

***Chap 4 :Family taxation and fertility  
: the French  
experience***

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Master AMSE 2012-2013

# Rationale for Government Intervention

- In western societies, the families are free to have or not have children
- Why should the state subsidy families with children ?
  - Populationist argument
  - Economic argument
  - Distributional argument

# Populationist argument

- Paternalistic argument: population externality
- The laissez-faire fertility may be below the replacement rate without migration (2.1 children per female)
  - Depending on the view about the optimal population size
  - In the past, depending on the view about the future threat from abroad when military strength was correlated with numbers

# Economic argument

- Children represent a fiscal externality
- They will pay taxes in future
  - Repay the public debt
  - Pay as you go pension system

# Distributional argument (1)

- Poverty
  - Children in childhood represent a need for their parents
  - Problematic for poor families
  - Poor parents should afford to bring up children
- Inequality
  - To some extent, children should face the same growing-up conditions whatever the living standard of their parents
  - Leveling up the playing field of children

# Distributional argument (2)

- The previous arguments speak in favour of public family-subsidies
- What about taxes ?
- In sharing the tax burden, the question of how families of different size should be treated
- Horizontal equity argument

# The French experience

- Since WWII, France has been experiencing a stable and strong public support in favour of families with children ?
- Since 1975, France has a quite relatively strong fertility rate with respect to other European countries
- Is there a link, a causality link ?

# Women participation to job market

- In western societies, these days, the social norm favours woman participation to the labor market .
- Traditionally, child care is more wife responsibility than husband responsibility
- To some extent, female job and childcare compete for a scare resource: female time
- « Failure » of the market of providing solutions to make women job and child care compatible
- A role of public policy for correcting this market failure



# Outline

- Quick review of the French family policy
- Some empirical evidence about its impact on differential fertility
- The channels of impact of family policies on fertility

# Review of the French support program toward families

- Family allowances (fully neutral wrt income)
- Housing benefits
- School attendance benefit
- Means-test benefit
- Crèche, maternity leave (3 months), parental leave, subsidizing daycare (50%)
- Family special treatment in the income tax code 2

## French specificity (with Luxembourg and the canton of Vaud (Switzerland))

The « *familial ratio* » *Quotient familial* in fr.

- You divide the total income of the family by some “normative” equivalence scale.
- You obtain an equivalized income (to the single person in terms of standard of living)
- You apply the income tax schedule on the equivalent income
- Tax liability = equivalence scale x the tax computed on the equivalized income

# The pros of the « quotient familial »

- ***Declaration of the Rights of Man and of the Citizen (1789) article 13***
- *“The tax burden should be equally shared among citizen according to their financial capacity”*
- Equity in sharing a collective burden : paying taxes
- Different equity concept from those about helping poor to afford children
- Horizontal equity principle inspired by the theory of « equal sacrifice principle » (J.Stuart Mill)
- Two families with the same equivalized income should pay the same equivalized tax
- And that’s what exactly does the quotient familial !

# Discussion of the horizontal equity argument

## 1) Endogeneity of fertility choices

Responsibility argument might apply if fertility a control/preference variable

## 2) Private provision of a public good

- In devoting time and resources to the growing-up of children, the families contribute to the private provision of a public good : the education of the next generation.
- Of course, most parents are happy to do so, it brings them warm glow. But the state should not « exploit » this warm glow.
- To some extent, children expenditures should be deductible in the sameway gifts to charities are.
- However the richer the parents are, the more they give. The argument points out towards a fixed deduction

# Discussion of the horizontal equity for the quotient « conjugal »

- Quotient conjugal: joint taxation of the couple
- The fact that two adults live in the same housing is a private decision.
- Why should the state interfere in this private domain in subsidizing « mergers » of isolated people ?
- Because in living under the same roof, individuals save resources, because of the public character of some household goods.
- Resource argument.

# The cons of the « quotient conjugal »

- Suppose that one of the two spouses stops working for some reason.
- Because of the convexity of the tax schedule, his marginal tax rate of the first € is higher than that of his/her spouse still keeping to work.
- If the two partners have symmetric role within the family and there is no statistical discrimination against women, then the probability that the husband or the wife will stop working will be  $\frac{1}{2}$

# QF : disincentive for women in couples to work

- Because men and women are not equally treated by the job market
- Because their role in childcare is not the same
- Because of the progressivity of the income tax



# Conflict between 3 principles of justice

- Progressivity
- Equal sacrifice in sharing the burden of the tax between single persons and families
- Equal incentive to participate to the job market between men and women

# Mathematics of Quotient Conjugal

- The quotient conjugal is a system where
- $x$  the income of the husband
- $y$  the income of the wife
- $F$  : *the tax schedule for the single*

