Session 13:
Changing Family Formation and Care Needs

Maria Floro

American University, Washington DC

Discuss:

- What factors have brought about the increasing tensions experienced by women and men in balancing paid work and family responsibilities?

OUTLINE

I.   Fertility Trends and Childcare Needs

II.   Understanding Fertility Choice

III. Aging Population and Increased Need for Eldercare

IV. Case Study: Ageing of US Population and Impact on Caregiving
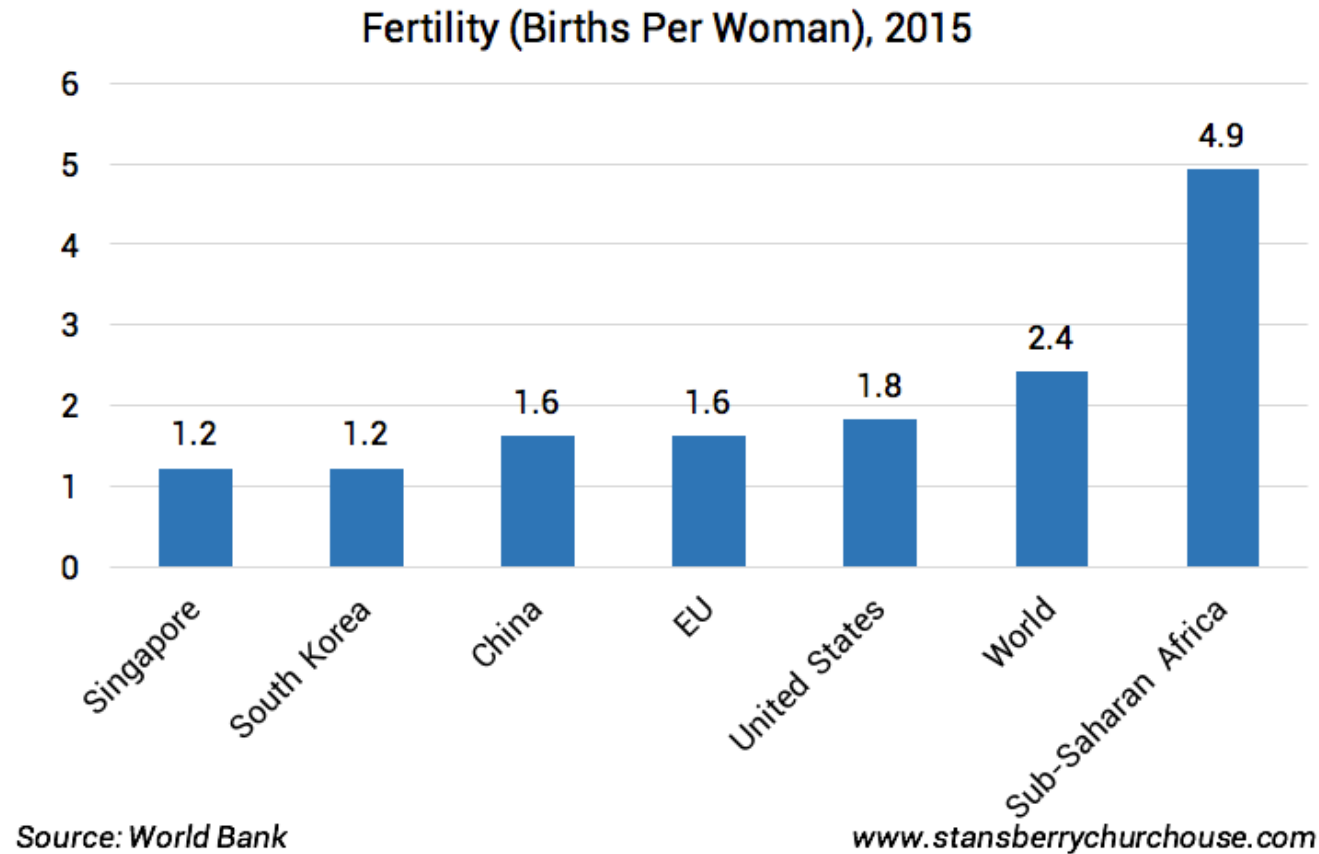
[Zagheni et al 2015 (Supplementary Reading)]

Review of Concepts

- Total fertility rate: the number of children who would be born per woman (or per 1,000 women)

- Replacement rate: 2.1 births per woman

- Change in total fertility rate = change in the no. of women having any children (extensive margin) + change in the no. of children per woman (internal margin).
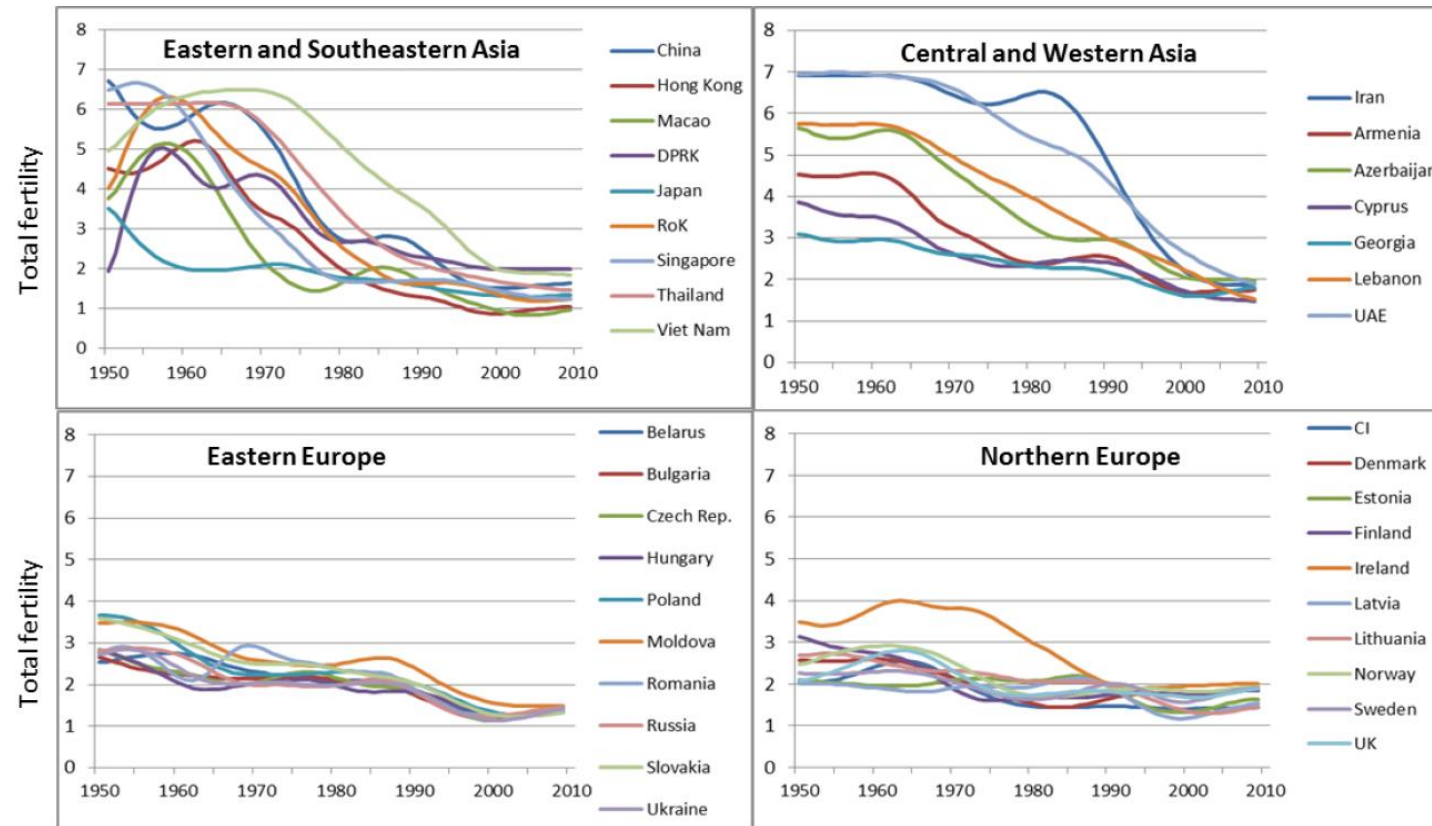
I. Fertility Trends and Childcare Needs
A. Global Trends in Fertility Rates

