Reconsidering the Mythical Advantages of Cohahitation: Why Marriage Is More Efficient Than Cobabitation

ERIC P. VOIGT[*]

I. INTRODUCTION

Since the 1970s, cohabitation[1] has been on the rise.[2] One million, one hundred thousand couples cohabited (1.5% of all households) in 1977 in the United States.[3] Twenty years later, that number rose to 4.9 million (4.8% of all households).[4] Half of

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    1. In this Note, cohabitation refers exclusively to a man and a woman living together in the same household. This Note is so limited because its purpose is to compare cohabitation with marriage, and homosexual marriage currently is proscribed by law, a restriction on which this Note takes no position.

    2. Steven L. Nock, *A Comparison of Marriages and Cohabiting Relationships*, 16 J. FAM. ISSUES 53, 53 (1995).

    3. Renata Forste, *Prelude to Marriage or Alternative to Marriage? A Social Demographic Look at Cohabitation in the U.S.*, 4 J.L. & FAM. STUD. 91, 91 (2002) (using U.S. Census data).

    4. *Id.*

the U.S. population has cohabited at least once by their early thirties.[5] In Canada between 1981 and 1986, the percentage of cohabiting couples rose by 37%, a margin substantially larger than the percentage increase in married couples.[6] Specifically, in 1981, 700,000 couples were cohabiting.[7] This number doubled by 1991.[8] By comparison, since the 1970s, the marriage rate[9] has been declining,[10] and the age at which individuals first marry has been rising.[11]

Researchers have proposed several explanations for the rise in cohabitation. Society is increasingly accepting cohabitation as an alternative living arrangement to marriage.[12] This acceptance level increases as a greater number of children are raised in a cohabiting household.[13] Further, the increase in marital dissolution appears to have positively affected cohabitation rates.[14] Cohabitors also indicate that they continue to cohabitate, instead of marry, for financial reasons.[15] Other researchers attribute increased cohabitation rates to particular government-funded programs.[16]

This Note applies Becker's New Home Economics model[17] to explain the reasons for increased cohabitation rates. This model analyzes the home[18] as an output maximizer, where the household produces and consumes home goods (designated Z goods or Z commodities), such as clean living spaces, child-rearing, and book-reading.[19] The crux of Becker's model is that individuals in a household allocate their time between work and home goods production in a manner that maximizes the household's satisfaction level (i.e., well-being). The analysis in this Note is limited to

5. David R. Hall & John Z. Zhao, *Cohabitation and Divorce in Canada: Testing the Selectivity Hypothesis*, 57 J. MARRIAGE & FAM. 421, 421 (1995).

6. Vijaya Krishnan, *Premarital Cohabitation and Marital Disruption*, 28 J. DIVORCE & REMARRIAGE 157, 157-58 (1998).

7. Hall & Zhao, *supra* note 5, at 421.

8. *Id.*

9. In this Note, the marriage rate measures the percentage of individuals who marry per given time period.

10. "The rate of marriage per 1,000 single women dropped from 93.4[%] in 1970 to 58.4[%] in 1988." Lynn D. Wardle, *Divorce Violence and the No-Fault Divorce Culture*, 1994 UTAH L. REV. 741, 754 n.50 (using U.S. census data). The marriage rate for single men also "dropped from 80.4[%] to 48.3[%] in the same period." *Id.*

11. William G. Axinn & Jennifer S. Barber, *Living Arrangements and Family Formation Attitudes in Early Adulthood*, 59 J. MARRIAGE & FAM. 595, 595 (1997); Amy L. Wax, *Bargaining in the Shadow of the Market: Is There a Future for Egalitarian Marriage?*, 84 VA. L. REV. 509, 510 n.1 (1998) (citing ARTHUR J. NORTON & LOUISA F. MILLER, U.S. DEP'T OF COMMERCE, MARRIAGE, DIVORCE, AND REMARRIAGE IN THE 1990'S 1 (1992)).

12. *See* Margaret F. Brinig, *Domestic Partnership: Missing the Target?*, 4 J.L. & FAM. STUD. 19, 25-26 (2002).

13. *Cf.* Axinn & Barber, *supra* note 11, at 595-96.

14. *See* Brinig, *supra* note 12, at 25-26.

15. Larry L. Bumpass et al., *The Role of Cohabitation in Declining Rates of Marriage*, 53 J. MARRIAGE & FAM. 913, 920 (1991).

16. *See* F.H. Buckley & Larry E. Ribstein, *Calling a Truce in the Marriage Wars*, 2001 U. ILL. L. REV. 561, 584-85.

17. Gary S. Becker, *A Theory of the Allocation of Time*, 75 ECON. J. 493 (1965). Becker was the leading researcher on developing this model in the 1960s.

18. The terms *home* and *household* are used interchangeably in this Note.

19. *See* Becker, *supra* note 17, at 516.

time allocation within a household composed of a heterosexual couple, whether married or cohabiting. This type of living arrangement remains the most common among households headed by two adults.[20] Additionally, about 95% of all cohabiting households are heterosexual.[21]

This Note focuses on explaining how both the Aid to Families with Dependent Children ("AFDC") program, as applied by the states, and the federal tax system affect decisions to marry or cohabitate. It must be noted that in 1996 a new federal program, Temporary Assistance for Needy Families ("TANF"), supplanted AFDC.[22] A scarce amount of empirical data exists on whether most states have changed their welfare policies regarding cohabiting or married women under the TANF program. In comparison to TANF, however, a wealth of information exists on states' eligibility rules under AFDC.[23] This Note, thus, analyzes how states treated cohabiting and married households under the former AFDC program. By doing so, it demonstrates that legislation such as welfare affects marital and cohabiting decisions. This Note encourages state legislatures to consider the efficiency of marriage and cohabitation when they determine their welfare eligibility policies, so the legislatures will shape such rules to promote the more efficient union, if they have not already done so under TANF.[24]

Part II describes in detail the New Home Economics model. Specifically, this Part compares the quantity of home goods consumed and produced in a single-member household with that of a cohabiting or married household. Part II then concludes that married households produce and consume more Z goods than cohabiting homes because married couples have greater gains from trade and specialization than cohabiting unions. Higher consumption and production levels equate with greater satisfaction levels, causing individuals, in theory, to prefer marriage, not cohabitation. Parts III and IV focus on explaining the discrepancy between rising cohabitation rates and declining marriage rates with the theory that marriage should be preferred to cohabitation from an efficiency perspective. Part III examines the welfare system under the AFDC program. This Part determines that the AFDC program provides couples with financial incentives to choose cohabitation over marriage. Thus, Part III proposes several changes to the welfare program to make it more marriage-neutral. Then Part IV

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20. MIRIAM BEBLO, BARGAINING OVER TIME ALLOCATION 3 (2001). Other researchers similarly limit their economic model. *See e.g.*, Becker, *supra* note 17.

21. Forste, *supra* note 3, at 92.

22. Randal S. Jeffrey, *The Importance of Due Process Protections After Welfare Reform: Client Stories from New York City*, 66 ALB. L. REV. 123, 123-24 n.4 (2002). Under TANF, the Federal Government gives block grants to states and provides them wide latitude in determining eligibility requirements. Anjetta McQueen & Michael Phillips, *Proposals to Adjust Welfare System Will Hew Closely to the Center*, 60 CQ WKLY 301, 302 (2002). TANF, however, requires that most adults work within two years of receiving aid and limits adults to receive aid no more than five years in their lifetime. *Id.*

23. *See, e.g.*, Peter D. Brandon & Larry L. Bumpass, *Children's Living Arrangements, Coresidence of Unmarried Fathers, and Welfare Receipt*, 22 J. FAM. ISSUES 3, 4 (2001); Robert A. Moffitt et al., *Beyond Single Mothers: Cohabitation and Marriage in the AFDC Program*, 35 DEMOGRAPHY 259, 263-64 (1998).

24. See *infra* notes 145-46 and accompanying text for another explanation of why examining the former AFDC program is not problematic.

analyzes the tax rates for joint and single filers. Part IV concludes that the tax system's structure penalizes individuals for marrying but encourages cohabitation. This Part, therefore, offers some proposals on how the disincentives to marry could be removed from the tax structure.

II. A THEORETICAL FRAMEWORK FOR MARRIAGE AND COHABITATION

The premise of this Note relies mostly on Becker's innovative New Home Economics model.[25] The previous economic models strictly viewed the household as a consumer; they failed to account for time spent engaging in unpaid activities (i.e., nonmarket time).[26] Becker's model, however, analyzes the home as a consumer *and* a producer. The household makes Z goods, such as child-rearing, book-reading, gardening, and meals, and consumes them.[27] His model incorporates two uses of time: market (paid) labor and nonmarket (unpaid) labor in the home.[28] Subpart A of this Part examines Becker's model in detail, explaining how a household uses market goods, market time (i.e., income-earning time), and nonmarket time to produce home commodities. This subpart also analyzes how an individual in a household chooses among different output level combinations for Z goods. Subpart B discusses how a man and woman in a household increase the household's overall output of home goods by trading their home commodities production with each other. Subpart C compares the production of Z goods in a cohabiting household to a married one and explains why the latter household produces more home commodities than the former.

A. The Production of Home Goods in a Single-Member Household

Becker's New Home Economics model treats households as being analogous to output-maximizing firms.[29] A typical firm uses a combination of inputs to produce output.[30] To manufacture automobiles, for example, a firm would employ inputs such as market labor, steel, machines, rubber, and plastic. A household, similarly, uses different inputs for making output, although it produces a particular type of output: home goods.[31] For instance, a household would use the inputs of a book, light, and chair (bed? couch?) to produce book-reading. A typical, rational firm also seeks to

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25. Becker, *supra* note 17, at 493; *see* BEBLO, *supra* note 20, at 9. This Note simplifies Becker's model, but the simplified model is more than adequate to serve this Note's purpose.

26. Becker, *supra* note 17, at 494.

27. *See id.* at 516. Becker's model aggregates work at home (e.g., cleaning) and leisure (e.g., sleeping) into the home goods category. *See* Reuben Gronau, *Leisure, Home Production, and Work—the Theory of the Allocation of Time Revisited,* 85 J. POL. ECON. 1099, 1100 (1977). The reason for this grouping is a result of the difficulty in distinguishing between work at home and leisure (e.g., is nursing a child leisure or work at home?). *Id.*

28. Becker, *supra* note 17, at 494-95, 516. Becker includes both leisure time and actual home labor in the nonmarket-labor category. *Id.* at 494.

29. *See id.* at 516.

