SOCIAL DEMOGRAPHY

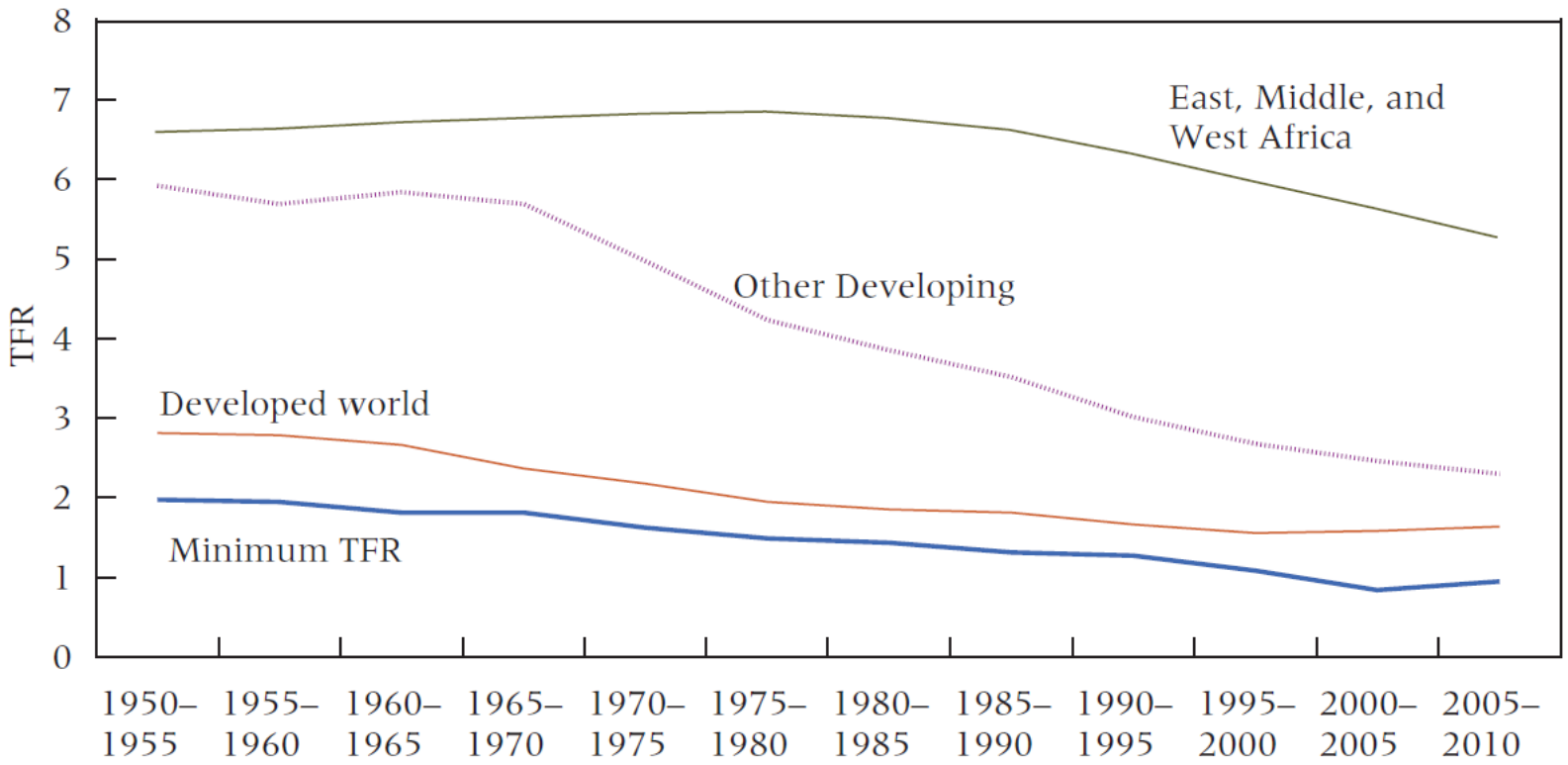
UNIT 4

FERTILITY TRANSITION

Fertility Transition

- Shift from high fertility, with minimal individual control, to low fertility, which is under a woman's control.
- Involves a delay in childbearing and an earlier end to childbearing.
- **Frees** women and men from unwanted parenthood and allows them to space their children.