High and Low Fertility Rates in 2015

Fertility (Births Per Woman), 2015

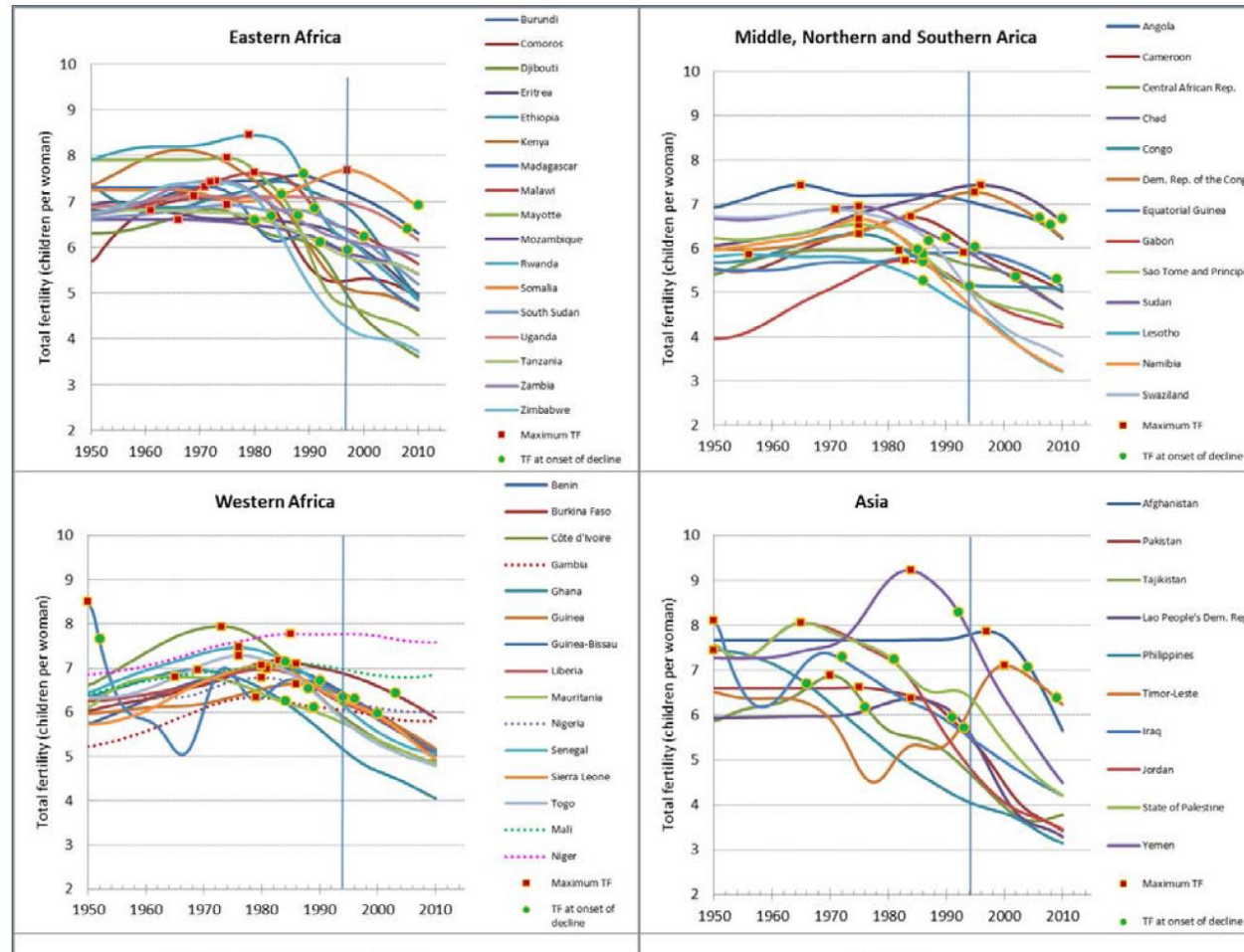Source: World Bank

www.stansberrychurchouse.com

Decline to low fertility rates in some countries....