30. MILTIADES CHACHOLIADES, MICROECONOMICS 173 (1986).

31. *See* Becker, *supra* note 17, at 495. For specific examples of home goods, see *supra* notes 19 and 27 and accompanying text.

maximize its utility (or profits) by maximizing the firm's output level.[32] A household, like a firm, also strives to maximize its satisfaction (or utility) by maximizing the quantity of Z goods.[33] A household's utility level increases as Z goods increase because of the "well-accepted assumption of nonsatiation, which . . . means that more is preferred to less."[34]

Under Becker's model, the main difference between a household and a firm is that households use an additional input, nonmarket time, in their production process.[35] The quantity of Z goods, thus, is a function of market goods, market time, and nonmarket time, taking into account the costs of market goods and time.[36] Specifically, a household uses market goods (e.g., a stove, pots, dishes, and ingredients), which are purchased by employing market time, and nonmarket time to produce Z goods (e.g., a meal).[37]

Of course, a household is unable to produce an infinite amount of Z goods. A household is constrained by the limited resources of income (wages and other income sources) and time.[38] Given these constraints and the principle of nonsatiation, a household will choose the highest attainable output level of Z goods because, as Z goods increase, the household's satisfaction increases.[39] When the overall level of Z goods is maximized, the household has maximized its satisfaction level, and the home is in a state of efficiency—meaning, a change in the production of any Z good would result in lowering the household's satisfaction level.[40]

To maximize its Z goods production (and thus its satisfaction level), a household produces a particular combination of Z goods.[41] A production possibility curve ("PPC"), consumption possibility curve ("CPC"), and indifference curve ("IC") illustrate how a household chooses an efficient output level of Z goods among different possible combinations of Z goods. A PPC "describes the various combinations of final goods . . . that could be produced in a given time period with available resources and technology."[42] Alternatively, a CPC represents the "alternative combinations of goods

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32. CHACHOLIADES, *supra* note 30, at 174-75. This profit-maximizing assumption has compelling analytical support. *See id.* at 263. *But see id.* at 261-62 (offering limited alternative theories). For a detailed analysis of this theory, see *id.* at 261-64.

33. Becker, *supra* note 17, at 495.

34. *See* CHACHOLIADES, *supra* note 30, at 86.

35. *See* Becker, *supra* note 17, at 494.

36. *Id.* at 495.

37. *See id.* at 495. For other examples of Z commodities, see *supra* notes 19 and 27 and accompanying text.

38. Reuben Gronau, *The Intrafamily Allocation of Time: The Value of the Housewives' Time*, 63 AM. ECON. REV. 634, 636 (1973); *see* Becker, *supra* note 17, at 496-97.

39. *See supra* notes 33-34 and accompanying text.

40. Efficiency throughout this Note means the that household is in a state of Pareto optimality; that is, a household is at a point where, if it changed its home goods output level, the household would be made worse off. *See* CHACHOLIADES, *supra* note 30, at 484-89 (explaining Pareto optimality). Stated another way, in a Pareto optimal state, a household is unable to increase the quantity of any one home good without decreasing the quantity of another home commodity. *See id.*

41. *See* Becker, *supra* note 17, at 495.

42. BRADLEY R. SCHILLER, THE MICRO ECONOMY TODAY 10 fig.1.1 (1983). With respect to Z goods, an individual's available resources are his or her time and income level.

and services that ... could [be] *consum[ed]* in a given time period."[43] An IC provides all the points where an individual obtains the same satisfaction from different combinations of commodities.[44] The concepts of PPCs, CPCs, and ICs are best understood by means of a graphical example.

Shafa is the sole member of Household A (refer to Graph I below). Assume that Shafa produces only two Z commodities, meals and clean living spaces, where the market goods to produce one meal cost $10.00 and the market goods for one clean living space cost $15.00. Moreover, suppose Shafa needs one nonmarket hour to produce one meal and two nonmarket hours to create one clean living space. Assume further that Shafa earns a wage of $10.00 per hour; that he has an initial income of $0.00; and that he produces these Z goods during one twenty-four-hour period. PPC_1 represents all the output combinations of meals and clean living spaces that Shafa could produce during a twenty-four-hour period, given his time and income constraints. Further, because Shafa consumes what he produces, PPC_1 also represents Shafa's consumption possibilities (i.e., his CPC). If Shafa chooses to produce meals exclusively, he could make no more than twelve meals (point A).[45] If he chooses solely to make clean living spaces, he could produce no more than 6.5 clean spaces (point D).[46]

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43. *Id.* at 431 (emphasis added).

44. *See* CHACHOLIADES, *supra* note 30, at 86.

45. For Shafa to make twelve meals, he must spend twelve nonmarket hours producing meals and twelve hours at work. Twelve hours of work earns him $120.00 (twelve hours x $10.00/hour) and each meal costs $10.00. Thus, Shafa has a sufficient income to purchase enough market goods to produce twelve meals ($120.00/$10.00). And since Shafa is capable of producing one meal per hour, he could spend his remaining twelve hours of nonmarket time producing twelve meals. Any other combination of nonmarket and market time would decrease the number of meals he could produce in one twenty-four-hour period. For instance, say Shafa worked thirteen hours and spent the remaining eleven hours producing meals. He would earn $130.00 (thirteen hours x $10.00/hour), a sufficient income to purchase enough market goods to produce thirteen meals. Shafa, however, would have only eleven hours left to spend making meals. Since it takes him one hour to make each meal, Shafa would be able to produce only eleven meals.

46. For 6.5 clean living spaces, it would cost $97.50 in market goods ($15.00 per clean space x 6.5 units) and require thirteen hours of nonmarket time (thirteen hours/two nonmarket hours per clean space). Thus, Shafa would have to work at least ten hours and use at least thirteen nonmarket hours producing clean spaces.

Graph 1. Shafa
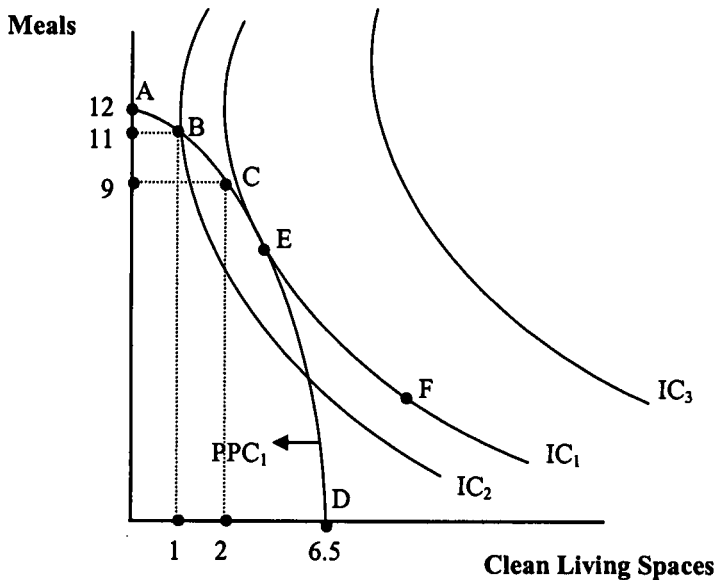
PPC$_1$, like all PPCs, bends outward from the origin and downward because of the law of increasing opportunity costs.[47] This law states: "In order to get more of any good in a given time period, society must sacrifice ever-increasing amounts of other goods."[48] Regarding PPC$_1$, as Shafa moves from point A toward point D, he must give up an increasing number of meals to produce more clean spaces. To move from point A to point B, Shafa must give up *one* meal to produce one clean living space. To slide from point B to point C, on the other hand, Shafa must give up *two* meals to produce an additional clean living space.[49] The law of increasing opportunity costs reflects the fact that resources used to produce one type of good are not perfectly adaptable for making another good.[50] In this example, Shafa cannot perfectly transfer his cooking skills to cleaning skills; Shafa's proficiency in making baked ziti would not provide him with the knowledge of how to remove mildew from a bathroom. It will cost Shafa time to learn some cleaning skills. Further, many market inputs used for preparing a meal (e.g., an oven and microwave) may not be used to produce clean living spaces, so Shafa must purchase new inputs to produce clean living spaces.

As previously stated, PPC$_1$ (see Graph 1) provides all the quantity combinations of meals and clean living spaces that Shafa *could* produce and consume.[51] It fails, however, to answer the question of which point along PPC$_1$ Shafa *actually* chooses.

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47. *See* SCHILLER, *supra* note 42, at 13.

48. *Id.*

49. Stated another way, the opportunity cost of producing the second clean living space is two meals.

50. *See* SCHILLER, *supra* note 42, at 13.

51. PPC1 represents Shafa's production *and* consumption capabilities because he is the sole consumer in his household of his produced home goods.

This question is answered by determining the location of a person's IC.

An IC provides all the points along one curve where an individual obtains the same satisfaction level from different combinations of outputs.[52] In other words, a person is indifferent to all points along an IC.[53] On IC_1, Shafa is equally satisfied at point E or point F, even though both points represent a different output combination of meals and clean living spaces.[54] Additionally, ICs have a negative slope and are convex to the origin.[55] As ICs move farther from the origin, the quantity of total output increases. Because more goods are preferred to less,[56] a person desires to obtain an IC farthest from the origin. In Graph 1, IC_3 is preferred to both IC_1 and IC_2. IC_3, however, is unattainable since a person cannot produce an output combination that is beyond his or her production capabilities, as represented by a PPC.[57]

Shafa maximizes his satisfaction level at the point where IC_1 is tangent to PPC_1 (point E in Graph 1).[58] At point E, the absolute slopes of IC_1 and PPC_1 are equal, indicating that Shafa has attained his highest possible IC.[59] Shafa, thus, has achieved his highest possible satisfaction level by maximizing his production (and consumption) of Z goods at point E. It may be proved that point E represents the highest attainable IC for Shafa by considering situations in which an IC is not tangent to a PPC.[60] Assume Shafa chose point G instead of point E. At point G, he is on IC_2, a lower IC than IC_1 (see Graph I). In fact, if Shafa chose to produce on any point between G and E, he would be on a lower IC than IC_1.[61]

In short, each single-member household produces (and consumes) some output level of Z goods, such as child-rearing, book-reading, or meals. In deciding an individual's output quantity, the individual chooses among numerous output combinations of Z goods.[62] An individual chooses a particular output combination that maximizes the individual's satisfaction level, given the person's income and time constraints. The satisfaction-maximizing point occurs where the individual's IC and PPC are tangent. An individual increases this maximizing point by increasing his or her Z goods production. Subpart B explains how men and women residing in a single-member household may increase their quantity of Z goods by living together in one household and trading Z goods with each other.

52. *See* JOSEPH E. STIGLITZ, ECONOMICS 192 (2d ed. 1997).

53. CHACHOLIADES, *supra* note 30, at 59-60.

54. *See id.*

55. *See id.* at 61. For a thorough discussion of the rationale behind the negative slope and convexity assumptions, see *id.* at 93-96.

56. *Id.* at 61.

57. A PPC reflects an individual's limited resources of time and income. *See* SCHILLER, *supra* note 42, at 10.

58. *See* CHACHOLIADES, *supra* note 30, at 86.

59. *Id.*

60. *See id.*

61. *See* SCHILLER, *supra* note 42, at 85-87 (1983) (explaining why, using a mathematical example, the point of tangency between an IC and a budget constraint curve (i.e., a PPC) represents the point where an individual has attained the highest possible IC).

62. In the above hypothetical, Shafa had the option of producing twelve meals and zero clean living spaces, six and one-half clean spaces and zero meals, or any output level between these combinations.

