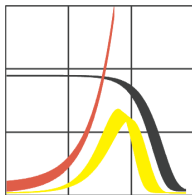




Human Fertility Database

www.humanfertility.org



Max Planck Institute for Demographic Research



HUMAN FERTILITY DATABASE

Joint project of the Max Planck Institute for Demographic Research (MPIDR) and the Vienna Institute of Demography (VID), based at the MPIDR in Rostock, Germany

- Open access
- Detailed, well-documented and high-quality data
- Period and cohort dimensions
- Variety of data formats and indicators
- Special focus on birth order dimension

AIM: facilitating research on changes and inter-country differences in fertility in the past and in the modern era

Going beyond the period TFR

www.humanfertility.org

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for Demographic Research



Vienna
Institute of
Demography



OAW
Österreichische
Akademie der
Wissenschaften

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Internet

Research teams. Advisory Board

HFD Teams:

MPIDR:

Joshua R. Goldstein (Director)
Vladimir M. Shkolnikov (Co-Director)
Aiva Jasilioniene
Dmitri A. Jdanov
Evgueni M. Andreev
Sigrid Gellers-Barkmann
Jude Mikal

VID:

Tomáš Sobotka (Co-Director)
Kryštof Zeman

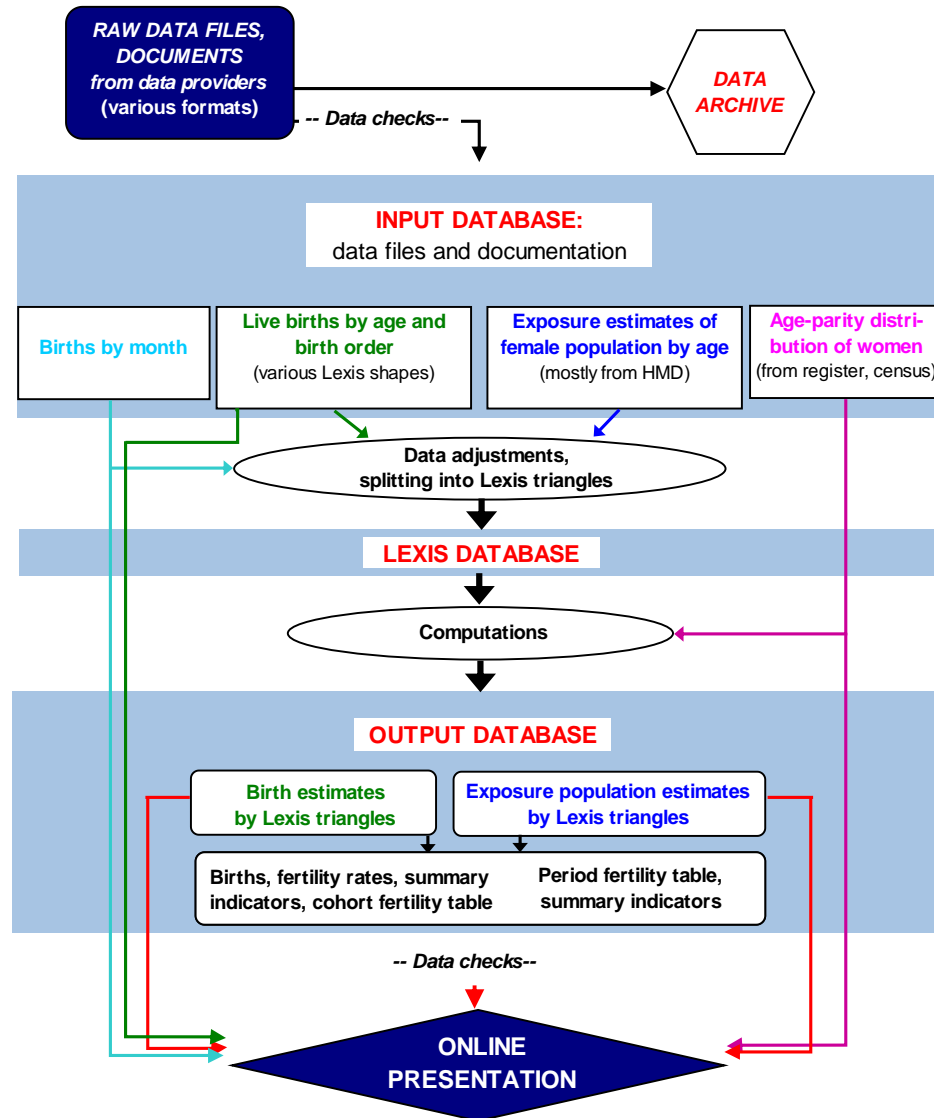
Advisory Board:

John Wilmoth (Univ. of California, Berkeley)
Wolfgang Lutz (VID)
Laurent Toulemon (INED, Paris)
Jean-Paul Sardon (INED, ODE, Paris)

Other researchers involved:

Dimiter Philipov (VID)
Germán Rodríguez (Princeton University)

Data processing scheme



Raw data. Data archive. Input data

Raw data and other documents from data providers are stored in Data Archive.

