

# More children and more women at work in Spain

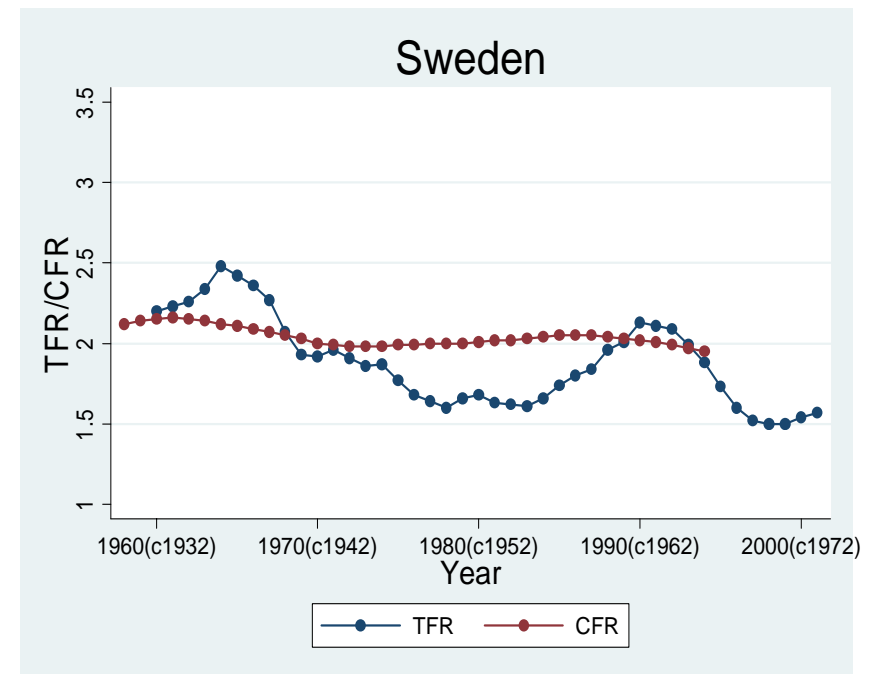
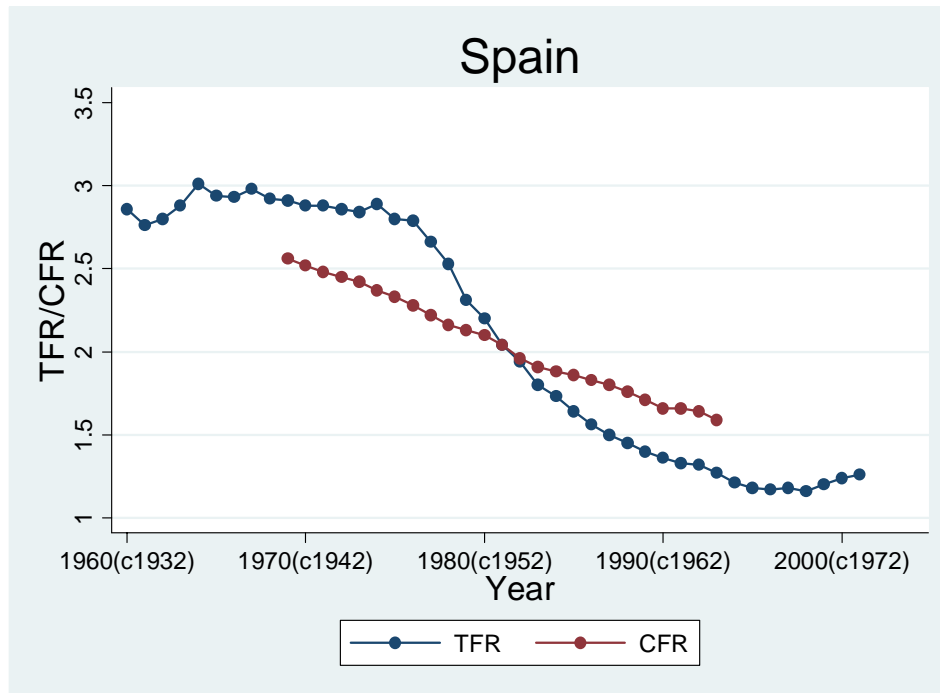
by  
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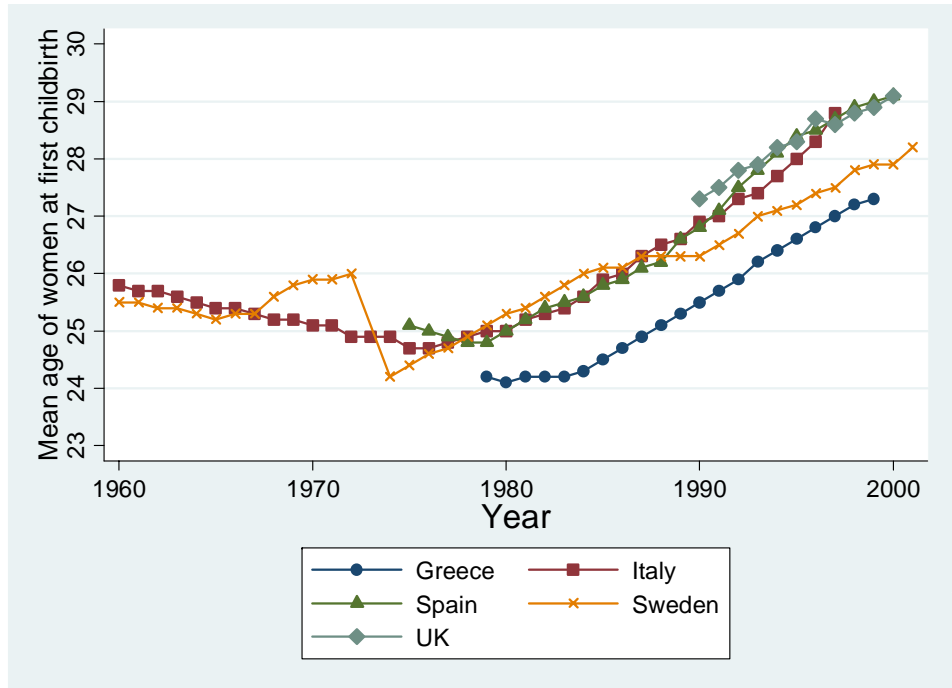
