

# **Disability free life expectancy (DFLE) in the European Union from 1995 to 2003**

## **using the European Community Household Panel (ECHP)**

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# Presentation plan

- The project European Health Expectancy Monitoring Unit (EHEMU)
- Method and results of calculation for the first year

# Euro-REVES: the foundation of EHEMU

- The sustained interest in disability-free life expectancy in each country led to a European **research programme** identifying reasons for the **incomparability of European results** (Biomed II, 1995-1997)
- From this point, the **development of a coherent set of health expectancies** was proposed through the Health Monitoring Programme (1997-2002)
- The current move to **standardised surveys in Europe** (ECHP, Survey on Income and Living Conditions: SILC, and the future European Health Interview Survey) allows this development through EHEMU



Euro-reves: A vision for Europe

# Aim of European Health Expectancy Monitoring Unit (EHEMU)

- To **provide** annual comparable health expectancy estimates for all European Union countries, in association with Eurostat
- To **analyse** and **interpret** the results
- To **educate** the policy makers, the politicians and the public in health expectancy as an indicator of population health

# EHEMU team



From left to right :

- **Emmanuelle Cambois** : INED, Paris
- **Carol Jagger** : University of Leicester
- **Aurore Clavel** : Montpellier
- **Herman Van Oyen** : IPH, Brussels
- **Geraldine Barker** : University of Leicester
- **Jean-Marie Robine** : INSERM, Montpellier
- **Isabelle Romieu** : Montpellier



# EHEMU workplan for Year 1

- **Calculation**

- Trends in disability-free life expectancy using ECHP 1994-2001 data with extrapolation for 2002-3 in relation to the new structural indicator Healthy Life Years (HLY)
- Interrelationships between different health dimensions using Eurobarometer 2002

- **Repository**

- EHEMU-calculated values
- Available information on other studies calculating Health Expectancy

- **Education**

- Computation manual with extension for confidence intervals

- **Extension of the network**

- Identifying EHEMU partners in all members states (policy and technical)

- **Dissemination**

- Conception and development of EHEMU website
- Country reports

# Data and Methods (1)

- Estimation of Life Expectancy (LE) and 95% CI
- Estimation of DFLE and 95% CI, using Sullivan method
  - age specific probability of death
  - age specific disability prevalence
- Question used
  - PH002 "*Do you have chronic physical or mental health problem, illness or disability?*" and if Yes :
  - PH003 "*Are you hampered in your daily activities by this physical or mental health problem, illness or disability?*"
    - Yes, severely
    - Yes, to some extend
    - No

} Yes, all levels

# Data and Methods (2)

## Problems

### 1) Mortality and Panel rough data

- Probable data errors
- Missing data

### 2) Interruption of data collection

## Solutions

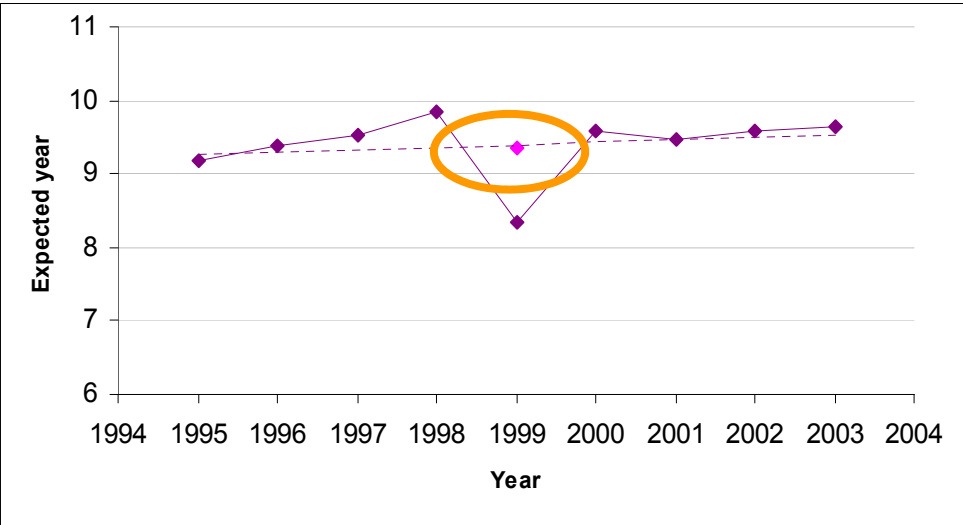
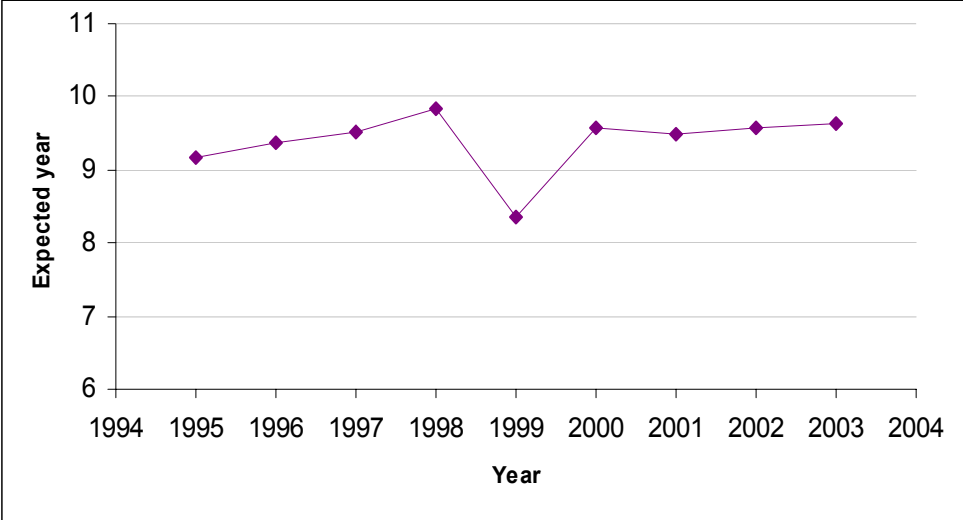
### 1) Mortality and Panel rough data