B. Gains from Trade Within a Household

Becker's theoretical model also describes how individuals within a single household trade with each other to increase the household's overall output level of Z goods, thereby placing the household on a higher IC and increasing the household's satisfaction level.[63] A man and woman in a single household typically have different relative wage rates[64] and have different skills in making Z goods.[65] These differences determine who has a comparative advantage in producing each Z good.[66] For example, assume that a woman in a household earns a higher wage than the man and the man produces all Z goods at least as efficiently as the woman.[67] The man will produce most of the household's Z goods[68] because, given the woman's higher wage rate, her time in the market is worth more than the man's market time.[69] Accordingly, any Z good produced by the woman would cost relatively more than one made by the man since the foregone earnings of the woman would be greater than those of the man.[70]

Since a man and woman's Z goods production is correlated with their wages and home skills, the household will allocate its time between Z goods and market time based on the woman and man's wages and home and market abilities.[71] In other words, for every Z good that the man (woman) has a comparative advantage in producing, he (she) will specialize in producing that Z good[72] and will trade the "comparative" good for other Z goods.[73] This exchange occurs in the household because trading enables the couple to increase its Z goods output level.[74]

A similar trading process occurs between countries. To illustrate, assume the United

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63. Gronau, *supra* note 38, at 635-36; *see* Becker, *supra* note 17, at 512.

64. *See* Highlights of Women's Earnings in 2001, U.S. Department of Labor Bureau of Labor Statistics, Report 960, May 2002, *available at* http://www.bls.gov/cps/cpswom2001.pdf (indicating that in 2001 women who are employed full time at a salary rate earn 24% less in wages than men) [hereinafter Women's Earnings]; Donna E. Young, *Working Across Borders: Global Restructuring and Women's Work*, 2001 UTAH L. REV. 1, 3 n.6 (2001).

65. *See* Gronau, *supra* note 38, at 635.

66. *See id.* An individual has a comparative advantage when the individual could produce a Z commodity at a lower opportunity cost than another person. *See* SCHILLER, *supra* note 42, at 434. For instance, if Mark must give up three clean living spaces to produce one meal but Julie must give up five clean spaces to make one meal, Mark would have the comparative advantage in producing clean living spaces. *See id.*

67. If the woman produced a Z good more efficiently than the man, then her higher wage rate would be offset by her greater production skills of Z goods. *See* Gronau, *supra* note 38, at 637.

68. *See id.* at 637. It must be remembered that leisure and work at home are grouped under Z goods. Since the man would spend at least some of his time at leisure activities (e.g., sleeping), the man would produce some level of Z goods. *See* Becker, *supra* note 17, at 498.

69. *See* Gronau, *supra* note 38, at 635.

70. *See id.* at 638.

71. *See id.* at 634-35.

72. This type of good is designated a comparative good.

73. Historically, women have had the comparative advantage in producing Z goods because men tended to have higher wages than women. *See* Women's Earnings, *supra* note 64; Michael Selmi, *Family Leave and the Gender Wage Gap*, 78 N.C.L. REV. 707, 715 (2000) (explaining that during the 1970s women earned about 40% less than men).

74. *See infra* notes 78-94 and accompanying text.

States and Japan make two goods, automobiles and bread, where the United States has comparative advantage in bread production. This comparative advantage means the United States produces bread more efficiently than it manufactures automobiles.[75] As a result, the United States specializes in making bread and exports its bread output in exchange for automobiles from Japan. The United States focuses on producing the good that it makes relatively cheaper, thus capitalizing on its comparative advantage.[76]

Unlike trade between two countries, an individual in one household is unable to trade his or her Z commodities with another household. Consider the above example where Shafa produces meals and clean living spaces. He combines his nonmarket time and market input goods to produce these commodities. Now assume Shafa desires to exchange Z goods with his neighbor down the street. Particularly, he wants to trade some units of clean living spaces for meals. Such an exchange would be difficult and ineffective for two reasons. First, each Z good involves the nonexchangeable input of nonmarket time. Because Shafa's neighbor resides in a different home than Shafa, the neighbor likely would not enjoy the clean living spaces in Shafa's household. Second, even if the neighbor would benefit from Shafa's clean home, the nonexistence of an established market for interhousehold trading of Z goods would prevent such an exchange.[77]

Individuals, however, realize gains from trading Z goods by coming together in a single household, for instance, as a married or cohabiting couple. Intrahousehold exchange allows both individuals in the household to increase their satisfaction level. An example of such trading will help illustrate the latter proposition (refer to Graphs 2 and 3 below). For simplicity, the PPCs in this illustration do not take on their normal concave shape; instead, they are drawn as straight lines, indicating a constant slope.[78] Assume that both Kate and John produce and exchange two commodities in a given month: meals and clean living spaces. Assume further that, before trade occurs, PPC_1 and PPC_3 represent Kate and John's production and consumption capabilities[79] for meals and clean living spaces, respectively. These PPCs reflect Kate and John's wage rates and home skills. Kate is a better producer of meals *and* clean living spaces than John. Kate could produce twenty meals and zero clean living spaces (point A), ten clean living spaces and zero meals (point B), or any combination between these extremes. John, on the other hand, is limited to producing *two* meals and zero clean living spaces (point G), *eight* clean living spaces and zero meals (point D), or any grouping between these limits.

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75. SCHILLER, *supra* note 42, at 433-34; *see* STIGLITZ, *supra* note 52, at 59-61.

76. *See* SCHILLER, *supra* note 42, at 433; STIGLITZ, *supra* note 52, at 59-62.

77. Other authors have similarly limited their application of Becker's model to intrahousehold trading. *See generally* BEBLO, *supra* note 20; Gronau, *supra* note 27; Gronau, *supra* note 38.

78. The usual concave shape of a PPC is due to the law of increasing opportunity costs and the fact that input resources are not perfectly substitutable with each other. *Supra* Part II.A. The use of PPCs with constant slopes will aid the reader in understanding how a couple gains from trade and will not be detrimental to the analysis. *See* SCHILLER, *supra* note 42, at 430-31 (using PPCs with constant slopes to demonstrate how the United States and France benefit from trade).

79. John or Kate may not consume more than he or she produces. Before trade, John and Kate may consumer only those home goods that each individual produces. Thus, PPC_1 and PPC_3 represent John and Kate's production and consumption possibilities.

Graph 2. Kate
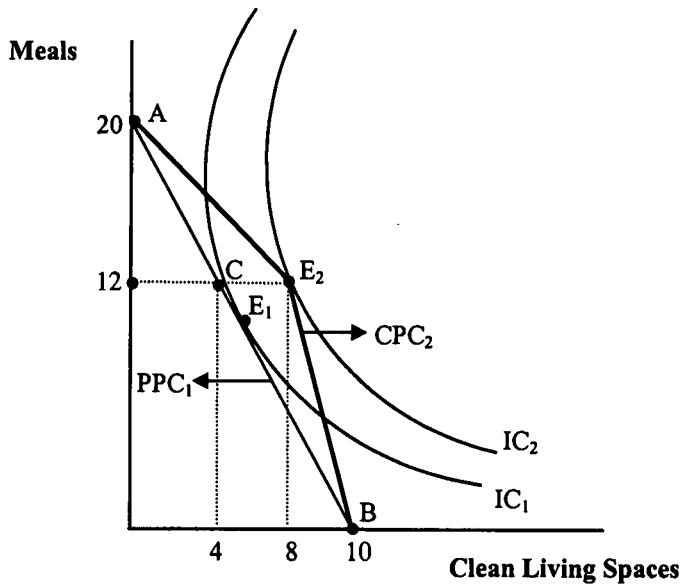
Graph 3. John
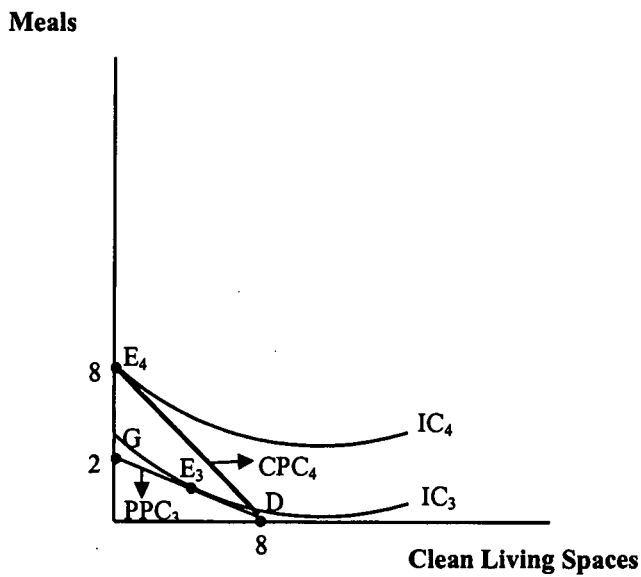
Kate has an absolute advantage over John in producing both commodities (points A and B are greater outputs than points G and D). An absolute advantage means she

produces these goods more efficiently than John.[80] John, however, has a comparative advantage in producing clean living spaces. John must give up one fourth of a meal to gain one clean living space,[81] but Kate must give up two meals to gain one clean living space.[82] Thus, despite Kate's absolute advantage, she may gain more Z goods by trading with John. Kate will specialize in meal production (her comparative good) and "export" units of meals in exchange for clean living spaces from John. Similarly, John will specialize in clean living spaces (his comparative good) and "export" these units in exchange for meals.[83] As a result of such trading, both individuals will increase their satisfaction levels.

Gains from trade will occur only if Kate and John choose an exchange ratio between the slopes of PPC_1 and PPC_3.[84] A trade ratio, therefore, of one meal per one clean living space will increase Kate and John's consumption levels.[85] If Kate specializes solely in meals, she could produce twenty units of this good. Since John may not produce more than eight clean living spaces (point D), however, Kate would at most "export" eight of her twenty meals to John in exchange for eight units of clean living space. The exchange of any more than eight units would provide Kate with no additional benefit.[86] CPC_2 represents Kate's new consumption possibilities.[87] At point E_2 on Graph 2, Kate is consuming twelve meals (twenty meals are produced but eight are traded to John, leaving Kate twelve meals to consume) and eight units of clean living space. Prior to trading with John, if Kate consumed twelve meals, she could could consume only four clean living spaces (point C in Graph 2). Trade has enabled Kate to consume a higher combination of meals and clean living spaces. In other words, Kate's exchange with John places her on a higher IC—IC_2—representing a higher satisfaction level. In fact, Kate prefers any point along CPC_2 to every point along PPC_1 for the reason that Kate is able to attain a higher IC all along CPC_2. Each

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80. In other words, Kate produces meals and clean living spaces with fewer resources (per unit of output) than John. *See* SCHILLER, *supra* note 42, at 434.

81. The slope of PPC_3 is 1/4, signifying that John must give up one meal to gain four clean living spaces.

82. The slope of PPC_1 is 2/1, indicating that Kate must give up two meals to gain one clean living space.

83. SCHILLER, *supra* note 42, at 433-35 (stating that, even assuming France has an absolute advantage in producing wine and bread, if the United States has a comparative advantage in making bread, the United States will gain overall output by exchanging bread for wine). *See generally* A.J. CULYER, ECONOMICS 172-81 (1985) (analyzing gains from trade between two countries).

84. Men and women always realize gains from trade when they choose a trade ratio between the slopes of their PPCs. Such a trade ratio is impossible when a man and woman have the same PPC slope. Men and women, however, usually have different PPCs because they earn different relative wages. *See* Women's Earnings, *supra* note 64 (disclosing that in 2001 women earned about 25% less than men); Gary S. Becker, *A Theory of Marriage: Part I*, 81 J. POL. ECON. 813, 817-19, 822 (1973).