Data requested for HFD include:

Live births (*officially registered*)

by calendar year,

age of the mother,

mother's year of birth (whenever available),

biological birth order (whenever available),

Parity distribution of women by age and/or year of birth
(census, register, rarely survey)

Births by calendar year and month

Female population by age on January 1 (for countries not in HMD)

All raw data are converted into standardized input format and are available on the HFD website → ASCII (text) file format

Data adjustments

Data on births:

Redistributing births of unknown age

Redistributing births of unknown birth order

Estimating the share of live births among total births

Splitting birth counts by 5-year age groups into 1-year data

Splitting births counts in open age intervals into 1-year data

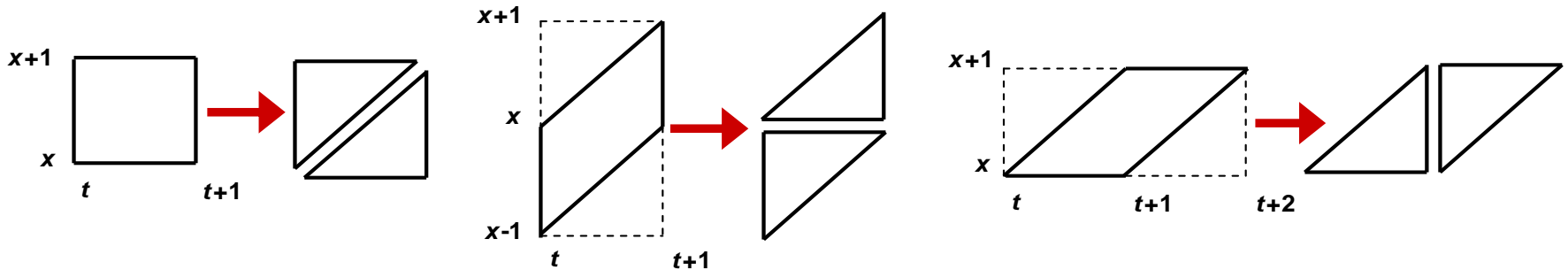
Splitting 1-year age birth counts into Lexis triangles

Data on age-parity distribution from census

‘Moving’ to the beginning of the census year (January 1)

Lexis database

Data transformation:



Lexis Database (data are used in computations):

Births and population exposures by **year, age, cohort**

Age, birth order and parity are standard:

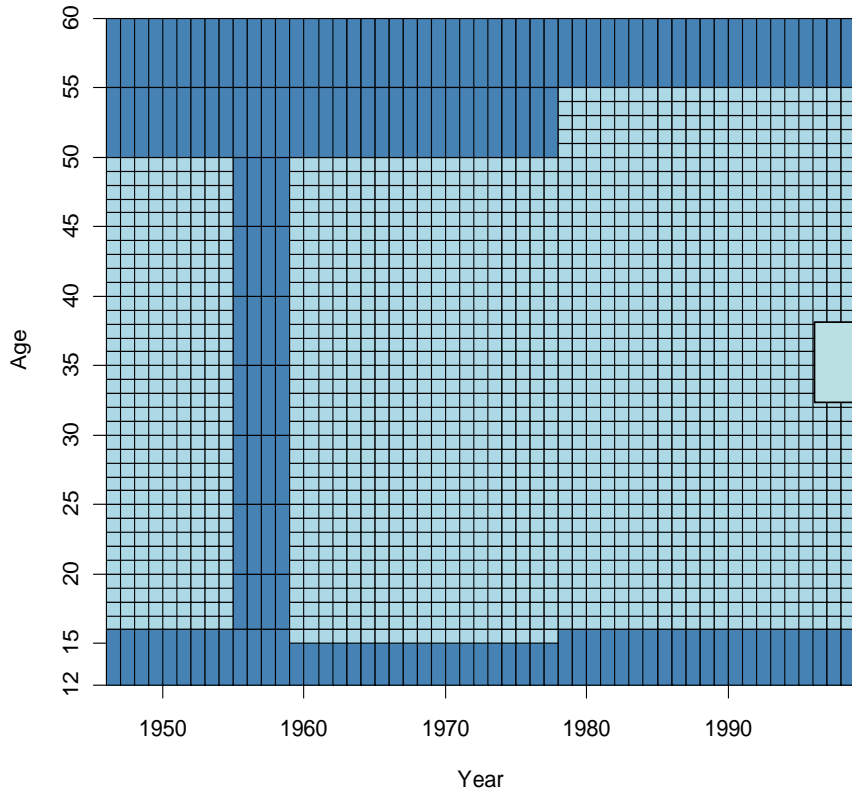
Age ≤ 12 to $55+$

Birth order 1 to $5+$

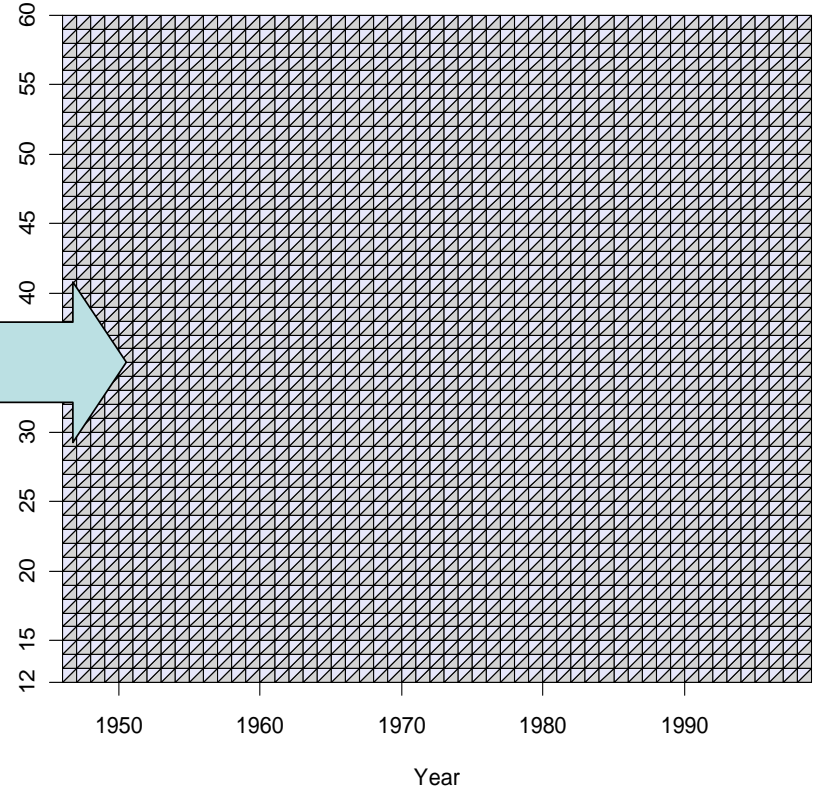
Parity 0 to $4+$

Lexis database

Input Database



Lexis database



Output data

Two major blocks of output data

- 1. Birth counts, population exposures, rates and summary indicators**
 - Data for all birth orders combined
 - Data by birth order (1 to 5+)
- 2. Fertility tables and summary indicators**
 - Age and parity dimensions
 - Future: duration dimension...

Birth counts, population exposures, rates and summary indicators

Data by Lexis triangles (year, age, cohort)

(1) Births

(2) Population exposure

Data by larger Lexis elements

(1) Births

(2) Population exposure

(3) Age-specific fertility rates

(4) Cumulative fertility rates

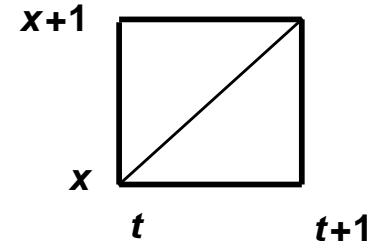
Summary indicators

(1) Total fertility rates (total and by age 40)

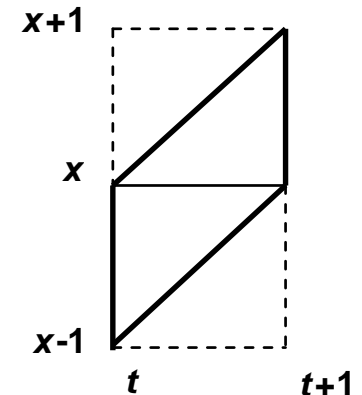
(2) Mean ages at birth (total and by age 40)

(3) Cohort parity progression ratios

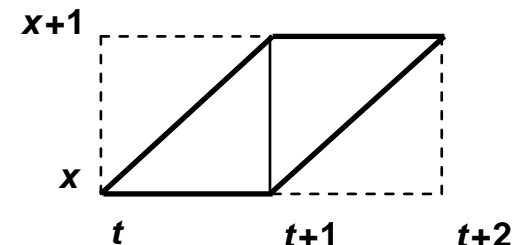
Lexis square



Vertical parallelogram



Horizontal parallelogram



Fertility tables and summary indicators

Tables:

Cohort fertility tables

Period fertility tables

Census- or register-based fertility tables

Major input for period fertility tables presented separately:

Exposure to risk by age and parity

Conditional age-specific fertility rates

Period table summary indicators:

Table mean ages at birth

Summary index of period fertility controlling for age and parity
(PATFR)