- Linear imputation of age specific probabilities according to trends  
Example...



- **Imputation of age specific probabilities according to observed trends**

Example:  
Female Life Expectancy  
(LE) at age 65 in UK



# Data and Methods (2)

## Problems

## Solutions

### 1) Mortality and Panel rough data

- Probable data errors
- Missing data

### 1) Mortality and Panel rough data

- Linear imputation of age specific probabilities according to trends

Example...

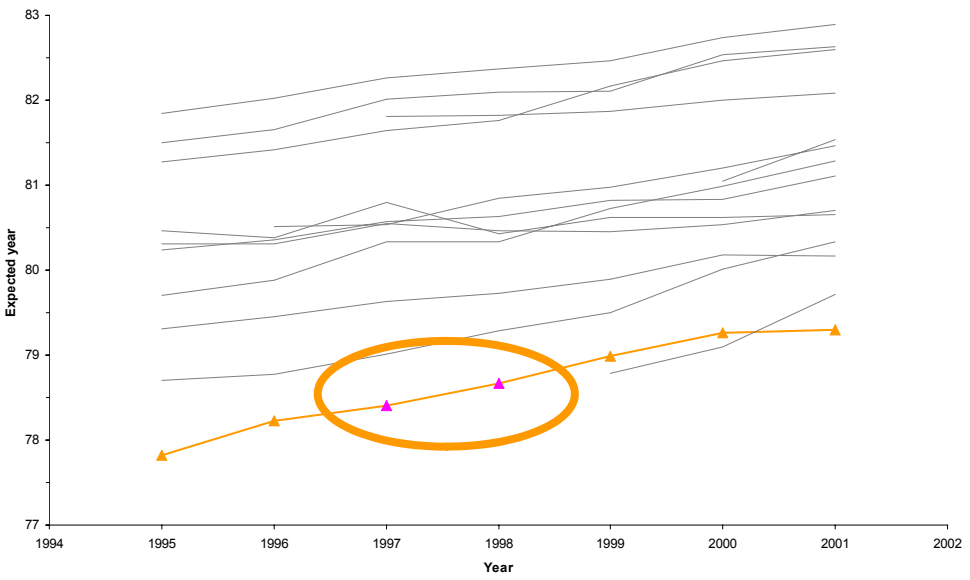
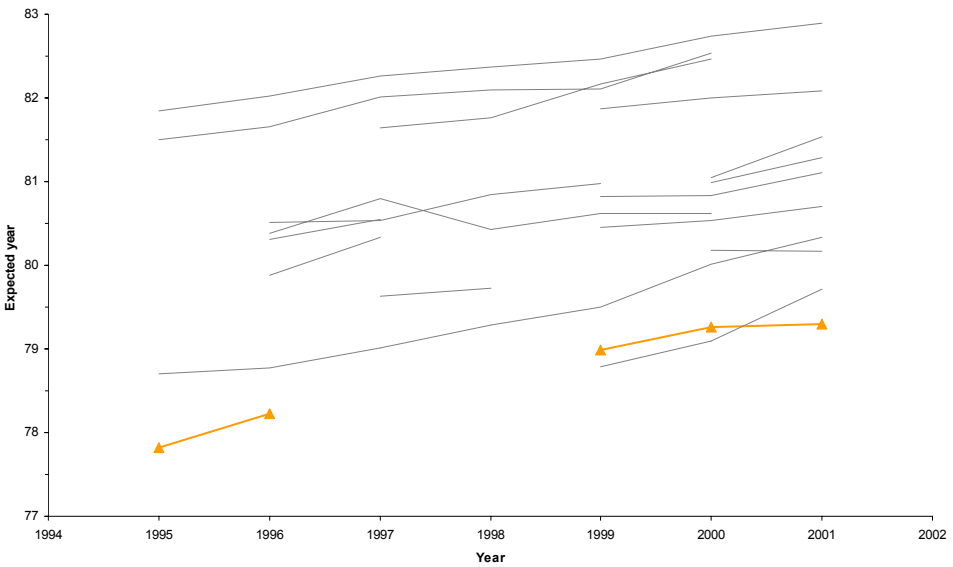
- Imputation of data according to observed trends