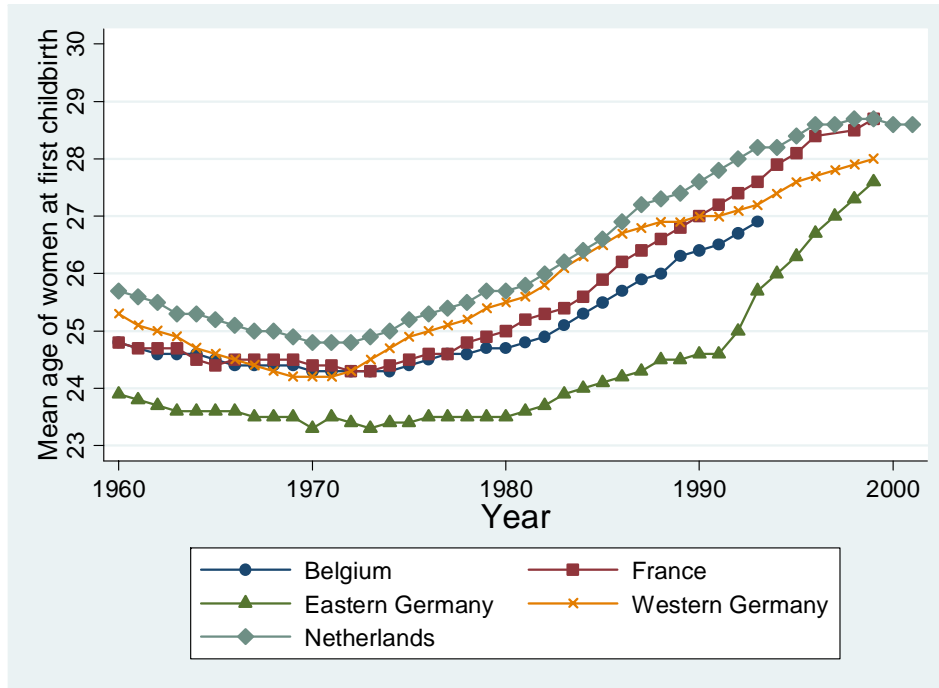
1. Total Fertility Rate, Completed Fertility Rate and Age at Maternity
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# Total Fertility Rates (TFR) and Completed Fertility Rates (CFR)



