

# Family Macroeconomics

Module 1, 2022/23

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## Course information

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TA: TBA

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## Course description

The purpose of this course is to examine the role of the household (family) in structuring the economic environment. We will learn different theories explaining the interrelation between households' choices and the macroeconomy.

On the one hand, households optimally choose the number of children they wish to have, which determines the age structure of the population. They choose the level of education of each child. This actually forms the skills of future labor force and its productivity. Moreover, the optimal decisions on leisure, consumption and investment in children are taken concurrently with the choices of current labor supply for both genders. On the other hand, the above described choices taken by households are not isolated from the macroeconomic environment. While wage of women relative to men may affect female and male labor supply, the returns to education relative to child's future income may affect the number of children and their level of education.

How these decisions are taken? Does a husband and wife who form a household have the same utility function? If not, then how couples decide upon their optimal choices. In most of the course we will adopt the unitary household framework but will also discuss other non-unitary frameworks such like Cooperative (collective) or Non-cooperative (strategic).

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## **Course requirements, grading, and attendance policies**

The final grade will be based upon:

1. A research project - 80%. The grade will depend on the following:
  - (a) Originality of the idea
  - (b) Its relation to the course
  - (c) Quality of the literature review
  - (d) Methodology: appropriateness and application of tools taught in class
  - (e) The overall story that the project tells.
2. Progress in your project - 10%. The details are provided in the file *Time table of your project*.
3. Attendance and participation in class - 10%.
4. Home assignments (optional) - 10% Bonus.

“Class Participation” centers on two major components; attendance and preparedness. First, you need to attend class in order to reap the full benefits of the course. Second, you should be prepared for each class, having completed the home assignments, the required readings and being prepared to participate actively in the class.

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## Complementary Reading

Gary S. Becker. *A Treatise on the Family*. Harvard University Press, Cambridge, MA, 1991.

Oded Galor. *Unified Growth Theory*. Princeton University Press, New Jersey, 2011.

Martin Browning, Pierre-André Chiappori, and Yoram Weiss. *Economics of the Family*. Cambridge University Press, 2014.

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## Course contents

### Introduction

- Gary S. Becker. An economic analysis of fertility. In *Demographic and Economic Change in Developed Countries: a conference of the Universities-National Bureau Committee for Economic Research*, pages 209–231. Princeton University Press, Princeton, NJ, 1960.
- Gary S. Becker. A theory of social interactions. *Journal of Political Economy*, 82(6):1063–1093, 1974.
- Gary S. Becker. Altruism, egoism, and genetic fitness: Economics and sociobiology. *Journal of Economic Literature*, 14(3):817–826, 1976.
- Theodore C. Bergstrom. A survey of theories of the family. In *Handbook of Population and Family Economics*. 1997.
- Alma Cohen, rajeev dehejia, and Dmitri Romanov. Financial incentives and fertility. *Review of Economics and Statistics*, 95(1):1–20, March 2013.
- Shelly J. Lundberg, Robert A. Pollak, and Terence J. Wales. Do husbands and wives pool their resources? evidence from the united kingdom child benefit. *The Journal of Human Resources*, 33(3):463–480, 1997.

- Valerie A. Ramey. Time spent in home production in the 20th century united states. *Journal of Economic History*, 69(1):1–47, 2009.
- Jeremy Greenwood, Nezih Guner, and Guillaume Vandenberg. Family economics writ large. *Journal of Economic Literature*, Forthcoming.

#### Fertility-Income Relationship and the Quantity-Quality Paradigm

- Gary S. Becker and Gregg H. Lewis. On the interaction between the quantity and quality of children. *Journal of Political Economy*, 81:S279–S288, 1973.
- Gary S. Becker and Nigel Tomes. Child endowments and the quantity and quality of children. *Journal of Political Economy*, 84(4, Part 2):S143–S162, August 1976.
- Larry E. Jones, Alice Schoonbroodt, and Michèle Tertilt. Fertility theories: Can they explain the negative fertility-income relationship? NBER WP 14266, 2008.
- Larry E. Jones and Michèle Tertilt. An economic history of fertility in the u.s.: 1826-1960. In Peter Rupert, editor, *Frontiers of Family Economics*, pages 165 – 230. Emerald, 2008.
- Moshe Hazan and Hosny Zoabi. Do highly educated women choose smaller families. *The Economic Journal*, 125(587):1191–1226, September 2015.