- $$T(x + y) = (2 - \lambda)F\left(\frac{x+y}{2-\lambda}\right)$$

- With  $2 > \lambda \geq 0$  a scale factor

# Mating provides a tax relief

- Proposition : The quotient conjugal provides a tax relief

$$T(x + y) < T(x) + T(y) \text{ for } x \text{ different from } y$$

We have to prove

$$(2 - \lambda)F\left(\frac{x + y}{2 - \lambda}\right) < F(x) + F(y)$$

or

$$F\left(\frac{x+y}{2-\lambda}\right) < \frac{F(x)+F(y)}{2-\lambda}$$

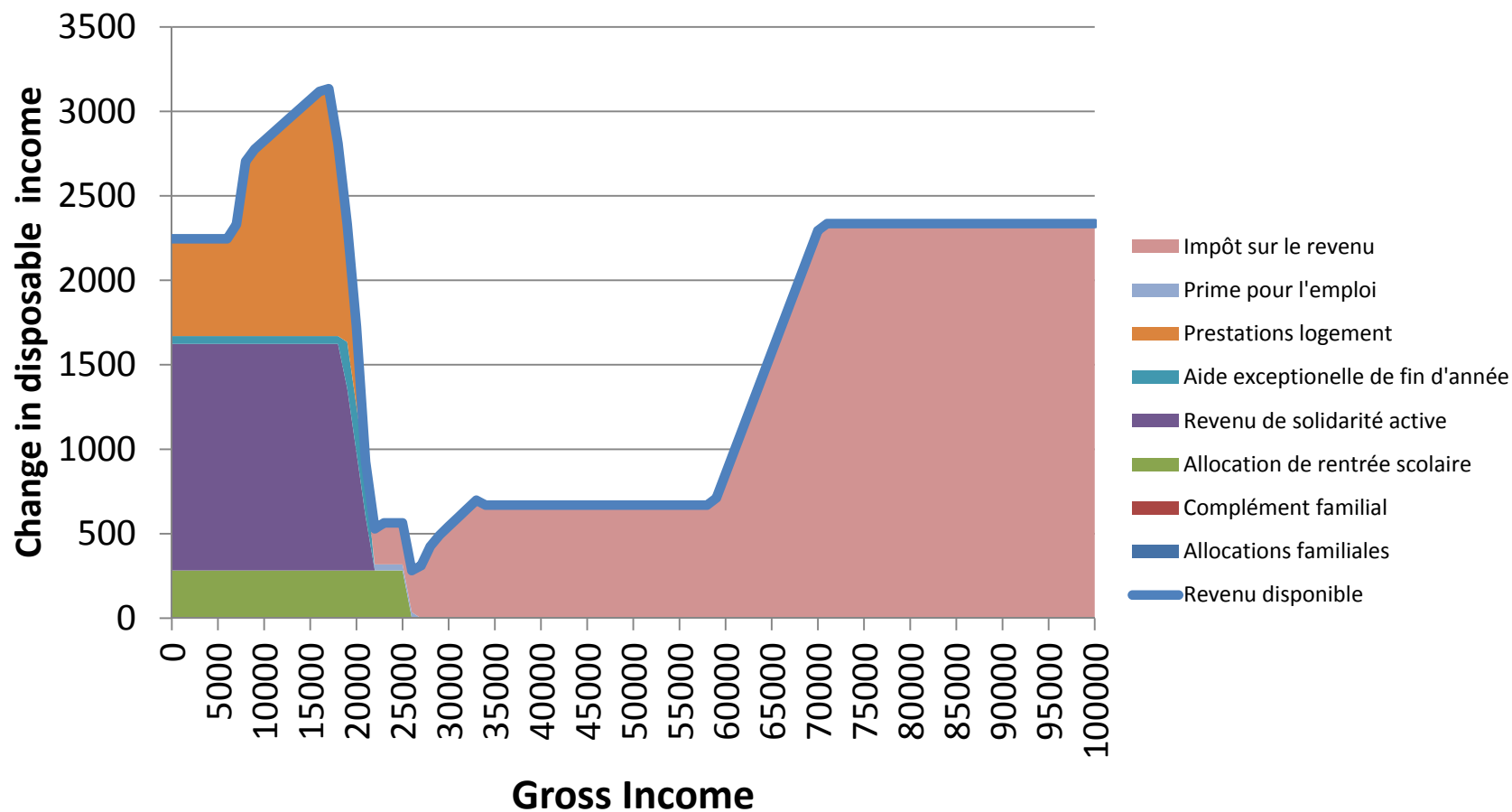
# Proof (Hint)

- By Jensen inequality, we know that:

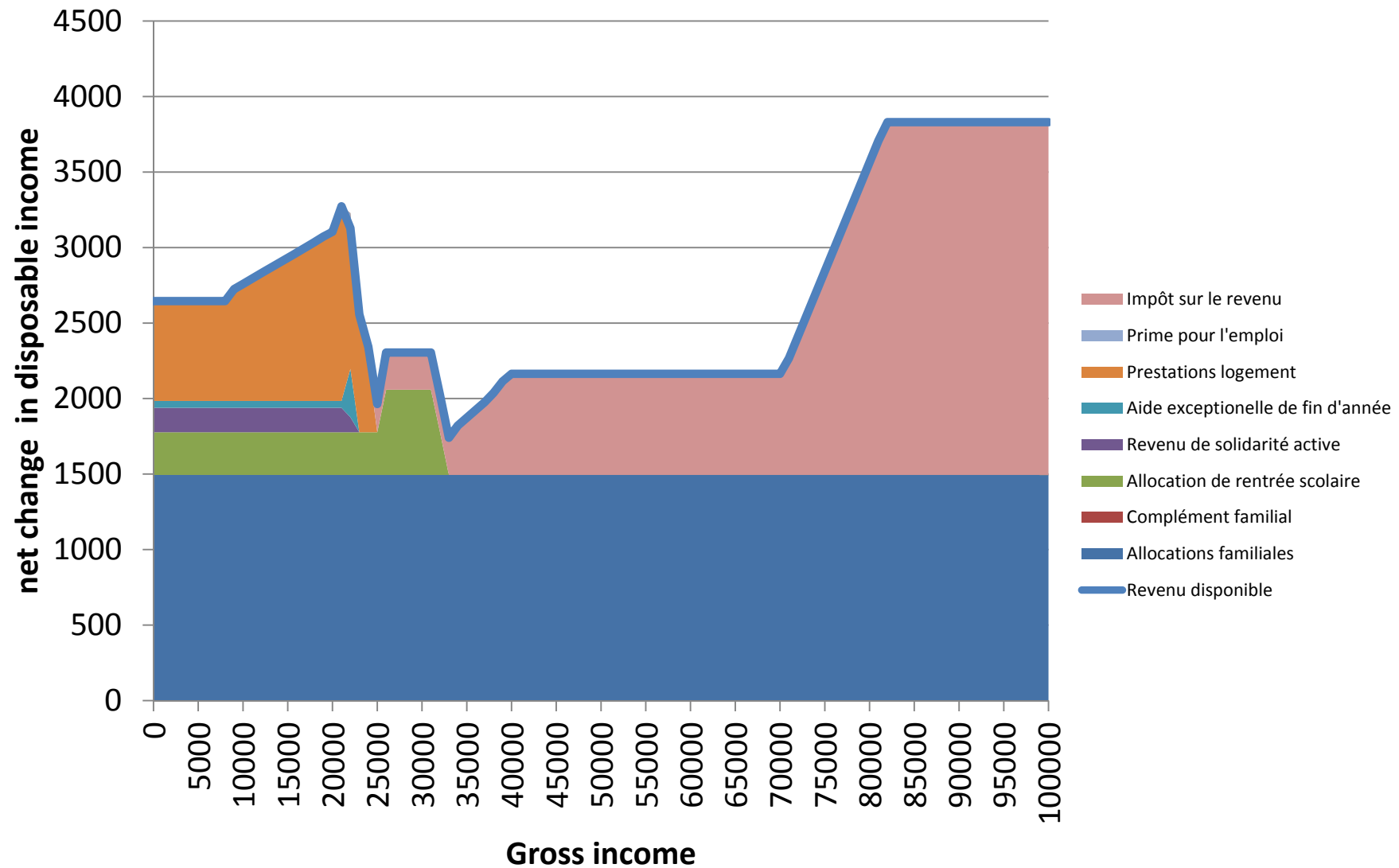
$$F\left(\frac{x+y}{2}\right) < \frac{F(x) + F(y)}{2} \text{ with } x \neq y$$

# Net advantage of having one-child for a single adult

(source openfisca 2007)



# Net advantage of having a second child for a single adult with 1 child (source openfisca 2007)





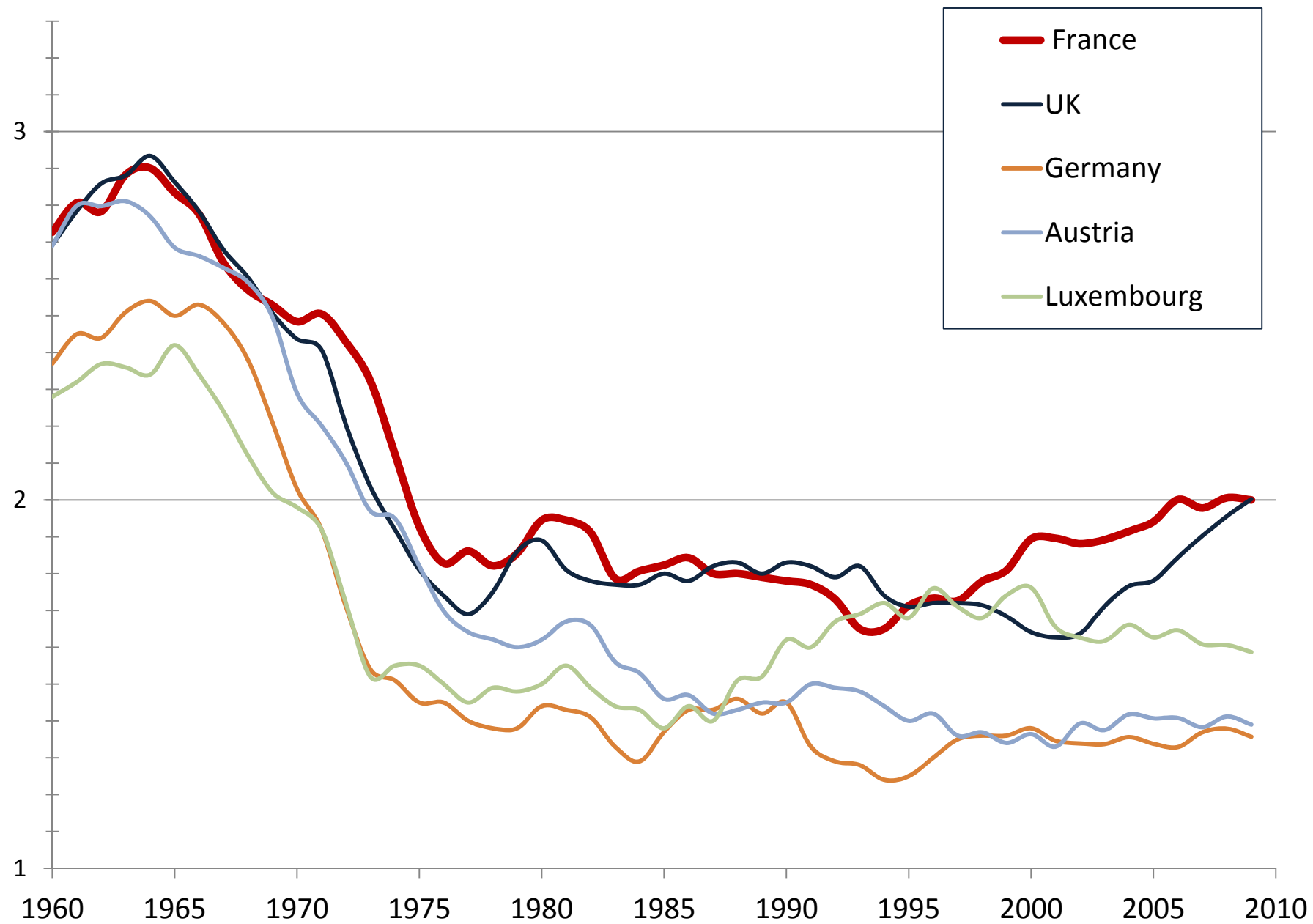
# Total cost of the French family policy