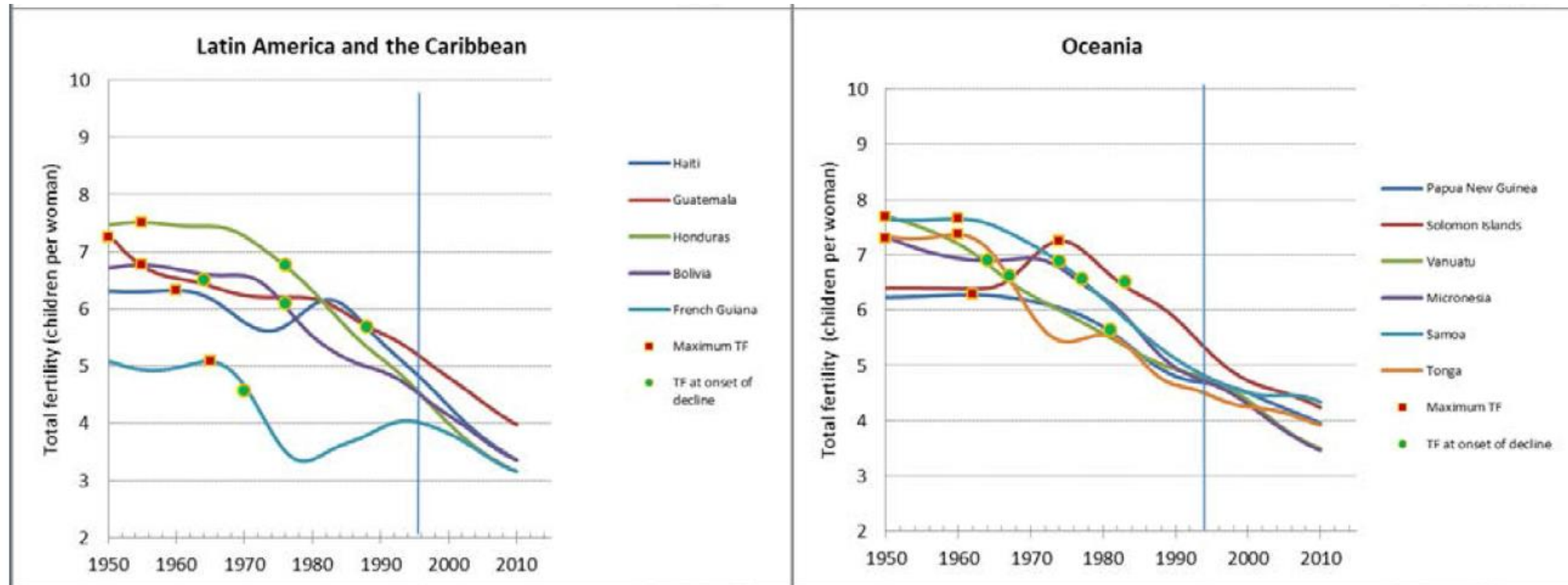Figure I.2. Trends in total fertility among current low-fertility countries, 1950-2010

But high fertility rates continue in others

Figure II.2. Maximum fertility and onset of fertility decline among high-fertility countries
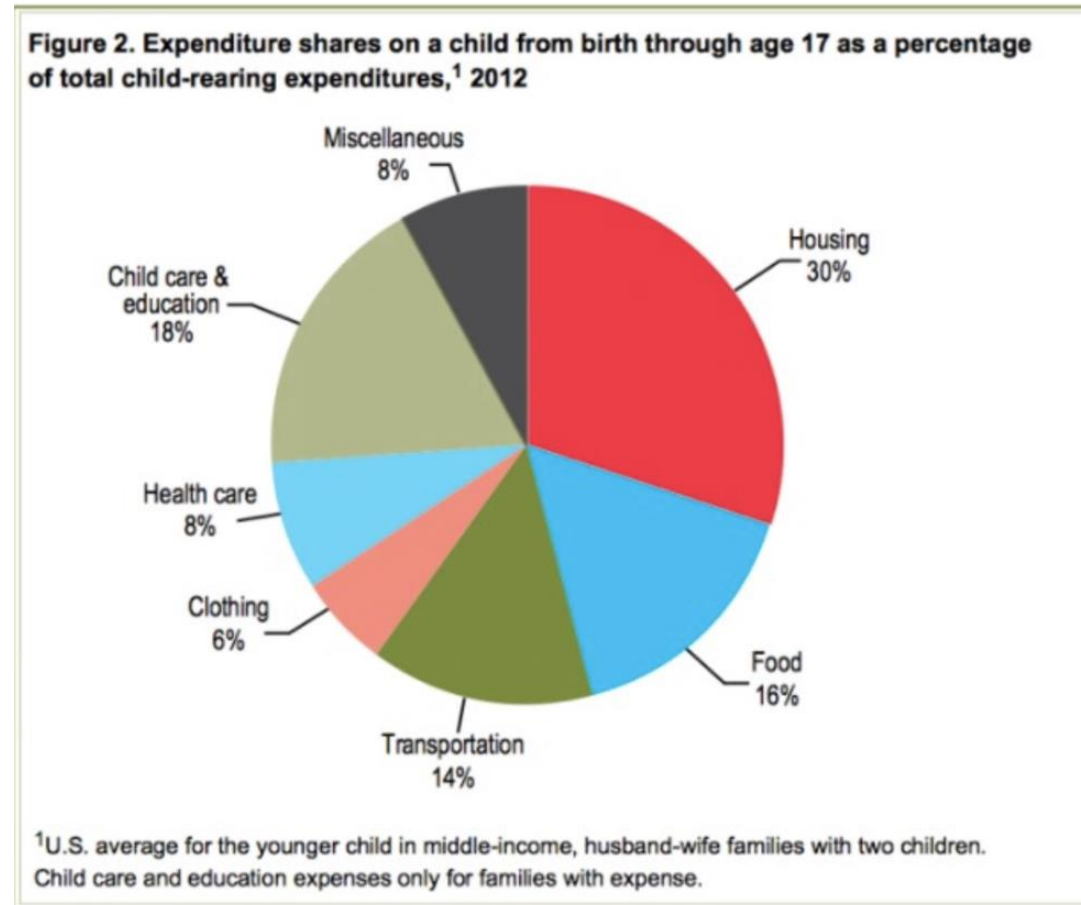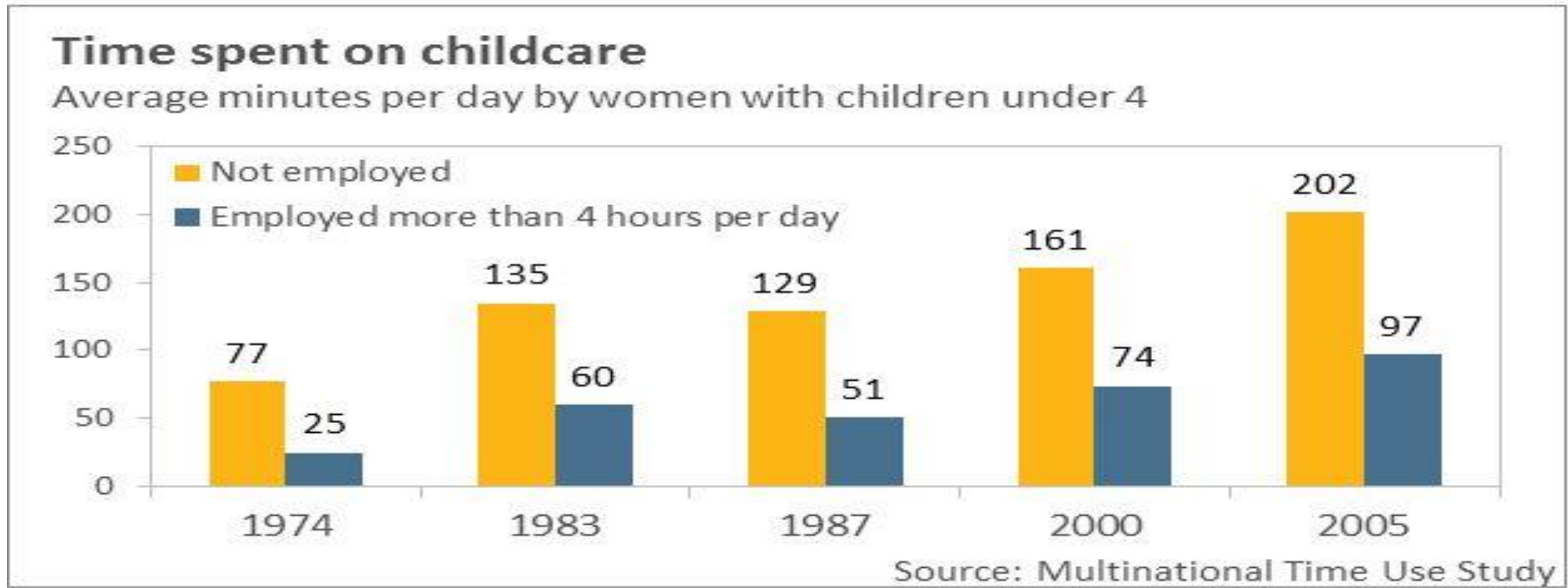
Changing Family Formation and Care Needs_Floro)