#### Inequality and Household Choice

- Omer Moav. Cheap children and the persistence of poverty. *Economic Journal*, 115(500):88–110, 2005.
- David de la Croix and Matthias Doepke. Inequality and growth: Why differential fertility matters. *American Economic Review*, 93(4):1091–1113, September 2003.
- Michael Bar, Moshe Hazan, Oksana Leukhina, David Weiss, and Hosny Zoabi. Is the market pronatalist? inequality, differential fertility, and growth revisited. CEPR Discussion Paper No. DP12376, 2017.

- Thomas Baudin, David de la Croix, and Paula E. Gobbi. Fertility and childlessness in the united states. *American Economic Review*, 105(6):1852–1882, 2015.
- Thomas Baudin, David de la Croix, and Paula E. Gobbi. Endogenous childlessness and stages of development. Unpublished Manuscript, April 2017.

#### Fertility Choice, Quantity-Quality Trade-off and the Transition from Stagnation to Growth

- Oded Galor and David N. Weil. Population, technology, and growth: From malthusian stagnation to the demographic transition and beyond. *American Economic Review*, 90(4):806–828, September 2000.
- Oded Galor and Omer Moav. Natural selection and the origin of economic growth. *Quarterly Journal of Economics*, 117(4):1113–1191, November 2002.
- Moshe Hazan and Hosny Zoabi. Does longevity cause growth? a theoretical critique. *Journal of Economic Growth*, 11(4):363–376, December 2006.

#### Gender and Household Choice

- Matthias Doepke and Michéle Tertilt. Women’s liberation: What’s in it for men? *Quarterly Journal of Economics*, 124(4):1541–1591, November 2009.
- Raquel Fernández. Women’s rights and development. *Journal of Economic Growth*, 19:38–80, 2014.
- Moshe Hazan, David Weiss, and Hosny Zoabi. Women’s liberation as a financial innovation. CEPR Discussion Paper No. DP11371, 2016.
- Moshe Hazan and Hosny Zoabi. Sons or daughters? endogenous sex preferences and the reversal of the gender educational gap. *Journal of Demographic Economics*, 81(02):179–201, June 2015.

- Oded Galor and David N. Weil. The gender gap, fertility, and growth. *American Economic Review*, 86(3):374–387, June 1996.

#### International Trade and Household Choice

- Philip Sauré and Hosny Zoabi. International trade, the gender wage gap and female labor force participation. *Journal of Development Economics*, 111:17–33, November 2014.
- Philip Sauré and Hosny Zoabi. When stolper-samuelson does not apply: International trade and female labor. Unpublished Manuscript, Swiss National Bank and Tel Aviv University, 2011.
- Oded Galor and Andrew Mountford. Trading population for productivity: Theory and evidence. *Review of Economic Studies*, 75(1):1143–1179, February 2008.

#### Child Labor

- Jean-Marie Baland and James Robinson. Is child labor inefficient? *Journal of Political Economy*, 108(4):663–679, 2000.
- Moshe Hazan and Binyamin Berdugo. Child labor, fertility, and economic growth. *Economic Journal*, 112(482):810–828, 2002.
- Matthias Doepke and Fabrizio Zilibotti. The macroeconomics of child labor regulation. *American Economic Review*, 95(5):1492–1524, December 2005.
- Kaushik Basu. Gender and say: a model of household behaviour with endogenously determined balance of power. *Economic Journal*, 116(511):558–580, April 2006.

#### Female Labor Force Participation

- Jeremy Greenwood, Ananth Seshadri, and Mehmet Yorukoglu. Engines of liberation. *Review of Economic Studies*, 72(1):109–133, January 2005.
- Raquel Fernández. Culture change as learning: The evolution of female labor force participation over a century. *American Economic Review*, 103(1):472–500, 2013.