85. PPC_1's slope is 2/1 and PPC_3's slope is 1/4, so a trade ratio of 1/2 is between those slopes. *See* SCHILLER, *supra* note 42, at 436.

86. Given that the trade ratio is one meal per one clean living space and John's limitation of eight units of clean living space, John could not compensate Kate for any more than eight meals.

87. Recall that a CPC describes the various combinations of goods and services that could be consumed in a given period. *See* SCHILLER, *supra* note 42, at 431.

point on CPC_2 is more efficient than those points on PPC_1—meaning, each point along CPC_2 represents a combination of consumption and production quantities that is greater than the combination levels on PPC_1.

John also has benefited from trading with Kate (refer to Graph 3 above). When John specializes in producing only clean living spaces, he makes eight units. He then "exports" all eight units to Kate and "imports" eight meals from Kate.[88] CPC_4 corresponds to John's new consumption possibilities. At point E_4, as a result of trading with Kate, John is able to consume eight meals. Before trading, John could consume at most two meals (point G). John prefers any point along CPC_4 to every point along PPC_3 because he may attain a higher IC along each point on CPC_4.

The amount of satisfaction gained through trading is positively related to the relative incomes of the cohabitors and to the complementarity of Z goods.[89] A person sharing a household gains more satisfaction by trading Z goods that are complementary than by exchanging substitutable goods.[90] In other words, the more complementarity between the inputs of a Z good (nonmarket time and market goods), the more the couple gains from trade.[91] Such gains are positively correlated to the importance of the presence of children.[92] Further, an increase in the relative incomes of women to men decreases the incentive to marry[93] because fewer gains from trade are realized.[94]

As demonstrated above, trade encourages the individual to specialize in the Z goods for which he or she has a comparative advantage. The result is that both persons increase their satisfaction level. Further, specialization itself increases an individual's productivity.[95] First, a producer saves time by focusing on a few goods.[96] Second, an individual's repetition of the same task will generally improve his or her ability to make the respective commodity.[97] Third, specialization is conducive for innovations and technology improvements.[98] When a person focuses on producing one type of good, the individual is likely to discover new methods of production.[99]

Gains from specialization also occur in the household by decreasing the relative price (in terms of time) of the specialized Z good relative to other Z goods. Refer back to Graphs 2 and 3 where Kate specializes in meals and John specializes in clean living

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88. Recall that the trade ratio is one meal for one clean living space.

89. *See* Becker, *supra* note 84, at 819-20, 841. A positive correlation means that as human capital increases and as the income gap between the couple increases, the more the household benefits from trading. Commodities that are generally "used jointly with each other" are called complements. CHACHOLIADES, *supra* note 30, at 17. Examples of such goods are automobiles and tires and tennis balls and tennis rackets. *Id.*

90. *See* Becker, *supra* note 84, at 819-20.

91. *See id.*

92. *Id.* at 820.

93. It is assumed that home productivity is held constant. *See id.* at 822.

94. *Id.* at 822 (noting that "American states that have higher wage rates of women relative to men also have smaller fractions of men and women who are married") (citing Alan N. Freiden, A Model of Marriage and Fertility (1972) (unpublished Ph.D dissertation, University of Chicago)).

95. *See* STIGLITZ, *supra* note 52, at 62.

96. *See id.*

97. *See id.*

98. *See id.*

99. *See id.*

spaces. Specialization helps Kate become a better producer of meals, resulting in time saved. For instance, as the number of meals that Kate makes increases, she becomes more knowledgeable about purchasing and combining ingredients as well as cooking and storing food. Her increased knowledge saves Kate time in meal preparation. She also saves time by not having to switch between producing meals and clean living spaces. Eventually, Kate is able to produce the same quantity of meals in a shorter amount of time.[100] Kate, therefore, could substitute this saved nonmarket time for market time, which would increase the amount of income available to her for purchasing more (or better quality) food inputs (i.e., market goods). Additionally, she could spend her increased nonmarket time on preparing more meals. More food inputs, coupled with Kate's increased nonmarket time, allow her to prepare a greater number of meals.[101]

To summarize, when a man and woman come together in a single household, they increase their overall satisfaction level in two ways: by specializing in a comparative Z good and trading that good for other Z goods and by saving nonmarket time through the process of specialization. The next issue is whether the nature of a man and woman's relationship—cohabiting or married—influences the amount a household gains from trade and specialization.

C. Cohabitation's Adverse Effect on the Timing of Marriage and the Marriage Rate

As previously mentioned, the cohabitation rate continues to rise.[102] The increased cohabitation rate suggests that cohabitation may serve as an alternative and prelude to marriage.[103] When cohabitation is a prelude to marriage, it delays the timing of marriage and remarriage. Based on the National Survey of Families and Households sample ("NSFHS"), researchers have found that cohabitation delays marriage by raising the age at which a person first marries.[104] In 1970, 27% of the population who were twenty years old or younger had been married at least once, but this percentage sharply decreased to 14% (a 49% change) by 1985.[105] Further, in the same year, 72% of the population who were twenty-five years old or younger had been married at least once, but this percentage declined to 55% (a 24% change) by 1985.[106] Since 50% of individuals have lived with a partner before their first marriage, cohabitation is one possible reason for the delay in the timing of first marriages.[107] Cohabitation also delays remarriage.[108] Of all cohabiting relationships in 1991, 69% involved at least one divorced person.[109] Because most divorced people remarry—though not necessarily to

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100. Or, Kate could produce more meals in the same amount of time.

101. In a similar manner, John gains by specializing in clean living spaces.

102. Forste, *supra* note 3, at 91.

103. *Id.* at 91-92.

104. Bumpass et al., *supra* note 15, at 914. The NSFHS was taken between 1987 and 1988, and it consisted of 13,017 respondents. *Id.*

105. *Id.* at 916.

106. *Id.*

107. *See id.* at 914.

108. Nock, *supra* note 2, at 54.

109. *Id.* at 53.

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their current cohabiting partner—these cohabiting individuals are merely delaying the likelihood of remarriage.[110] This delay can be substantial considering that 40% of cohabiting relationships break up without the couple ever marrying.[111]

Cohabitation also has contributed to the declining marriage rate by serving as a substitute for marriage.[112] The NSFHS also provides data on the percentage of persons ever in a marriage or cohabiting union. By comparing this data, researchers have determined the extent to which cohabitation has decreased the marriage rate.[113] For persons age twenty years or younger, cohabitation contributed 59% to the decreased marriage rate. Cohabitation accounted for 67% of the decline in the marriage rate for individuals age twenty-five years or younger.[114] Additionally, cohabitation was an alternative to marriage because most cohabiting unions composed of persons age twenty-five years or older did not result in marriage.[115] Indeed, only 35% of such unions had a marriage outcome after three years of living together.[116]

In short, cohabitation delays marriage and decreases the marriage rate. In terms of the production of Z goods, these effects on marriage are relatively unimportant if cohabiting households produce Z goods as efficiently (i.e., have similar output levels of Z goods) as married households. The issue, then, is whether cohabiting households capitalize on the gains from trade and specialization to the extent that married households do. As demonstrated in the following section, cohabiting households produce Z goods less efficiently than married households.

D. Marriage: The More Efficient Union

Cohabiting households produce less Z goods than married homes and have less gains from trade than married households. The former phenomenon is a result of cohabitors being less committed to each other than married unions. They believe their relationship will be short lived. For instance, of those surveyed in the NSFHS,[117] 51% of male respondents and 56% of female respondents stated that cohabitation was important because it allows them to be "sure they are compatible before marriage."[118] A lower percentage of respondents (between 15-20%), on the other hand, alleged that their cohabitation involved less of a commitment than marriage.[119] The latter response is surprising in light of the cohabitors' other responses. Specifically, a majority of respondents indicated they cohabitate to test the relationship; implicit in this testing ground response is that cohabitors were hesitant about their current relationship's

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110. *See id.*

111. Bumpass et al., *supra* note 15, at 917.

112. *See id.* at 916.

113. *See id.*

114. *Id.*

115. *See* Forste, *supra* note 3, at 92 (citing Larry L. Bumpass, *The Changing Significance of Marriage in the United States, in* THE CHANGING FAMILY IN COMPARATIVE PERSPECTIVE: ASIA AND THE UNITED STATES, 63, 63-79 (K.O. Mason et al. eds., 1998)).

116. *Id.*

117. *See* Bumpass et al., *supra* note 15, at 920.

118. *Id.*

119. *Id.* at 921.

longevity.[120] According to other responses on the NSFHS, cohabitors were twice as likely to believe their union was unstable in the past year than were married couples.[121] Further, more married unions than cohabitors stated a belief in the permanence of marriage.[122]

The decreased commitment level in cohabiting unions is best exemplified by the negative effect cohabitation has on the divorce rate. Cohabitation increases the probability of divorce by 50% for two main reasons:[123] Individuals who choose cohabitation are predisposed to have negative views toward commitment (a phenomenon called self-selection),[124] *and* the cohabitation experience itself lowers a cohabiting couple's "threshold for leaving a relationship."[125] Regarding the latter reason, the nature of cohabitation tends to be more autonomous than marriage; thus, cohabitation may teach the couple to place a lower value on commitment.[126] Both of these experiences, in short, cause cohabitors to view commitment unfavorably,[127] and to be more accepting of divorce.[128] More importantly, cohabitors bring these views into marriage after having cohabited.

Because cohabitors have a negative attitude toward commitment and consider their union as being short lived, cohabitors have fewer incentives than married unions to maximize their household's Z goods production. That is, implicit in cohabitors' negative view toward commitment is a belief that their union will not result in

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120. *See id.* One way to explain the difference is that the respondents were rationalizing their behavior and did not want to jinx their relationship. *See id.*

121. *Id.*

122. *See id.* at 921-22.

123. *See* William G. Axinn & Arland Thorton, *The Relationship Between Cohabitation and Divorce: Selectivity or Causal Influence?*, 29 DEMOGRAPHY 357, 358-59 (1992) (conducting a survey and finding that many cohabitors expressed a low opinion about the value of commitment). Other researchers have found that cohabitation increases the likelihood of divorce up to 50%. In one Canadian study, the researchers used a logit regression model to study cohabitation's effect on the divorce rate for first marriages. Krishnan, *supra* note 6. Marital dissolution was the dependent variable, and the independent variables were cohabitation, religion, age, socioeconomic status, and race. *Id.* at 162-63. The results indicated that 7.77% of marriages dissolved for couples who did not live together before marrying, and 18.96% of marriages dissolved for those couples who cohabited before marrying. *Id.* at 164; *see* Hall & Zhao, *supra* note 5, at 422 (finding that cohabitation increases the divorce rate by roughly 50%).

124. *See* Axinn & Barber, *supra* note 11, at 598-600 (finding that individuals having a high acceptance of divorce tended to cohabitate); Axinn & Thorton, *supra* note 123, at 358-59; W.G. Catherine L. Cohan & Stacey Kleinbaum, *Toward a Greater Understanding of the Cohabitation Effect: Premarital Cohabitation and Marital Communication*, 64 J. MARRIAGE & FAM. 180, 181 (2002). Self-selection significantly increases as the divorce rate rises. Krishnan, *supra* note 6, at 158-59.