Example...

### 2) Interruption of data collection

- Linear imputation of missing probabilities of death

Example:  
Female LE at birth  
in Denmark



# Data and Methods (2)

## Problems

### 1) Mortality and Panel rough data

- Probable data errors
- Missing data

### 2) Interruption of data collection

No data for 2002 and 2003

## Solutions

### 1) Mortality and Panel rough data

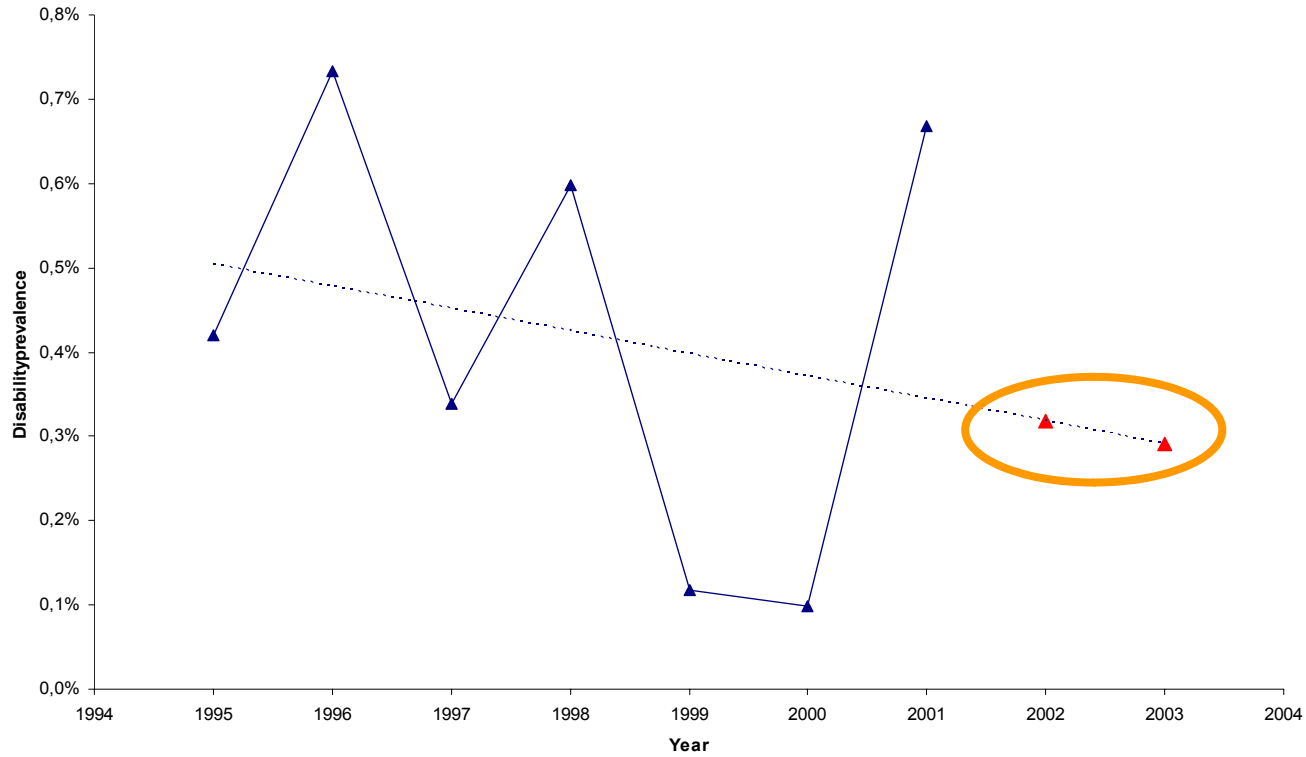
- Linear imputation of age specific probabilities (death and disability)
- Imputation of data according to observed trends

### 2) Interruption of data collection

- Linear extrapolation of the disability prevalence
- Example...