9

In Latin America and Oceania…

Source: United Nations (2013a).

Monetary Cost of Raising Children (US 2012)

Figure 2. Expenditure shares on a child from birth through age 17 as a percentage of total child-rearing expenditures,[1] 2012

[1]U.S. average for the younger child in middle-income, husband-wife families with two children. Child care and education expenses only for families with expense.

Childcare cost in terms of unpaid labor time of women.

Time spent on childcare

Average minutes per day by women with children under 4

- Not employed
- Employed more than 4 hours per day

Year	Not employed	Employed more than 4 hours per day
1974	77	25
1983	135	60
1987	129	51
2000	161	74
2005	202	97

Source: Multinational Time Use Study

II. Fertility Choice and Household Decisionmaking (Eswaran 2014)

The decision to have children (and how many) is an important decision families make

1. Affect women's **choice** of working or not in labor market; their choice of job
2. Subject to **bargaining** and the extent of **women's autonomy** to make decisions
3. Economic incentives affect fertility choices (costs and benefits of having children).

Economic development affects fertility rates;
But fertility rates also affect economic development.

A. Unitary (Neoclassical) Household Theory of Fertility Choice

- Assumptions:

  Children are 'goods' to consume.

  Having children has opportunity cost (women's use of their time).

  Couples have identical preferences – unitary model

Maximization Problem

Maximize utility subject to budget constraint

$U = f(n, X)$ s.t. where

$Y = p_x X + cn$ where c= cost of each child and $p_x = 1$

Where

n = no of desired children

X = all other goods

c_{is} = *cost of each child*

Y = level of household income

P_x = price of all other goods

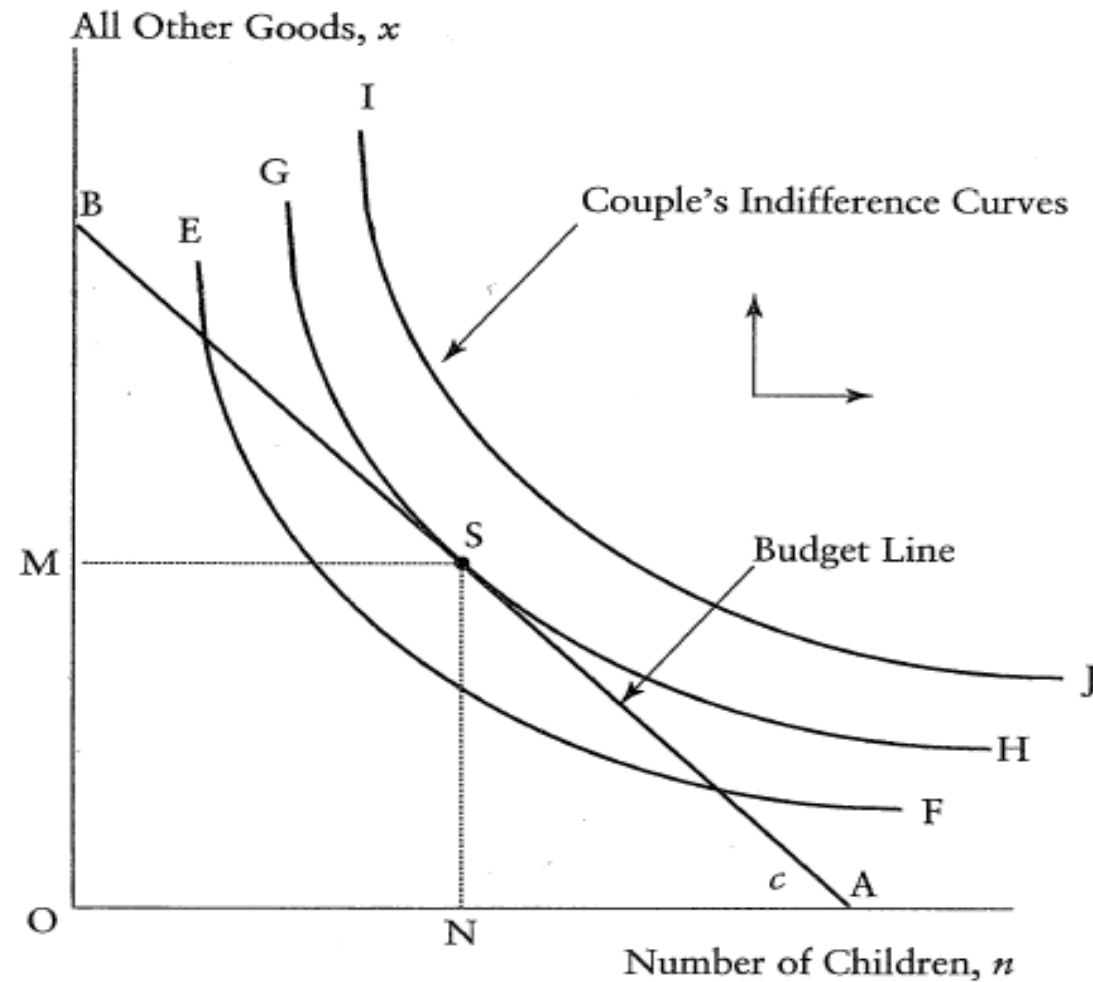# Unitary Household Model of Fertility Choice

FIGURE 8.1 Determination of a couple's fertility

Changes in income and cost of children

Case 2: Effect of Higher Income (Figure 8.2)

