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# Issues for Women in Physics: Fact or Fiction

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## Plan

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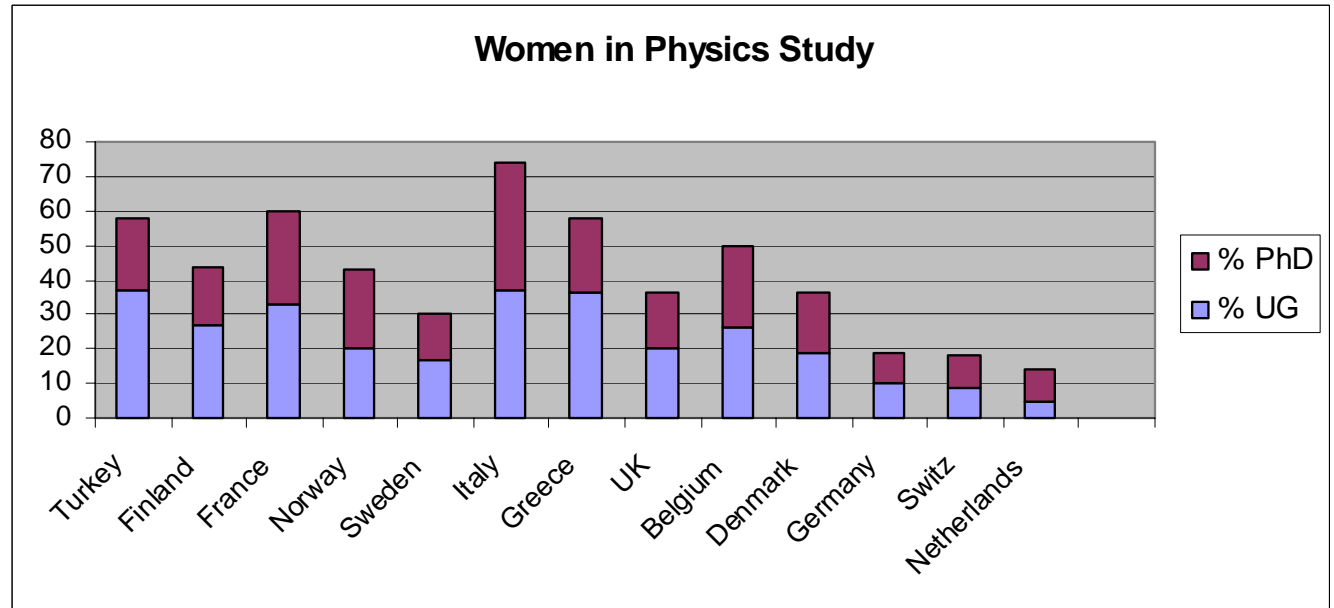
- **The Current Position**
  - Physics specific information
  - Women in science data
  - Relevant general information
- **Retention in context of career breaks**
  - Some physics data from the UK
  - Some general data for Europe
    - role of childcare provision
- **Concluding Remarks: What do we really know about women in physics in Europe?**

## Some basic facts

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*No country has gender balance in physics*