Total fertility rates, world regions and minimum national values



SOURCE: United Nations (2009).

Demographic Transition: A Set of Transitions

Fertility transition- the shift from **natural** (and high) to **controlled** (and low) fertility.

Moving from **costriction** to **choice** as regards the number of children, means moving from a regime of *natural fertility* to one of **controlled fertility**

Difference between *stopping* and *spacing*

Fertility Transition

IMPORTANT:

"natural" fertility is determined by both biological *and* social factors

- ***Natural fertility:*** when couples do not attempt to terminate childbearing before the end of their biological reproductive span
- ***Parity:*** number of children already born
- ***Parity-specific limitation***: stopping children after enough children had

- ***Controlled fertility*** is characterized by a reproductive behaviour **changing according to the number of children already born** to a couple

Transition of fertility

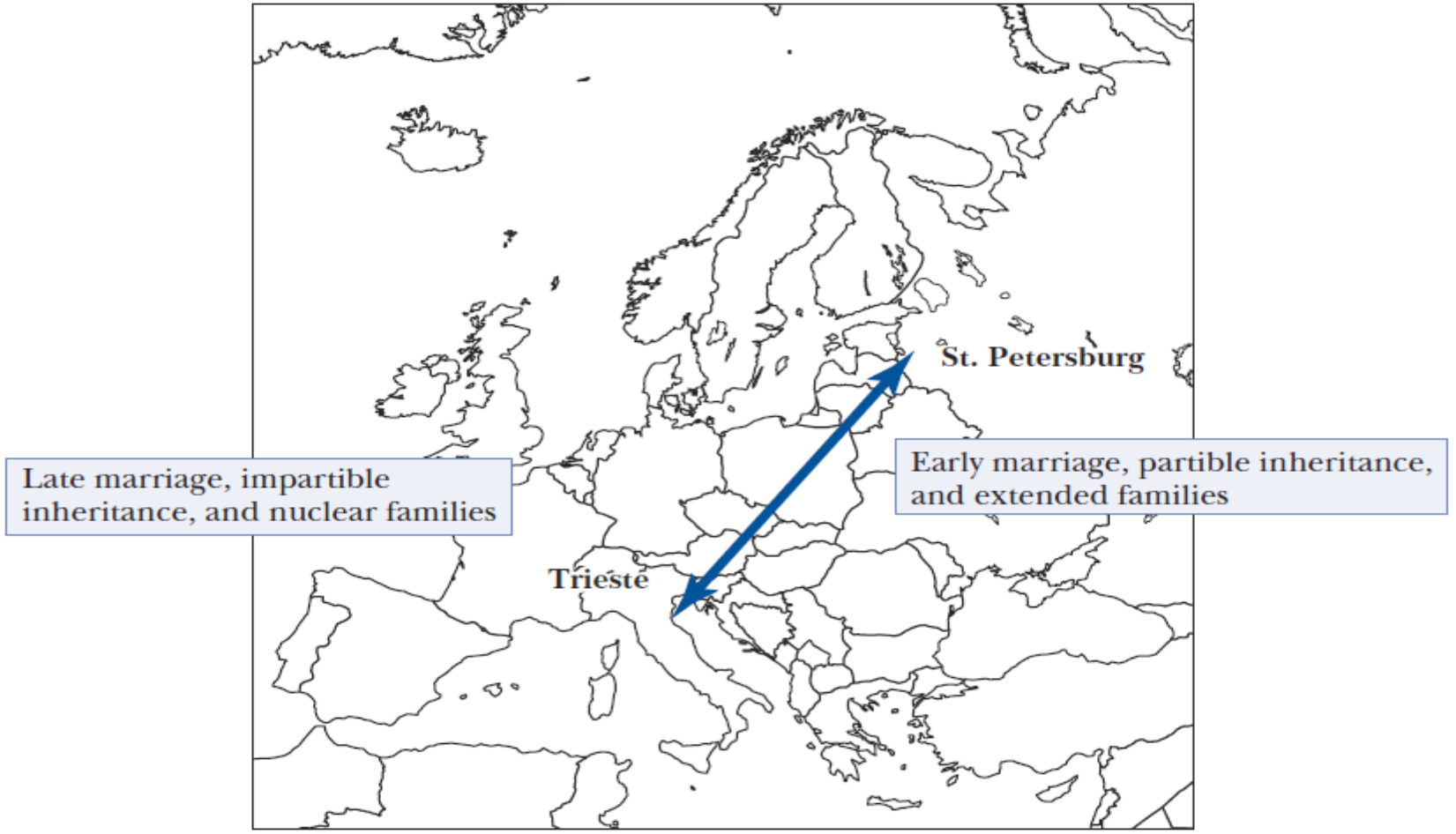
- decline which began in **France** at the end of 18th Century and spread to the more developed regions of Europe, including *Catalonia, Piedmont, Liguria, and Tuscany in the south and England, Belgium, Germany, and Scandinavia in the center-north;*
- subsequently it reached more generally the regions of southern and eastern Europe.
- The most peripheral regions (some areas of Mediterranean Europe, the Balkans, Ireland) and areas geographically central but culturally traditional (certain areas of the Alps) were the last **strongholds of high fertility**, gradually conquered in the middle of XX century

