likely to prefer a mix of spousal income including fewer material benefits and more expected stability, so the total effect of female wage on marriage formality is ambiguous.

**Female Education.** Assuming that education reflects productivity in spousal labor, it follows that

*Hypothesis 17*

*To the extent that education is an indicator of productivity in spousal labor, more educated women are more likely to be formally married and less likely to cohabit.*

This is tested in Chapter 9. Any other correlate of women's productivity in spousal labor is likely to be negatively associated with cohabitation. Another measurable aspect of productivity is age. The closer women are to an optimal age for marriage, the less they are likely to cohabit.

**Male Income.** As explained in Chapter 9, higher male income is likely to imply a higher material component in women's spousal income. Given that a trade-off is expected between the two components of female spousal income, material benefits and expected

stability of the relationship, men with higher incomes are more likely to cohabit than men with lower incomes. On the other hand, men with higher incomes are expected to have a higher demand for spousal labor. This implies higher expected stability in the relationship and lower likelihood of cohabitation. It follows that

*Hypothesis 18*

*Men with higher incomes may be less likely to be formally married and more likely to cohabit than men with lower incomes, especially if men's demand for spousal labor is not income elastic.*

This hypothesis is tested in Chapter 9. To the extent that men do not engage in much spousal labor, the analysis of the effect of higher male wages is similar to the analysis of the effect of higher male income. Likewise, if male education is viewed principally in terms of its income-enhancing role, the same analysis applies.

One could also add a hypothesis about other compensating differentials in marriage and marriage formality. Following the analysis of compensating differentials presented in Chapter 3 (see also Part Four) it is expected that men with less desirable characteristics--desirable as defined in marriage markets--are likely to transfer a higher total compensation for spousal labor to their wife (excluding the value of men's spousal labor). If the material component of that compensation is kept constant, it is predicted that men with less desirable characteristics are more likely to marry formally and less likely to cohabit than men with more desirable characteristics. However, it could be--as in the case of income--that some of these desirable characteristics are also associated with higher demand for spousal labor, and therefore a higher likelihood of formal marriage. Assuming demand for spousal labor is constant,

*Hypothesis 18'*

*Men with less desirable characteristics are more likely to be formally married than men with more desirable characteristics.*

As was mentioned earlier, spousal income can take many

forms, including material benefits, expected stability in the form of marriage formality, and power in decision-making, as defined above. The same reasoning which was used to derive hypotheses regarding marriage formality can also be used to explain the distribution of power in the household.

### **Power in the Household**

Husbands would prefer more power to themselves while giving less power to their wives, whereas the opposite is true of wives. The higher a woman's (net) spousal income, the more influential she is expected to be in household decision-making relatively to her spouse. The hypotheses related to marital power are very similar to Hypotheses 13-18' dealing with cohabitation, and are summarized in column 4 of Table 4.1. The discussion here is brief, and follows the same reasoning as that of the previous section.

*19. The more value attached to children, the more power women are likely to have in the household.*

This is true from the perspective of women's total value as suppliers of spousal labor. However, as mentioned above, a society may determine rules, laws and customs, which take away women's power and set women's value below the market equilibrium  $w^*$ .

*20. The more costly substitutes to spousal labor, the more power women are expected to have in the home.*

*21. Marriage squeezes for men are expected to be associated with more power of women in the home than marriage squeezes for women.*

Hypotheses 19 and 20 are parallel to Hypotheses 13 and 14. Hypotheses regarding the relative power of women need to be tested within a given culture. The maximum and minimum amount of power available to women tends to be prescribed culturally. In certain cultures, such as traditional Muslim societies, women's power tends to be very restricted. It could still be true that within such society women with characteristics that are highly valued in the marriage market may get higher total compensation and therefore have relatively more power in comparison to women without such characteristics.

A separate question of great interest--why certain societies

grant more power to women than others--may not lend itself well to the economic analysis presented here. Cross-cultural variations in women's relative power may need to be explained in terms of political economy, as argued by Guttentag and Secord (1983). According to such analysis, men have more of an incentive to forcefully take power away from women when women are more valuable in marriage. This implies that the higher the value of the net compensation for spousal labor which men have to pay women according to market-determined  $w^*$ 's, the more it is likely that they will use political means to force women's quasi-wage  $w^*$  at a level below the market-clearing  $w^*$ .

The following two hypotheses look at the effect of women's characteristics on power in the marriage and are the equivalent of Hypotheses 16 and 17.