*Attrition apparent already in many cases*



*Source IUPAP 2002*

## Women in UK academic physics

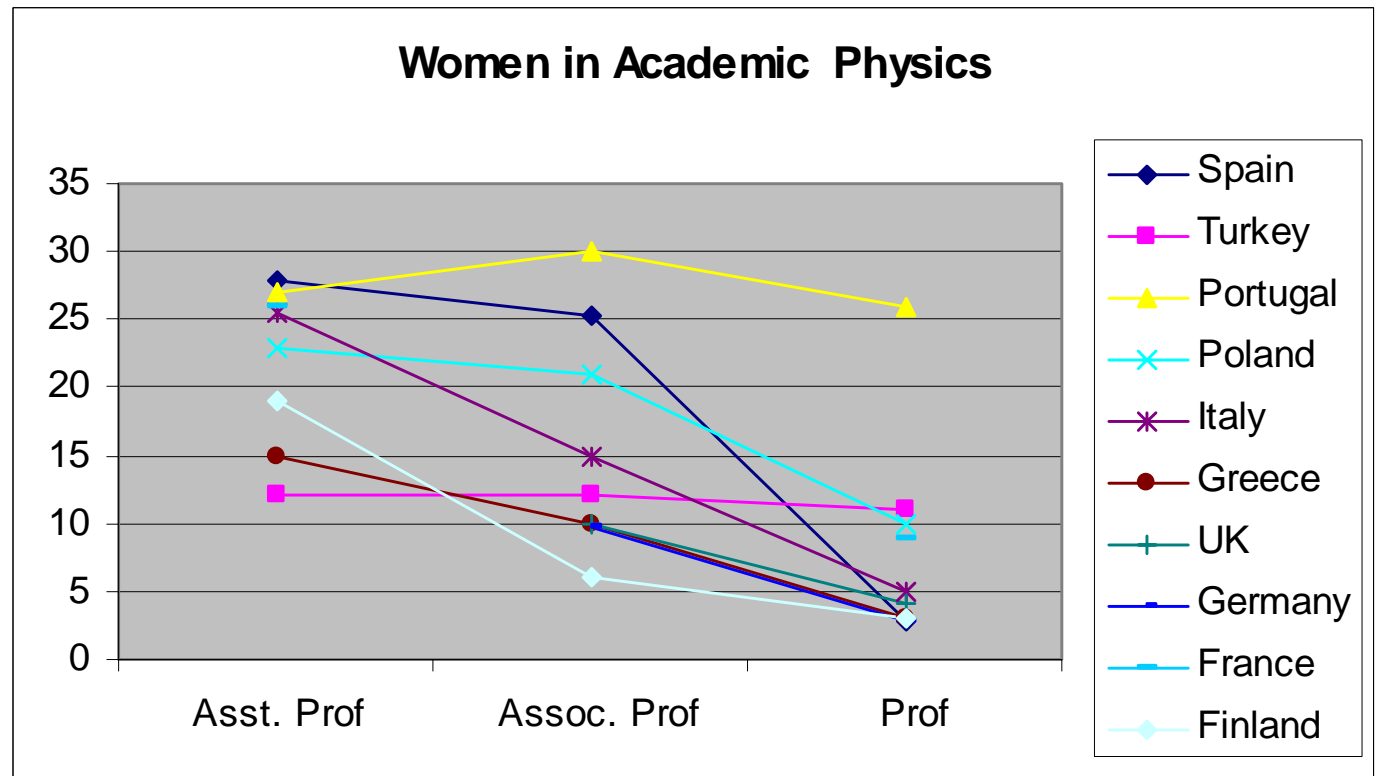
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- **UK Physics Departments over 10 years**
  - Researchers to lecturers:
    - 30% male
    - 16% female (and falling)
  - Lecturers to senior lecturers/readers:
    - 100% male
    - 60% female
- **Real retention issue in UK**