The Malthusian transition

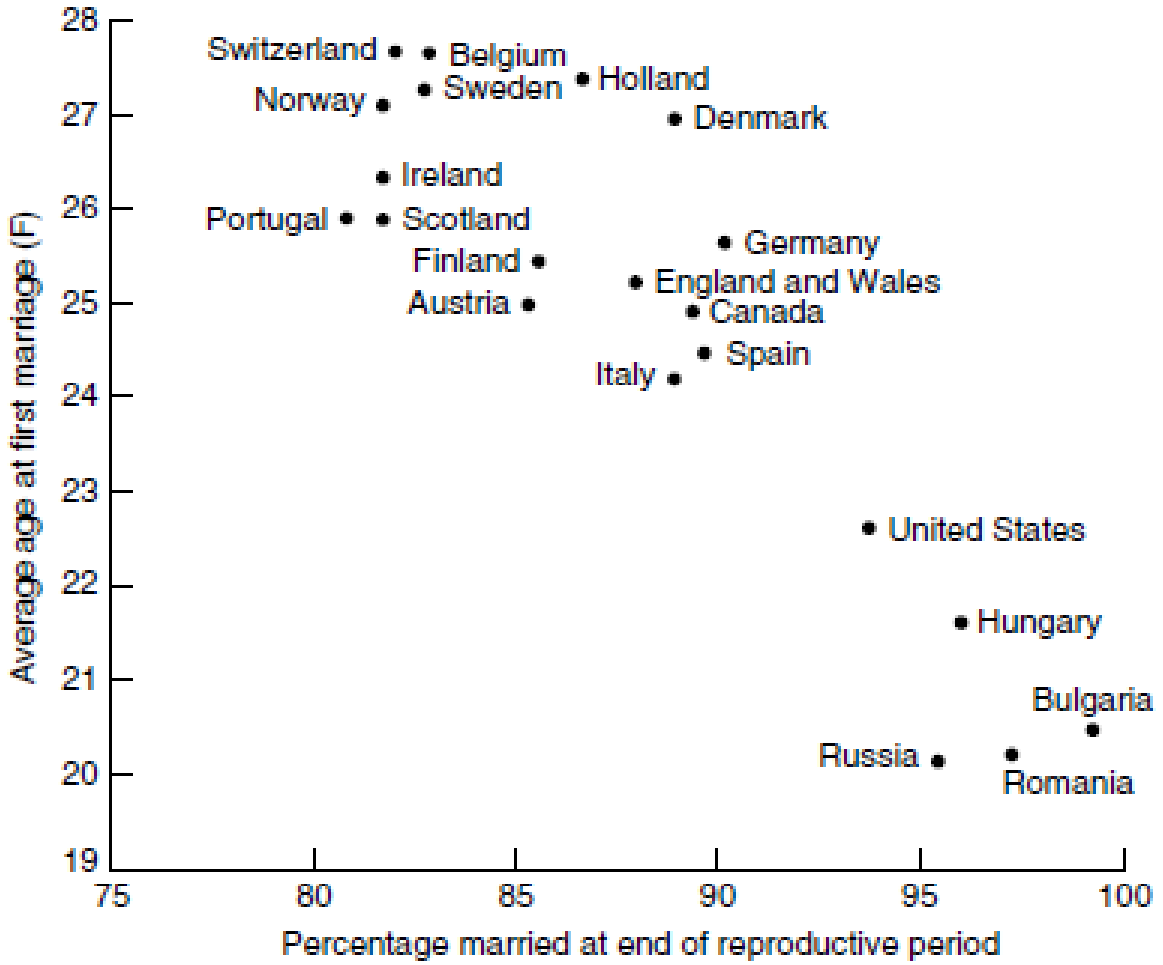
- Malthusian transition spread what Hajnal (1965) called the **European marriage pattern**:
  - *Late age at 1st marriage*
  - *> 10% of women never married*

