Economics of Family and Child Policy
Public Policy #406
Winter 2009

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This is a course in applied intermediate micro-economic theory. The tools and perspectives of economics will be used to address two broad topics in family and child policy: family structure (cohabitation, marriage and divorce); and investments in children. Since these are topics on which other social science disciplines also have much to contribute, the course also will include lectures and readings from developmental psychology and readings from social demography, but the emphasis and most of the student effort will be focused on the tools of economics. The overarching economic theories that inform these topics are household production theory, economic theory of fertility, and human capital theory. The developmental theories that inform our approach include the ecological model, the transactional model, and family stress theory. We will focus on points of overlap and disjunction between the disciplinary perspectives as they relate to understanding the causes, consequences and implications of family behavior and child and family policies.

The prerequisite for the course is microeconomics at the level of PP 323-324, or permission of the professors.

The course is planned as an interactive one. On both topics we will bring together three elements: relevant economic theory supplemented by developmental psychology, recent-decade demographic behavior patterns, and current social policy issues. On both subject area, class time will be spent in lectures by Prof. Michael on demographic trends and statistical descriptions of the U.S. behavior and on the relevant economic tools and theories with lectures by Dr. Ryan on developmental psychology. Before leaving each topic area we will have a discussion of recent policy issues and initiatives led by students, either formally through presentations or informally through discussion. Throughout the course, discussion will be encouraged. The focus will be upon a better understanding of the economics, while becoming acquainted with the current demographic circumstances and policy issues.

COURSE GRADE

The grade in the course will be based on the following:

reading guides (6)	60%
book essays (2)	20
class briefing	10
class participation	10
total	100%

The six **reading guides** will ask you to digest articles and essays that use economic theory and evidence and to show your understanding of the central points. Each guide will be handed out a week before it is due. If it is turned in on time it will be returned to you, graded, by the next class, but if it is turned in late, there will be a one point penalty per week of tardiness and it will be returned at the professor's convenience (perhaps near the end of the quarter). *The Reading Guides are due on Wednesdays, January 14, 21, 28, February 4, 18, and 25.*

For the **book essays** you will choose one of the five books listed below, read it, and write two essays about it. Each of the books addresses an issue about which economics has much to say, but these are good books written by non-economists. Your first book essay, *due February 11*, is a summary and critique of the book. Your essay must not exceed five pages in length with the first three pages being a summary of the book, its argument and central points, written without evaluation. Those first three pages should be an essay that the author of the book would judge to be an excellent, substantive summary. After reading those three pages it should not be evident what your evaluation is of the book. Then, in the final two pages of that essay you are to evaluate the book and discuss its strengths and limitations, without a focus on economics. Your second essay on that same book, *due March 4*, should also be five pages in length and should bring an economic perspective and economic tools to the topic and arguments in the book. This second paper should show your facility using economics to add insight to the book's message: assume in this second essay that you have been asked to be a co-author of a new edition of the book and you are to bring economics to bear on the subject. So, select one or few economic concepts, models, or insights and apply them to the theme of the book in a way that enhances and improves (or perhaps corrects) it.

Your **class briefing** will be a ten minute policy brief on a topic about family structure or investments in children. Three class days are set aside for these briefings – January 28 for policy briefings on family structure, February 11 for policies related to early investments in children, March 11 for policies related to later child investments. You will be asked to declare which domain you want to speak about by the end of the second week of the term; you are encouraged to discuss your ideas for this briefing with Professor Michael or Professor Ryan. The notion here is that each of you has some expertise or interest in a policy issue and there are many family and child policy concerns that we do not cover in the course, or cover very lightly, so you are to bring to the class a topic, some perspective, and some economic insights about it. Note that ten minutes goes by quickly, and you will be graded on the content, quality, and timing of your briefing.

The **class participation** will be a routine part of the class time. Notice that there will be *no examinations* in the course.

READINGS

There are several types of readings for this course. Two **Recommended Texts** are listed, the first is available at the bookstore and the other, an old book, is distributed through the Harris School. The **Books for Review**, of which you will select one for your two book essays this quarter, are available at the bookstore. A conventional **Reading List** of primarily economics articles will be the basis of many of the lectures and all the reading guides. All the non-text articles on the Reading List will be available through Chalk. Also, a few other essays on demographic trends and government publications will be made available through Chalk as the term progresses. This syllabus, the course schedule, and the reading guides will also be available through Chalk. [FYI, most journal articles (except for the most recent year or two) are available on line, for free, at http://www.jstor.org/]

RECOMMENCED TEXTS

Becker, G. S. 1991. *A Treatise on the Family*. Cambridge: Harvard U. Press. (paperback)

Schultz, T. W. (Ed.) 1974. *Economics of the Family: Marriage, Children & Human Capital*. U. of Chicago Press for NBER. [old, but good]

BOOKS FOR REVIEW

DeParle, Jason. 2004. *American Dream: Three Women, Ten kids, and a Nation's Drive to End Welfare*. Viking Books.