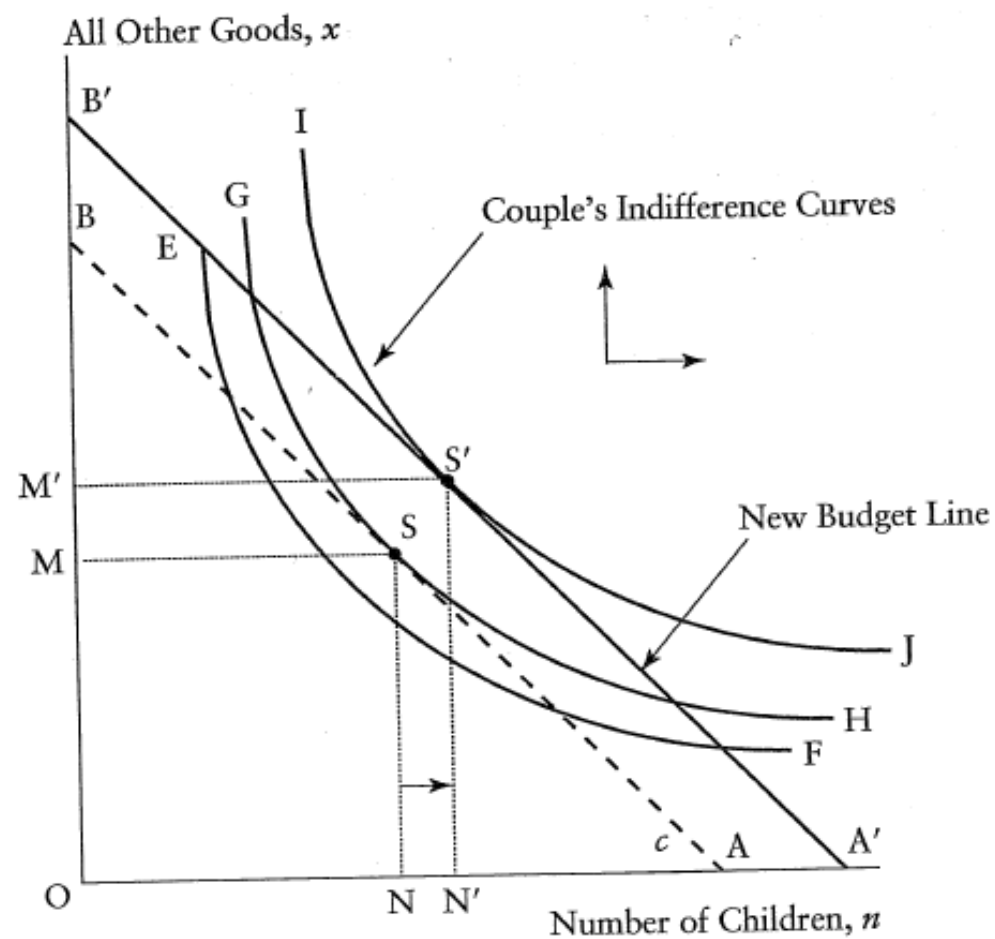Case 3: Effect of higher cost of children (Figure 8.3)

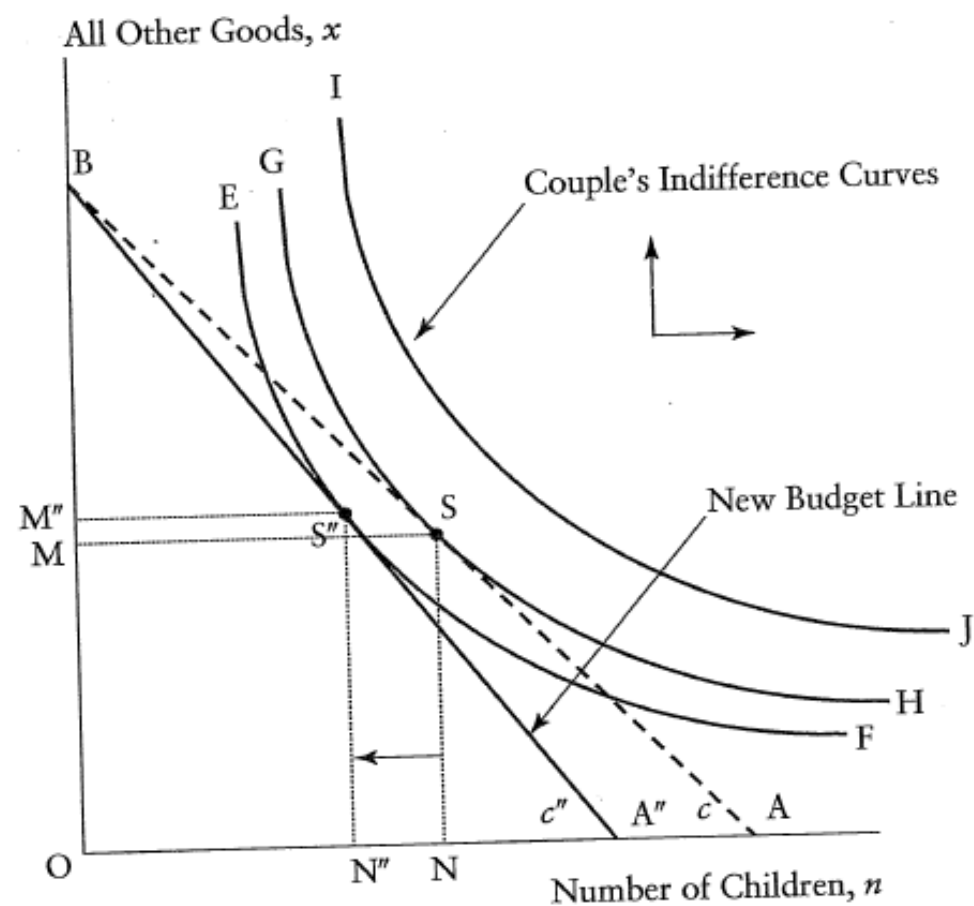FIGURE 8.2 The effect of higher income on fertility

FIGURE 8.3 The effect of the cost of children on fertility

Role of Female Autonomy in Fertility Choice

- Female autonomy – determined by women's bargaining power within the household.

What determines women's bargaining power (threat position)?

1. Kinship systems/arrangements (social network)
2. Employment
3. Relative earnings ($w_f/w_m \uparrow$)
4. Asset/property ownership
5. Education
6. Religious, cultural and social norms

B. Bargaining Household Model of Fertility

- Assumptions:

  Different preferences**

  Each child requires time for care: t

  Cost per child = c = $w_f t$ [opportunity cost to wife]

  Women's wage: w_f

  Husband's wage: w_m

- Budget constraint:

  $$Y = w_f + w_m$$

Bargaining Model Fertility Choice Maximization Problem

Maximize utility subject to budget constraint

$U = h(n_h, X)^a + f(n_f, X)^b$ subject to

$a + b = 1$

$Y = p_x X + c(w_f t) (n_h{}^a n_f{}^b)$

Where

n = no of desired children

X – all other goods

c_{is} *cost of each child*

Y is the level of household income

a, b are measures of bargaining power of husband and wife respectively.

Bargaining model (contd).