Source: Council of Europe, Recent Demographic Developments in Europe, 2002, Gustafsson and Kenjoh (2007), Council of Europe.

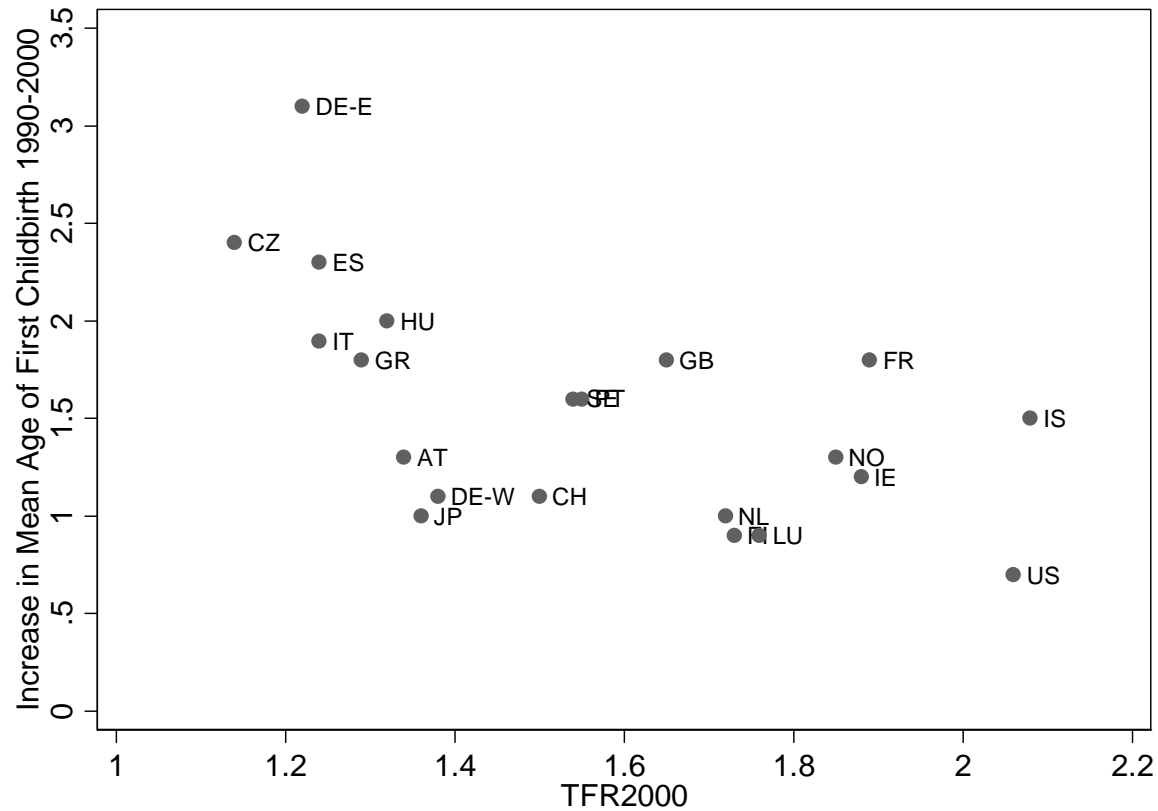
# Age at maternity



Source: Council of Europe, Recent Demographic Developments in Europe, 2002.