- About 100 Billions of € of which more than 20 Billions of € for quotient familial
- 5% of the GDP ( High Council of the Family)
- OECD 2005
- France 3.8%, Luxembourg 3.6%, UK 3.6%;  
Germany 3%, Austria 2.9%
- US 1.3% Italy 1.3%



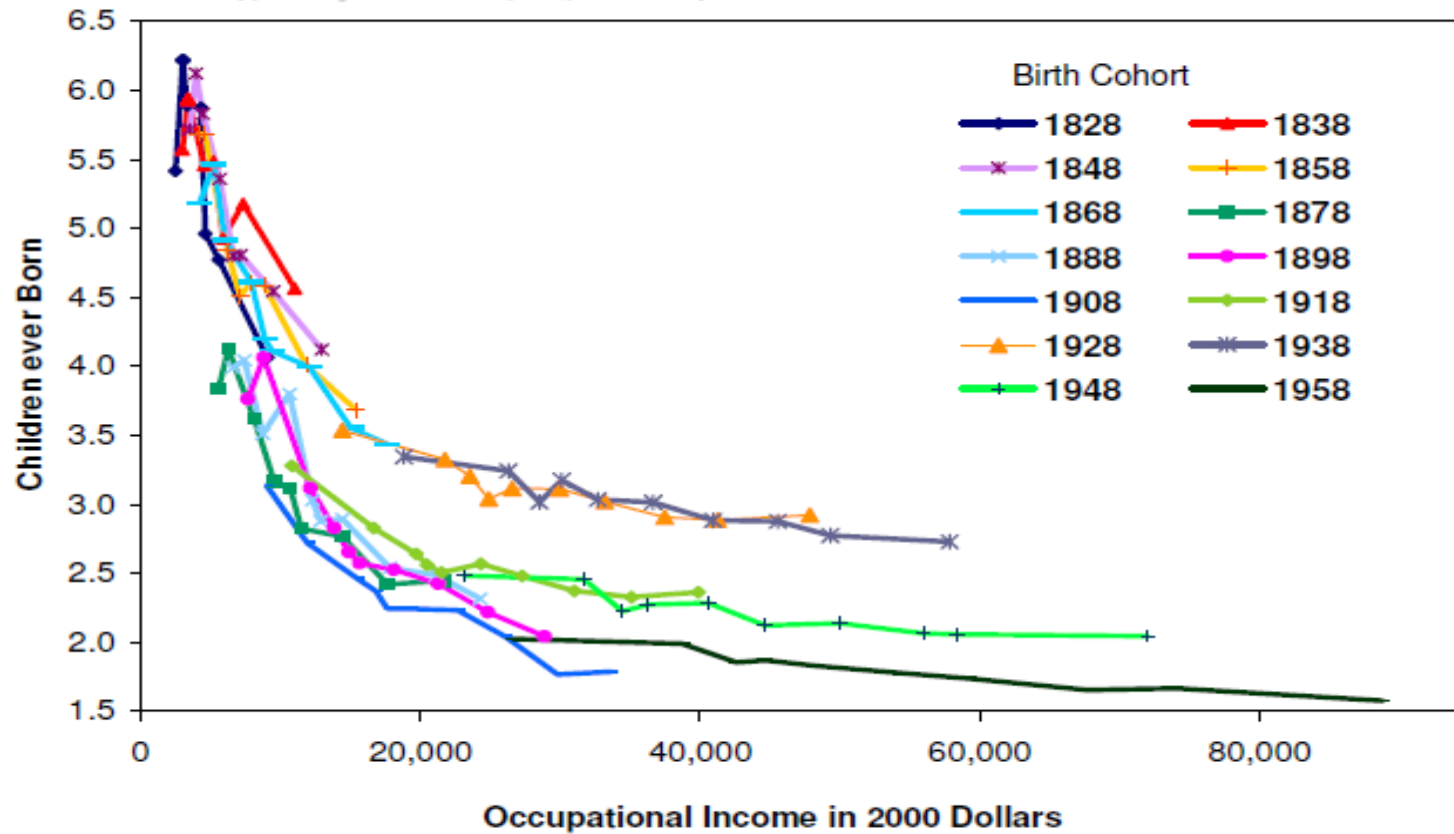
# Empirical evidence about fertility

- 1 Comparison of the evolution of fertility between countries
- 2 The net transfer is not neutral. It advantages families in the bottom and top part of the distribution
- A U-shape curve of fertility in France ?