Edin, Kathryn & Maria Kefalas. 2005. *Promises I Can Keep: Why Poor Women Put Motherhood Before Marriage*. Berkeley: Univ. of California Press.

Elder, Glen H., Jr. 1999. *Children of the Great Depression: Social Change in the Life Experience.* Boulder, CO: Westview Press.

Furstenberg, Frank F., Jr., Thomas D. Cook, Jacquelynne Eccles, Glen H. Elder, Jr. & Arnold Sameroff. 1999. *Managing to Make it: Urban Families and Adolescent Success.* University of Chicago Press.

Lareau, Annette. 2003. *Unequal Childhoods: Class, Race and Family Life*. Berkeley, CA: University of California Press.

READING LIST

I. Family Structure: cohabitation, marriage, & divorce

(household production theory)

Becker (text): Chapters 1-4, 10 (Schultz (text) Part III covers much of this ground)

Weiss, Y. 1997. "The Formation and Dissolution of Families: Why Marry? Who Marries Whom? and What Happens upon Divorce" Chapt. 3 in M. R. Rosenzweig & O. Stark, eds. *Handbook of Population and Family Economics*. Vol.1A. New York: Elsevier Press. (pp:81-99 only)

Lundberg, S. J., R. A. Pollak, & T. J. Wales. 1997. "Do Husbands and Wives Pool Their Resources?" *J. Human Resources*. 32 (3; Summer): 463-480.

Michael, R.T. 1996. "Money Illusion: The Importance of Household Time Use in Social Policy Making" *J. Fam & Econ Issues* 17 (3/4): 245-260.

Gronau, R. & D. S. Hamermesh.2006. "Time Vs. Goods: The Value of Measuring Household Production Technologies." *Review of Income and Wealth*. 52(1; March):1-16.

Abraham, K. G. & C. Mackie, (eds.). 2004. *Beyond the Market: Designing Nonmarket Accounts for the U. S.*. Washington: National Academies Press, Chapts. 3 & 4.

Black, D., N. Kolesnikova, & L.J. Taylor. 2007. "Why do so few Women Work in New York (and so many in Minneapolis)? Labor Supply of Married Women Across U.S. Cities". Federal Reserve Bank of St. Louis Working Paper 2007-043D

(divorce and other family structures)

Lefgren, L. & F. McIntyre. 2006. "The Relationship between Women's Education and Marriage Outcomes." *J. Labor Economics.* 24 (4; October):787-831.

Michael, R. T. 1988. "Why Did the U.S. Divorce Rate Double Within a Decade? *Research in Population Economics.* 6: 367-399.

Steele, F, K. Constantinos, H. Goldstein, & H. Joshi. 2005. "The Relationship between Childbearing and Transitions from Marriage and Cohabitation in Britain." *Demography*. 42 (4; Nov): 647-673.

Svarer, M. 2004. "Is Your Love in Vain? Another Look at Premarital Cohabitation and Divorce." *J. Human Resources*. 39 (2):521-535.

Black, D. A., S. G. Sanders & L. J. Taylor. 2007. "The Economics of Lesbian and Gay Families." *J. Economic Perspectives*. 21(2):53-70.

Carpenter, C. & G. J. Gates. 2008. "Gay and Lesbian Partnership: Evidence from California." *Demography*. 45(3; August):573-590.

(social welfare policy)

Moffitt, R. A. 2000. "Welfare Benefits and Female Headship in the US Time Series" *American Economic Review*. 90 (2: May): 373-77.

Sigle-Rushton, W. 2002. "Richer or poorer? Marriage as an anti-poverty strategy in the United States." *Population,* 57: 519-538.

Rangel, M. A. 2006. "Alimony Rights and Intrahousehold Allocation of Resources: Evidence from Brazil." *The Economic Journal*. 116 (513, July): 627-658.

McLanahan, S., P. R. Amato & F. F. Furstenberg. 2007. "Point/Counterpoint: Should Government Promote Marriage?" *J. Policy Analysis & Management* 26 (4;Autumn): 951-964.

II. Investments in Children

(t*heir Number: theory of fertility)*

Schultz (text): Willis R. J. "Economic Theory of Fertility Behavior" pp. 25-75. also Leibowitz, A. "Home Investments in Children" pp.432-452.

Becker (text): Chapter 5 (especially pp.145-151).