*Source HESA*

## University Positions

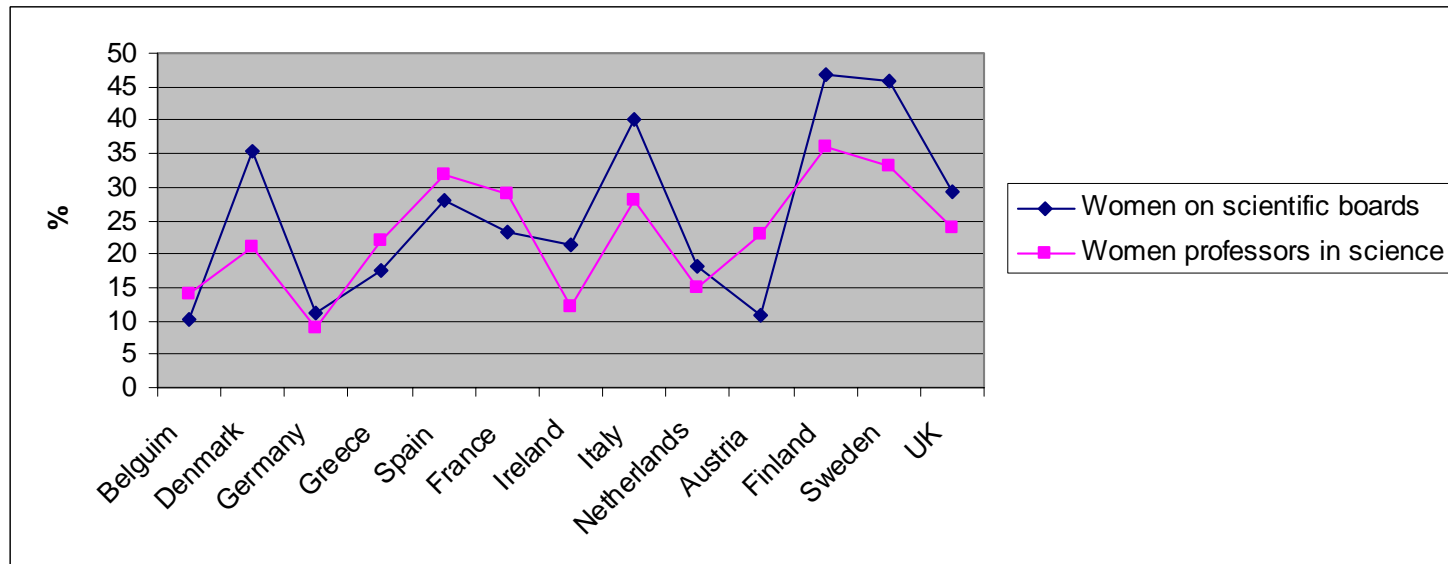
*Attrition is a common feature with few exceptions*



*Source IUPAP 2002*

## Scientific Boards in Academies and Universities

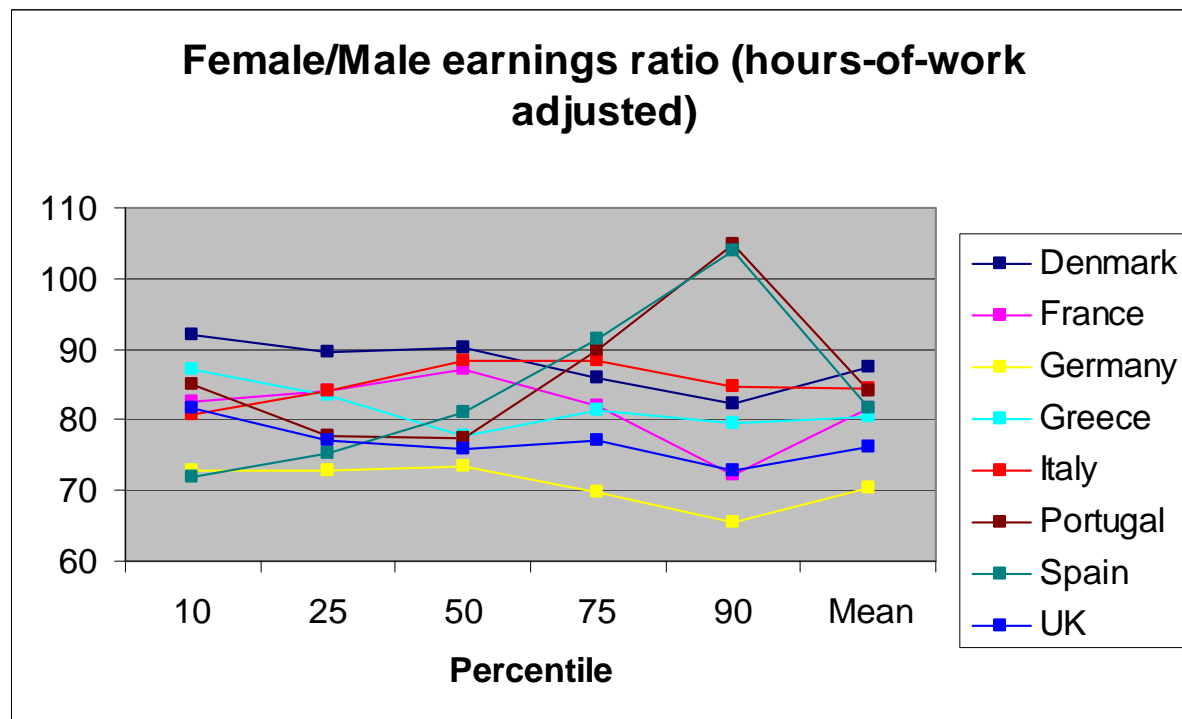
*General correlation, but academia is probably best case scenario, and “science” data hides field specific sins...*