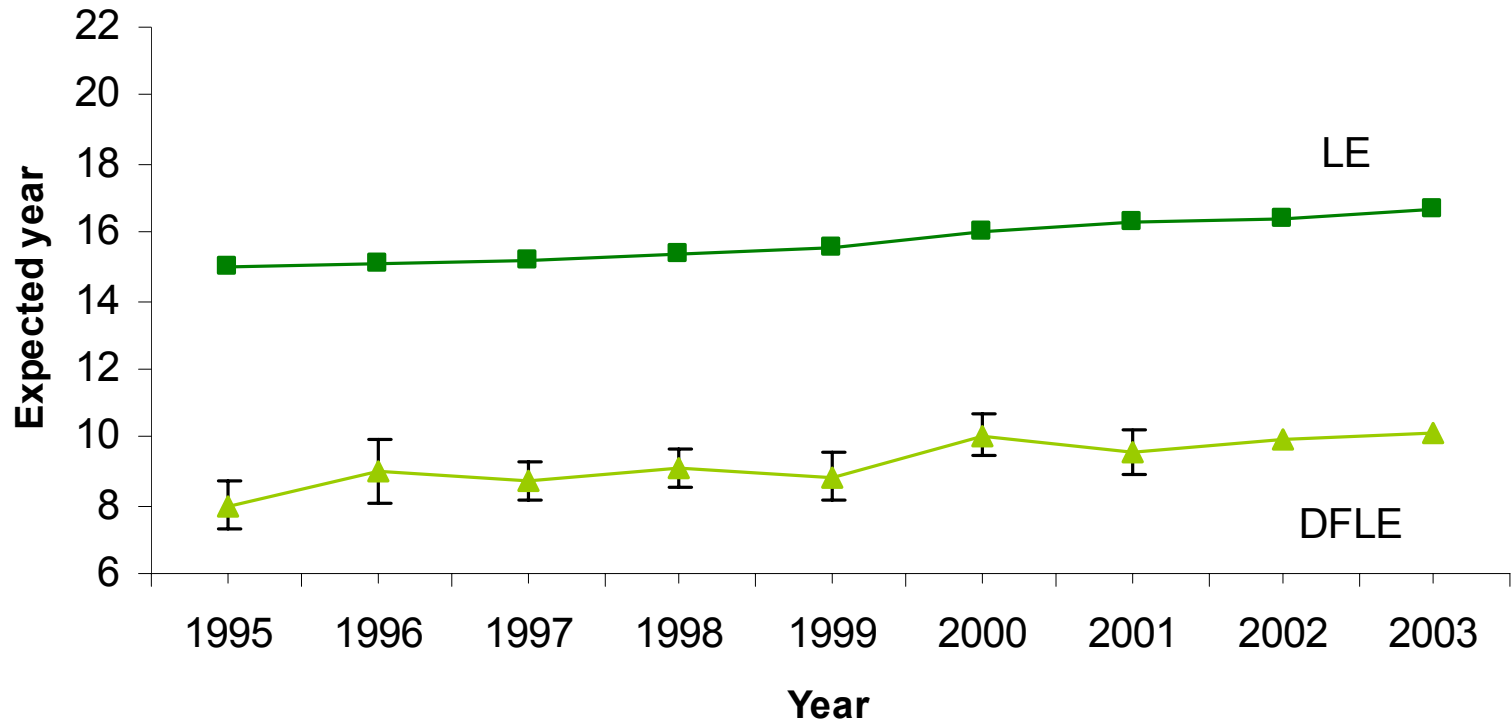
- **Linear extrapolation of the disability prevalence up to 2003**

Ex: Male disability prevalence in Greece (65 years and older)