  - *Very peculiar of Europe*
  - *Western Europe much before Eastern*
  - *Very different from contemporary LDCs*

Division of Europe Into Hajnal's Areas of Early and Late Marriage



Before transition:
traditional system of fertility regulation ➔ marriage



- Age at marriage
- Proportion of marrying

Determined the portion of the reproductive period devoted to childbearing

As result European levels varied also before transition

Fertility Transition

- Obviously, the type of control depends upon some factors of "costriction"
  - Knowledge of the couple
  - Technologies available

- In a regime of natural fertility, the only "preventive" check to reproduction is:
  - delaying or
  - renouncing to marry.

Things have changed…

Neo-malthusian transition

- **Decline of marital fertility:**
  - **Parity** *(num of children already born)* **specific fertility limitations**

  - In historical Europe happen without modern method of birth control
    - ✓Breastfeeding?
    - ✓Withdrawal
    - ✓Separation for migration?
    - ✓Gap urban/rural areas
    - ✓Gap high-middle classes / lower classes (= non-agricultural occupations)
    - ✓Gap religious/ethnic groups

Fertility Transition

- Three preconditions for a fertility decline **(European Fertility Project: Coale):**

  RWA (*ready, willing and able*) model

- *Ready*: fertility has to be a field in which it is acceptable to make choices
- *Willing*: the choice of having fewer children has to be convenient
- *Able*: means to check the number of children have to be available to couples

Fertility Transition

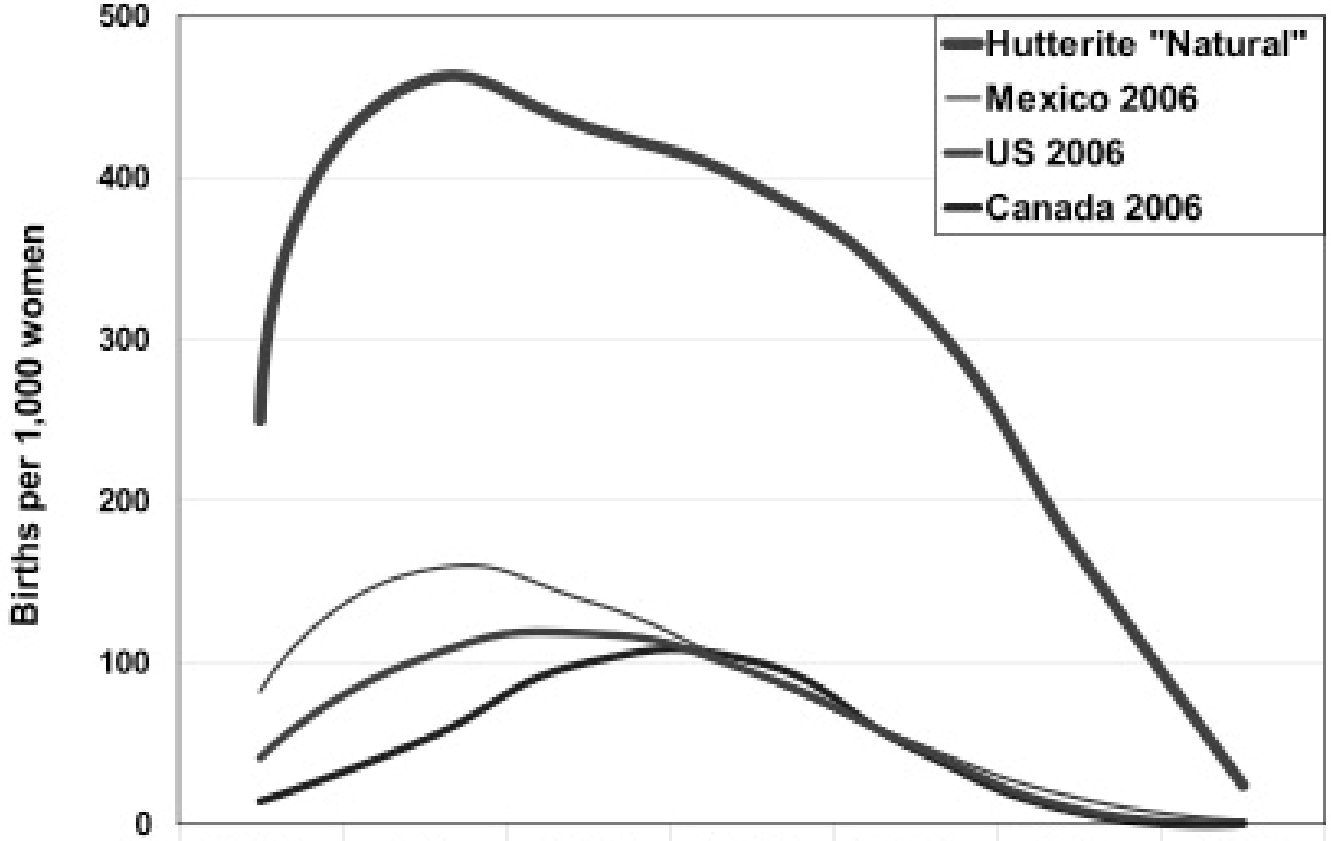
- Birth control appears in France at the end of 18th Century, in particular areas and in some social groups
- It spreads quickly across Europe during 19th Century
- It is usually **measured by an index proposed by Coale (I_g : index of legitimate fertility)**