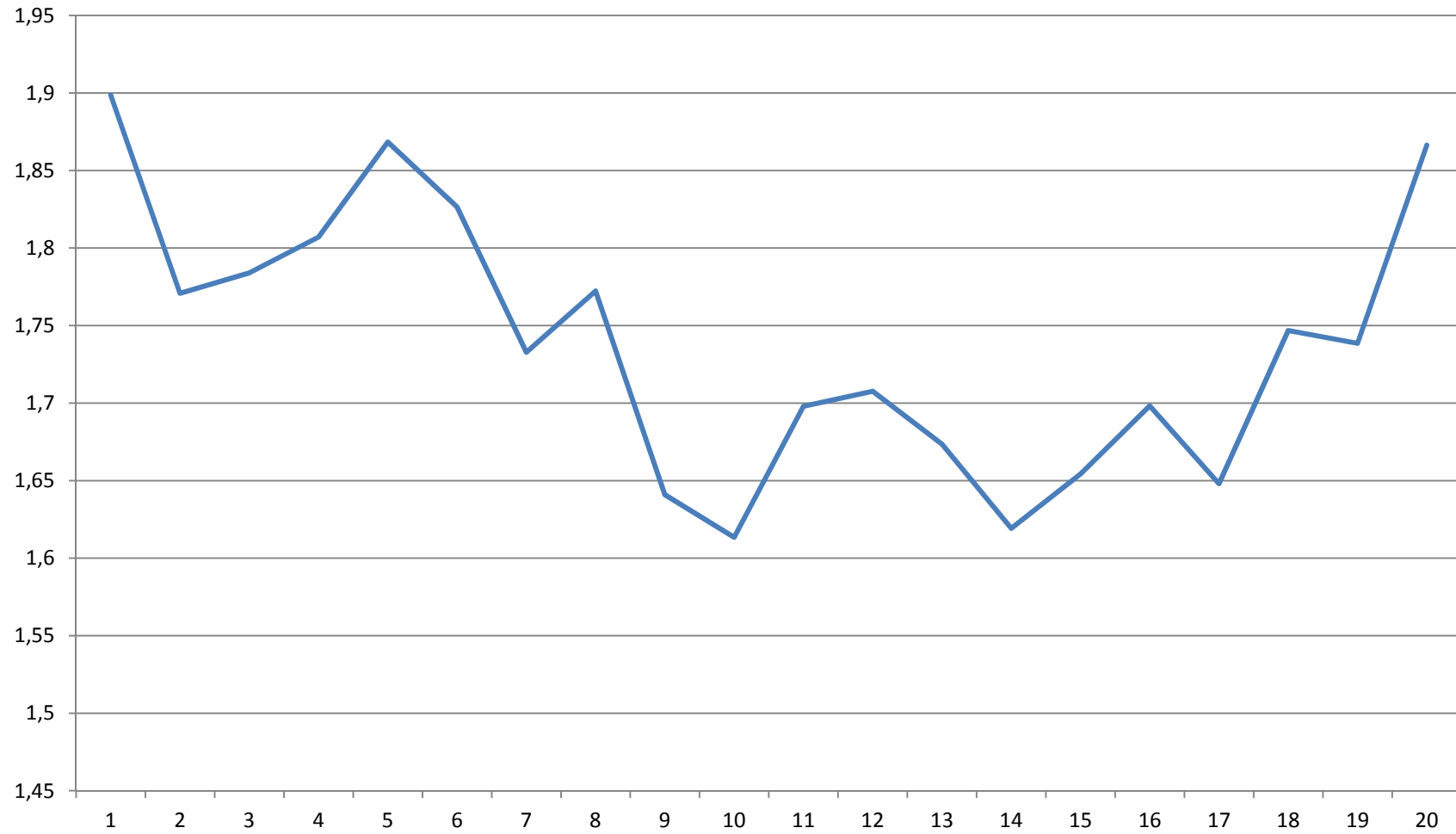
In the US a robust negative cross-sectional relationship between lifetime fertility pattern and husband income for more a century