Hotz, V. J., J. A. Klerman & R. J. Willis. 1997. "The Economics of Fertility in Developed Countries: A Survey" Chapt. 7 in M. R. Rosenzweig & O. Stark (Eds). *Handbook of Population and Family Economics.* Vol.1A. New York: Elsevier Press. pp. 275-308.

Lopoo, L. M. & T. DeLeire. 2006. "Did Welfare Reform Influence the Fertility of Young Teens?" *J. Policy Analysis & Management*. 25(2; Spring): 275-298.

Kaestner, R., S. Korenman & J. O'Neill. 2003. "Has Welfare Reform Changed Teenage Behaviors?" *J. Policy Analysis & Management*. 22 (2; Spring): 225-249.

(their Infancy: Human Capital Theory, Resource Model, Family Stress Model)

[basic human capital theory lectures will be based on G. S. Becker's *Human Capital* (1964)and J. Mincer's *Schooling, Experience and Earnings* (1972)]

NICHD Early Child Care Research Network. 2005. "Predicting Individual Differences in Attention, Memory, and Planning in First Graders From Experiences at Home, Child Care, and School." *Developmental Psychology.* 41, 99-114.

Pettit, G. S., J.E. Bates, & K.A. Dodge. 1997. "Supportive Parenting, Ecological Context, and Children's Adjustment: A Seven-Year Longitudinal Study." *Child Development.* 68: 908-923.

Folbre, N., J. Yoon, K. Finnoff, & A.S. Fuligni. 2005. "By What Measure? Family Time Developed to Children in the US." *Demography*. 42 (2; May): 373-390.

National Research Council and Institute of Medicine. 2000. *From Neurons to Neighborhoods: The Science of Early Child Development*. J. P. Shonkoff, & D. A. Phillips, (Eds.). Washington, DC: National Academy Press. Executive Summary and Chapters 1 and 13, pp.1-38 &.337-380.

Nilsson, J. P. 2008. "Does a Pint a Day Affect your Child's Pay? The Effect of Prenatal Alcohol Exposure on Adult Outcomes." Working Paper #2008:4. Institute for Labour Market Policy Evaluation, Uppsala, Sweden.

Michael, R.T. 2007. "Children's Reading and Math Skills: The Influence of Family Caring." Oct. draft.

Carneiro, P. & J. J. Heckman 2003. "Human Capital Policy" Chapt. 2 in J. J. Heckman & A. B. Krueger. eds. *Inequality in America*. MIT Press. (Supplemented by pp36-39 of P. Carneiro, F. Cunha & J. Heckman. "Interpreting the Evidence of Family Influence on Child Development" dated October 16, 2003.)

Knudsen, E. I., J. J. Heckman, J. L. Cameron & J. P. Shonkoff. 2006. "Economic, neurobiological, and behavioral perspectives on building America's future workforce." *Proceedings of the National Academy of Sciences (PNAS)*. 103(27; July 5):10155-10162.

(their Schooling)

Currie, J. 2001. "Early Childhood Education Programs." *J. Economic Perspectives*. 15(5; Spring):213-238.

Feinstein, L. 2003. "Inequality in the Early Cognitive Development of British Children in the 1970 Cohort." *Economica*. 70: 73-97.

Feinstein, L. & J. Bynner. 2004. "The Importance of Cognitive Development in Middle Childhood for Adulthood Socioeconomic Status, Mental Health and Problem Behavior." *Child Development.* 75(5):1329-1339.

Campbell, F. A., E.P. Pungello, S. Miller-Johnson, M. Burchinal, & C. Ramey. 2001. "The Development of Cognitive and Academic Abilities: Growth Curves from and Early Childhood Educational Experiment." *Developmental Psychology*, 37, 231-242

McCartney, K., Dearing, E., Taylor, B.A., & Bub, K. 2007. "Quality child care supports the achievement of low-income children: Direct and indirect effects through caregiving and the home environment." *J. of Applied Developmental Psychology, 28*, 411-426.

NICHD ECCRN & G. Duncan. 2003. "Modeling the Impacts of Child Care Quality on Children's Preschool Cognitive Development." *Child Development.* 74: 1454-1475.

Rigby, E., R. M. Ryan & J. Brooks-Gunn. 2007. "Child Care Quality in Different State Policy Contexts." *J. Policy Analysis & Mgt*. 26(4; Autumn):887-909.

Frederick, C. B. & R. M. Hauser. 2008. "Have We Put an End to Social Promotion? Changes in School Progress among Children aged 6 to 17 from 1972 to 2005" *Demography.* 45(3: August): 719-740.

Walker. J. 2008. "Choice, Enrollment and Educational Attainment within the NLSY79 and NLSY97." NLSY97 Tenth Anniversary Conference, May.