Ansley J. Coale (1917-2002)

The hutterite fertility

- The highest recorded and verified TFR is that of the North American Hutterite religious community during the 1920s.
  - 9.2 for all women and
  - 12.4 if only married women were used for the denominator.

Hutterite ‘Natural’ fertility



	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Hutterite "Natural"	250	460	431	396	321	167	24
Mexico 2006	82	157	138	94	50	16	2
US 2006	41	103	118	94	48	9	1
Canada 2006	14	52	100	101	46	7	0

Fertility Transition

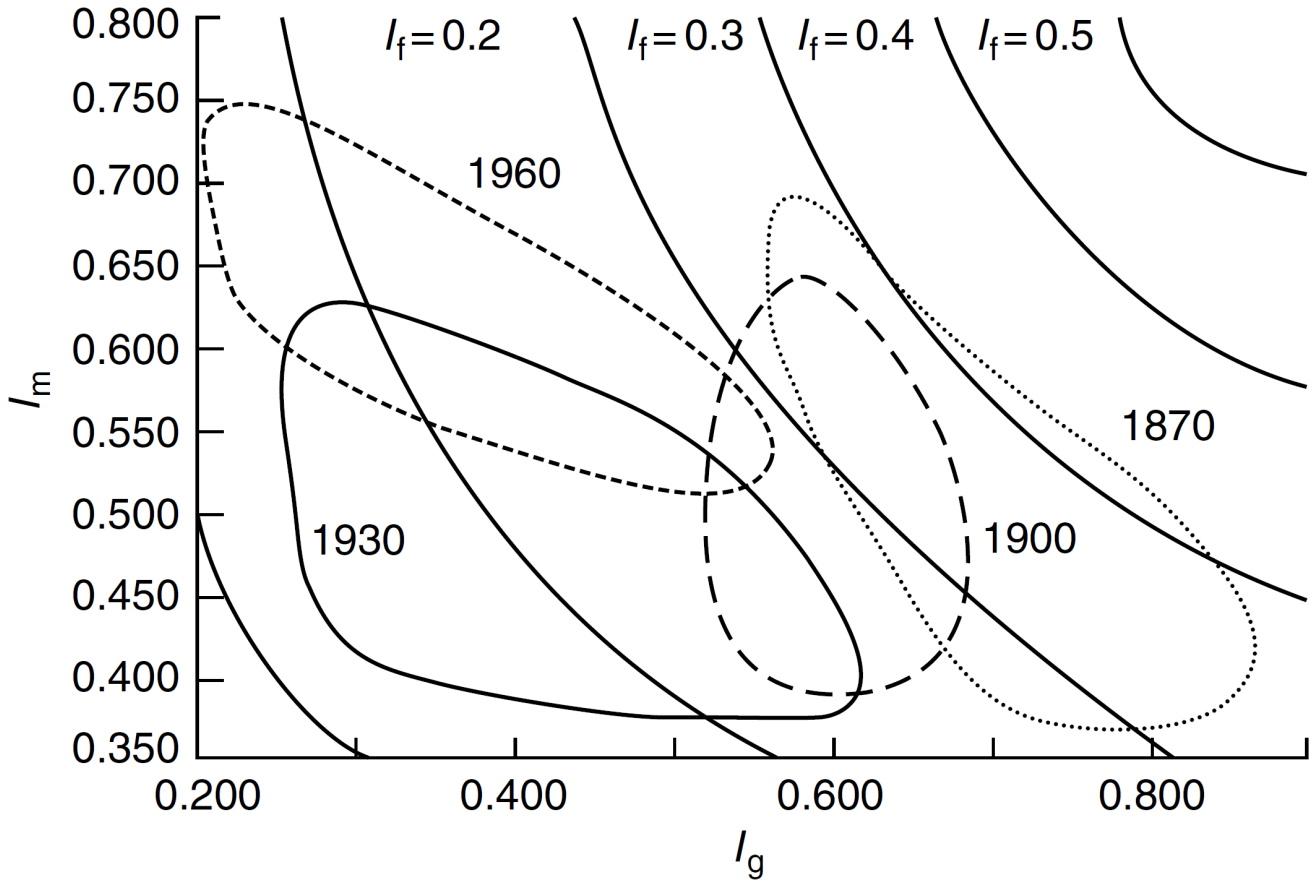
$$I_g = \frac{\sum_x g_x m_x}{\sum_x F_x m_x} = \frac{Births(legitimate)}{Births(theoretical)}$$

g_x = rate of births (legitimate) from women married at "x" age

m_x = women married at "x" age

F_x = rate for the model population (Hutterite)

Relationship between general fertility (If), legitimate fertility (Ig), and proportion married (Im) in 16 European countries (1870, 1900, 1930, 1960).