Figure 1: Fertility by Occupational Income in 2000 Dollars

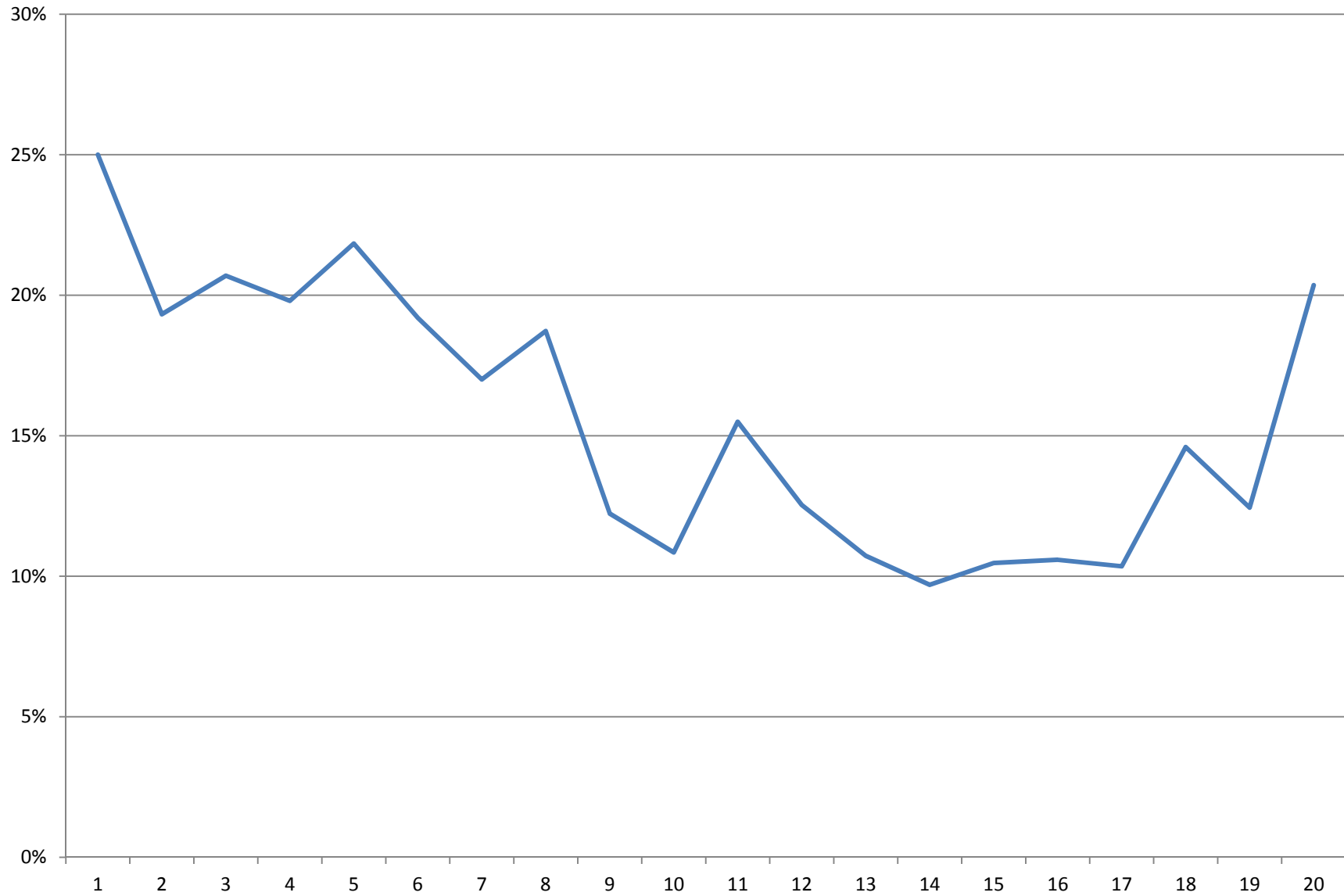


Source: Jones and Tertilt (2008)