Cohort fertility tables

- CFT model the process of childbearing in real cohorts of women

Functions: Cohort, x , $bi(x)$, $li-1(x)$, $qi(x)$, $mi(x)$, $Sbi(x)$, $chi(x)$

x age at birth

i birth order

$bi(x)$ table number of births of order i in age interval $[x, x+1)$

$li-1(x)$ table population of parity $i-1$ by age x

$mi(x)$ conditional ASFR in age interval $[x, x+1)$; occurrence/exposure rates

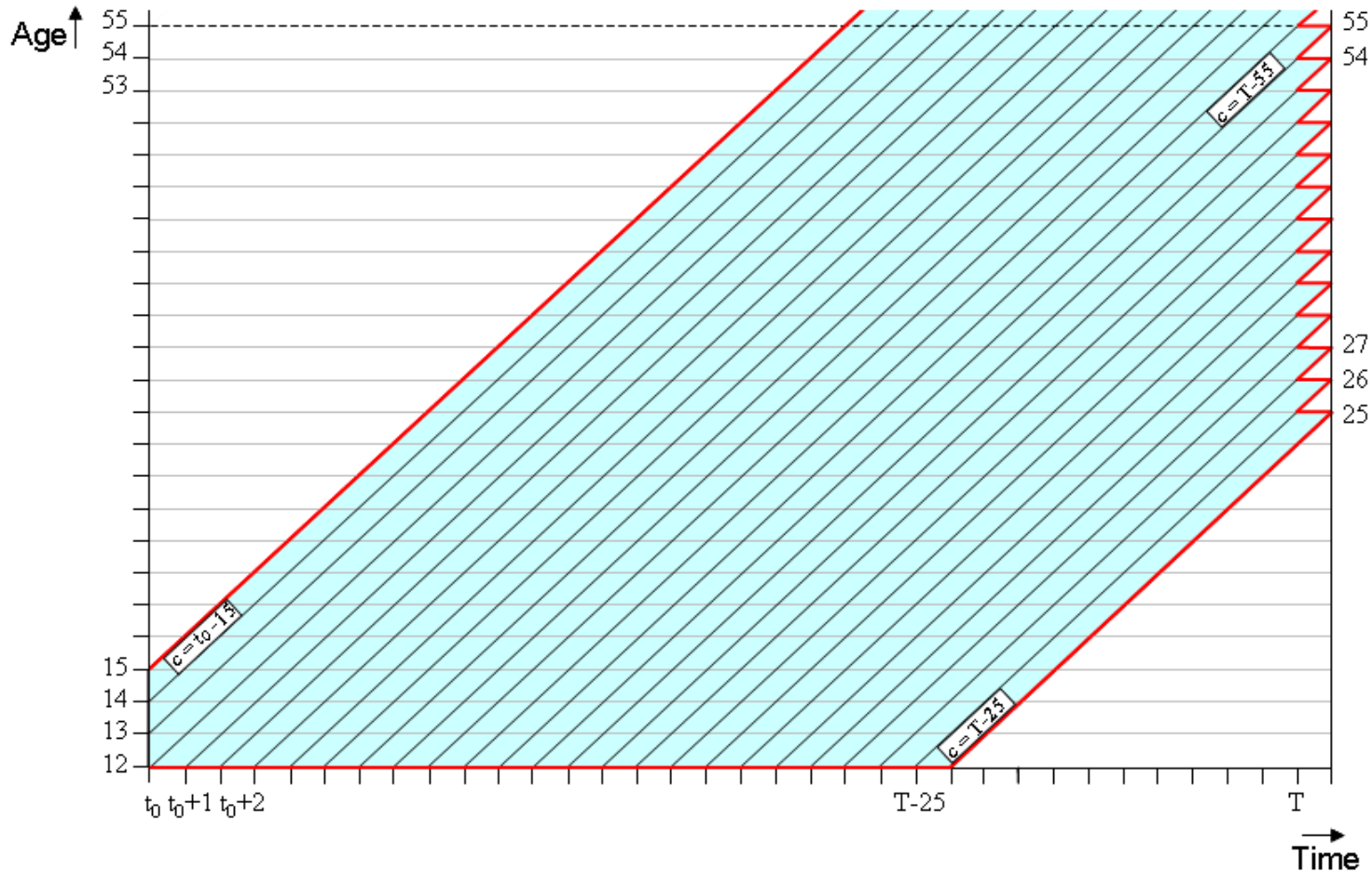
$qi(x)$ probability of having an i th birth in age interval $[x, x+1)$

$Sbi(x)$ cumulative table births of order i by age x

$chi(x)$ average N of children by age x in the highest parity cat. $i-1_{max}$

Major input: cohort age-specific fertility rates by birth order
(horizontal parallelograms)

Lexis region for cohort fertility tables



Basic Lexis element: 

Period fertility tables

- PFT describe childbearing history of synthetic cohorts of women
 - Many functions are identical to those in cohort fertility tables.
 - Main difference:
based on ***conditional age-order-specific fertility rates***
-

The key input is **age-parity distribution** of women. Two main approaches to obtain:

- 1) **Cumulating fertility of cohorts** over reproductive age span
- 2) **Using “golden” census** to get the initial age-parity distribution, which is further updated by cumulating cohort fertility

HFD webpage: access and registration

Human Fertility Database - Microsoft Internet Explorer provided by MPIDR

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 Vienna Institute of Demography OAW

Internet

HFD webpage: Registration

The Human Fertility Database

New user

Please fill in the form below to apply for access to the Human Fertility Database.
You will receive your password by e-mail.

Last Name:

First Name:

E-mail

Address:

Send Registration

Clear Form

*This information will not be used for any purpose other than access to the Human Fertility Database
and will not be released outside the Max Planck Institute for Demographic Research.*

[Return to HFD Main Page](#)

HFD webpage: Login

The Human Fertility Database

Please login as HFD user

e-mail address:

password:

Have forgotten your password?

- fill in your e-mail address recorded with us
- leave the password blank
- click "e-mail password to me"

If you have any problem with registration please contact [us](#)

[Return to HFD Main Page](#)

HFD webpage: data download

The screenshot shows a Microsoft Internet Explorer browser window displaying the Human Fertility Database (HFD) website. The browser's address bar shows the URL <http://www.humanfertility.org/cgi-bin/main.php>. The website features a green sidebar with a 'HFD Main Menu' containing links for Registration, About the Project, People, Methods, Data, Links, and General. The main content area includes the HFD logo, the names and titles of the directors (Joshua R. Goldstein, Vladimir M. Shkolnikov, and Tomas Sobotka), a description of the database as a joint project of the Max Planck Institute for Demographic Research (MPIDR) and the Vienna Institute of Demography (VID), and a table of countries for which data is available. A disclaimer states that the website's contents are preliminary and intended for testing and evaluation. The footer contains logos for the Max Planck Institute for Demographic Research, the Vienna Institute of Demography, and the OAW (Austrian Academy of Sciences).

Human Fertility Database - Microsoft Internet Explorer provided by MPIDR

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HFD webpage: Country page – the Netherlands

Two major blocks of output data:

The screenshot shows the Human Fertility Database (HFD) website for the Netherlands. The browser window title is "Human Fertility Database - Microsoft Internet Explorer provided by MPIDR". The address bar shows the URL: <http://www.humanfertility.org/cgi-bin/countrypage.php?country=NLD>. The page title is "The Netherlands".

Navigation links include "Main Page" and "Countries". A red circle highlights the link "Background and Documentation FPDF".