- Alessandra Fogli and Laura Veldkamp. Nature or nurture? learning and the geography of female labor force dynamics. *Econometrica*, 79(4):1103–1138, 2011.
- Raquel Fernández and Alessandra Fogli. Culture: An empirical investigation of beliefs, work, and fertility. *American Economic Journal: Macroeconomics*, 1:146–177, 2009.
- Claudia Olivetti. Changes in womens hours of market work: The role of returns to experience. *Review of Economic Dynamics*, 9:557–587, 2006.
- Orazio Attanasio, Hamish Low, and Virginia Sanchez-Marcos. Explaining changes in female labour supply in a life-cycle model. *American Economic Review*, 98(4):1517–1552, 2008.

#### Family Labor Supply

- John Knowles. Why are married men working so much? an aggregate analysis of intra-household bargaining and labor supply. *Review of Economic Studies*, 2013. forthcoming.

#### Home Production

- Jess Benhabib, Richard Rogerson, and Randall Wright. Homework in macroeconomics: Household production and aggregate fluctuations. *Journal of Political Economy*, 99:1166–87, 1991.
- Jeremy Greenwood and Zvi Hercowitz. The allocation of capital and time over the business cycle. *Journal of Political Economy*, 99:1188–1214, 1991.
- Jeremy Greenwood, Richard Rogerson, and Randall Wright. Putting home economics into macroeconomics. *Federal Reserve Bank of Minneapolis Quarterly Review*, 17(3), 1993.
- Mark Aguiar and Erik Hurst. Life-cycle prices and production. *American Economic Review*, 97(5):1533–1559, 2007.
- Mark Aguiar, Erik Hurst, and Loukas Karabarbounis. Time use during the great recession. *American Economic Review*, 2013. forthcoming.

- Jonathan Guryan, Erik Hurst, and Melissa Kearney. Parental education and parental time with children. *Journal of Economic Perspectives*, 22:23–46, 2008.
  - Valerie A. Ramey and Neville Francis. A century of work and leisure. *American Economic Journal: Macroeconomics*, 1(2):189–224, 2009.
  - Valerie A. Ramey. Time spent in home production in the 20th century united states. *Journal of Economic History*, 69(1):1–47, 2009.
  - Garey Ramey and Valerie A. Ramey. The rug rat race. *Brookings Papers on Economic Activity*, pages 129–176, 2010.
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## Sample tasks for course evaluation

1. Suppose that parents derive utility from consumption,  $c$  and the number of children,  $n$  according to the log-linear utility function,  $u = \alpha \ln(c) + (1 - \alpha) \ln(n)$ . The price for one unit of consumption is normalized to unity and the cost for raising a child is  $p$ . Each individual has one unit of time, earns a wage  $w$  and has a non-labor income  $y$ 
  - (a) Calculate the optimal number of children (level of fertility) that parents wish to have.
  - (b) How does this optimal level of fertility depend on the price  $p$
  - (c) Suppose that the only input in child-rearing is a fixed amount of market goods, say,  $\gamma$  units
    - i. How an increase in  $w$  and  $y$  affects the optimal level of fertility?
    - ii. Is fertility a normal good?
  - (d) Alternatively, suppose that the only input in child-rearing is a fixed fraction of parental time,  $\tau \in (0, 1)$ 
    - i. How an increase in  $w$  affects the optimal level of fertility? refer to the cases when  $y = 0$  and  $y > 0$ .
    - ii. Does your answer to the previous section imply that fertility is NOT a normal good?



- (e) Now, suppose that child-rearing requires a fixed amount of goods,  $\gamma$  and a fixed fraction of parental time,  $\tau$
- i. How an increase in  $w$  affects the optimal level of fertility?
  - ii. Is fertility a normal good.
2. Repeat your analysis to problem 1, when the utility function is given by  $\alpha \frac{c^{1-\sigma}-1}{1-\sigma} + (1-\alpha) \frac{n^{1-\sigma}-1}{1-\sigma}$ . What implication does your analysis have for the relationship between income and fertility?
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## Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.