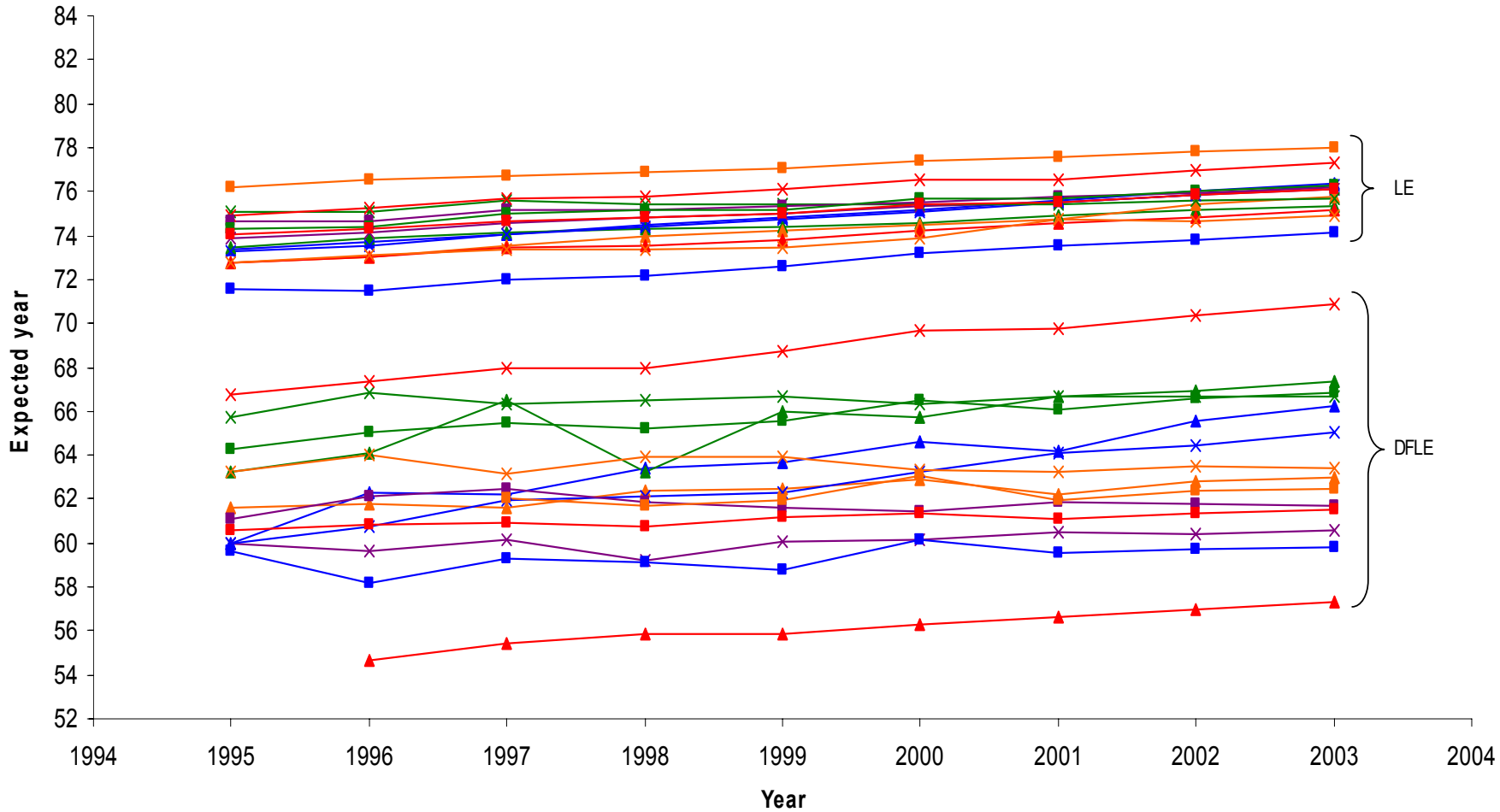
# Main results

Example: Trends in LE and DFLE at age 65, 1995-2003, Male, Austria



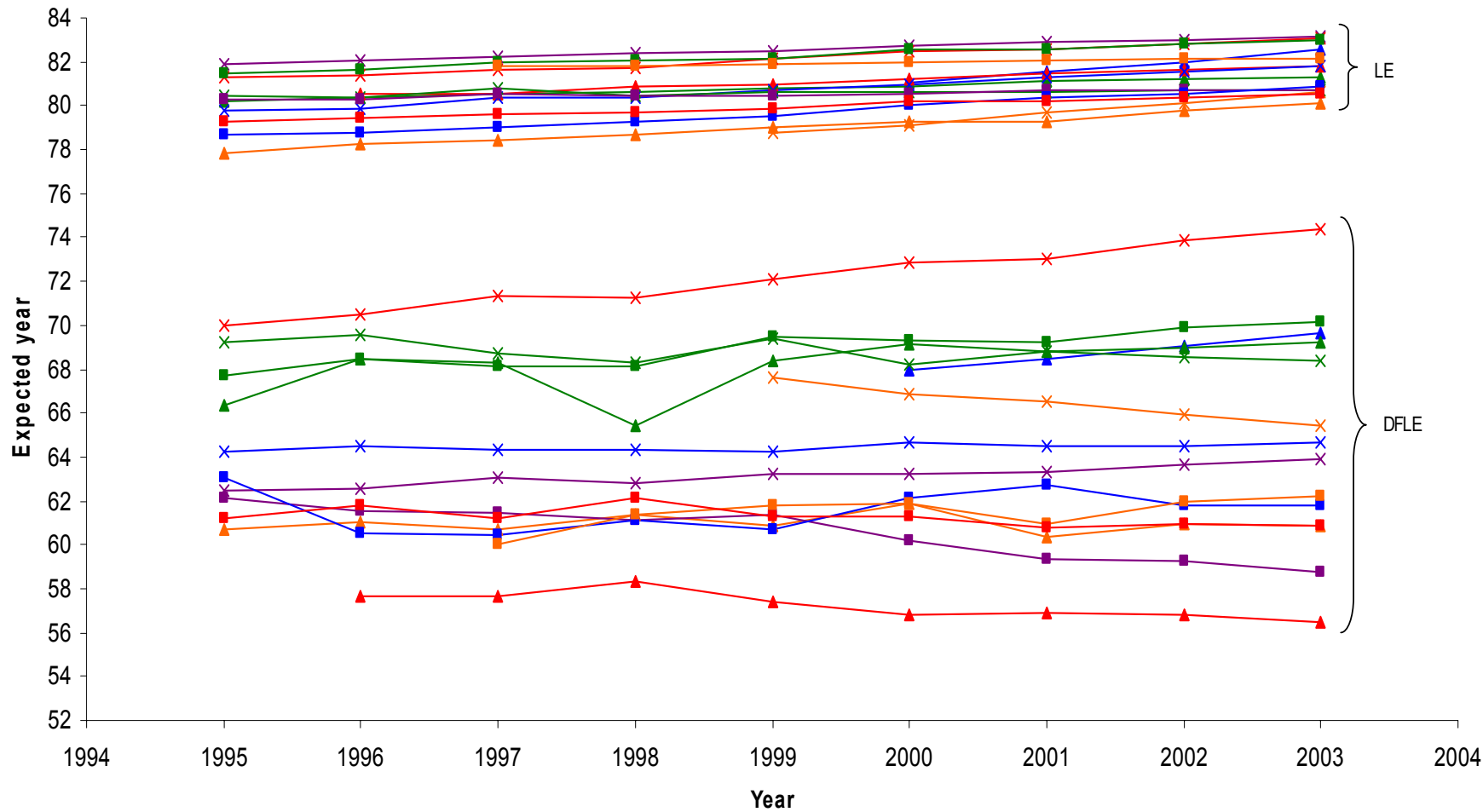
# Trends in LE and DFLE at birth in European countries, 1995-2003