The main content area is titled "Birth counts, population exposures, rates, and summary indicators". It contains a table with columns for "All birth orders combined" and "By birth order". The table lists various indicators such as Birth counts, Female population exposure, Age-specific fertility rates, and Summary indicators (Mean ages at birth, Total fertility rates, Cumulative fertility rates, Parity progression ratios).

Below this is a section titled "Fertility tables and summary indicators" with a table listing indicators like Fertility tables, Female population exposure by parity, Conditional age-specific fertility rates, Table mean ages at birth, and Index of period fertility (PATFR).

The bottom section is titled "Input data" and lists data sources: Births, Births by month, Women by age and parity, Population size and deaths (HMD), Notes, and References.

At the bottom right, it says "Country page last updated: 14.09.2009".

Birth counts, population exposures, rates and summary indicators

Fertility tables and summary indicators

Input data

HFD webpage: data download

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OAW
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HFD webpage: Mass data download: zip files

Data by type

Data type	Link to zip file
Births	births (1994Kb)
Female exposure	exposure (697Kb)
Age-specific fertility rate	asfr (956Kb)
Mean age at birth	mab (24Kb)
Total fertility rate	tfr (24Kb)
Cumulative fertility rates	ccfr (174Kb)
Parity progression ratios	ppr (3Kb)
Fertility tables	ftables (1308Kb)
Population exposure by parity	parityexp (285Kb)
Conditional age-specific fertility rates	casfr (159Kb)
Table mean age at birth	pmab (8Kb)
Summary index of period fertility	patfr (8Kb)
Table parity progression ratios	pppr (2Kb)
All types of HFD data	HFD (5629Kb)

Data by country

Country	Link to zip file
Austria	AUT (1Kb)
Czech Republic	CZE (1Kb)
Netherlands	NLD (1Kb)
Russia	RUS (1Kb)
Sweden	SWE (1Kb)
U.S.A.	USA (1Kb)

Illustration #1: PERIOD DATA

The Czech Republic

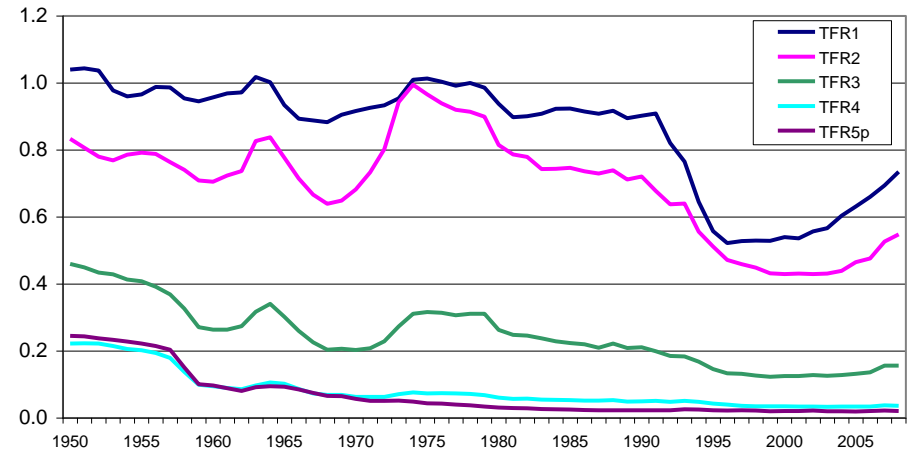
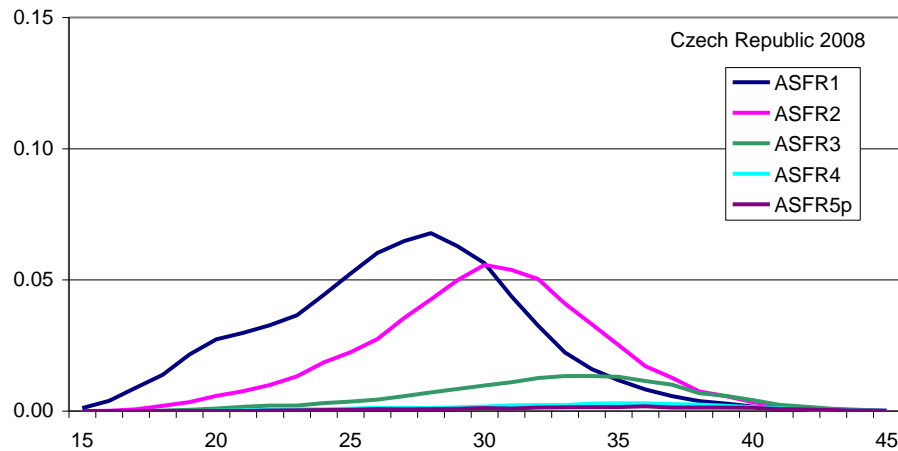
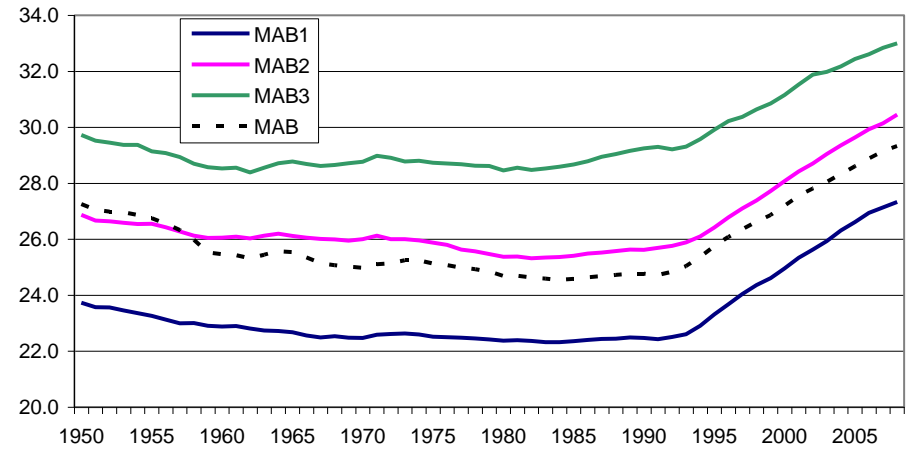
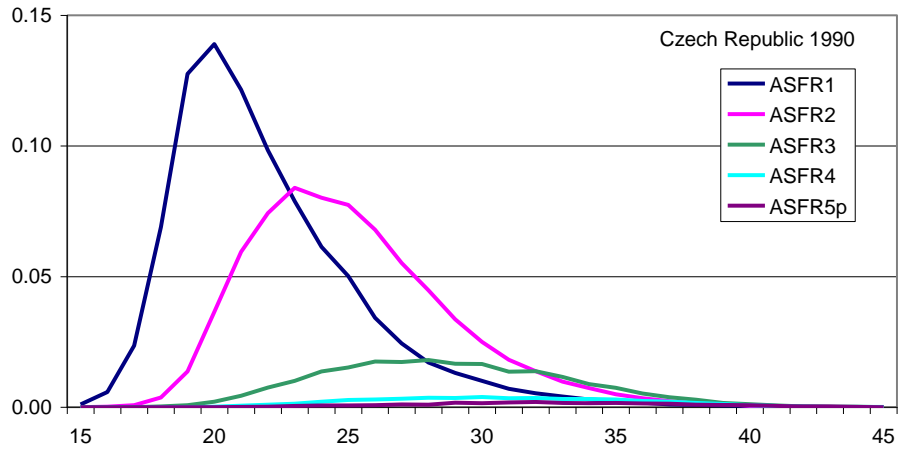