*Source EU Commission DG  
Research 2001*

## Earnings

*In general, women are paid less - especially at higher levels*



*Source World Bank gender report 1999  
Data from 129000 adults within Europe*

## Summary: Status of women in Europe

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- **Attrition of women in all career stages is a common feature of physics in Europe**
- **Legislation and targets of funding bodies have increased participation of women in scientific boards at Universities**
  - no data available in other sectors of community
- **Well qualified women are in general underpaid compared to men**
  - Excepting Spain and Portugal

## Career Breaks: 2003 Survey

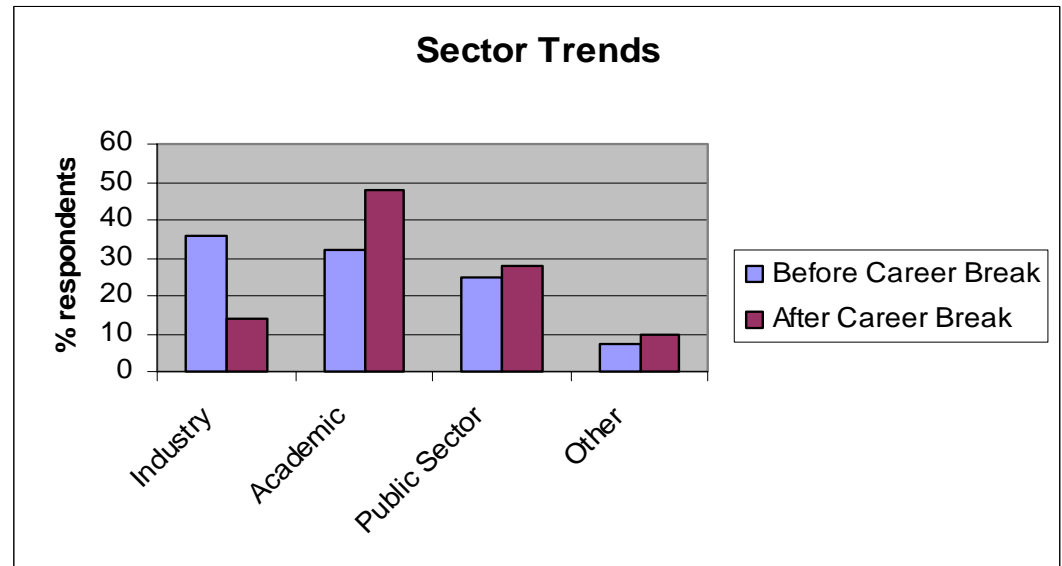
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- **Probing information regarding:**
  - proportions
  - management
  - returning to work
- **About 20% of women members will take a career break**
  - childbirth and rearing main reason (85%)
- **Few women made many, if any, plans**
  - <30% thought about how to keep up with their field
- **Only 40% returned to their prior employer**

## Returning to Work

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- **Attrition from industrial sector associated to career breaks**
  - From which academia gains
- **Net loss of academic women only explained by majority leaving field entirely**