Fertility Transition

- I_g is comprised between 0.6 and 1 in a regime of **natural fertility** (with differences due to other variables)
- I_g<0.6 is taken as the **limit for controlled fertility** (in populations that ground reproduction in marriage)
- Index of an **irreversible decline of fertility**: period during which I_g decreases by 10%

Ex.: Veneto

Table 2: Italian Regional Marital Fertility Index (I_g), 1864 to 1961

	1864	1871	1881	1891	1901	1911	1921	1931	1936	1951	1961
North											
Emilia-Romagna	0.65	0.63	0.66	0.67	0.67	0.65	0.54	0.39	0.35	0.24	0.24
Liguria	0.70	0.65	0.64	0.60	0.57	0.49	0.37	0.40	0.27	0.23	0.22
Lombardia	0.67	0.66	0.65	0.68	0.69	0.64	0.53	0.42	0.38	0.29	0.29
Piemonte	0.66	0.64	0.66	0.63	0.61	0.49	0.38	0.30	0.27	0.23	0.23
Trentino-Alto Adige							0.70	0.54	0.49	0.43	0.42
Veneto		0.69	0.68	0.71	0.76	0.81	0.71	0.57	0.53	0.36	0.35
Venezia Giulia							0.52	0.38	0.35	0.23	0.22

Figura 5.4.