## Male



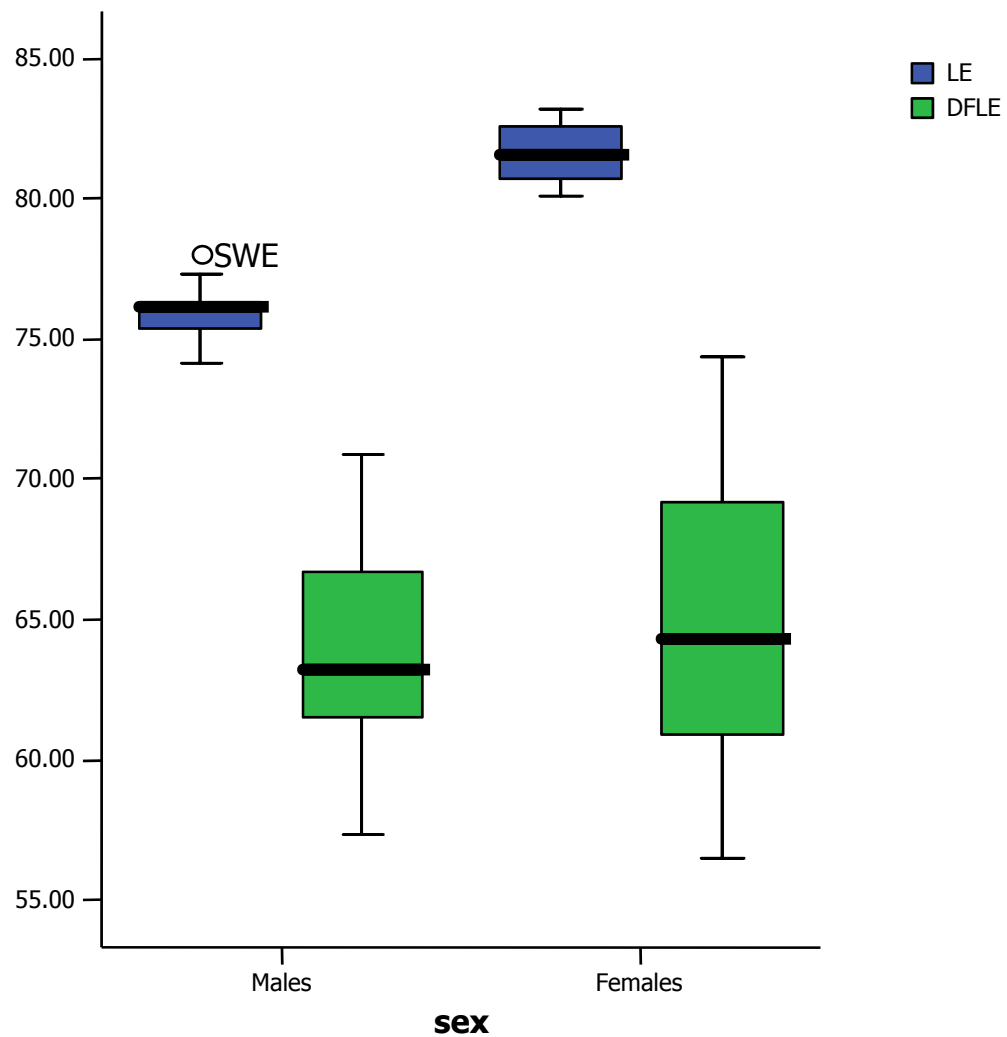
# Trends in LE and DFLE at birth in European countries, 1995-2003