Pierret, C. & T. Gladden.2008. “Employment Before Age 16: Does it Make a Difference?” NLSY97 Tenth Anniversary Conference, May.
Lochner, L., P. Belley, & M. Frenette. 2008. "Family Income, Ability and Post-Secondary Attendance in the US and Canada." NLSY97 Tenth Anniversary Conf., May.
Altonji, J. G., P. Bharadwaj, & F. Lange. 2008. "Changes in the Characteristics of American Youth: Implications for Adult Outcomes." NLSY97 Tenth Anniversary Conf. May.

Schedule of Topics and Materials Due

Date [2009]	Topic	Materials Due
Jan. 5	**Introduction**	
Jan. 7	**Family Structure**	
Jan. 12	Marriage	
Jan. 14		Guide #1
Jan. 19	[no classes: M. L. King Day]	
Jan. 21	Divorce	Guide #2
Jan. 26		
Jan. 28		Guide #3; Student Policy Briefings
Feb. 2	**Investments in Children**	
Feb. 4	Fertility	Guide #4
Feb. 9		
Feb. 11		Book (A); Student Policy Briefings
Feb. 16	Infancy and Preschool	
Feb. 18		Guide #5
Feb. 23		
Feb. 25	Schooling	Guide #6
Mar. 2		
Mar. 4		Book (B)
Mar. 9		
Mar. 11		Student Policy Briefings

Reading Guides below:

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R.T. Michael **Winter 2009**

Reading Guide #1 Due: January 14, 2009
(Each Question is worth two points.)

Becker's *Treatise on the Family*

Chapter 1, The single person household.

1. Page 21 says "The equality between total expenditures and income implies" equation (1.3). What does that equation mean (give a couple examples)? If you know a way to "prove" eq(1.3), do so; if not, figure out what η is and explain in words what the equation is saying.

2. Page 23 says "If all time were spent in the household sector, the value of time would not be measured by the wage rate but by a shadow price equal to the marginal product of time in the household sector." Explain what this means, then explain why it is so. If you can do so mathematically, do so and if not, dissect the statement and paraphrase it, phrase by phrase, in your own words: what is meant by "all time being spent in the household sector"? Why wouldn't the wage rate measure the value of time in that circumstance? Why would the wage rate measure the value of time if one is employed for pay? What is "a shadow price"? Why would one think the "shadow price" is equal to a "marginal product" in the home? What does that mean?

3. Consider the statement on page 25: "...an increase in the wage rate necessarily decreases the ratio of time to goods spent on each commodity, and ...tends also to decrease the output of time-intensive commodities relative to goods-intensive commodities." Suppose we are thinking about housecleaning and reading novels as a couple of household activities. Also suppose housecleaning can be done in many ways, either with a lot of time spent scrubbing and polishing or with quick supervision of hired help. Assume, as well, that reading novels also can be done many ways – including the traditional way or by listening to a books-on-tape while driving to school. Using these two activities, <u>separately</u> explain each of the two points in the quotation. If you can, use graphs as part of your answer.

Chapter 2, Division of labor in families

4. Becker's Theorem 2.3 states, "At most one member of an efficient household would invest in both market and household capital and would allocate time to both sectors." Show this point graphically. Explain the reasoning. Does this imply that those households with two employed adults are inefficient? If so, why do they behave inefficiently; if not, how do you reconcile the theorem and the reality?

5. Becker (p.38) says "an efficient household with both sexes would allocate the time of women mainly to the household sector and the time of men mainly to the market sector." Well now! First, convince me that you fully understand his argument. Second, tell me if you think this is a correct non-normative statement. If not, explain why and reconcile your explanation with Becker's observation that "this sexual division of labor has been found in virtually all human societies, and in most other biological species...." (p.39). If you do think his analysis is correct, explain why you think there has been so much concern in recent years about the issue of gender equity in the division of labor in the household.

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R.T. Michael **Winter 2009**

Reading Guide #2 Due: January 21, 2009

Regarding several readings:

Weiss' Handbook essay on marriage and divorce;

Black, Kolesnikova & Taylor on women's labor force participation rates by city;

Lundberg, Pollak, & Wales on pooling resources;

Black, Sanders & Taylor on same sex unions;
Lefgren & McIntyre on Women's education and marriage.

Each question is worth one point.

Weiss, 1997

1. Weiss says on p. 83, "The weaker the market, the more useful the extended family." Considering only the three "economic reasons for marriage" discussed on pages 85-88, give an example that you think Weiss would like, that shows how the internet has strengthened "the market" and thereby diminished the usefulness of the family.