Illustration #2: COHORT DATA

The Czech Republic

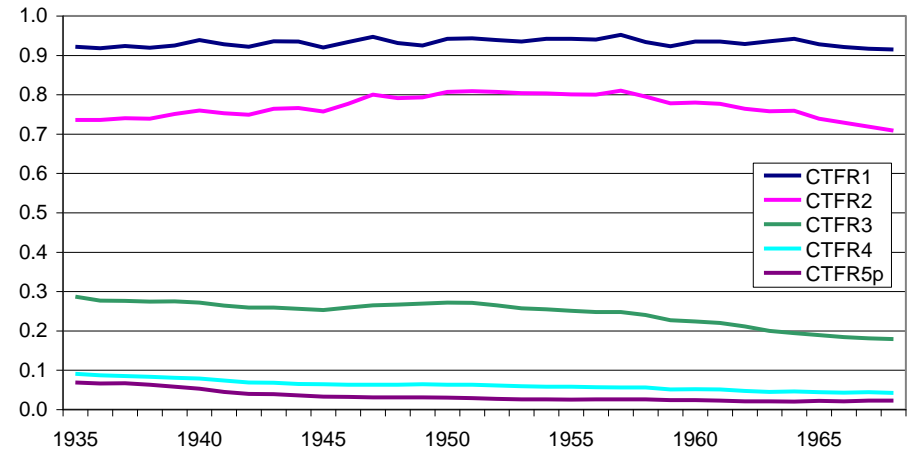
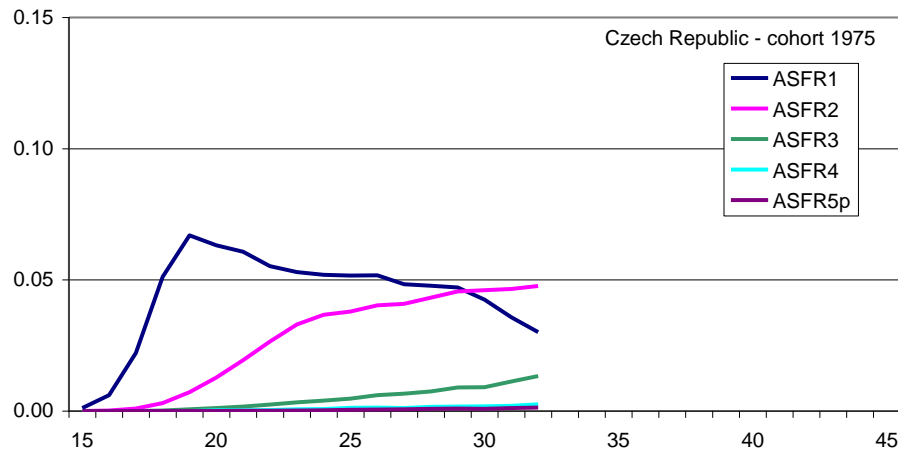
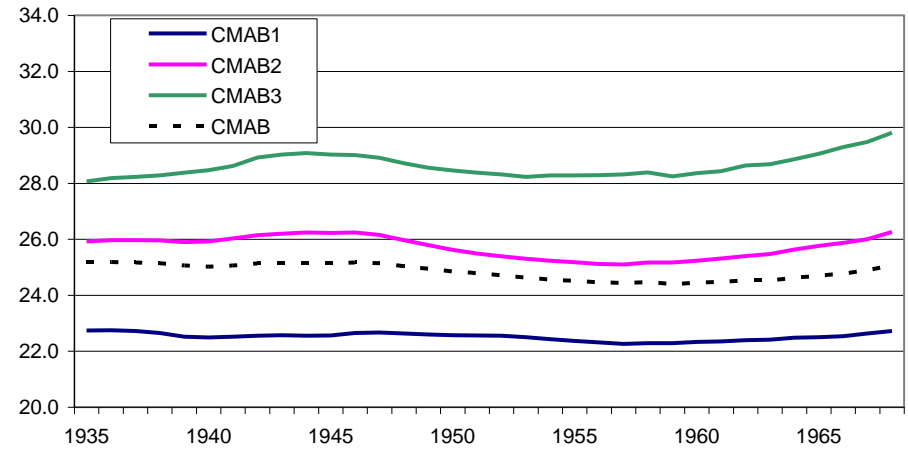
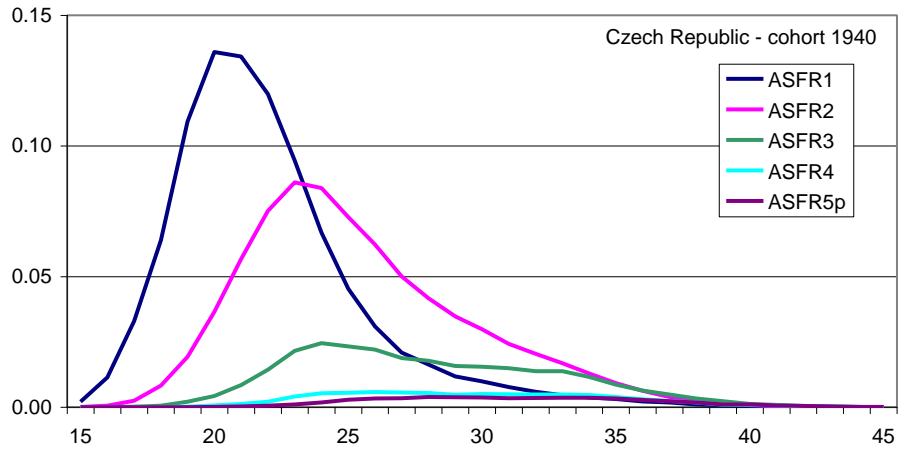