# Increase in Age at Maternity

## 1990-2000 and TFR 2000



Gustafsson and Kenjoh (2007), Council of Europe, Japan's Ministry, US Census

# Leaving the Parental Home, Cohorts Born Around 1960

	Spain			Sweden	
	M	F		M	F
Median Age at Leaving	25.7	22.9		20.2	18.6
Percent Leaving Before end of Education	13	16		55	72
Before First Union (marriage or cohabitation)	25	15		71	63
At first union	61	76		23	31
At first marriage	58	73		1	3

Source: Billari, F.C., Philipov, D. and Baizán, P. (2001)

# Constrained Utility Maximization Model, Leaving the Parental Home

Parents' Utility  $W^p(U^p, U^c)$

Subject to:  $Y^p = X_p + ph_p - T_i$

$$Y^c + T_i = X_c + \delta_i ph_c$$

$$T_i \geq 0$$

$Y^p, Y^c$  = Income of parent (p) and child (c)

$h_p, h_c$  = Housing consumption

$X_p, X_c$  = Other consumption

$T_i$  = Transfer from parent to child

$p$  = Housing prices

$i$  = r, a      r=coresident, a= alone living

Weight given to  $U^c / U^p$  depends on parents' degree of altruism  $0 < \gamma < 1$

# Results Constrained Utility Maximization Model, Leaving the Parental Home. Cobb-Douglas Utility Function.

Rich parents: 
$$\frac{Y_c}{Y_p + Y_c} < \alpha\gamma \quad T_r > 0 \quad T_a > 0$$

Medium income parents: 
$$\alpha\gamma \leq \frac{Y_c}{Y_p + Y_c} < \gamma \quad T_r = 0 \quad T_a > 0$$

Poor parents: 
$$\frac{Y_c}{Y_p + Y_c} \geq \gamma \quad T_r = 0 \quad T_a = 0$$

$0 < \gamma < 1$  = degree of altruism  $\alpha$  = child's preference for  $X_c$

# Estimated 'Living on one's own' equation for Spanish men aged 18-35 in 1990.

	<i>Coeff.</i>	<i>t-ratio</i>
Intercept	-4.1	-4.4
working (P)	0.46	2.6
studying (P)	-1.59	-3.0
Age	-0.49	-0.6
Age <sup>2</sup>	1.20	2.7
non labor income	0.14	3.8
<i>Education</i>		
Primary	0.0	0.0
Secondary	2.11	3.2
Higher	2.6	3.0
Ref. less than primary		
<i>Urban</i>		
city	0.64	3.3
village	-0.43	-3.6
Ref. 2000<inhb.,<100.000		
<i>Housing costs variables</i>		
Owning costs <sup>a)</sup>	-0.38	-2.1
Age*owning costs	0.36	1.1
Rental values <sup>b)</sup>	-0.1	-0.3
Age*rental values	-1.2	-1.9
Rental accomodation <sup>c)</sup>	2.01	3.0

- a) House price per square meter by comunidad (17)
  - b) Average for owned and rented annual square meter costs by province (50)
  - c) Percentage of all housing rental by province (50)
- (P) = predicted values, endogeneity control

Source: Martínez-Granado and Ruíz-Castillo (2002)

Search on the marriage market for woman j

$$R_j = b_j + \alpha_j \left[ \frac{E_j \max \{R_j, X - R_j\}}{r + \delta} \right]$$

$R_j$  = life-time reservation pay-off for remaining single

$X$  = life-time pay off for marrying X

$b_j$  = utility of being single in one period

$\delta$  = divorce rate

$r$  = discount rate

$\alpha_j$  = marriage proposals per period

$E_j$  = expectations operator

accept X if  $X \geq R_j$

reject X if  $X < R_j$

Source: Ermisch (2003)

# Percentage of never-married women and men in West Germany at age 36

	M	F
<i>Education</i>		
High	16	20
Medium	10	8
Low	19	6

Source: Blossfeld en Timm (2003)