2. If you have passed the Harris School math certification you can do (a), if not (or if you prefer), do (b):

(a) Prove the statements on page 84 that $t = h = ½$ and the optimal Z, Z*, is = w(¼). Do so by setting down the Lagrangian explicitly, solving the first order conditions for t and for x, and then piecing facts together to show these two equalities. OR

(b) Explain the paragraph beginning on the last line of page 83. Why would Weiss think "indeterminacy" might be an issue? What does he mean by saying time cannot be bought? And why does the latter point address the issue of indeterminacy? Talk this through, don't use equations.

Black, Kolesnikova & Taylor, 2007

3. The final paragraph on page 10 explains why Prof Black and colleagues believe that as computing time increases, employed women work fewer hours. They use Figure 4 to prove it. Don't just repeat the words in that paragraph but using Fig 4, explain why the change in c is less than $x - y$.

4. Black et al do their empirical analysis in Table 6 <u>separately</u> for six groups of women instead of combining them all. Why? What's the point in doing that? How does the row of coefficients on "Number of Children" and the row of coefficients on "MSA Unemp. Rate" in Panel B of that table reinforce your argument (or reinforce their reason for running these regressions separately)?

5. This paper uses both cross-city data and what they call (p.18) individual level data. They say their empirical findings in both regression models support their theoretical prediction that as commuting time increases, women's labor force participation rates decline. Which of the two pieces of evidence to you find most convincing? Why?

Lundberg, Pollak & Wales, 1997

6. Suppose you work for a state agency responsible for promoting healthy nutrition for young children and your boss asks you for a brief summary of this Lundberg et al article. She asked you to tell her: (a) what the question was that motivated the paper; (b) why the authors use the period 1977-1979 to study the matter; (c) what you think the one best piece of evidence is that addresses their question.

7. Lundberg et al cite on p.465 a finding that a family's spending on restaurant meals goes up more when the wife earns an additional thousand dollars than when the husband earns an additional thousand dollars. Two interpretations are offered on page 465, one is a bargaining interpretation, the other is a household production function interpretation. (a) In a sentence each, describe these two interpretations. (b) Weiss describes three modes of family decision making in his section 3.3 (pp 94-96) – a common objective, a cooperative game, and a non-cooperative game. Does this "finding" about restaurant spending shed any light on which of Weiss' three modes of decision making characterizes these families?

Black, Sanders & Taylor 2006

8. Men and women in same-gender couple partnerships are not sterile nor is there any evidence, apparently, that they have a lower than average preference or desire to bear or to raise children. Yet Black, Sanders & Taylor argue that an economic approach to the subject leads them to expect that same-gender couples will have fewer children, to be more likely to have "different race" (than themselves) children, and for higher-income same-gender couples to be more likely to have children. Explain their economic arguments for these three expectations. Now, reflect on their arguments: do you find them logically valid, do you think they pass a test of common sense, do you think they offer insight about the pattern of childlessness among couples?

9. Last week you worked through Becker's arguments regarding specialization in the division of labor between marital partners. The Black et al paper offers some descriptive statistics about this same phenomenon among same-gender couples. Does the evidence in this latter paper seem to you persuasive support of Becker's argument? Why or why not?

Lefgren & McIntyre 2006

10. [This is a long, good paper and we will only cover the first part of it here.] Lefgren and McIntyre show that women with a college degree (compared to women who attended but didn't graduate from college) are much more likely to have married, to have remained married, and to have a husband with a much higher income. But these are women (in Fig 1 and 2) who were age 25 in the time interval 1980-1995, well after the feminist movement made it unattractive for women to go off to college in hopes of getting a good mate. So what is your understanding of why this statistical relationship exists? How would the economic model of marriage explain it, and are you convinced that it offers a good explanation for this relationship?

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R.T. Michael **Winter 2009**

Reading Guide #3 Due: January 28, 2009

Regarding several readings:

Gronau & Hamermesh on time and goods;

The National Research Council's Beyond the Market, chapters 3 &4; and

Michael's essay on money illusion.

Gronau & Hamermesh, 2004.

1 & 2. Explain the sentence on page 2: "… as the shadow price of time rises relative to the shadow value of income, [business] cycles in spending on consumer durable goods will be altered to the extent that these are used to produce relatively more or less time-intensive commodities." As part of your answer, assume that durable good X_1 is used in "lodging" (ie, it is a house) and durable good X_2 is used in "leisure" (ie, it is down hill skis). Why do Gronau & Hamermesh expect the pattern of spending on these two durable goods to differ as the economy goes from the peak of a business cycle to its trough? (Table 1 may help you with this.)