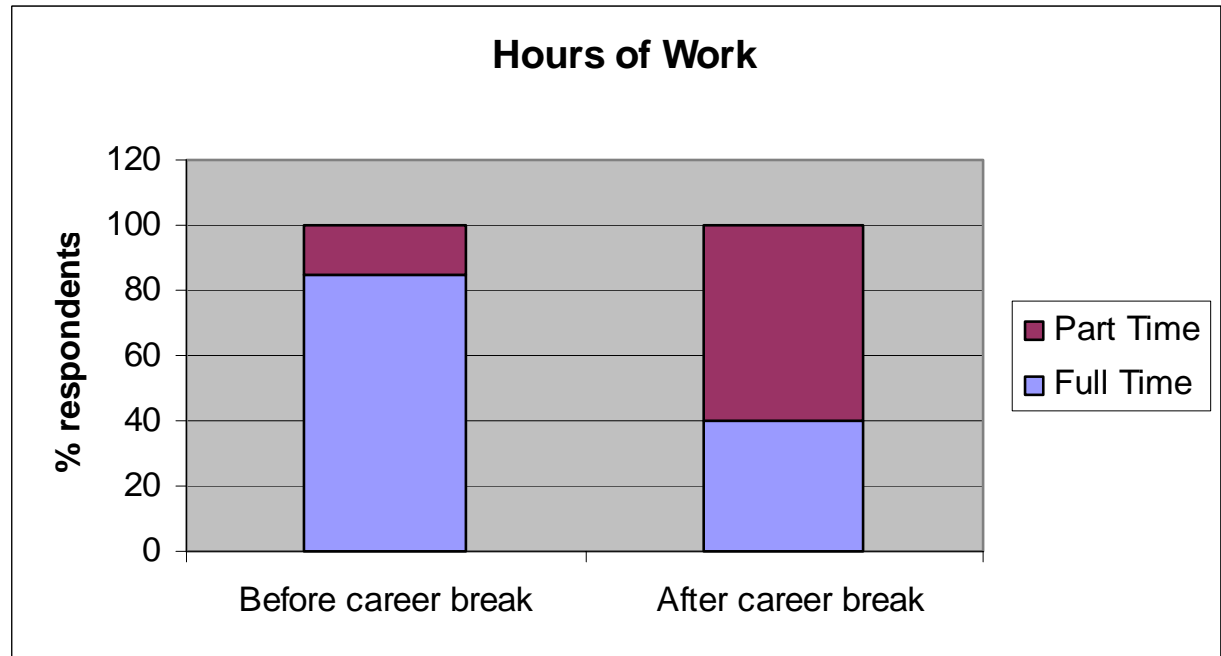
## Part-time Working

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*5% respondents left SET*

*•lack of part time work cited*

*Next best option is flexible schedule of academics*

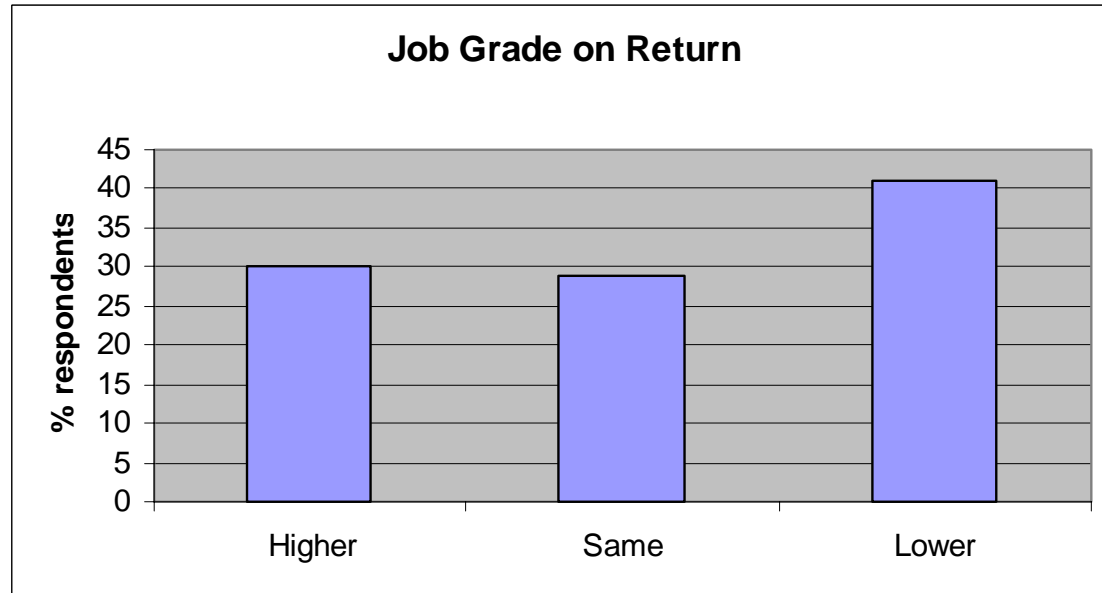


*Source IoP 2003*