125. Cohan & Kleinbaum, *supra* note 124, at 181. That is, cohabitation itself negatively effects a person's attitude toward commitment. Axinn & Thorton, *supra* note 123, at 371-72.

126. *See* Cohan & Kleinbaum, *supra* note 124, at 181 (citing R. Schoen & R.M. Weinick, *Partner Choice in Marriages and Cohabitations*, 55 J. MARRIAGE & FAM. 408 (1993)). Further, cohabitation may teach a couple to have a negative attitude toward the permanence of marriage because many cohabitors experience at least one break-up prior to marrying.

127. Axinn & Thorton, *supra* note 123, at 371-72.

128. *Id.*

marriage. Cohabitors, therefore, are not likely to commit themselves to producing and exchanging Z goods in their household, so they will not realize the gains from trade and specialization that married households experience.[129] A cohabiting household, then, will have a lower quantity of Z goods than a married home.

It must be noted that cohabiting women and men specialize in household production less than married women and men. Cohabiting women spend 6.3 hours a week less than married women on household labor, and cohabiting men spend about two hours a week less than married men.[130] Cohabiting households, thus, spend less nonmarket time producing Z goods than married homes, causing the former households to have fewer Z goods than the latter.[131] Additionally, cohabiting women have a higher mean income than married women.[132] A greater mean income means that cohabiting women have a higher opportunity cost of staying home than married women, resulting in them spending more time producing market goods than married women.[133] In other words, it is cheaper for a married woman to produce Z goods than a cohabiting woman.

Moreover, the income gap between cohabiting women and men is less than the gap in married couples.[134] Cohabiting women earn about 90% of the male's income, but married women earn about 60% of their husband's income,[135] resulting in the PPCs between a cohabiting union generally being more similar than the PPCs between a married couple.[136] Thus, fewer gains from trade are realized in a cohabiting household than a married one because the benefits from trade decline as a couple's PPCs become similar.[137] This phenomenon places the cohabiting household at a lower output level than a married household.[138]

Subpart C demonstrated that cohabitation may act as an alternative or prelude to marriage. Both adversely affect the production of Z goods. If cohabitation is a substitute for marriage, the cohabiting persons will continue to produce Z goods less efficiently than a married household. If cohabitation is a prelude to marriage, the cohabitors are merely delaying the timing of producing a more efficient output of Z goods. Because gains from trading Z goods in marriage are greater than a cohabiting union—all else being equal—individuals should prefer marriage over cohabitation.

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129. Married couples have positive attitudes toward commitment. *See* Bumpass et al., *supra* note 15, at 921.

130. Beth A. Shelton & Daphne John, *Does Marital Status Make a Difference?*, 14 J. FAM. ISSUES 401, 415 (1993). These figures were estimated using a regression model that controlled for variables, such as work hours, race, age, education, and earnings. *Id.*

131. Because both cohabiting men and women spend *less* time doing household labor than married men and women, the cohabiting household overall spends less time producing Z goods.

132. *See* Shelton & John, *supra* note 130, at 409, 411.

133. *Id.* On the other hand, cohabiting men do not earn, on average, more than married men. Cohabiting men spend less time on household labor for reasons other than their income level. *Id.*

134. Julie Brines & Kara Joyner, *The Ties that Bind: Principles of Cohesion in Cohabitation and Marriage*, 64 AM. SOCIOLOGICAL REV. 333, 341 (1999).

135. *Id.* at 341.

136. Recall that a person's PPC for Z goods is determined by his or her income level and time. *See* SCHILLER, *supra* note 42, at 10 fig.1.1.

137. *See* Gronau, *supra* note 38, at 635.

138. *See supra* notes 93-94 and accompanying text.

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Instead, however, persons are increasingly choosing cohabitation over marriage.[139] Part III of this Note analyzes whether the AFDC program has contributed to the rise in cohabiting households.

III. THE FORMER AFDC PROGRAM'S EFFECT ON MARRIAGE AND COHABITATION RATES

As previously stated, the federal welfare program was entitled Aid to Families with Dependent Children ("AFDC") prior to 1996.[140] This federal program provided funds to states that met strict federal guidelines.[141] Temporary Assistance for Needy Families ("TANF") replaced AFDC in 1996.[142] TANF removes most of the federal restrictions and gives block grants to the states, allowing the states to set their own rules.[143] Unfortunately, empirical data is largely unavailable on whether the states have changed their respective rules under TANF regarding cohabiting and married households. Data is available, however, on how all fifty states treated cohabiting and married households for AFDC eligibility.[144] This Part, therefore, examines the AFDC program to provide state legislatures with reasons why they should consider household efficiency when determining their welfare eligibility rules under TANF. Further, because the states had much freedom to set rules regarding cohabitors under AFDC,[145] TANF likely provided the states no additional freedom that they did not have under AFDC. The AFDC data, thus, is relevant and useful for purposes of this Note, even under the new TANF program.[146]

Subpart A describes the rules governing the AFDC program. Subpart B then analyzes whether the AFDC's official rules were followed in practice by examining several empirical models. This Subpart concludes that the AFDC program encouraged cohabitation over marriage. Lastly, Subpart C offers several alternative welfare schemes that are more marriage friendly.

A. Rules Under the Former AFDC Program

The Federal Government allowed states to offer two different AFDC programs, AFDC-Basic and AFDC-Unemployed Parent[147] ("AFDC-UP").[148] AFDC-Basic

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139. *See supra* Part I.

140. Emily Bazelon & Tamara Watts, Note, *Welfare Time Limits on the Ground: An Empirical Study of Connecticut's Jobs First Program*, 32 CONN. L. REV. 717, 717 (2000).

141. Jeffrey, *supra* note 22, at 123-24 n.4. The Federal Government, however, did not have strict rules regarding how the states treated cohabiting households. Moffitt et al., *supra* note 23, at 263-64.

142. Jeffrey, *supra* note 22, at 124.

143. *See id.*

144. Robert A. Moffitt et al., *State AFDC Rules Regarding the Treatment of Cohabitors: 1993*, 57 SOC. SEC. BULL. 26, 26 (1994) (conducting a telephone survey in 1993 to each state's welfare agency).

145. *See* Moffitt et al., *supra* note 23, at 264.

146. *See id.* at 259. Moffitt et al. stated that "a new federal law took effect after 1996," clearly referring to TANF. *Id.*

147. In 1987 (the year that three of the surveys used in this study were conducted), only

generally gave benefits to single-parent families, but AFDC-UP provided benefits to two-parent families.[149] A household was eligible for AFDC-Basic if it had at least one child and met any of the following requirements: it was headed by a single, unmarried mother; it contained a cohabiting male who was not the biological father of any of the children ("unrelated cohabitor"); or it contained a woman married to a man who was not the biological father of any of the children ("unrelated stepfather").[150] When the natural father of at least one of the children was present, the home was ineligible for AFDC-Basic (unless the male was disabled), regardless of whether the woman was married to or cohabiting with the biological father.[151] In this type of household, the family unit was eligible for AFDC-UP.[152] AFDC-UP, though, added additional requirements: the principal earner must have been unemployed and have had a history of employment, and the income of both adults automatically counted against the grant amount.[153]

Although eligibility for AFDC-Basic did not depend on whether a woman was married or cohabiting, the relationship status of the man to the children in the household did affect the family unit's grant amount.[154] Congress mandated that a portion of the unrelated stepfather's income automatically be counted against the grant amount,[155] but the income of the unrelated cohabitor was not necessarily factored into the grant amount. Some evidence must have shown that the unrelated cohabitor is financially contributing to the household.[156] Even so, the unrelated cohabitor could have made in-kind (e.g., rent payments) contributions without such contributions being used against the grant amount.[157] Further, about half of the states do not penalize a household when the unrelated cohabitor used cash to pay for household expenses (e.g., food).[158] These rules help explain why a large percentage of cohabiting households received welfare payments under the former AFDC program.[159]

The rule structure of AFDC-Basic, in theory, provided women with an incentive to choose cohabitation over remaining single or marrying. Specifically, the income of unrelated cohabitors was not automatically counted against the AFDC-Basic grant amount (and women are usually not penalized for receiving financial assistance from

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about one-half of the states had an AFDC-UP program. *Id.* at 263.

148. Moffitt et al., *supra* note 144, at 26-27 (clarifying the relationship between eligibility for AFDC-Basic and AFDC-UP).

149. *Id.*

150. Moffitt et al., *supra* note 23, at 264. In the last category, seven states deem a woman who is married to the children's stepfather to be categorically ineligible for AFDC-Basic. *Id.* Such a family unit is eligible only for AFDC-UP. *Id.*

151. *Id.*

152. *Id.*

153. Moffitt et al., *supra* note 144, at 27.

154. Moffitt et al., *supra* note 23, at 266.

155. Under TANF, states have the latitude to change this mandate, but research is not clear on whether such change has occurred. *Id.*

156. *Id.* at 264. It is important to note that households with an unrelated cohabitor could easily claim on their AFDC applications that the male is not contributing. States do not have the resources to research every claim to determine its validity.

157. *Id.* at 264-65.

158. *Id.*

159. *Id.* at 265.

unrelated cohabitors), but the stepfather's income automatically reduced the grant amount.[160] By cohabiting, a woman could have shared household expenses and receive financial assistance from the man, all without being penalized.[161] The AFDC-UP program, on the other hand, did not give women an incentive to cohabitate over marrying. In households where the biological mother and biological father were married or cohabiting, the income of the father automatically reduced the grant amount.[162]

B. Empirical Models

To determine how the official rules of the former AFDC program applied in practice, Moffitt et al. analyzed two data sets: the Panel Study of Income Dynamics ("PSID"), and the National Longitudinal Survey of Youth ("NLSY").[163]

These researchers examined the PSID and NLSY surveys to understand the percentage of women receiving either AFDC-Basic or AFDC-UP (collectively referred to as AFDC).[164] The surveys also indicated the percentage of couples in which the man is and is not the natural father of the children.[165] In a cohabiting household, 6% of the PSID women respondents were receiving AFDC, compared with 16.8% of the NLSY respondents.[166] Both surveys reveal that about 50% of these cohabiting households have the natural father present.[167] In a married household, 14.3% of the female PSID respondents were receiving AFDC, compared with 18.3% of the female NLSY respondents.[168] Moreover, the PSID and the NLSY indicate that about 80% of married households have the natural father present.[169] Thus, the majority of married women are on AFDC-UP because the AFDC-Basic program is unavailable when the biological father is present in the household.

An empirical model using the PSID and the NLSY data tested the theory that

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160. *Id.*

161. *See id.* at 266.

162. *Id.*

163. *Id.* at 260. Each data set has limitations. The PSID is a panel data set; that is, it annually tracks the same individuals over a long period. *Id.* at 261. It has detailed information on welfare recipients, but it is household based—meaning, it does not account for more than one cohabiting union in a single household. *Id.* Fortunately, most households contain only one cohabiting couple, making this perceived limitation irrelevant. *Id.* The NLSY is also a panel study that asked questions about cohabitation and collected financial information on cohabiting males. Its focus was to measure labor market characteristics, and it sampled only men and women between twenty-two and twenty-nine years of age. *Id.*

164. *Id.* at 266. The respondents in both surveys were receiving AFDC payments at the time of the interview. *Id.*

165. *Id.*

166. These percentages do not accurately represent the number of women eligible for AFDC because some unmarried women who are eligible for AFDC do not participate in this program. *See* REBECCA M. BLANK, IT TAKES A NATION: A NEW AGENDA FOR FIGHTING POVERTY 155 (1997).