3. Why does the goods-intensity of "appearance" and "eating" and "leisure" rise with education level? (See Table 2)

4. Then, why doesn't the goods-intensity of "childcare" also rise with education level? (Again, see Table 2)

National Research Council, Chapts 3 & 4, 2004

5. Page 62 says, "economic growth can alter the relative importance of home and market production. That in turn may lead to incorrect inferences about how fast average economic well-being is growing if only market GDP is measured." Show you understand this point by discussing why a market-oriented technological improvement (i.e., Henry Ford's assembly line that was introduced soon after the beginning of the 20th Century) improved well-being but may not have improved it as much as was reflected by the growth of measured GDP.

6. Explain why there's all the fuss on pages 63-64 to distinguish "production" from "consumption." Why does the distinction matter so much? Do you like Professor Margaret Reid's suggestion for distinguishing them? (She was one of the first renown female economists; she taught economics at the University of Chicago for several decades.)

7. Consider Table 3-3 (p.67). It tells us that single men spend a little more than <u>one</u> hour per day in household work (67.37 minutes) while married men with no children spend nearly <u>two</u> hours per day in household work (114.35 minutes). Why – how would you explain that? (Warning: the answer doesn't seem to be substitution in production of *his* time for *her* time, since married women without children also spend nearly twice as much time in household work as single women (many of whom probably do have children at home).)

8. We have studied household production functions and the household's uses of time and money, so you may be surprised and disappointed to read Conclusion 4.1 (pp.85-86). It says that "there is too much that is not known..." about child outputs (i.e., measuring children's achievements), about the

process of production (i.e., parenting), and about the interplay between the family and the school in producing job-market skills in children to build one of these "satellite accounts" for the home production of skills in children. Considering these three areas where there is "too much that is not known," from the point of view of family policy which of the three areas would you argue deserves to be given highest priority in research because it is most important to understand in order to improve family policy? Why? Explain your thinking.

Michael, 1996.

9. What is "money Illusion?"

10. Page 255 raises two questions in the context of showing that marriage seems to actually raise the marginal product of a husband's time in the labor market. What's your speculation about the answer to the second of those questions: "What is the impact of the marriage on the productivity of his and her time used in the nonmarket sector?" Explain.

{extra credit – a hard one} Gronau & Hamermesh's Table 5 tells us that the total time spent in producing health doesn't rise with age, even over age 55. Why not?

"pp406RG3.109"

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Reading Guide #4 Due: February 4, 2009

Becker's *Treatise on the Family, Chapter 5* & Willis' "Economic Theory of Fertility Behavior"

Both Becker and Willis talk about an "interaction model." They are not the same. I suggest that you read both essays initially, and only then begin to address these questions. In the Willis article in particular, don't get too bogged down in the math, try to see what he is emphasizing as the key factors in influencing fertility decisions and focus on the interplay among the various elements in his theory. The objective function in Becker's paper, equation 5.1 (p.137) is essentially the same function as Willis' equation 8 (p.32): Willis' S is Becker's Z; Willis' Q is Becker's q. We'll consider Becker's article first.

(1) Becker says there is a nonlinearity in the budget constraint that is responsible for an interaction between quantity and quality of children (p.145). That interaction works through the prices of quantity and quality of children. Explain how this works: why is it that "an increase in n raises the cost of" quality of children, and vice-versa.

(2) Becker says that this interaction helps explain why black women's fertility has fallen as labor market opportunities for blacks have improved. Suggest <u>two separate routes</u> though which this works.

(3) Becker says that "during the twentieth century…. income and fertility have generally been negatively related at lower levels of income" and goes on to say that "I believe… that the interaction between the quantity and quality of children [not the price of time] is the most important reason why the effective price of children rises with income." (p.144) Explain his argument here.

(4) Now that you have this distinction between "quantity" of children and "quality" of children, consider the cost of a child and list a few of the expenditures that you would consider part of the "quantity" cost, and then list a few of the expenditures that you would consider part of the "quality" cost.

(5) Now, think about those costs of a child, in terms of the <u>money</u> expenditures and the <u>time</u> expenditures (multiplied by a wage rate so both expenditures are expressed in monetary units). Set up a little two-by-two table with row one as money expenditures and row two as the monetized time expenditures, and column one as the "quantity" cost and column two as the "quality" cost (and please do include the marginals that sum those rows and those columns). Now, think about what you would argue are the magnitudes of those four cells: to be specific about it, let's assume that the total cost of the child (time and money, over the lifetime of the child) is $400,000, so your task is to allocate that amount among the four cells <u>and explain your reasoning</u>. (Since my figure of $400,000 is somewhat arbitrary, tell me what "quality" of a child you think we are talking about here.)