## Job Grade and Career Breaks

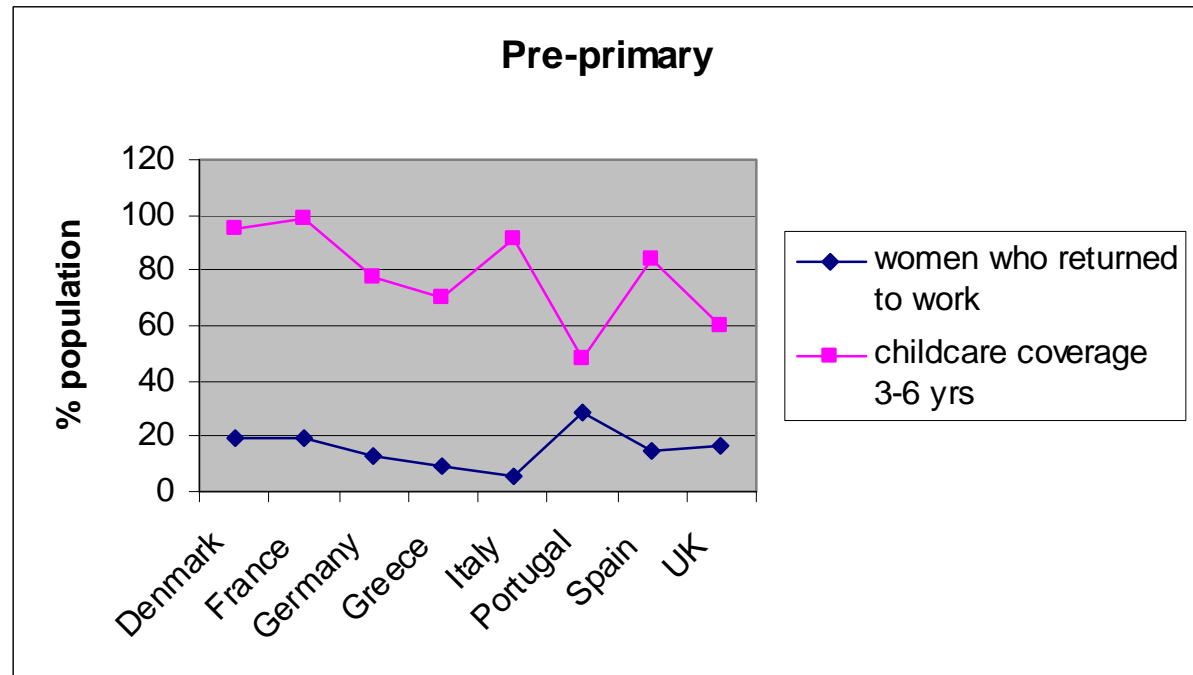
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- **Effects on progression of women**
- **No statistical significance to apparent trend**
  - women equally likely to be promoted on return as demoted or at the same grade