## Average number of children per family/gross income vingtile (source openfisca 2007)

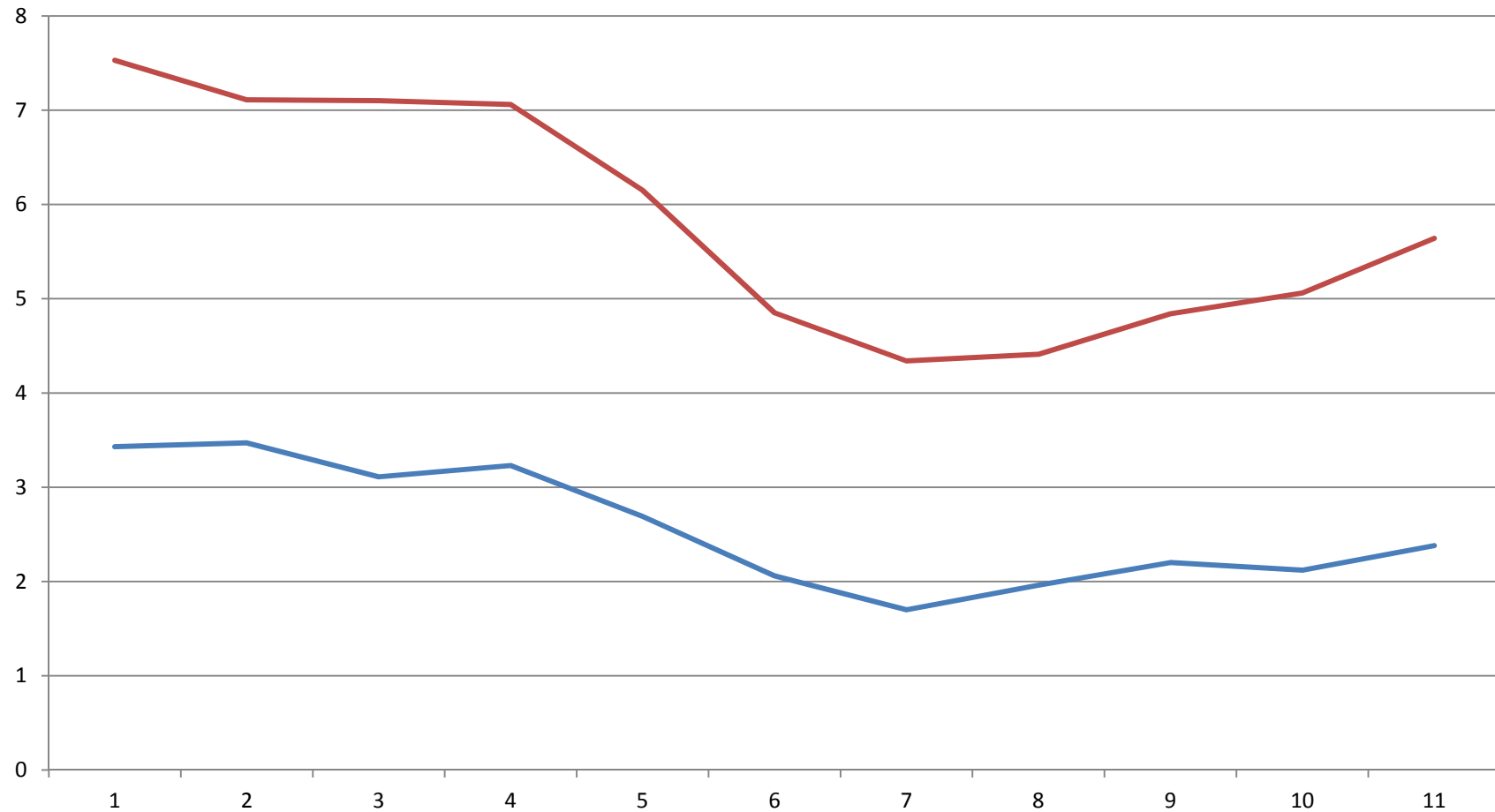


## Proportion of 3-Kid families among families with at least 1 kid/gross income vingtile (Source Openfisca 2007)



# Average lifetime number of children per social classes ranked wrt earnings in France

(Blue: Women married in 1927) (Red Women married in 1944))