(6)Willis also talks about an interaction model on pp.58-64, and he also focuses on the relationship between income and children. He reports one empirical model (Table 2, model #3) that he has estimated yields the following parameter estimates:

$$F = 4.833 + .060T + .001T^2 - .248H - .176W + .020(H*W) - .072(SMSA).$$

He tells us that every one of the coefficients is highly statistically significant. {The variables are fertility (F), year of birth (T), husband's annual income in thousand dollar units (H), wife's level of education (W), and whether or not the couple lives in a large city (SMSA).} Based on this empirical model, what is the effect of an increase in the husband's income on the family's fertility?

(7) Willis calls this an interaction model, although is it not at all similar to Becker's interaction model. In Willis' case he says his "interaction model helps explain the U-shaped relationship between fertility and … husband's lifetime income." What is the logic behind there being an interaction here?

(8) Continuing to use the estimated equation in Q(6), calculate the effect of husband's income on the family's fertility if the wife's education level is 10 years (i.e., she is a high school dropout). Now, instead, assume that the wife has 16 years of education, and again calculate the effect of the husband's income on the family's fertility? Why is the effect of husband's income so different in the two circumstances?

(9) Now, consider both the Becker and Willis "interaction models." The underlying reasons for the complexity between income and fertility are quite different in the two models. Assume the salary of the husband rises in a young family with a husband and a wife: explain how that rise in his salary affects their decision about the number of children they will have, first in the Becker model and then, separately, in the Willis model. Are the two explanations consistent, complementary, or contradictory?

(10) If, as a policy maker, you wanted to discourage teenage fertility, what one policy instrument would you choose that makes some use of one or the other of these two "interactions"?

Economics of Family and Child Policy
Public Policy #406

R.T. Michael & R. M. Ryan **Winter 2009**

Reading Guide #5 Due: February 18, 2009

Based on Carneiro & Heckman and on Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey. 2001.

Heckman and colleagues

1. This important paper by Carniero and Heckman (C&H) begins with the observation that "The supply of skilled workers [in the U.S.] is not keeping pace with demand." (p.86) and Figure 2.5 is part of that evidence. The numbers in that table end in 1998. Somewhat more recent numbers for Chicago in 2004 show the same pattern: Whites 60%, Blacks 46%, Latinos 38% and Asians 76%. Assume that C&H are correct in saying there are "increasing real returns to college graduation" (p.85) and address this question: In <u>your</u> judgment, what is the single best explanation why these college participation rates are so low and so different across race/ethnic groups, when the returns to college are impressively high?

2. C&H have a long section (pp.96-128) on "credit constraints" pertaining to investments in human capital. (a) Why is this issue more likely to exist in buying schooling than in buying a car or a home? Separately: (b) Why is there more social concern about this in the schooling market than in the car or housing market?

3. In discussing these "credit constraints," C&H claim the "evidence is not convincing on the issue of the existence of credit constraints." (p.103) One of their points is that "the argument ignores the quality margin." What do they mean by this and how does it work?

4. OK, let's suppose that C&H have convinced you that these credit constraints are not the best explanation for "the differential educational responses by income class." They offer a second interpretation that has very different policy implications. What is it, and how might it explain the differential educational response?

5. On page 139 C&H describe evidence about the GED that they contend "demonstrates the quantitative importance of noncognitive skills in determining earnings and educational attainment." Go through the logic of their argument and their evidence, briefly.

6. Now, let's work through the "model" described on page 37 of the second paper, by Carneiro, Cunha & Heckman (CC&H). Say in words what the equation $H = f(I_0, I_1; \theta)$ means. The authors talk about two children, A and B. In the discussion on page 37, which child, if either, has the greater innate "ability?" Which child, if either, got the larger investment from his parents as a pre-schooler in "period 0"? So which child should the parents invest in most heavily in "period 1"?

7. The authors talk about I_0 and I_1 being either complements or substitutes. Describe what that means in terms of the function f(.) AND describe what that means in words. What would it mean for I_0 and I_1 to be complements, for example? Is this related to the oft-stated assertion in both these papers that "learning begets learning"?

8. Can you make sense of the statement back on page 3: “Complementarity … of human capital implies an equity-efficiency trade-off for late child investments but no equity-efficiency trade-off for early investments. This has important consequences for the design and evaluation of public policies toward families.” First, explain what this means. Second, what is the "important consequence" for public policies toward families?

Campbell, Pungello, Miller-Johnson, Burchinal, & Ramey 2001

9. Campbell et al. describe the nature of the Abecedarian Program and its long term effects on children’s academic achievement, which are some of the largest sustained impacts reported from any early intervention experiment. They argue there are two mechanisms through which the program could impact children’s academic achievement. What are they? What additional mechanism would Heckman and Carneiro argue could be at work? Is there evidence in the results Campbell et al. report that would support their theory?