*22. Women with higher incomes are likely to have more power in the home, relative to women with lower incomes.*

*23. To the extent that education is an indicator of productivity of spousal labor, more educated women are likely to have more power in the home, relative to less educated women.*

Evidence has been reported for Hypothesis 23. Various empirical studies suggest a direct relationship between a wife's education and her relative power in the marriage. Controlling for husband's education, Blood and Wolfe (1960) found this to be true for an American sample and Michel (1967) for a French sample. Although no empirical analysis has plotted a quadratic function of age in an equation predicting the relative power of wives, it has been reported that wives have less power when they are either very young or relatively old (Blood and Wolfe 1960).

The following hypothesis is the equivalent of Hypothesis 18:

*24. Men with higher incomes may be likely to have more power in the home than men with lower incomes, especially if their demand for spousal labor is not income elastic.*

The prediction here is not clear, as men's income sometimes automatically increases the material component of women's income

from spousal labor, thereby causing compensatory decreases in other possible components of women's spousal income, such as power in marriage. But if the demand for spousal labor is income elastic, one expects women married to men with higher incomes to have more power than women married to men with lower incomes. This may explain the contradictory findings of numerous studies of conjugal power regarding the effect of male income on conjugal power (for a summary, see Scanzoni 1979).

I now present hypotheses relating the same factors to the level or the incidence of dowry or bridewealth, the subject of column 6.

### **Dowry and Bridewealth**

Dowry and bridewealth are two types of transfer payments at marriage. They originate from rigid rules regarding the compensation for spousal labor after marriage. As argued above, dowry is likely to be associated with a  $w^*$  for women set by custom or law at a level above its market equilibrium level. This is likely to occur when the equilibrium  $w^*$  is low in the first place. If laws and customs set  $w^*$  at an artificially low level which prevents women from receiving spousal income corresponding to their market value, one tends to find transfer payments called bridewealth paid by the groom and his family to the relatives of the bride controlling her marriage decision.

We now return to the same factors considered in previous hypotheses. Any factor likely to raise women's net spousal income, based on the market  $w^*$ , is likely to increase the likelihood of a bridewealth system, reduce the likelihood of a dowry system, increase the amount of bridewealth or decrease the amount of dowry. The hypotheses are formulated in terms of levels of dowry or bridewealth, rather than in terms of one transfer payment or another.

*25. The more value attached to children, the lower the expected dowry and the higher the expected bridewealth.*

*26. The more costly substitutes to spousal labor, the lower the expected dowry and the higher the expected bridewealth.*

*27. Marriage squeezes for men (relative to women) are*

*expected to result in lower dowries or higher bridewealth payments than marriage squeezes for women.*

*28. To the extent that education is an indicator of the productivity in spousal labor, more educated women are likely to pay a lower dowry or to receive more bridewealth.*

*29. Men with higher incomes are likely to receive a higher dowry or to pay a lower bridewealth (especially if men's demand for spousal labor is not income elastic and all other characteristics are held constant.)*

Evidence for Hypothesis 27 has been reported by Goldschmidt (1974), who found that at times of better overall economic performance in their region, the Seibe of sub-Saharan Africa experienced higher bridewealth payments.

This hypothesis can also be used to explain why men with scarce and desirable characteristics receive higher dowries or pay lower bridewealth payments. This follows from their desirable position in spousal labor (or marriage markets). When women with given characteristics are relatively scarce, the dowries paid are likely to be low or bridewealth payments are likely to be high. Circumstantial evidence for such views was mentioned in Chapter 2. If it is true that religious Jewish brides from Israel bring lower dowry payments to marriage than comparable brides from other countries, it could partially be explained by the existence of a marriage squeeze for men among religious Jews in Israel and a marriage squeeze for women outside of Israel (alternatively, lower dowries could be the result of lower incomes of Israelis in comparison to American or Western European Jews).

Marriage squeezes in particular marriage markets depend on the rules for intermarriage between men and women with certain characteristics. Interpreted in this context, such rules explain why women from higher classes in traditional societies (such as India today or France in the 17th Century) generally bring high dowries to a marriage. These societies often prohibit higher class women from marrying men from lower classes, while higher class men are allowed

to marry women from lower classes. Such gender asymmetry created a marriage squeeze for higher class women. The relatively high demand for low class women and the relatively low demand for high class women could explain the coexistence of bridewealth (among the poor) and dowry (among the rich) in India. This puzzling fact had been noticed by Bronfenbrenner (1971), who explained it in terms of variations in women's willingness to supply hard physical labor.