Illustration #3: SUMMARY INDICATORS OF FERTILITY

The Czech Republic

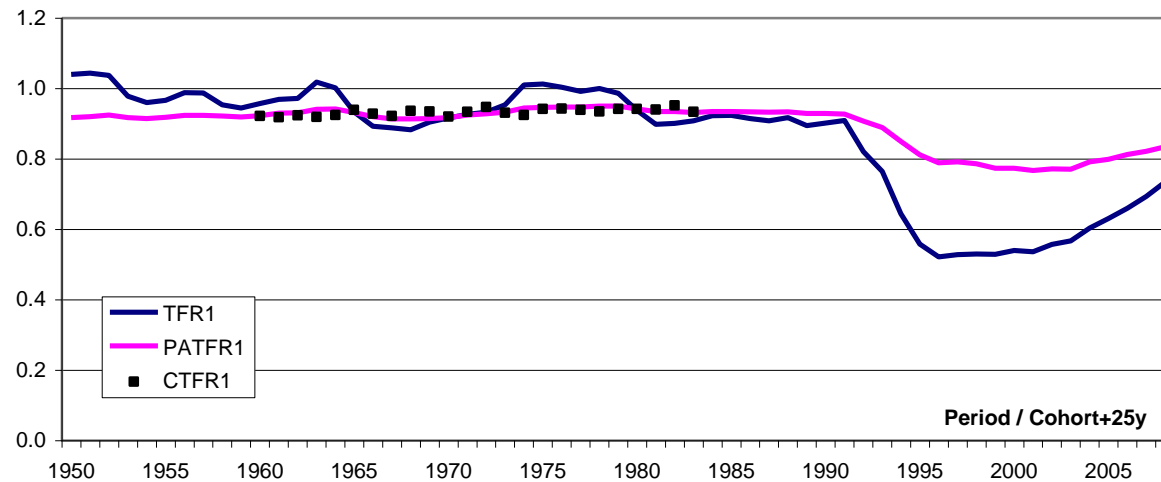
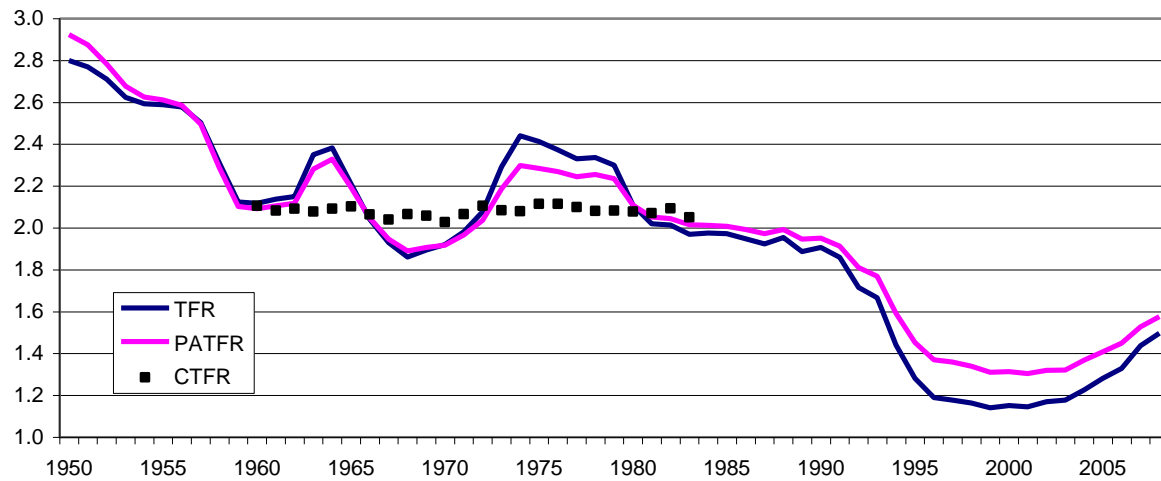
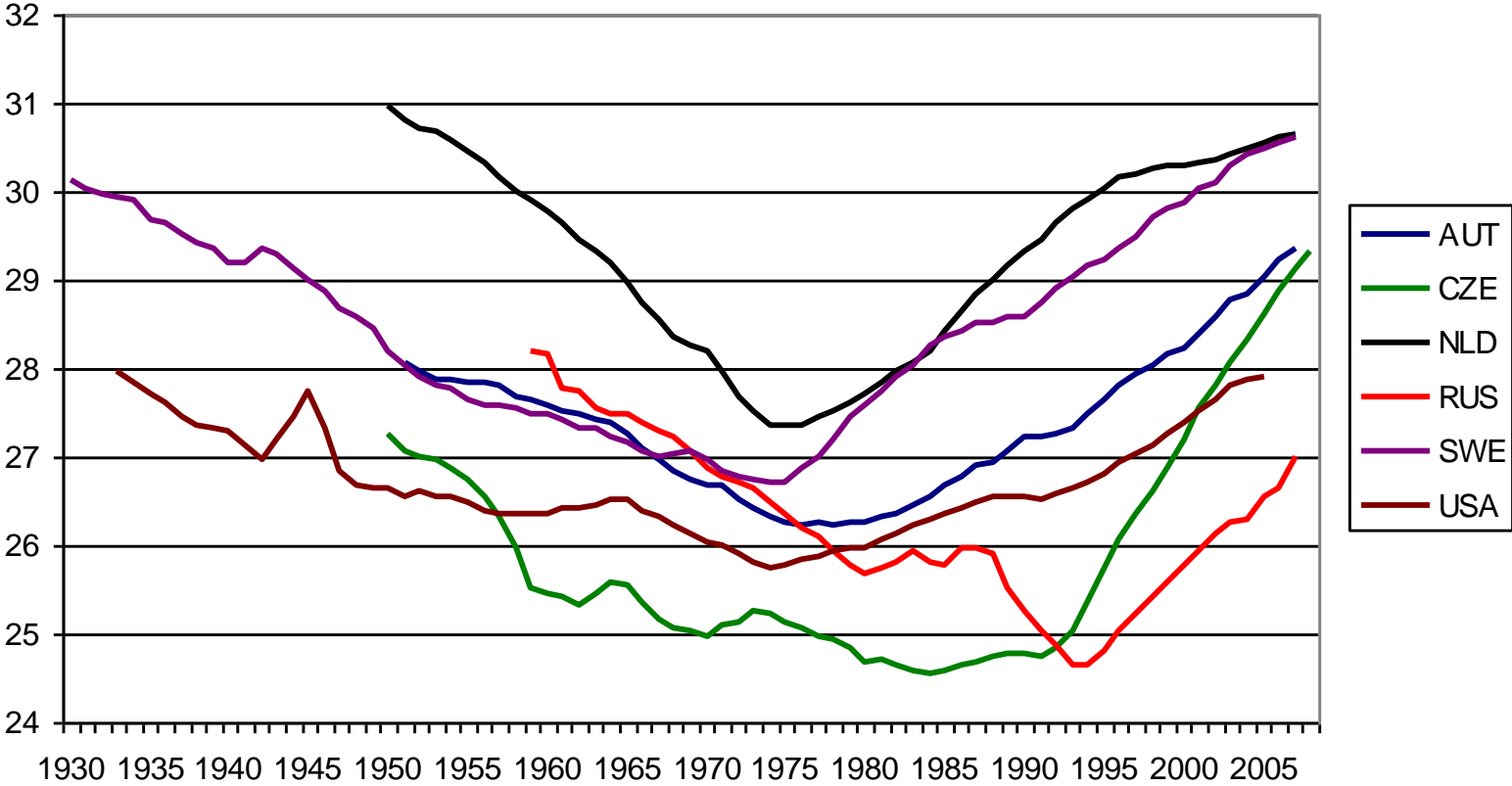


Illustration #4: MEAN AGES AT BIRTH

Austria, the Czech Republic, the Netherlands, Russia, Sweden, USA



Future plans & extensions

- The HFD will be continuously updated and upgraded, following the feedback from its users - email: info@humanfertility.org
- More countries will enter the database soon (Bulgaria, Canada, Estonia, Finland, France, Japan, Latvia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Switzerland and others)
- More than 25 countries contacted
- The Human Fertility Collection will be launched in 2010
- In the second stage of the project, duration-specific data will be introduced

Thanks & Acknowledgements

- Radek Havel, Český statistický úřad
- Michaela Němečková, Český statistický úřad
- Jiří Vejrych, Český statistický úřad
- Tomáš Fiala, Vysoká škola ekonomická, Praha

- Michaela Potančoková, Infostat, Bratislava