167. Moffitt et al., *supra* note 23, at 266.

168. *Id.*

169. *Id.*

AFDC-Basic gave women an incentive to choose cohabitation over marriage.[170] The researchers used a "small" and "extended" multinomial logit model.[171] The small model controlled for independent variables, such as age, education, race, children, and AFDC benefit level. The extended model included these variables and added variables for the local marriage market, religiosity, urban residence, and family background.[172] A couple's status—married or cohabiting—was the dependent variable.[173]

The amount of the AFDC payment in both models had a weak effect on the choice to cohabitate or marry, and many independent variables were statistically insignificant.[174] In the small model, a $100 increase in monthly AFDC payments reduced the probability of getting married by between 5% (NLSY) and 2.5% (PSID).[175] The AFDC variable was statistically significant for both surveys.[176] On the other hand, the effect of welfare payments on the choice to cohabitate was not significant in either survey. In the extended model, the welfare payment was the only statistically significant variable. A $100 increase in monthly AFDC payments decreased the likelihood of marriage by about 5% (NLSY), the same result as in the small model.[177]

Moffitt et al. also estimated a "small" and "extended" multinomial logit model for the joint choice of partner status and welfare participation, creating four categories: on welfare and cohabiting, off welfare and cohabiting, on welfare and married, and off welfare and married.[178] These models had additional welfare-related variables: variables for whether a state adopted in-kind Policy A or in-kind Policy B,[179] and a dummy variable to identify the states with AFDC-UP programs.[180] Policy A treated the contributions of unrelated cohabitors more leniently than Policy B. Policy A failed to reduce the AFDC grant for unrelated cohabitors making in-kind contributions, but the AFDC grant was reduced for unrelated cohabitors making in-kind contributions in Policy B.[181] In the small model for the PSID and NLSY surveys, in-kind Policy A had a large, positive, and statistically significant effect on the probability of being on

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170. The survey used for each result is stated in parentheses.

171. Moffitt et al., *supra* note 23, at 267. A logit model indicates how a percentage change in one independent variable (e.g., age) affects a dependent variable (e.g., the divorce rate), holding all other independent variables constant. *Id.* For a detailed analysis on this model, see *id.*

172. *Id.*

173. *Id.* at 266.

174. In these models, a variable is significant at the 10% level. *Id.* at 267. That is, at this level, only a 10% (or less) chance exists that the results were due to chance. The significant variables are labeled respectively. An insignificant variable means the outcome is probably due to chance.

175. *Id.*

176. *Id.*

177. *See id.* at 268, 269.

178. *Id.* at 267. This theoretical model implies that incentives to cohabitate work through welfare participation, making this model a more accurate prediction of how welfare levels affect one's choice to marry or cohabitate. *See id.*

179. *Id.*

180. *Id.*

181. *Id.*

welfare and cohabiting.[182] But the results in the extended model were unenlightening because Policy A was statistically insignificant.[183] The results in the small model indicate that, when states treat the contributions of unrelated cohabitors leniently, AFDC encourages cohabitation over marriage.[184]

Further, Moffitt et al. utilized a model that estimated whether the presence of an AFDC-UP[185] program affected decisions to marry or cohabitate. The results were inconsistent. For the PSID survey in the small model, the presence of AFDC-UP in a state increased the likelihood of being on welfare and married.[186] The results for the · NLSY sample (in the small and extended models) proved that the presence of an AFDC-UP program increased the probability of being on welfare and cohabiting.[187] It is not clear, therefore, whether AFDC-UP encourages marriage in practice.

In another study, Brandon and Bumpass examined data from the Survey of Income and Program Participation ("SIPP") to determine the percentage of women receiving AFDC who lived in cohabiting versus married households.[188] The SIPP is a longitudinal survey[189] sampling a random part of the U.S. population from 1985 through 1994.[190] The SIPP provides data on whether the children were living with their biological parents and defined the nature of the relationship among the members of each household. The observations were broken down as follows: 97,495 children in married, husband-and-wife households; 23,272 children in unmarried-mother (one-parent) households; and 5447 children in cohabiting households (about 61% of this latter group lived with both biological parents and 36% lived with their cohabiting biological mother and one unrelated male).[191] By analyzing the SIPP, the researchers determined the percentage of married and cohabiting couples who received AFDC benefits. Twenty-nine percent of cohabiting couples received AFDC, but only 7% of married couples received AFDC.[192] The SIPP survey also revealed that 43% of cohabiting couples received food stamps, but only 15% of married couples received food stamps.[193]

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182. *Id.* at 270.

183. *Id.* at 270-71.

184. *Id.* at 270-72.

185. For a review of eligibility of this program, see *supra* notes 141-46 and accompanying text.

186. Moffitt et al., *supra* note 23, at 271. The variable AFDC-UP was statistically significant. *Id.*

187. *Id.* AFDC-UP was statistically significant. *Id.*

188. Brandon & Bumpass, *supra* note 23, at 4.

189. Longitudinal surveys, like panel studies, annually track the same individuals over an extended period of time.

190. Brandon & Bumpass, *supra* note 23, at 8.

191. *Id.* at 11.

192. *Id.* at 14.

193. *Id.* These unadjusted results are inconsistent with Moffitt et al.'s uncontrolled results. Moffitt et al. found that more married couples received AFDC than cohabiting couples. Moffitt et al., *supra* note 23, at 266 (finding that 18.3% (NLSY) and 14.3% (PSID) of women who cohabited were receiving AFDC but only 16.8% (NLSY) and 6.0% (PSID) of women who were married were receiving AFDC). Brandon and Bumpass's observations, however, are more accurate because they examined a much larger data set. To be certain, the SIPP survey had 5447 children in cohabiting households, whereas Moffitt et al.'s data set had only 43 cohabiting

Then, a logistic regression model was employed to determine what other factors, besides being married or cohabited, contributed to the results above. Brandon and Bumpass accounted for "race, presence of biological parents, poverty status, and other sociodemographic factors."[194] These independent variables were regressed on AFDC to determine how each variable affects the likelihood of receiving AFDC.[195]

Their results were interesting.[196] In a cohabiting household, children living with only one biological parent (4.37*) were more likely to receive AFDC than children living with both biological parents (1.96*).[197] Children in cohabiting households where both biological parents were present were more likely to receive AFDC (and food stamps) than children living in married households.[198] Surprisingly, the sex of the sole biological, cohabiting parent affected the household's probability of receiving AFDC. Households where only one natural parent of the children resided (4.50*) were more likely to receive AFDC than those households where the male was the only biological parent (2.74*).[199] Cohabiting households having both biological parents present were the least likely to receive AFDC (1.96*).[200] Children living with cohabiting, biological fathers were only more likely (compared to all other living arrangements) to receive AFDC and food stamps than children living with married couples.[201]

Additionally, Brandon and Bumpass predicted the probabilities of receiving AFDC and food stamps. Married couples had a 4% chance of obtaining AFDC assistance, and an 11% chance of receiving food stamps. Cohabiting households with both biological parents present had an 8% and 21% probability of receiving AFDC and food stamps, respectively. Households having only one biological parent present had a 17% and 31% likelihood of being on AFDC and food stamps, respectively. Households where the mother was the only natural parent present had an 11% probability of receiving AFDC and a 30% probability of obtaining food stamps. Cohabiting households where the father was the sole biological parent present had a 17% and 31% likelihood of receiving AFDC and food stamps, respectively.[202]

The predicted probabilities of cohabiting and married households receiving AFDC

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women (PSID) and 82 cohabiting women (NLSY). Brandon & Bumpass, *supra* note 23, at 11; Moffitt et al., *supra* note 23, at 267. Although the PSID and NLSY numbers do not exactly correlate with the number of cohabiting women in the SIPP, it clearly indicates that this data set far exceeds the number of cohabiting women in the NLSY and PSID. For example, assuming each household is comprised of a woman and man (the percentage of same-sex household is low) and each household has, at most, five children (a high estimate), the SIPP would yield at least 1000 cohabiting women.

194. Brandon & Bumpass, *supra* note 23, at 14.

195. *Id.*

196. The results are reported in terms of coefficients in parentheses. The larger the coefficient, the greater the correlation between the independent variable and the dependent variable, AFDC. A positive coefficient represents a positive relationship between the two variables, and a negative coefficient indicates an inverse relationship. Further, an asterisk next to a coefficient means the variable is statistically significant.

197. Brandon & Bumpass, *supra* note 23, at 17. The same result applies to food stamps. *Id.*

198. *Id.* at 20.

199. *Id.* at 18.

200. *Id.* at 19.

201. *Id.* at 18-20.

202. *Id.* at 20.

assistance demonstrate that the AFDC's rules gave women with children an incentive to cohabitate rather than marry: married couples had only a 4% probability of receiving AFDC, a lower probability than any type of cohabiting household.[203] Married couples were expected to have a lower likelihood of receiving AFDC than cohabiting unions for two main reasons. First, few married households were eligible for any AFDC benefits since about 80% of married households had the biological father present.[204] Second, the income of the related father or unrelated stepfather automatically counted against the AFDC grant amount.[205] Thus, a married couple could become ineligible for AFDC because of the male's income level, even if the male was not *actually* contributing to household expenses.[206]

Further, the incentive-to-cohabitate theory is supported by the fact that all types of cohabiting households had a higher likelihood of receiving AFDC than married households.[207] In addition, most states allowed an unrelated male cohabitor to make in-kind and some cash contributions to the household without grant reduction. Such leniency resulted in cohabiting households where the woman was the sole biological parent (4.5*) having higher probabilities of receiving AFDC than cohabiting households where the man was the sole biological parent (2.74*).[208]

The rules of the former AFDC program across the states not only tended to favor cohabitation, but they also gave women a disincentive to marry. To be sure, the man's income in a married household automatically counted against the AFDC grant amount, regardless whether the male is or is not the biological father of the children.[209] The unrelated cohabitor, however, could have contributed to the household through in-kind payments and some cash assistance without any penalty.[210] Additionally, in practice, more cohabiting households received AFDC than married ones.[211] For the above reasons, the welfare system encourages cohabitation over marriage.

The former AFDC program is one reason why individuals have been increasingly

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203. *Id.*

204. Moffitt et al., *supra* note 23, at 266 (examining the PSID and NLSY data sets). Recall that, when the natural father is present, a household is only eligible for AFDC-UP, not AFDC-Basic. *See id.* at 264. AFDC-UP has very stringent requirements, so few married households are eligible for AFDC-UP. *See* Moffitt et al., *supra* note 144, at 27.

205. *Id.*

206. The same analysis can be used regarding food stamps because married couples only have an 11% probability of obtaining food stamps, a lower probability than any other living arrangement. Brandon & Bumpass, *supra* note 23, at 20.

207. *See id.* (finding the probabilities for cohabiting households ranged from 8% to 17%, a much higher range than married households, which only have a 4% likelihood of receiving AFDC).

208. *Id.* at 18.

209. *See supra* notes 154-58 and accompanying text.