Fecondità coniugale potenziale espressa (Ig di Coale). Anni 1880-82

Ig, 1880-82

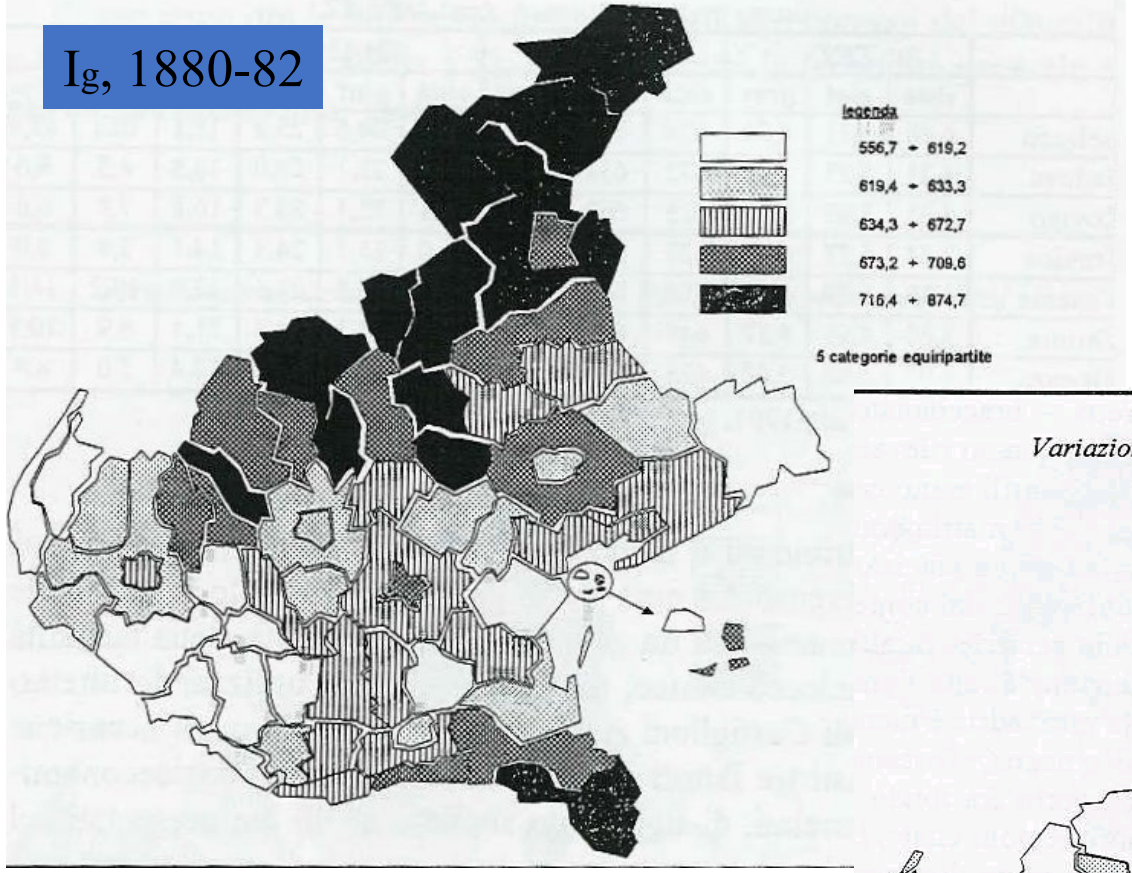
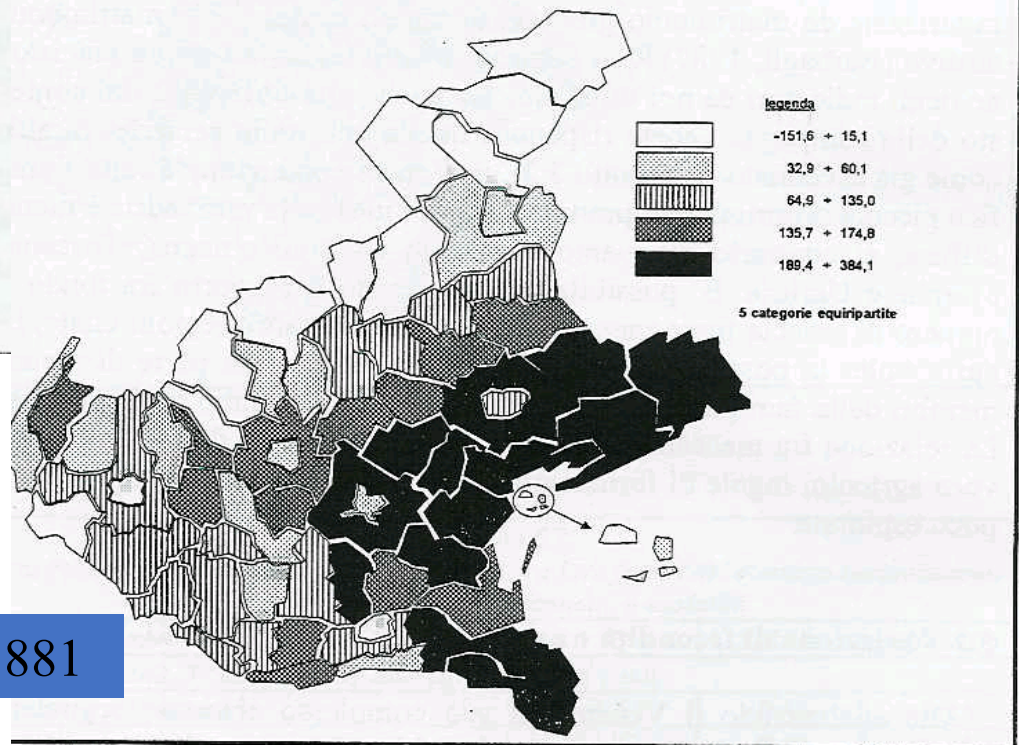