# Marriage market optimal assignment

Assume:

$m_i$  attribute for men

$f_i$  attribute for women

Rank people according to how much of  $m_i$  and  $f_i$  they have so that  $m_1 > m_2 > m_3$  and  $f_1 > f_2 > f_3$   
then

$m_1 f_1$	$m_1 f_2$	$m_1 f_3$
$m_2 f_1$	$m_2 f_2$	$m_2 f_3$
$m_3 f_1$	$m_3 f_2$	$m_3 f_3$

the optimal sorting will be the diagonal perfectly positive assortative mating because for any other sorting at least one man or one woman would prefer to form a couple with a different candidate.

Education is an example of complementary attributes which lead to positive assortative mating

Source: Cigno (1991)

## Education level in the population compulsory or less

		Spain		Sweden	
		M	F	M	F
Cohorts born around	1920	95	98	55	55
	1940	80	90	30	30
	1960	60	60	10	10

## Education of brides compared to grooms

		Percent couples equal		Percent couples bride lower	
		Spain	Sweden	Spain	Sweden
Cohorts born around	1920	93	55	6	29
	1940	83	41	14	31
	1960	67	45	17	32

Education levels Spain: no education, completed primary, secondary, university. Sweden: compulsory, lower vocational, medium, lower tertiary, university.

Source: Gustafsson and Kenjoh (2007 forthcoming) based on compilations from González López and Henz and Jonsson in Blossfeld and Timm (eds) (2003)

# Age at maternity

Education of the woman	Spain <sup>a)</sup> 1998	Sweden <sup>b)</sup> 1990-98
High	32.9	29.8
Medium	29.8	26.1
Low	26.0	25.5

Sources: a) De la Rica and Iza (2006), b) Kenjoh (2004)

# Proportion women childless at age 36, women, born 1955-1969

Education of the woman	Sweden	Netherlands
High	15	26
Medium	18	20
Low	9	12

Source: Gustafsson and Kenjoh (2007 forthcoming)

# Reasons why high educated women have children later

- Being in school longer
- Investing more in job career, steeper age-earnings curve
- Fit birth in to job career rather than work if time left over from child care

See Gustafsson (2001)

# Career planning of Spanish men with university education, probability of marrying

labour market situation t-1	probability of Marrying at t		
	RRR	z	mean
Part-time	0.98	0.28	0.09
No work	0.46	8.32	0.28
Military	0.8	2.77	0.17
Reference: full time work	1		0.46

Other variables included: search duration to first job, cohort, father's education, mother's education, father's work status, region, dummy variables for each age  
RRR = relative risk ratio of duration to marriage