210. If the male is related to one of the children in the cohabiting household, the household is only eligible for AFDC-UP. Moffitt et al., *supra* note 23, at 263-64. This program does not, at least in theory, allow the male's contribution to the household to affect the determining of the grant amount. However, it is possible states do not enforce this rule vigilantly. For example, as stated earlier, a woman could lie on the AFDC application and claim that the related cohabiting male provides no financial assistance. *See supra* note 156 and accompanying text.

211. *See supra* note 192-93.

choosing cohabitation over marriage,[212] despite the theory that marriage produces more Z goods than cohabitation.[213] The increased production and consumption that cohabitors would gain by marrying was offset some by the AFDC grant amount that they received by remaining a cohabiting household.

C. Alternative Welfare Programs to the Former AFDC Program

State programs under TANF should, at the least, not give women a disincentive to choose marriage over cohabitation, especially considering that the former is more efficient than the latter. These rules could become more marriage-neutral in several ways. First, these rules could remove the requirement that the unrelated stepfather's income automatically be used in determining the amount of the welfare grant, and replace it with the same standard used for determining the grant amount for households where there is an unrelated cohabitor.[214] If this standard applied to married couples, then the male's income (whether he is related or not related to the children) would only count against the welfare grant amount if it is shown that the male is *actually* contributing to household expenses. Of course, if states apply this standard to married couples, states would encounter the same potential problems they confront with households where there is a unrelated cohabitor; that is, married women would now have an incentive to misstate whether the male is actually contributing to the expenses of the household.

An alternative means of removing the disincentive for women with children to marry is to eliminate the lenient rules toward the unrelated cohabitor. When states determine the amount of the welfare grant, they should reduce the grant accordingly in households where the unrelated cohabitor is making in-kind and cash contributions. This change would place a woman's choice between cohabiting with an unrelated male and marrying an unrelated male on equal ground because, in both situations, the grant amount would be reduced.

A more radical change that states could enact is determining welfare eligibility based on whether the woman is single, married, or cohabiting.[215] As previously mentioned, under the AFDC program, women were ineligible for AFDC-Basic if they lived with the natural father of one of the children in the household; however, such

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212. Cohabitation has been on the rise since the 1970s. It is important to note that this rise is correlated with the Supreme Court's decision in 1968, which ruled that the income of the cohabiting male may not automatically be counted against the AFDC grant amount. *See* King v. Smith, 392 U.S. 309 (1968); Moffitt et al., *supra* note 23, at 264.

213. *See supra* Part II.D.

214. Note that states automatically counted the income of the male in married households because Congress mandated that they do so to be eligible for federal funding. Moffitt et al., *supra* note 23, at 264. TANF allows states to change this mandate. To date, there is no documentation that adequately provides information regarding how states have changed their AFDC laws after 1996, so it is not known whether most states continue to count automatically the unrelated stepfather's income against the grant in a married household. Of course, it is possible that the majority of states have made no substantial changes.

215. AFDC-Basic assistance was not available (but AFDC-UP was available) to women when the male living in the household is the biological father of at least one of the children. Moffitt et al., *supra* note 144, at 27.

women were eligible for AFDC-UP, which had much stricter requirements.[216] These rules resulted in most married couples being ineligible for any welfare grant since 80% of married couples include the natural father.[217] Instead, states could make a household ineligible for a welfare grant if the woman is cohabiting, but eligible if she marries.[218] This change is likely to increase dramatically a woman's incentive to choose marriage over cohabitation. First, states essentially would be subsidizing marriage. Second, since 80% of married couples include the natural father,[219] a large number of women would be more likely to receive AFDC aid because they would not have to meet the more stringent requirements that states enacted under the former AFDC-UP program. To summarize, this change would encourage marriage over cohabitation, and thereby encourage individuals to maximize their gains from trade and specialization in *Z* goods.

IV. THE FEDERAL TAX STRUCTURE'S EFFECT ON MARRIAGE AND COHABITATION

Since 1948, the federal tax system has penalized at least some individuals for marrying.[220] For instance, when these individuals file taxes jointly, they pay more taxes than if they had filed separately as single persons.[221] This phenomenon is referred to as the marriage tax. Married couples are not forced to file jointly, but even if they file separately, they are subject to a higher tax bracket than single persons.[222] Other individuals, however, could actually lower their tax liability by marrying and filing jointly; this has been referred to as the marriage subsidy.[223]

Congress attempted to reduce the marriage tax by passing the Tax Reform Act of 1986 ("TRA86").[224] Through TRA86, Congress made several significant changes to decrease the amount of the marriage tax. It removed the two-earner deduction, allowing joint filers to reduce Adjusted Gross Income ("AGI") by "an amount equal to 10[%] of the earnings of the lower-earning spouse, up to a maximum of $3000."[225] TRA86 kept a tax schedule based upon a person's marital status, but it expanded the

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216. *See supra* notes 151-53 and accompanying text.

217. Moffitt et al., *supra* note 23, at 266.

218. This proposal, if enacted, could be invalidated under the Equal Protection Clause ("EPC") of the Fourteenth Amendment. The last time the Court addressed this issue was in 1968. *King*, 392 U.S. at 309. In that case, Alabama denied AFDC benefits to any women with children who were cohabiting with a male. *Id.* at 313-14. The Court struck down this regulation on federal statutory grounds, and it did not reach the EPC issue. *Id.* at 332-33. Justice Douglas, however, indicated that the denial of AFDC benefits based on whether a woman was cohabiting was "invidious discrimination" under the EPC. *Id.* at 336 (Douglas, J., concurring) ("I would say that the immorality of the mother has no rational connection with the need of her children under any welfare program.").

219. Moffitt et al., *supra* note 23, at 266.

220. Harvey S. Rosen, *The Marriage Tax Is Down But Not Out*, 40 NAT'L TAX J. 567, 568 (1987).

221. *Id.*

222. *Id.*

223. James Alm & Leslie A. Whittington, *Income Taxes and the Marriage Decision*, 27 APPLIED ECON. 25, 25 (1995).

224. Rosen, *supra* note 220, at 567.

225. *Id.* at 568.

joint filing brackets for each rate.[226]

The federal tax system has undergone minor changes since TRA86. Subpart A of this Part describes the tax structure for the year 2000, showing how individuals may gain or lose income by marrying.[227] Subpart B presents several empirical models that demonstrate the tax structure favors cohabitation, not marriage. Then Subpart C offers proposed changes to the tax system, which would make it less pro-cohabitation.

A. The Tax Structure in 2000

The 2000 tax rates for married couples and single filers[228] are similar to those set forth in TRA86. These rates are shown in Table 1.[229]

Table 1. Tax Schedule for 2000

Marginal Tax Rate	Adjusted Gross Income (AGI)	
	Joint	Single
15%	$0–$45,200	$0–$27,050
28%	$45,200–$109,250	$27,050–$65,550
31%	$109,250–$166,500	$65,550–$136,750
36%	$166,500–$297, 350	$136,750–$297,350

Given the joint filing brackets, married couples may pay either a marriage tax or receive a marriage subsidy by filing jointly, depending on the income of each individual.[230] To illustrate, assume an individual, Paul, has an AGI of $35,000 per year. If Paul is single, he falls in the 28% bracket, but if he marries and his spouse's AGI is no more than $10,200 (if she made more, he would be pushed in the 28% bracket), he is taxed at the 15% rate. Thus, Paul obtains a marriage subsidy. In fact, Paul receives a marriage subsidy for a range of potential salaries. When Paul's taxable income is between $27,050 and $45,200 and his spouse's income, if any, does not make their combined income exceed an AGI of $45,200, joint filing places Paul in the 15% bracket. If he filed as a single person, he would be in the 28% bracket. The tax structure, therefore, subsidizes Paul for marrying.

On the other hand, the tax structure could penalize an individual for marrying. For instance, say Paul has taxable income of $25,000. By being single, he falls under the 15% tax rate. Now assume Paul marries Jen. If Jen's AGI is also $25,000, Paul falls in the 28% bracket; thus, Paul and Jen pay a marriage tax by filing jointly. Indeed, similar to the marriage subsidy, a range of salaries exist that could result in Paul's household paying a marriage tax. If Paul's AGI is $27,050 or less, he will be penalized for

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226. *Id.*

227. These rates do not reflect the changes made under President George W. Bush. The 2000 tax schedule is analyzed in this Note because it is almost identical to the 1986 structure. The leading research on how the tax system affects an individual's choice to marry or remain single used a data set that is a better match with the 2000 tax rates than with the current rates.

228. Cohabitors may not file joint taxes; therefore, cohabitors are subject to the same tax brackets as single persons.

229. James Alm & Leslie A. Whittington, *Tax Reductions, Tax Changes, and the Marriage Penalty*, 54 NAT'L TAX J. 455, 456 (2001).

230. *See* Rosen, *supra* note 220, at 568.

marrying Jen if, by combining her taxable income with his, the AGI of their household exceeds $45,200.[231]

The above examples indicate that the tax system could benefit, harm, or have no effect on different married households with the same combined income. Spouses with similar incomes tend to pay a marriage tax, but spouses with unequal incomes usually benefit from marrying. Two-earner married households are more likely to pay a penalty than one-earner married households.[232] To illustrate, assume Matthew and Julie are married and their household has a combined AGI of $50,000. If Matthew is the sole income-earner (earning $50,000), the household comes within the 28% tax bracket. This is the same bracket Matthew would have been in had he remained single. Now assume Matthew and Julie both earn $25,000. If each individual remained single, he or she would be taxed at the 15% rate. Marriage, however, places their household in the 28% bracket, thus imposing a large penalty upon them. The relative incomes of the spouses, therefore, determine whether a household pays a marriage tax or receives a marriage subsidy.

B. Empirical Models

Rosen broke down the percentage of married couples in each AGI class[233] who either receive a marriage subsidy or pay a marriage tax.[234] High-income households were subject to a marriage tax more often than low-income households. Specifically, only 1.5% of couples with an AGI of less than $10,000 pay a marriage tax.[235] Additionally, 20% of couples having an AGI between $10,000–20,000 are penalized, and 35% of households with taxable income between $20,000–30,000 pay a marriage tax.[236] An astounding 64% of couples with an AGI between $50,000–60,000 pay a marriage penalty.[237] As a whole, 40% of married couples pay a marriage tax.[238]

Further, low-income households were more likely to receive a marriage subsidy than were high-income households. Indeed, the tax structure provided a marriage subsidy to 74% of households with an AGI between $10,000–20,000 and to 64% of households having taxable income between $20,000–30,000.[239] In contrast, only 35% of married couples with an AGI between $50,000–75,000 benefited from a marriage subsidy, and 42% of couples with taxable income between $40,000–50,000 received

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231. If Paul and Jen's combined AGI was less than $45,200, then Paul would fall under the 15% tax bracket, the same bracket where he would fall under if he had remained single.

232. Alm & Whittington, *supra* note 229, at 456.

233. The different AGI classes were as follows: < $10,000; $10,000-20,000; $20,000-30,000; $30,000-40,000; $40,000-50,000; $50,000-75,000; $75,000-100,000; $100,000-200,000; and > $200,000. *See* Rosen, *supra* note 220, at 573.

234. *Id.* at 572. Rosen analyzed figures from the Tax Simulation Model ("TSM") to determine these percentages. *Id.* The TSM contained 30,723 tax returns filed in 1983. He adjusted the data, so he could make projections on how TRA86 affected marital decisions from 1986 to 1988. *Id.*

235. *Id.* at 573.