## Childcare

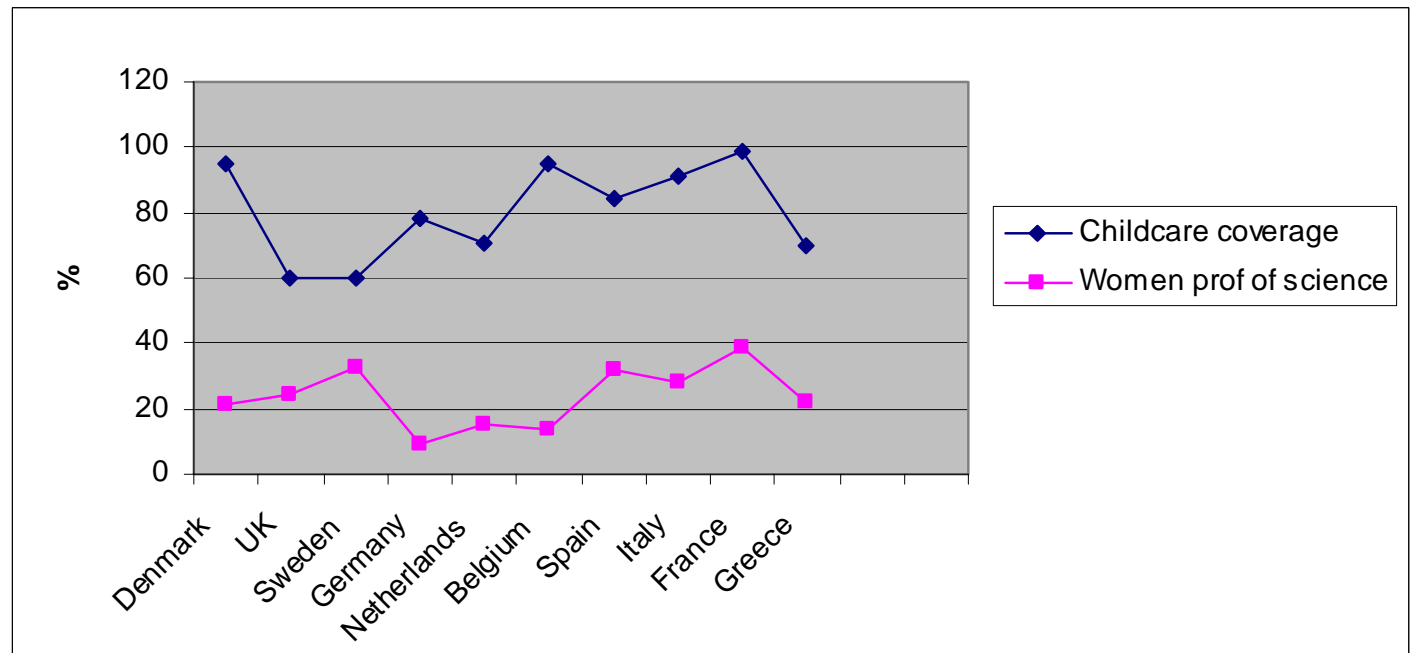
*No correlation's found between childcare and women returning to work*



*Source World Bank gender report 1999  
Data sample of 129000 adults in Europe*

## Science and Childcare

*Childcare is important, but career decision are not made based on its provision*



*Source World Bank report & EU Commission*

## Summary: Career Breaks

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- **Women leaving physics research are not moving into other sectors**
- **No correlation can be demonstrated between childcare provision and retention of women in science**
- **No evidence that career breaks damage career prospects in physics**
  - women are not lacking progression to senior levels because of taking time out of the field
- **There are indications that availability of part-time working in physics is an issue**
  - retention in the field

## Some Conclusions

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- **Demonstrable factors in respect of retention of women are:**
  - lower pay
  - culture
    - legislation requirement to put women on decision making bodies is telling
  - availability of part time work
  - retraining opportunities
    - individuals can help themselves too here
- **Attrition of women in physics cannot be explained in terms of childcare provision**
  - change must come from within