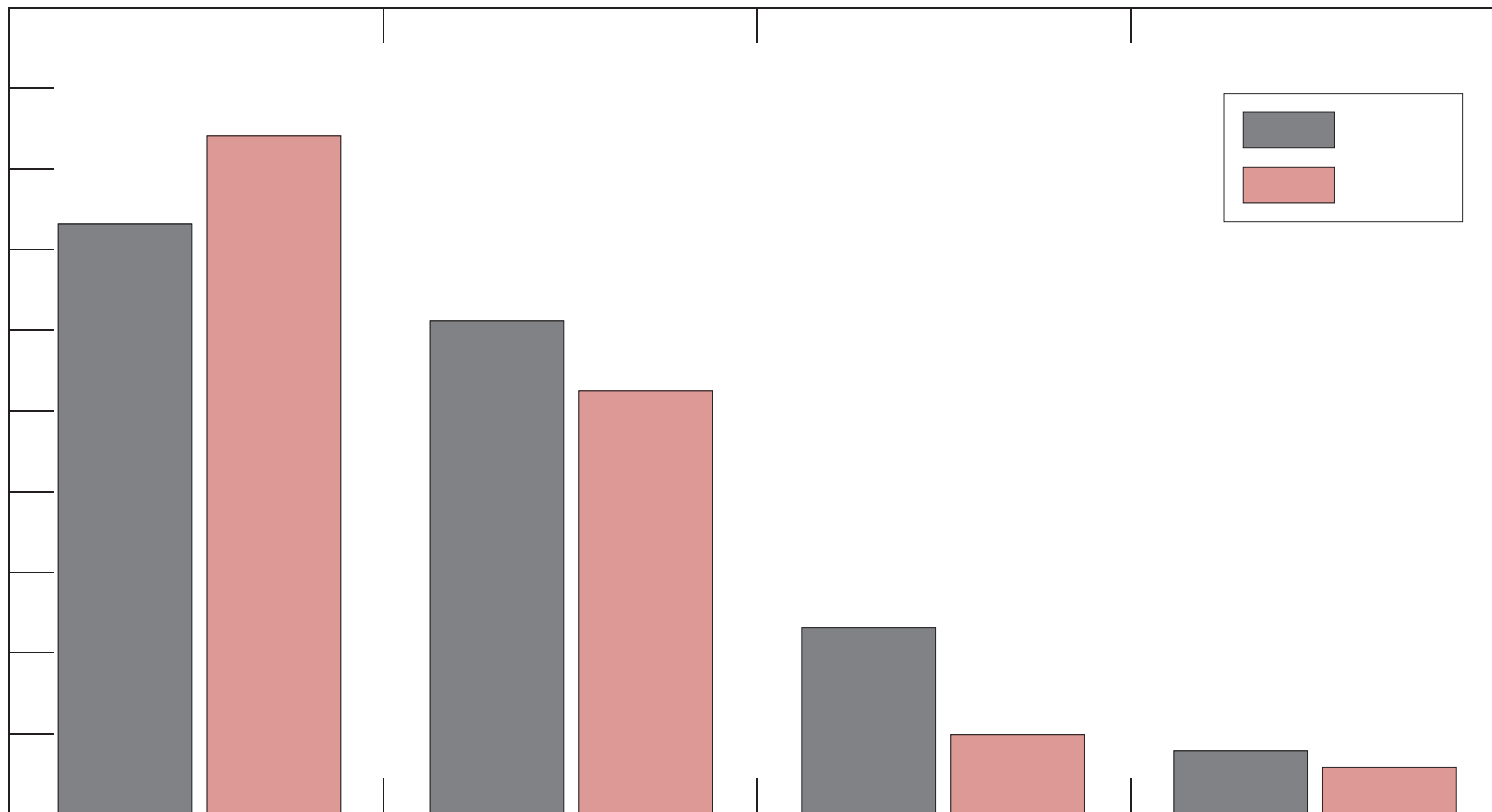


# The channels of impact of family policies on fertility

- Child is similar to an investment
- In the theory of investment, there is a desired stock of capital and then a realization that depends on financial conditions
- Desired number of children
- Realized number of children

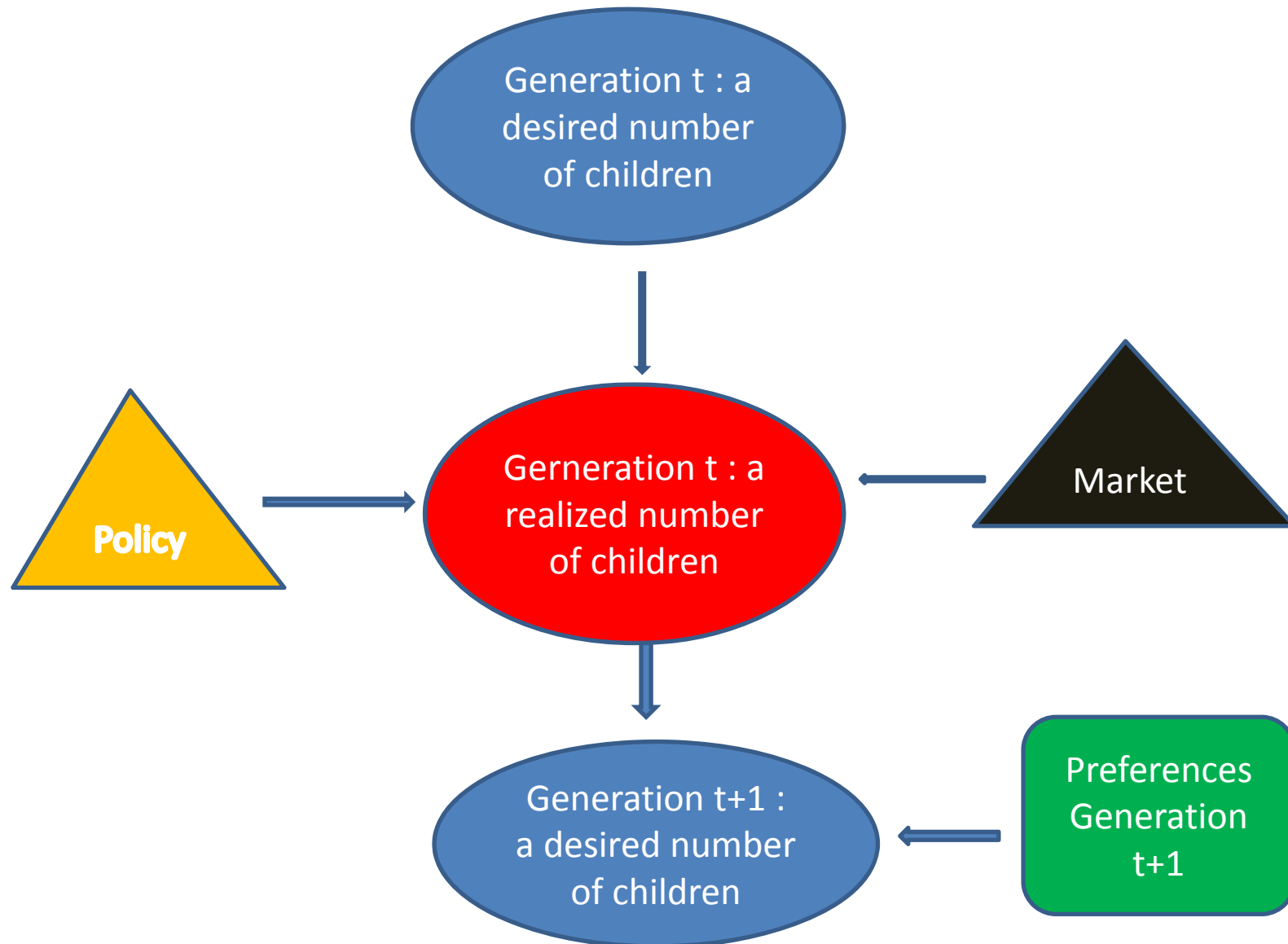
# Desired number of children

France (Black) 2.4 Italy (Red) 2.1





# The different channels



# Policy Advice

- If a country is stuck in a bad fertility equilibrium as maybe Austria
- It should maintain a very generous policy for a long time (At least a generation)
- Overshooting in the short run, and then after a while if the policy is successful it can come back to a less generous policy