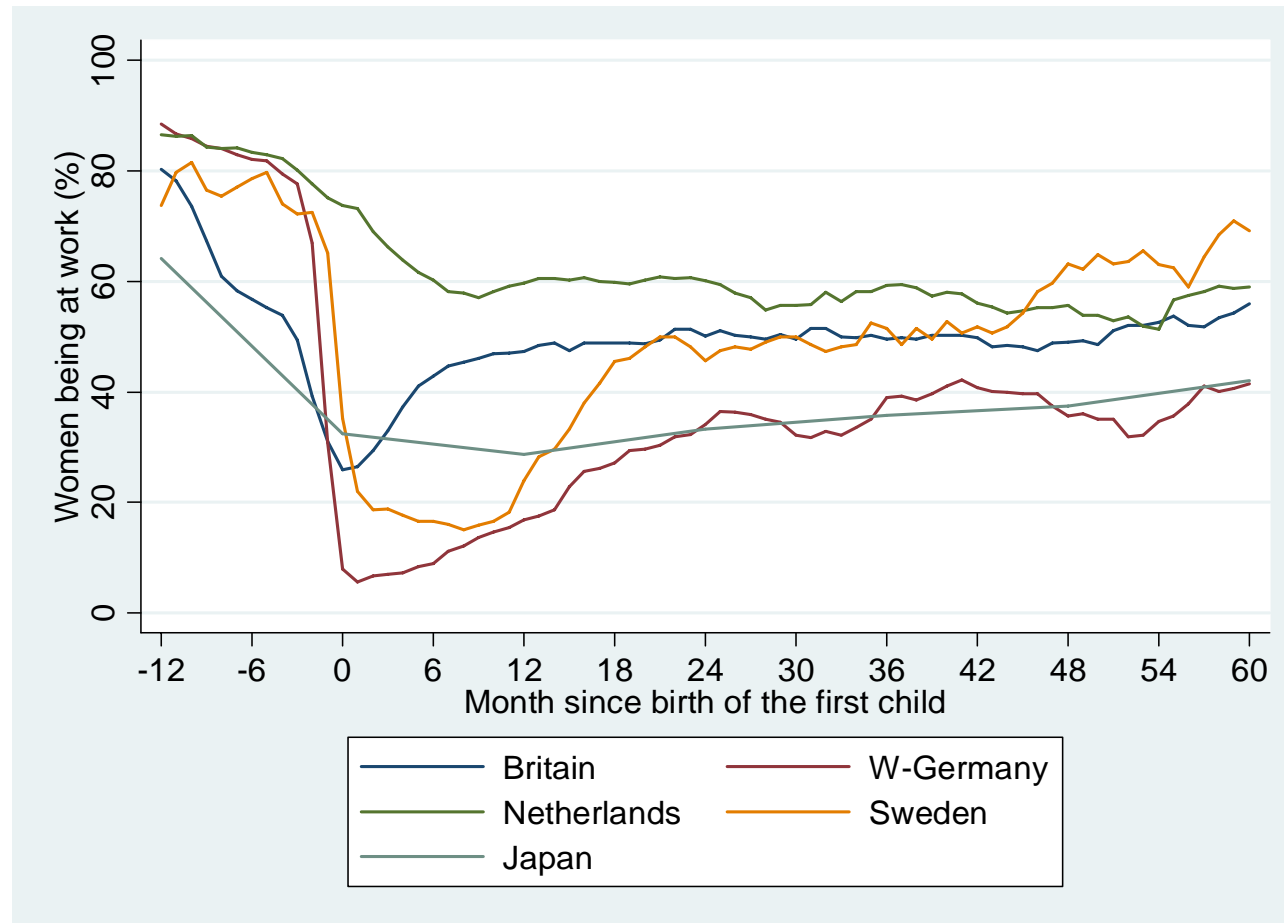
Source: Ahn and Mira (2001); Encuesta sociodemográfica 1991

# Career planning of Spanish women, probability of having a first child

	Hazard		
	Coefficient	z	mean
Age	-0.09	0.87	
<i>Education</i>			
university	-0.36	2.78	0.39
secondary	-0.45	3.11	0.32
Primary ref. Categorie			0.29
<i>Work contract</i>			
fixed term	-0.36	2.38	0.21
no work	-0.62	4.66	0.5
Ref. indefinite			0.29

Source: De la Rica and Iza (2006), Spanish data from the European Household Panel 1994-2001.

# Proportion first time mothers at work before and during pregnancy (months – 12 to 0) and until the child is 5 years old (months 0-60)



Source: Gustafsson and Kenjoh (2007 forthcoming) computed from Kenjoh (2004) using BHPS (UK), GSOEP (DE), HUS (SE), OSA (NL) and JPSC (JP).

Predicted probability that the first time mother is not working when her child is three years old per cent

	Sweden	West Germany	Britain
<i>Education of the woman</i>			
High	35	46	30
Medium	38	60	34
Low	34	57	45

Predicted for child born in the 1990s, no second child, mother aged 28 at first birth

Source: Gustafsson and Kenjoh (2007 forthcoming based on Kenjoh (2004) HUS 1984-98 (SE) GSOEP 1984-98 (DE) and JPSC 1993-97 (JP)

# The End

Madrid 31 May 2007