Dowries and bridewealth are thus one result of gender asymmetric rules regarding class intermarriage. A possible response to the problems created by marriage squeezes for women in the higher classes of hierarchical societies (such as India) consists of allowing *consanguinity*. By permitting marriage among blood relatives (usually cousins or uncle-niece marriages), a group increases the number of men and women available for marriage by an equal number, which increases the balance in sex ratio and reduces the occurrence of marriage squeezes. Consequently, it would not be surprising that--controlling for caste and religion--in areas of India where consanguinity is permitted one finds reduced levels of dowry or bridewealth payable in comparison to areas where consanguinity is prohibited (Bittles et al. 1992).

Marriage squeezes for men are also likely to be associated with a bridewealth system rather than with a dowry system. In contrast, one expects a dowry system where there is a marriage squeeze for women. Consistent with this hypothesis, the countries of Europe which still have a widespread dowry system--Greece and Ireland--also have relatively low sex ratios. Some of these marriage squeeze effects are tested in Part Three of this book.

Evidence can also be found in support of a variation of Hypothesis 28. Given that spousal labor includes a variety of activities benefiting a spouse, aristocratic descent can be viewed as an alternative indicator of woman's productivity. Kuper (1981) reports that women of aristocratic descent receive higher bridewealth payments among the Swazi and the Zulu of Southern Africa.

The next aspect of marriage covered in Table 4.1 is intermarriage (col. 7).

### **Intermarriage**

The subject of intermarriage is addressed in Chapter 8, where

Hypotheses 30 to 32 are generated and tested using the example of a particular type of religious intermarriage. That chapter also presents additional hypotheses regarding religious intermarriage.

The question of who marries whom is a much broader one. One can study individual behavior regarding choice of a partner who is like us (*homogamy*), which includes marriage with a member of one's group, as opposed to marriage with somebody who is different (*heterogamy*), possibly because he or she belongs to a different group (intermarriage). Furthermore, if homogamy relates to marriage with one's relatives, it is called *consanguinity*.

One can also study why societies differ in the kinds of laws, rules, and traditions they enforce regarding such forms of homogamy or heterogamy. It is left to the reader to fill the empty boxes in Table 4.1 under the column "intermarriage." The last aspect of marriage covered in this book is polygamy.

### **Polygamy**

Polygamy, more specifically polygyny, is analyzed in Chapter 11. There it is hypothesized that the number of wives in a household also varies with the same factors used to explain the aspects of marriage discussed above. Hypotheses 34 to 46 (col. 8 in Table 4.1) are some of the hypotheses developed in Chapter 11.

### **What Explains Marriage?**

So far, hypotheses have been presented according to the aspect of marriage serving as dependent variable. In terms of Table 4.1, the hypotheses have been discussed by column. We can also read the table by row, and examine which explanatory variables matter. In fact, causality can often run in both directions. In most cases, I focus only on one direction of causality. In a few cases, a variable appears as both dependent and independent variable, i.e. as a row and as a column. The first three rows deal with macro-level explanatory variables, and so do the last four rows. Rows 4 through 9 deal with the

effect of variables that are mostly interpreted here at the micro-level (although they can also possibly apply at the macro-level).

The first two rows deal with the demand for children by men and the cost of other services that could substitute for women's spousal labor, two factors expected to cause increases in the demand for spousal labor. As hypothesized earlier, the higher the demand for spousal labor, the more women are likely to be married and the higher  $w^*$ . Everything else constant (including the legal and political system), this implies lower participation of women in the labor force, higher marriage formality, more power to women, and higher bridewealth. Predictions regarding a wife's probability of living in a polygynous household are ambiguous. As pointed out in Chapter 11, in societies with a higher demand for wives, polygyny is more likely to be permitted or encouraged. At the same time, however, if women do not wish to share their husband, their good position in the marriage market may help them avoid polygynous situations.