Figura 5.5.

Variazioni assolute di Ig di Coale fra il 1911 e il 1881

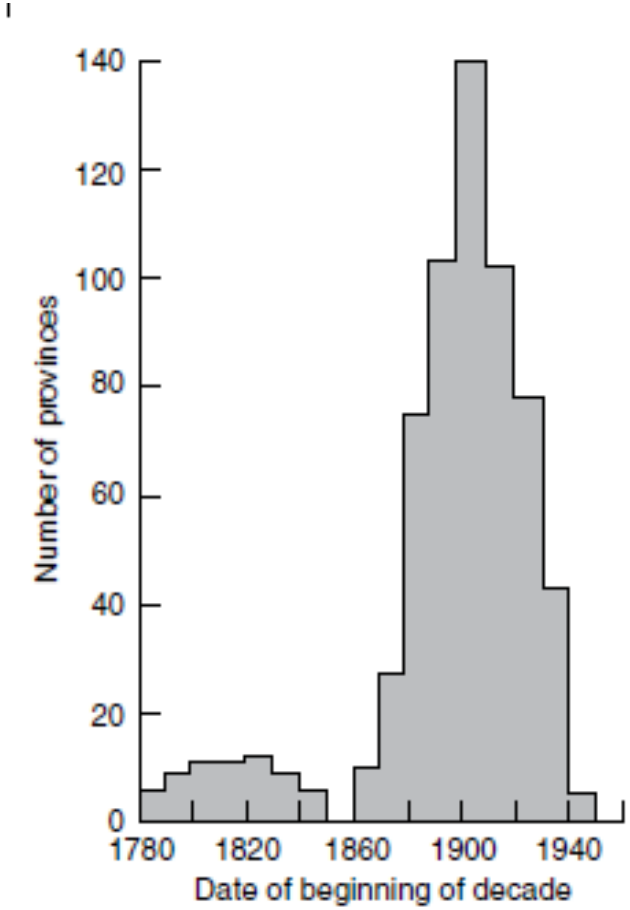


Variations in Ig, 1911-1881

Year of Ten Percent Decline in Marital Fertility from Highest Level for European Countries

France	1827	Denmark	1898	Greece	1913
Belgium	1881	Sweden	1902	Italy	1913
Switzerland	1887	Norway	1903	Portugal	1916
Germany	1888	Europe median	1903	Spain	1920
England & Wales	1892	Austria	1907	Ireland	1922
Scotland	1884	Hungary	1910	European Russia	1922
Netherlands	1887	Finland	1912		

An indicator that irreversible decline of fertility has been initiated



Distribution by decade of number of provinces of Europe experiencing a 10% decline in legitimate fertility

The indicator is:

the point at which marital fertility dropped of 10%

Signal that contraception has started

- F: 1827
- B, DK, GB, D, NL, CH : 1880-1900
- S, N, A, H: 1900-1910
- I, GR, FIN, P, E: 1910-1920

Beginning of the demographic transition (source: Rodrigue)