Case 1: Suppose wife's income, w_f increases

- Y increases (income effect), c also increases (substitution effect)
- The net effect is negative if $\Delta c / \Delta w_f > \Delta Y / \Delta w_f$, so fertility declines
- Note that it's the wife's wages that matters.

It is when her wage increases that we expect an increase in opportunity cost.

It is also when her <u>relative wage increase</u> that matters, bec. that determines the relative cost of women's opting out of market work to care for children.

Exercise: Suppose it's w_m that increases. What happens to fertility rate?

III Declining Fertility, Aging and Care Needs

A. The Demographic Transition

- Stage I: High birthrates and death rates
- Stage II: Continued high birthrates, declining death rates
- Stage III: Falling birthrates and death rates, eventually stabilizing
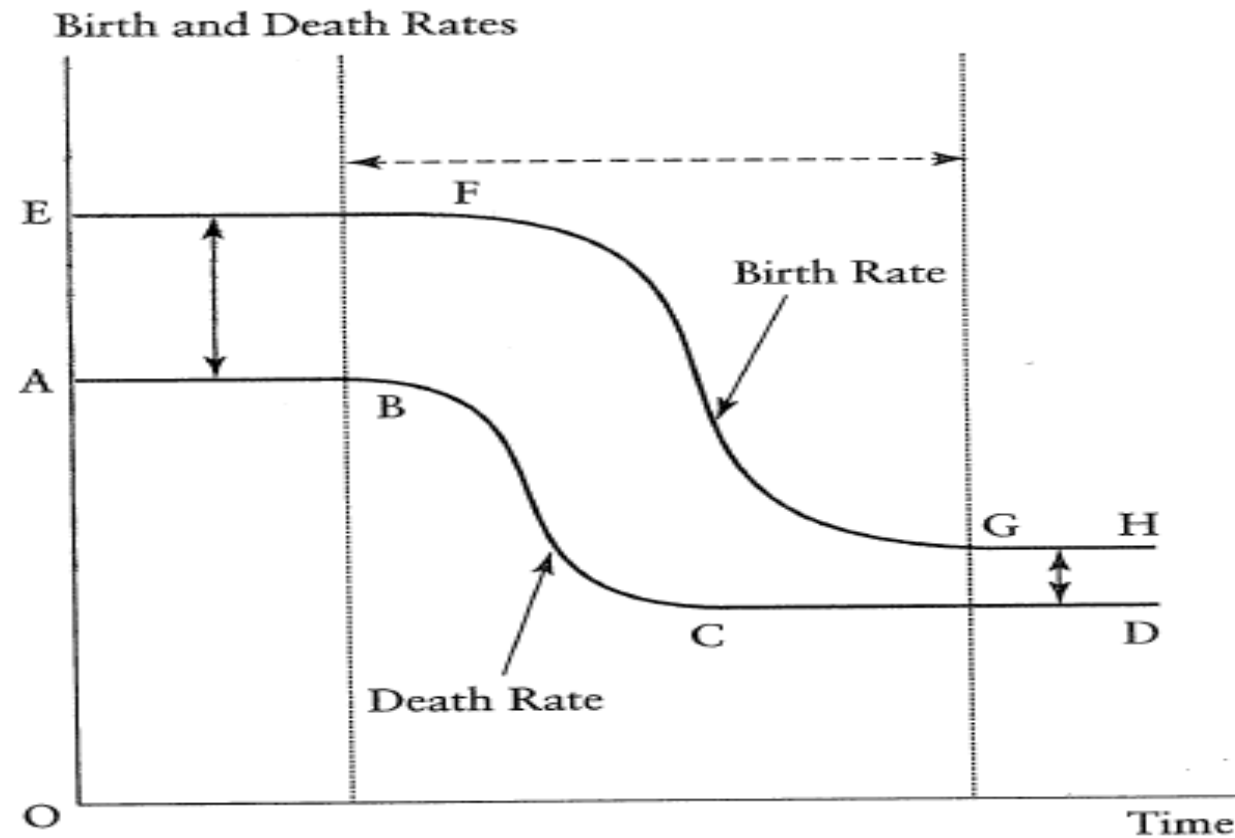
Demographic Transition (Eswaran 2014)

FIGURE 8.4 The demographic transition

Demographic Transition

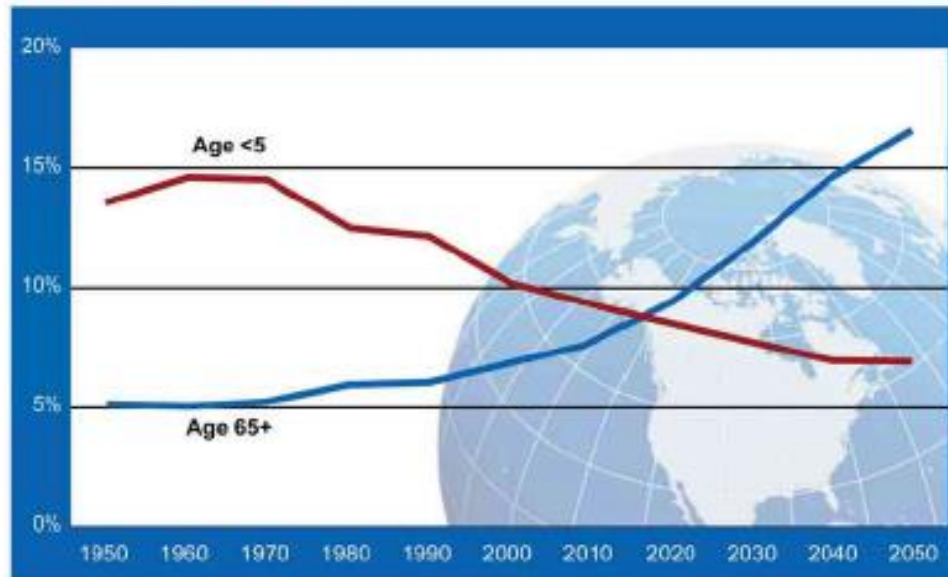Move of countries from high fertility to low fertility

- Introduction of universal, compulsory education (increase in female literacy*)
- Decline in infant and child mortality rates
- Cost of children went up
- Availability of birth control and family planning services

Low Fertility Rates

- Can be a serious social and economic problem
- Below replacement rates
- Rapidly aging population
- Increasing demand for eldercare, in addition to childcare
- Increase in dependency support ratio (Elderly/Labor Force)
- Impacts on pensions, social security, healthcare, economic growth.
- Government strategies and policies to reverse and increase fertility rates; but often ignores the increased demand for care services.