Row 3 summarizes hypotheses about effects of marriage squeezes on various aspects of marriage. It is hypothesized that when there are a relatively large number of men, causing a marriage squeeze for men, women (and married women in particular) are less likely to work (col. 1) and women are more likely to be married (col. 2) and less likely to divorce (col. 3) than if there is a marriage squeeze for women. Within the context of a choice between formal and consensual unions, the higher equilibrium  $w^*$  may allow more women to obtain formal reinforcements toward marriage stability (col. 4). It is also hypothesized that when  $w^*$  is higher, that other aspect of  $w^*$ --the wife's orchestrative power in the household--is expected to be higher (col.5). Also the presence of more men relative to women may lead to higher bridewealth payments, if bridewealth is the norm (col. 6), and is likely to affect the probability of intermarriage (col. 7). Within the context of a polygynous society, a higher  $w^*$  is expected to be translated in terms of fewer women sharing a husband (col. 8).

Rows 4 to 6 contain hypotheses linking factors characterizing women--female wage, income, and productivity in spousal labor--to the various aspects of marriage reported in the columns. None of the signs of these effects on marriage are unambiguously positive or negative, for reasons discussed above. In the case of the hypotheses regarding the effects of higher female productivity in spousal labor

(row 6), where productivity is interpreted in terms of a more desirable age or education, it is predicted that these women are more likely to be married and to spend time outside the labor force after marriage. (We are ignoring the effects of age and education on labor market opportunities).

If higher compensation for women's spousal labor can be translated into a higher probability of obtaining a formal union, one expects formal marriages to be more common among more educated women and women at the most desirable ages. It is also hypothesized that more productive women are expected to have more power in the marriage. Furthermore, higher bridewealth payments are expected to be paid for women of higher quality, and such women may be less likely to have co-wives if their society is polygynous, a prediction that appeared to be true in Maiduguri, Nigeria (see Chapter 11).

In assessing the effect of a woman's quality, it is important to control for her potential wage in other kinds of labor. Clearly, education may raise the potential wage, which would have very different effects on women's spousal income.

No clear-cut predictions can be inferred when male characteristics are used as explanatory variables. In the case of male income effects, this is due to the existence of two effects of men's real income. First, there is a straightforward income effect that may lead higher-income men to demand more women's spousal labor, meaning better conditions in the market for women's spousal labor as a whole. Therefore in cross-cultural comparisons and historical studies, one expects to find increases in male income (or indicators of their real income) associated with more women getting married, less female labor force participation (outside the household), more marriage formality, higher bridewealth, and more conjugal power to the wife. This factor may also be partially at work in cross-sectional studies. Second, one also expects a trade-off between different components of women's spousal income, especially in cross-sectional studies. If material benefits are a fixed proportion of husband's earnings because of some institutional rigidity, then that portion of women's compensation for spousal labor will rise with husband's earning power irrespective of the wife's characteristics and performance. Compensatory reductions in other components

benefitting the wife may therefore occur. For instance, marriage formality may be hard to obtain, more co-wives may be present (or mistresses in some cultures), or the wife may have to surrender some of her power.

The net predicted effect of male income (or education, one commonly used indicator of permanent income) is expected to be ambiguous. Some evidence in that direction was mentioned above and is discussed in later chapters.

The row indicating "divorced status" only reports hypotheses related to female labor force participation developed in Chapters 3 and 10. Chapter 8 also includes a (unnumbered) hypothesis relating divorced status to intermarriage. One could easily fill the rest of the columns, assuming divorced status is an undesirable characteristic in the marriage markets.

The table concludes with four rows relating more macro-level variables to selected aspects of marriage. The size of the market is an important variable likely to influence all aspects of marriage discussed here. In this book I only discuss its effect on labor force participation, divorce, and intermarriage.

Another interesting direction to go, is to study further implications of the degree of inequality between men and women on patterns of marriage. This idea is pursued in this book only with respect to the impact of inequality among men and inequality among women on polygamy. Similar reasoning would show that an unequal distribution of resources among men and women also influences other aspects of marriage.

The final row offers an example of a hypothesis relating a type of law to various aspects of marriage. A prohibition on polygamy in a society is likely to affect the incidence of marriage and divorce. It may also affect the other aspects of marriage discussed here. Furthermore, other laws, regulations, and customs are expected to affect marriage. For instance, the existence of a legal minimum age at marriage will affect the aspects of marriage under discussion.

### **Conclusion: Gains from a Market Model of Marriage**

This discussion has been limited to selected aspects of marriage and to a partial range of explanatory factors. It was also limited in its theoretical depth. Any theory has to be evaluated in

light of its ability to lead to testable implications and to provide acceptable interpretations of existing findings. At this point, it is somewhat premature to assess the value of this theory in comparison to that of alternative models and theories. The reader could compare the theory presented here, based on economic analysis, with resource theory and sociobiological theory.