## Female

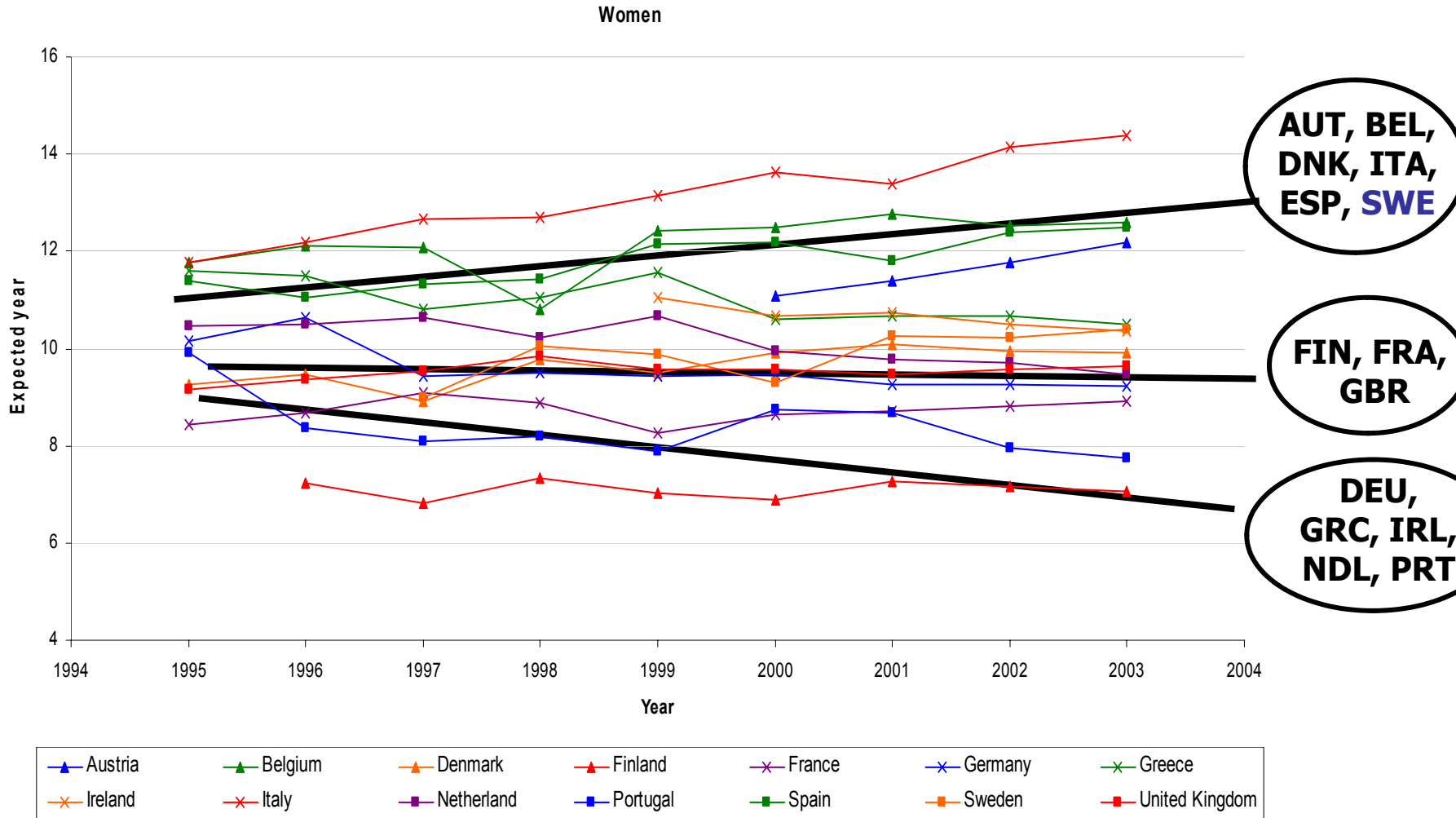




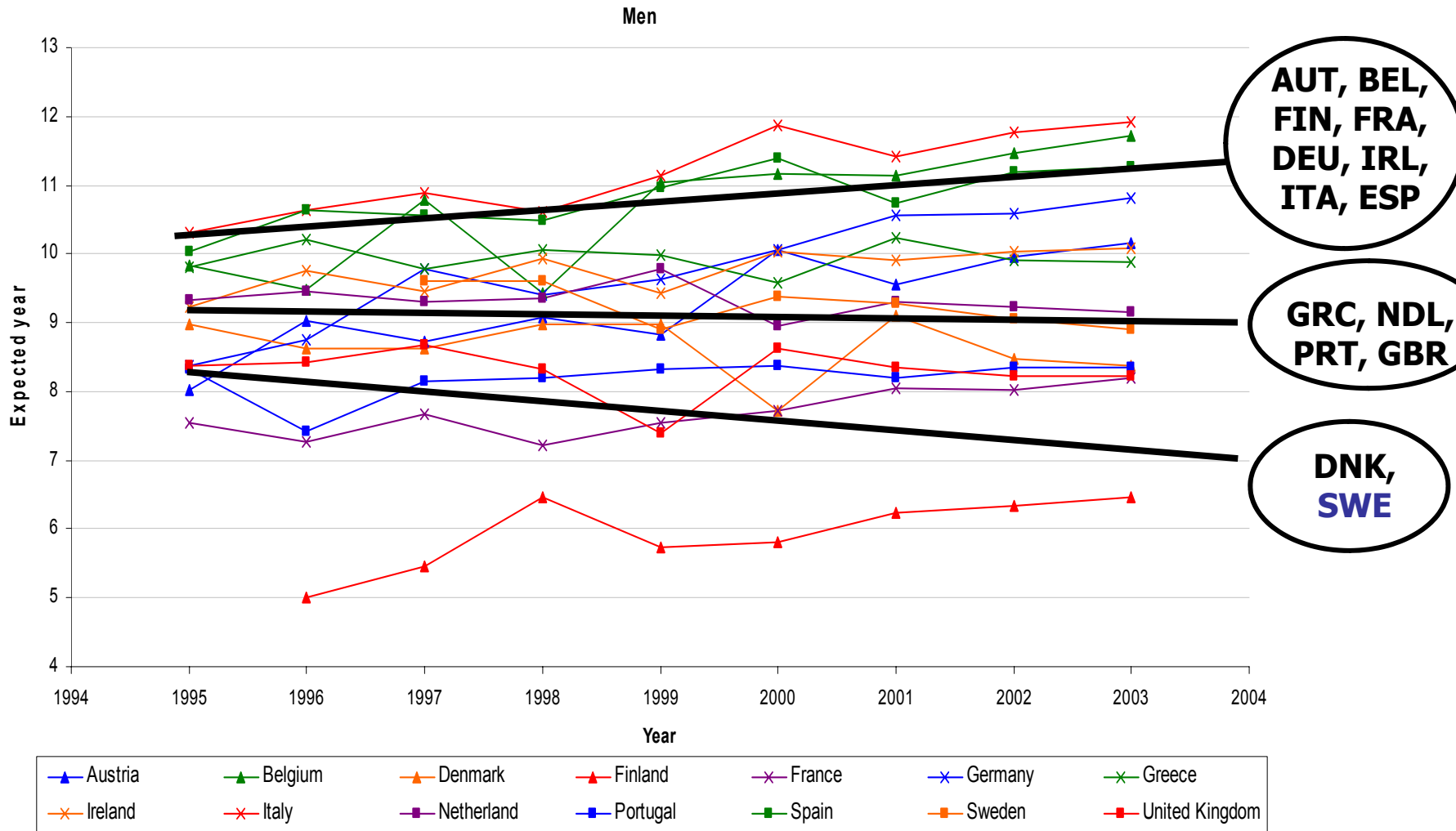
# Distribution of life and disability free life expectancy EU (14), 2003



# Trends in expected life free of disability at age 65, 1995-2003



# Trends in expected life free of disability at age 65, 1995-2003



# Trends in DFLE using the ECHP

## Some conclusions

### 1) Life expectancy:

- Small variation in life Expectancy between these 14 members states
- increase between 1995 and 2003

### 2) Disability Free Life Expectancy

- Large variation between these 14 members states
- Diverging trends between 1995 and 2003:  
reduction / stagnation / increase in the expected life with reported disability while LE increases

### 3) Gender differences in DFLE trends in some countries

### 4) Gender differences in DFLE are smaller than gender differences in LE

# Trends in DFLE using the ECHP

## Issues and inference

### **Important differences in reported disability in the 14 european populations:**

- different levels of reported disability (larger dispersion than LE)
- variation in the magnitude of the gender difference
- different trends over time

### **A more elaborate analysis would include :**

- a cross between national data and European values to improve harmonisation of the instruments
- the use of different levels of severity (SILC)

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