Increasing demand for eldercare

Figure 1.
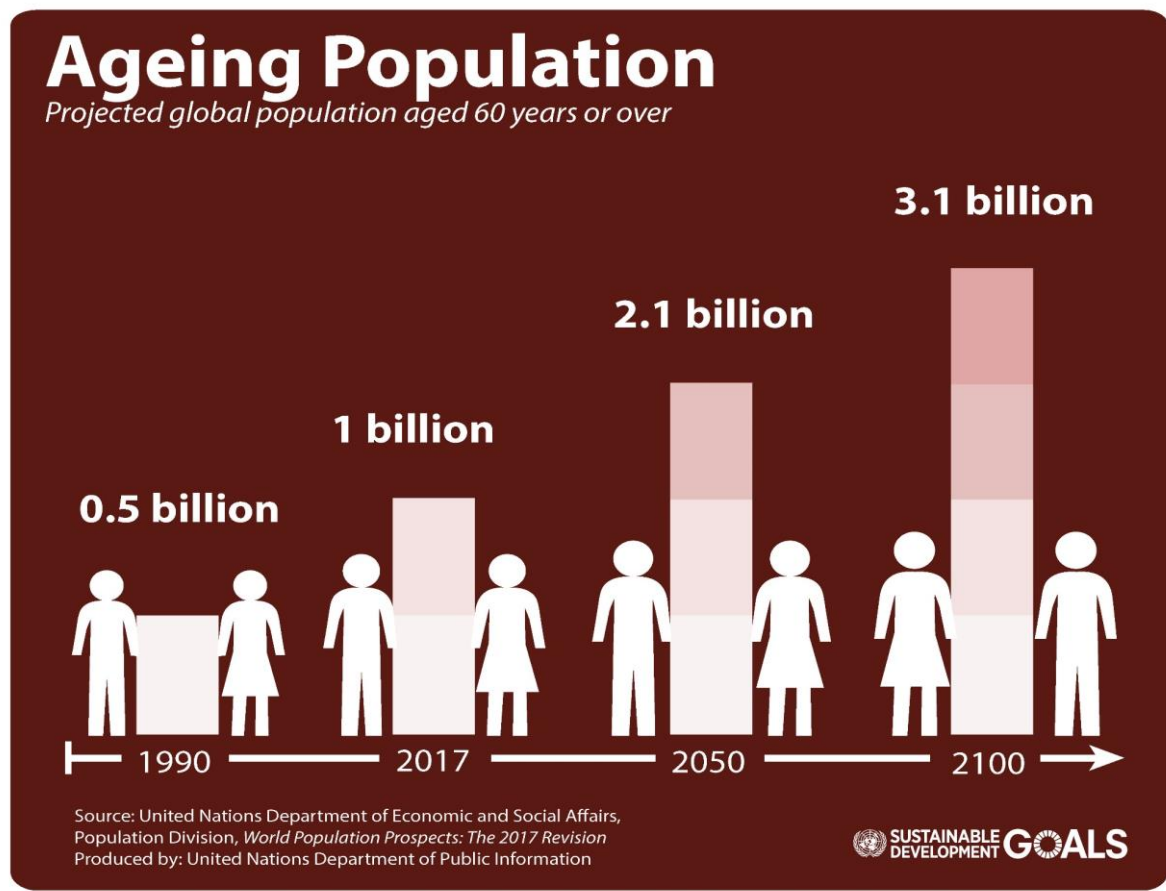Young Children and Older People as a Percentage of Global Population: 1950-2050

Source: United Nations. *World Population Prospects: The 2010 Revision.*
Available at: http://esa.un.org/unpd/wpp.
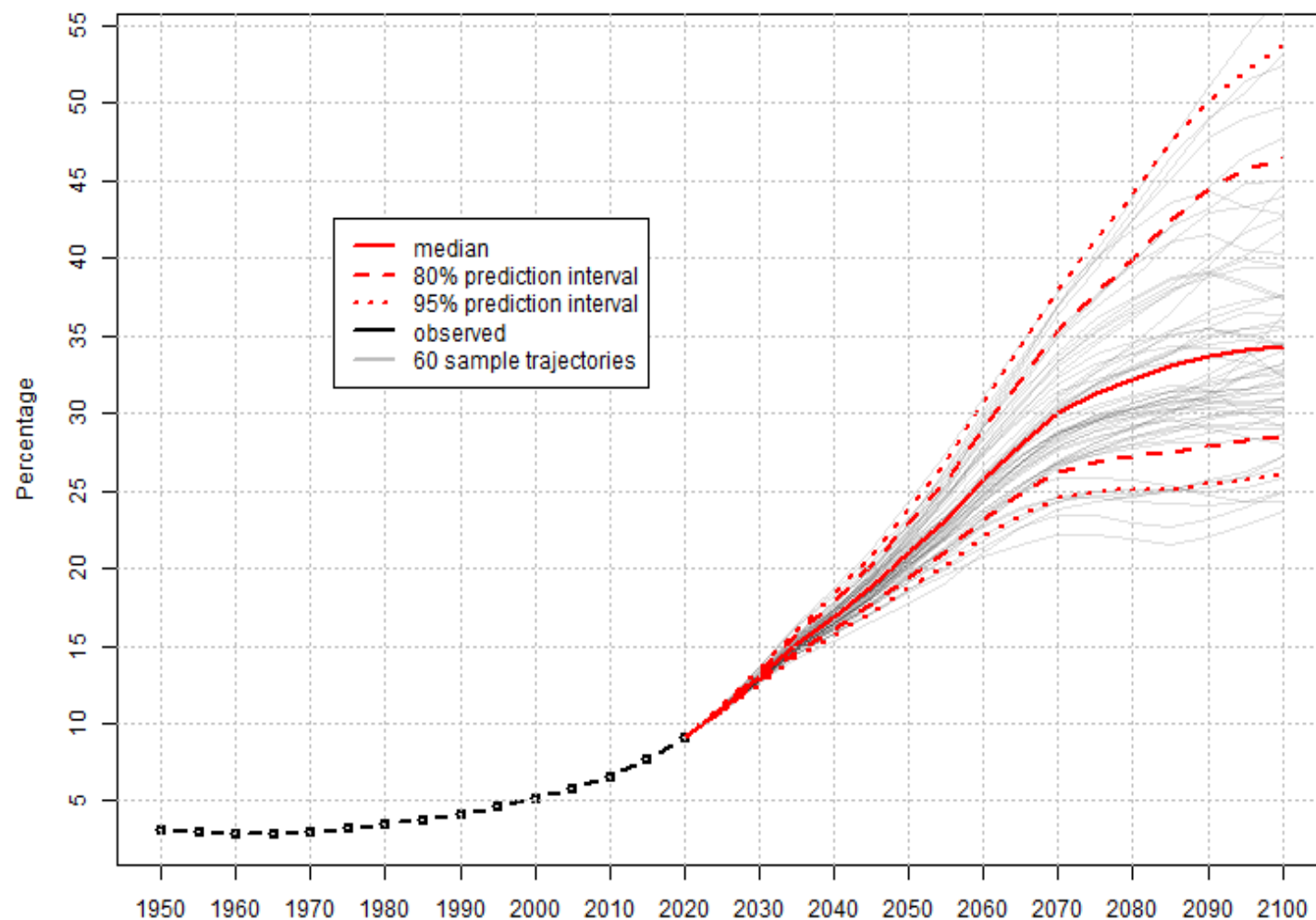
- In EU: 2.3% of Men