*Resource theory* is a spin-off of social exchange theory, which in turn was influenced by price theory (see Chapter 1). Although social exchange theory has had a major influence on sociological theory, its applications to the study of marriage have sometimes contradicted market principles. Resource theory is somewhat similar to price theory, but the analytical tools developed by economists for other purposes can help clarify issues that have not been emphasized by resource theory. This book hopefully offers a few examples of the contribution of economic theory to the study of marriage.

*Sociobiological theory*, another theory that has recently become popular with some social scientists, is based on the assumption that men and women engage in mating and reproduction in accordance with a calculus of fitness.

With respect to a comparison with the sociobiological model, the market theory's advantage for our purposes lies in the relative generality of its assumptions. The two approaches are related in that they are both based on calculus. But whereas sociobiologists and their followers in anthropology and sociology (for instance, Hiatt 1980; and van den Berge 1979) limit the objective of that calculus to reproductive fitness, economists do not generally impose a specific content on the objective of the calculus. This makes it possible for their analysis to be more sensitive to the cultural context of a given society or group of societies that can be assumed to share similar objectives. The generality of the economists' market approach carries a distinct advantage over the restrictive biological focus of this alternative.

An advantage of the economic theory of marriage presented here, relatively to alternatives, lies in its generality. A wide variety of hypotheses has been derived, and more could be derived. This theoretical framework is general in that it can be adapted to any given cultural setting. How useful these hypotheses really are depends on

whether they can be verified empirically.

This chapter has reported a few findings confirming some of the hypotheses. Many hypotheses mentioned in this chapter are tested in later chapters. We will return to an overall assessment of the theory after reporting tests of some of the hypotheses regarding labor supply (Chapters 5, 6, and 7), divorce (Chapters 5 and 10), intermarriage (Chapter 8), consensual unions (Chapters 5 and 9), and polygamy (Chapter 11).

This market theory focusses our attention on many of the factors that should be considered simultaneously when studying a particular aspect of marriage. No two variables can be viewed in isolation, which rules out simple correlations or cross-tabulations. It is not even enough to control for supply factors when studying the effect of a demand factor. Ideally, other determinants of demand should also be taken into account, and when the dependent variable relates to a particular component of spousal income, some of the other relevant and measurable components in a particular society should be covered as well.

Controlling for other factors may be very difficult, especially when performing cross-cultural comparisons. For instance, it may be difficult to control for variations in type of women's spousal labor and composition of spousal income. There can be problems in cross-sectional studies within a given society as well. For instance, in an empirical study of the effect of male income on the formality of a union, it is crucial to control for wife quality. This is especially so in view of the tendency for assortative mating. Higher-status males tend to marry higher-status females, and the latter are more likely to marry formally. If controls are not introduced, a positive relationship between male income and marriage formality may reflect the effect of female, rather than male, status. In regression analysis of the probability of formal marriage it was indeed found that when female quality was uncontrolled for, the relationship between male income and formality was not different from zero. But after the introduction of female education, age, and wealth in the regression, male income appeared to be negatively associated with formality (see Chapter 9).

The same points hold for a study of polygyny or the wife's relative conjugal power. As Scanzoni (1979) recognized in the case of conjugal power, there has been--at least until recently-- a lack of

multivariate analyses of conjugal power. Consider the example of the relative love of one spouse for the other, a variable developed by Safilios-Rothschild (1976). Unless one controls for all measurable aspects of quality of husband and wife simultaneously (which was not done in her own empirical study of a Greek sample), the theory is not tested adequately.

Not only do the tools of demand and supply point to the need for using correct methods of estimation after a survey has been completed, but they can also point to the need for including certain variables in a survey. For instance, it would be useful to collect information pertaining to productivity in spousal labor. A further assessment of the theory of marriage found in this book is found in the concluding comments at the end of the book.

### Notes

1. The danger of an unwanted pregnancy leads most unmarried women to engage in sexual relationships more reluctantly than men. The fact that outside of marriage (or cohabitation) men pay women for the privilege of sexual intercourse much more often than women pay men supports the view of sex as a net flow of women's spousal labor (see Heer 1978).

2. Chapter 3 discusses some of the limitations of such market analysis. These limitations do not appear more of a problem in the case at hand than in the case of other labor markets.