10. First, summarize the evidence that Campbell et al report about the longitudinal treatment effects on cognitive skills, reading achievement and math achievement. The findings could be interpreted as either supporting or undermining C&H's argument that complementarity exists between early and later human capital investments. Referring specifically to the results displayed in Figure 1 in Campbell et al, discuss this possible contradiction. Consider your response to question 7 in your discussion.

Economics of Family and Child Policy
Public Policy #406

R.T. Michael & R. M. Ryan **Winter 2009**

Reading Guide #6 Due: February 25, 2009

Based on Folbre, N., J. Yoon, K. Finnoff, & A.S. Fuligni. 2005. "By What Measure? Family Time Developed to Children in the US." *Demography*. 42 (2; May): 373-390; NICHD Early Child Care Research Network. 2005. "Predicting Individual Differences …" *Developmental Psychology*. 41, 99-114; and McCartney, K, Dearing, E., Taylor, B.A,. & Bub, K. 2007. "Quality Child Care Supports the Achievement of Low-income Children". *J. Applied Developmental* Psychology. 28, 411-426.

Nancy Folbre, et a.l 2005

1. Folbre et al talk about challenges in "conceptualizing child care time" in the household. Of the several issues discussed on pages 374-376, which is most important, do you think, from the perspective of determining the "cost of a child"?

2. Using the information in Folbre et al's Tables 1 & 2, first calculate what you would argue is the time cost of a child, expressed in dollars for a "middle income family" with a wage rate of $20.00. Now, reconsider the grid you produced in Reading Guide #4, Q5 in which you allocated that $400,000 across "quantity" and "quality" expenditures, and across market goods and time. If you still have it, reproduce your grid from that Guide and then adjust any of the four cells as you think appropriate based on this time-cost data. (If the total is now different from the $400,000, that's OK, just use the total you think most accurate.)

3. Folbre et al say: "The time that mothers spend in activities with children represents only a small share of the total supervisory responsibilities and time constraints that should be considered 'care'." [p.388] From the perspective of public policy toward children, neither all the benefits nor, apparently, all the "costs" of having a child are borne, privately, by the two biological parents: children have much public goods attribute to them, and involve much externality to others maybe in outputs and surely in production costs (public schools and public health care expenditures are relevant here, as well as these non-parental supervisory expenditures that Folbre et al discuss). So, is the decision to have a child a private decision by the two parents, or is it one in which a collective judgment, a public goods choice, should also have weight?

4. Following Becker (he first wrote about this in 1957), we began our economic thinking about fertility by talking about the "cost" of a child. Naturally, the price of the item plays a big role in the economic analysis of fertility, as with any consumption good. You are now somewhat familiar with the evidence about that "cost" of a child for a middle-income family in contemporary U.S. As a policy analyst, how confident are you that the cost estimates provide good guidance for formulation of policy regarding fertility? How might these cost estimates be improved?

NICHD Early Child Care Research Network. 2005

5. The NICHD ECCRN provides three implications of their study. For each, first rewrite the implication in the form of a research question, one that has a yes or no answer. Then, argue the policy implication(s) of any <u>one</u> of these questions. Be specific in your arguments, that is, refer to specific child and family policies, programs, or approaches that could be advocated for or against given the answer (yes or no) to your question.

6. The NICHD ECCRN investigates the relative influence of "early" versus "later" environments on children's cognitive skill development. Summarize their findings on this question, using results from regression Models 1 and 2. What are the empirical problems this study faces in trying to isolate the relative influences of early versus later *home* environments? Do the same problems exist in trying to isolate the effects of early versus later *school* environments?

McCartney, Dearing, Taylor, & Bub. 2007

7. Describe the "buffering" effects of child care for low-income children, looking particularly at Figures 1 – 3. What do these findings suggest about the time-money trade-off in terms of investments in children for lower vs. higher income families?

8. McCartney et al. suggest that the buffering effect of high quality child care for low-income children was partially "mediated" by improvement in home environments during early childhood. What do they mean by "mediate"? What explanation do they give for this mediating effect? Do you believe it?

9. & 10. Now, consider the findings from both the NICHD ECCRN and McCartney et al. studies and argue, on the basis of those findings, where programs aiming to improve the outcomes of low-income children should intervene: in the *home* environment or the *school* environment? In your answer, address the relative influences of home and school, the difficulty in isolating the effects of early versus later home environments, and the alleged mediating effect of the home environment that McCartney et al. suggest.

"pp406RG6.209"

"pp406syllabus.109"