  8.4% of Women

Provide daily care to adults. Most frequent case: 20-39 hours per week. (Household Panel of EU, Durran 2012)

Source: World Health Organization (2017)
https://www.un.org/development/desa/publications/graphic/wpp2017-ageing-population

Colombia: Percentage of population aged 65 years or over

Legend:
- median (red solid line)
- 80% prediction interval (red dashed line)
- 95% prediction interval (red dotted line)
- observed (black line)
- 60 sample trajectories (grey lines)

© 2019 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO.
United Nations, DESA, Population Division. *World Population Prospects 2019*. http://population.un.org/wpp/

Source: WHO (2019).
https://population.un.org/wpp/Graphs/Probabilistic/PopPerc/65plus/170

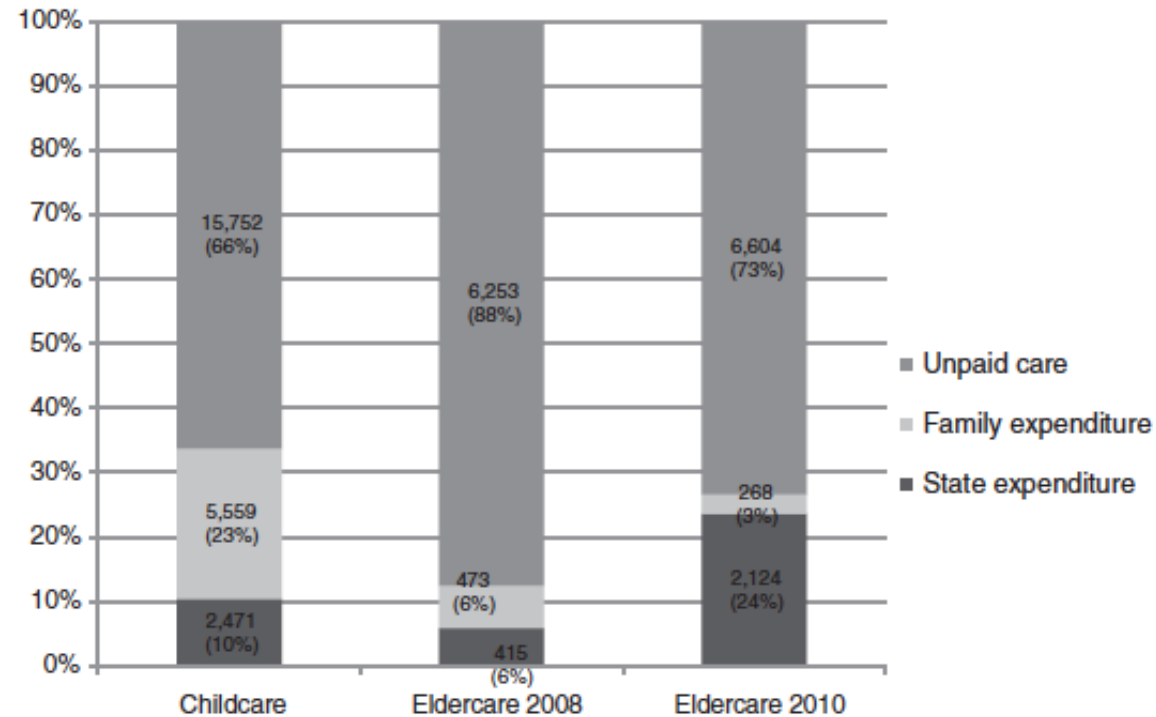# Who takes care of young children and elderly in South Korea?

Figure 3 Relative shares of unpaid care, family expenditure, and state expenditure
Note: Values are in millions of US dollars.
Sources: KLoWF 2008–09; KLoSA 2008, 2010.

Zagheni et al (2015) "The Impact of Population Aging on Transfers in the form of Caregiving and on the Associated Well-being"

- Intergenerational transfer of time (eldercare; childcare)

- Influence of expected demographic change on the intergenerational transfer of time and on well-being of the caregivers

Question: Are there differences between caring for children versus caring for the elderly?

Zagheni et al (2015) study...

Data sources:
- American Time Use Survey (ATUS),
- Panel Study of Income Dynamics (PSID),
- Eldercare Roster, and the Well-being Module in ATUS

Time Transfer model based on input-output (I-O)models
- Time transfers as inputs in an intergenerational model used for the evaluation of the impact of demographic change on structural patterns of time flows

American Time Use Survey (ATUS)

- 2011-2013
- 26,400 participants selected from CPS respondents
- Chronological account of activities done during a randomly selected day as well as duration, location, and presence of others

- Eldercare Roster
  - Records of care recipients classified as elderly to whom ATUS respondents serve as caregivers

- Well-being module
  - Measures the emotional and physical impact of participation in various activities

Panel Study of Income Dynamics (PSID)

- ATUS supplemented with a data extract from PSID disability module (DUST - Disability and Use of Time)
- Only those who have engaged in care (eldercare and childcare) are included
- Likert Scale (0-6)
  - Happiness
  - Calmness
  - Frustration
  - Sadness
  - Tiredness
  - Pain

Intergenerational Transfers (time)

- Intergenerational transfers usually refer to assets and wealth
- Transfers can also be in form of in kind services like caregiving. (Bernheim, Shleifer and Summers 1985)

Question: What are some possible motives for care provisioning?

Time Transfer Model

Using ATUS data, estimation of intra- and inter-household time transfer matrices

- Intra-household transfers
  - Can be directly estimated from time use diaries
- Inter-household transfers
  - Constructed using time use dedicated to caring activities and combining with frequency of care recipientcy in the ATUS Eldercare Roster

Time Transfer (care labor time) from one age group to another.

Results

- High levels of happiness and well-being reported by those providing childcare
- Lower levels of positive emotions reported by those providing eldercare

Figure 3: Average scores of emotional affect associated with a number of time use activities, and summary of the test of significance for differences in the average scores of emotional affect related to childcare and adult care. Source: own elaborations on ATUS data.

Caregiving and Caregiver's Well-being

Childcare Indices	Positive	Negative
Mean	4.921	1.079
Ratio	0.820	0.180

Adultcare Indices	Positive	Negative
Mean	4.687	1.219
Ratio	0.794	0.206

Care support ratio weighted by moods, 2010 - 2060

Results

- "With childcare, there seems to be a general increase in happiness and calmness as the age of the caregiver increases. Frustration, however, initially decreases with age but spikes back up once the caregiver is past the age of 75. A similar trend is seen with tiredness, and this is perhaps due to the fact that as caregivers get older, they become physically less able to engage in high-energy activities that might be part of childcare" (Zhagheni et al 2015, p.11).