236. *Id.*

237. *Id.*

238. *Id.*

239. *Id.*

such a subsidy.[240] Surprisingly, 66% of couples having an AGI between $100,000–200,000 received a subsidy.[241] In aggregate, the tax system gave 53% of all married households a subsidy.[242]

In sum, the average married couple pays a relatively modest marriage tax of $119.[243] At least 40% of married couples pay an average of $1100 ($24 billion in total) more in taxes for being married.[244] A more recent study determined that 52% of married couples pay an average marriage tax of $1244.[245] Fifty-three percent of couples receive a marriage subsidy, which averages $609 ($17.4 billion in total) per couple.[246] The tax system, thus, theoretically promotes marriage over cohabitation.

The question remains whether an individual's decision to marry or cohabitate is *actually* influenced by the tax system. Alm and Whittington explored this issue using a maximum-likelihood estimation to determine how the marriage tax and subsidy affect the marriage rate.[247] The main independent variables were how the tax system treats the income of married couples. These variables were estimated in several steps. The authors gave the following explanation:

> First, we compute the income taxes paid by single men and women by applying the relevant yearly tax schedules to the median income of men and women in that year. In these calculations it is assumed that the individual always uses the standard deduction and a single personal exemption. Second, we calculate the income taxes paid by married couples by applying the tax schedules to the sum of the median income of single men and women, where the couple is assumed to file a joint return with the standard deduction and two personal exemptions. . . . Third, we measure the marriage tax or subsidy either as the difference between the married tax and the total of the single taxes[], or as the ratio of the married tax to the total of the single taxes[].[248]

The results were surprising. The marriage tax would have to fall by 20% to increase the marriage rate by 1% (elasticity = –0.05*).[249]

Alm and Whittington also analyzed data from PSID[250] to determine how the timing

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240. *Id.*

241. *Id.*

242. *Id.*

243. *Id.* It must be noted that this amount is taken from data between the years 1986–1988.

244. *Id.*

245. Daniel R. Feenberg & Harvey S. Rosen, *Recent Developments in the Marriage Tax*, 48 NAT'L TAX J. 91, 92 (1995); *see also* James Alm & Leslie A. Whittington, *The Rise and Fall and Rise . . . of the Marriage Tax*, 49 NAT'L TAX J. 571, 584–85 (1996) (estimating that about 60% of married couples pay an average of more than $1100 more taxes than if they were single).

246. Rosen, *supra* note 220, at 574.

247. James Alm & Leslie A. Whittington, *Does the Income Tax Affect Marital Decisions?*, 48 NAT'L TAX J. 565, 566 (1995) [hereinafter Alm & Whittington, *Income Tax*]; Alm & Whittington, *supra* note 223, at 25, 28. They controlled for many independent variables, such as education level, race, income, and other socioeconomic factors. *Id.* at 569.

248. Alm & Whittington, *supra* note 223, at 28.

249. Alm & Whittington, *Income Tax*, *supra* note 247, at 566. Apparently, factors other than the marriage tax influence individuals' decisions to marry or remain single.

250. This data set is a longitudinal sample that tracked individuals over time, and it includes detailed financial information about married couples. *Id.* at 570.

of marriage is affected by the marriage tax or subsidy.[251] The researchers utilized a logit model in making their estimates, which included the same independent variables that were regressed in the above model.[252] These results were consistent with the theory that the tax system influences marital decisions. Indeed, a small percentage increase in the marriage tax would result in a large percentage increase in the probability of individuals delaying marriage (elasticity ranged from 0.782* to 1.540*).[253]

In short, the tax system slightly affects the marriage rate but strongly influences the timing of marriage; that is, a couple's decision of *when* to marry is strongly affected by the amount of the marriage tax.[254] Given that, on aggregate, more individuals are penalized by getting married than are subsidized,[255] the tax structure delays marriage. This delay correlates with the increased number of cohabiting unions[256] because cohabitors are treated the same by our tax system as single persons.[257] If individuals are choosing cohabitation over marriage, even if it is only in the short run, they are delaying the timing of marriage, which is more efficient than cohabitation in terms of Z goods production. Thus, the production of Z goods is not maximized.[258] Accordingly, the tax structure should be, at the least, marriage-neutral, so households are not discouraged from realizing the gains from trade that occurs in married unions.

C. Alternative Tax Structures

There are several ways in which the tax system could put marriage on more equal footing with cohabitation. Recall that two-earner married households generally pay a marriage tax and single-earner households usually receive a tax subsidy.[259] TRA86 removed the two-earner household deduction. Congress could reduce the probability of two-earner couples being penalized for marrying by reimplementing the two-earner deduction. For instance, the tax system could permit the lower-earning spouse to deduct 10% of his or her income, up to a maximum of $3000.[260] This proposal would make the tax system more marriage friendly for two-earner households in two ways: (1) it would decrease the likelihood that a couple pays a marriage tax by making it

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251. *Id.*

252. *Id.*

253. *Id.* at 571.

254. *See supra* note 245 and accompanying text.

255. Recall that the aggregate amount of the marriage tax exceeds the total amount of the marriage subsidy. *See supra* notes 236-38 and accompanying text.

256. Researchers have found that most divorced people remarry and most cohabiting couples (69%) consist of at least one divorced person; accordingly, by individuals choosing cohabitation before remarrying, they are delaying the inevitability of marriage. Nock, *supra* note 2, at 53.

257. Cohabitors do not face a penalty or subsidy.

258. As previously demonstrated, married households produce and consume more Z goods than cohabiting unions. The sooner an individual marries, the sooner he or she produces and consumes a more efficient level of Z goods.

259. Alm & Whittington, *supra* note 229, at 456.

260. This deduction was part of President George W. Bush's tax reform proposal. *See id.* at 457. To illustrate, assume Mary and Luke are married and make $30,000 and $25,000, respectively. The proposal allows this married household to automatically deduct $2500 from their taxable income (10% of $25,000, the income of the lower-earning spouse).

more probable they will not be pushed into a higher tax bracket by marrying, and (2) it would allow married households to pay less in taxes, even if the couple comes within a new bracket, because the couple will have less taxable income.

Congress also could lower the marginal tax rates that married households pay to make the tax system more marriage-neutral. President Bush's proposed plan, in fact, would have decreased the tax liability of married, lower-income households.[261] Specifically, the proposed brackets were as follows: an AGI of $12,000 or less fell within the 10% bracket; an AGI between $12,000 and $45,200 came within the 15% bracket; and an AGI between $45,200 and $166,500 fell in the 25% bracket.[262] If the tax schedule for single filers remained the same, this plan would reduce the marriage tax without having a large, negative impact on the marriage subsidy. To be sure, married households with an AGI of less than $12,000 would pay only 10% taxes, but a single person (i.e., unmarried) with this AGI would be in the 15% bracket. Such a tax structure, thus, creates a marriage subsidy. A single person will receive a subsidy if he or she has an AGI between $27,050 and $45,200 (assuming the spouse's income does not combine with his or her income to exceed $45,200) because, by marrying, the former single individual falls into the 15% bracket instead of the 28% bracket.[263]

Observe that singles may still be penalized by marrying, but the penalty is reduced because of the lower tax rates, so this plan would discourage marriage less than the current system. For instance, say Mary and Frank both have taxable income of $25,000. If they remain single, they pay 15% in taxes, but if they marry, they fall into the 25% bracket; thus, they pay a marriage tax. Notice, though, that this penalty is less under this plan than under the old plan (see Table 1), which would place them in the 28% bracket.

Now assume the tax rates are reduced for married[264] *and* single households. Assume further that the tax rate for each level of AGI for single households is as follows: 10% bracket if AGI is less than $6000; 15% bracket if AGI is between $6000–27,050; and 25% if AGI is between $27,050–136,750.[265] Here, the marriage tax and subsidy would be reduced. Further, as the difference between the AGI of single persons and married couples decreases, the size of the subsidy reduces accordingly. Any plan lowering the tax liability of singles more than for married couples would reduce the subsidy for married couples.[266] The marriage tax is reduced because of the lower tax rates.

A third possible change is to increase the dollar amount married households could deduct per child from their taxable income, but not make such deductions available to cohabiting homes. This proposal would create a tax system favoring marriage. The larger these deductions, the more likely a married couple would avoid a penalty,[267] and

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261. *Id.* at 458.

262. *Id.*

263. For example, if the 15% bracket for joint filers is $12,000 to $45,200 and this bracket for single filers is $6000 to $27,000, a married person could make $40,000 and remain in the 15% bracket, and the person receives a subsidy.

264. The relevant tax rates are as follows: an AGI of $12,000 or less fell within the 10% bracket; an AGI between $12,000 and $45,200 came within the 15% bracket; and an AGI between $45,200 and $166,500 fell in the 25% bracket.

265. Alm & Whittington, *supra* note 229, at 457.

266. *Id.* at 461.

267. Put another way, the larger the deduction, the more probable that the couple would not

the more probable that individuals would receive a marriage subsidy.[268] Of course, this plan would encourage marriage only for those couples who have children or plan to have children. Since most couples have children present in their households, this change would encourage individuals in such households to marry.

V. CONCLUSION

Cohabitors do not realize as many gains from trade and specialization as married unions, so they produce fewer Z goods than married households.[269] Cohabitors also probably enjoy consuming the household's Z goods less than married couples because they are less committed to the relationship than married unions.[270] A main reason for individuals choosing cohabitation over marriage is that it is more conducive to freedom and independence. Despite the theory that a married household produces and consumes a more efficient level of Z goods than a cohabiting home, cohabitation is on the rise.[271]

Part of the increase in cohabitation is due to states' rules under the former AFDC program. Under that program, the income of an unrelated stepfather automatically counted against the AFDC grant, but unrelated male cohabitors were allowed to make financial contributions to the household without a grant reduction. This program, thus, tended to promote cohabitation because states treated cohabitors leniently. On efficiency grounds, welfare programs under TANF should be, at the least, marriage-neutral.[272]

Additionally, the tax system's different tax rates for joint filers and single filers cause some couples to be penalized and others to be subsidized when they marry. On the whole, the marriage tax outweighs the marriage subsidy, accounting for part of the increase in cohabitation. The tax structure has not significantly affected the marriage rate, but has delayed the timing of marriage. A marriage-neutral tax system—providing the same tax schedule for single and joint filers—would be more efficient. This type of system would neither penalize (nor benefit) couples for marrying nor would it penalize (nor benefit) individuals for choosing to remain single.

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be pushed into a higher tax bracket.

268. For example, recall the tax rates under the proposed plan and assume a couple gets a $1,000 deduction for each child. If cohabitors have at least one child and have an AGI of $46,000 and there is only a single-earner, the couple would be pushed down in the 15% bracket. By remaining unmarried, the single-earner would be in the 25% bracket.

269. *See supra* notes 113-21 and accompanying text.

270. *See supra* notes 105-12 and accompanying text

271. Nock, *supra* note 2, at 53.

272. But, under TANF, Congress eliminated these federal restrictions and now provides states with a block grant for their welfare programs. Unfortunately, there is no official documentation that determines whether states have implemented new rules since 1997. Further research needs to be done on how states currently treat cohabitation and marriage.