3. The net transfer of spousal compensation from the husband to the wife can be called the wife's compensation or wife's spousal income and amounts to  $w^*_f h_f - w^*_m h_m$

4. Examples of laws affecting the aggregate demand for women's spousal labor are laws prohibiting polygyny, which reduce the aggregate demand for women's spousal labor, or laws requiring a minimum age at marriage, which can shift both demand and supply. Any factor which shifts demand for women's spousal labor more than their supply leads to higher  $w^*$ , and is likely to lead to higher compensations for women's spousal labor.

5. It is assumed that both wives and husbands would prefer to have more power, although it may be argued by some

that this assumption does not capture situations in which women prefer to abdicate all responsibility for their own actions. My own interpretation of such abdications would be that they result from resigned acceptance of unfavorable conditions and not from intrinsic preferences.

6. This idea is adapted from Becker's (1981) theory of marriage. According to Becker, a rigid division of household income explains marriage transfers. If the portion of household output going to the wife is fixed by law or tradition, a transfer at marriage in the form of dowry will help the total gains from marriage to wife and husband (the wife's income and husband's profit) reach their market equilibrium level.

7. Polygyny is the accurate name for marriage between one husband and more than one wife. Polygamy refers to all varieties of plural spouses.

8. The cost of having a co-wife varies across polygynous cultures. For instance, that cost will be higher if a woman cannot easily meet with lovers, and it will be lower if food technology is such that a senior wife may want additional wives to work for her (see Chapter 11.)

9. The lower  $w^*_f h_f$  is likely to be spent on smaller amounts of this particular component of  $w^*_m h_m$ .

10. The original paper from which this chapter is adapted focussed around such summary table.

11. This can be seen graphically in Figure 3.4 by looking at the effect of an increase in demand or supply on the amount of spousal labor.

12. This is especially true in patrilineal societies, i.e. societies where inheritance rights pass from father to son.

13. In terms of the model presented in Chapter 3, higher value of children implies higher *betas* and therefore increases in supplies 3.10 and 3.13, as well as in demands 3.12 and 3.15.

14. For instance, assume I like a clean house, whether I am married or not. In terms of the model presented in the previous chapter, cleaning for my own sake is a self-oriented activity which is complementary to cleaning as a job for a spouse's benefit (cleaning house is a job to the extent that I clean more than I would for my own sake.) The more cleaning help is expensive, the more I will be

willing to clean for my own sake and therefore the more I will supply cleaning time to a spouse. Substitution effects in the household lead to increases in supplies 3.10 and 3.13, as well as in demands 3.12 and 3.15. Higher prices also imply that real income will decrease, causing both supplies to increase and both demand to decrease. This last decrease in demand is not likely to turn the entire effects around.

15. Total  $H_m$  has to be divided over more men. Also, the larger supply of men implies lower wages  $w_m$  and  $w_m^*$ . If men's income decreases, their demand for women's spousal labor will decrease. It is assumed that such decrease does not cancel the primary effect of an increase in number of men (see Chapter 3.)

16. This is not necessarily the case. This assumption is relaxed in the discussion on polygamy found in Chapter 11.

17. In terms of the model presented in Chapter 3, higher income  $V$  implies an increase in supplies 3.10 and 3.13, as well as in demands 3.12 and 3.15.

18. In terms of the model presented in Chapter 3, higher own wage  $w_i$  implies a decrease in supplies 3.10 and 3.13, and an increase in demands 3.12 and 3.15. Higher spouses' wages  $w_j$  are expected to cause substitution effects (decrease in demands and increase in supplies) and income effects in the same directions.

19. Same analysis as in footnote 13.

20. When spousal compensations  $w_f^* h_f$  and  $w_m^* h_m$  both increase, the difference between the two, the wife's compensation or wife's spousal income  $w_f^* h_f - w_m^* h_m$ , is most likely to increase. For simplicity, let us assume that this spousal income is composed of two types of benefits, material benefits and expected stability. If the increased spousal labor associated with a higher value of children affects both male and female spousal labor in the same proportion, women's net income from spousal labor is likely to increase. If both components of spousal income--material benefits and expected stability--increase in the same proportion, this implies what is stated in Hypothesis 13. This conclusion is more likely to hold if higher value of children affects female spousal labor more than male spousal labor, a likely assumption given women's comparative advantage in this area.

21. This is especially likely to be the case if property laws

benefit husbands.

22. Women's income may not have such a discouraging effect on the supply of spousal labor if there are substantial amounts of joint production between husband and wife.