

Demographic Imperative in Social Change: Political Examples

Michael Hout
University of California, Berkeley

email: mikehout@berkeley.edu

Demographic effects: three types

Direct: Demographic differences
change social composition

Upsurge of Evangelical Protestants in USA

2nd order: Demographic changes
change age composition and that
directly affects outcomes

Pension burden increases as population ages

3rd order: Demographic changes
change age composition and that
indirectly affects outcomes

Demographic dividend in economic growth

Demographic Imperative

“People don’t change, they die.”

– Nick Mullins, 1976

How does society change even though
individuals do not change?

Death or retirement moves out people
of one kind and differential fertility
brings in a different mix

Differential Growth Rates

In a stable population:

$$P_t = P_{t-1} \exp(r_t)$$

If r_t is a constant (r), then

$$P_t = P_{t-1} \exp(r) = P_0 \exp(rt)$$

Imagine two subpopulations (A and B):

Size: A_t and B_t (A_0 and B_0 initially)

Constant growth rates: r_a and r_b

Differential Growth Rates

$$A_t = A_0 \exp(r_a t)$$

$$B_t = B_0 \exp(r_b t)$$

	$A_0 > B_0$	$A_0 < B_0$
$r_a > r_b$	$A_t > B_t$ for all t	$A_t > B_t$ for $t > \ln(B_0/A_0)/(r_a-r_b)$
$r_a < r_b$	$A_t < B_t$ for $t > \ln(A_0/B_0)/(r_b-r_a)$	$A_t < B_t$ for all t

Conservative Protestant Trend

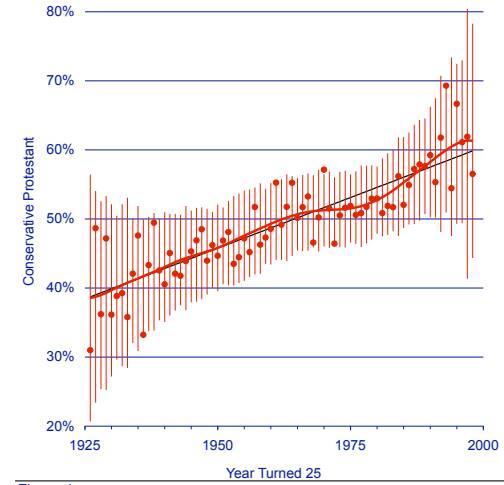


Figure 1
Proportion of Protestants in a Conservative Denomination by Year Turned 25: Protestants, 25-74 Years Old
NOTE: Data smoothed using linear and loess regression (bw = .4). Vertical lines show 95% confidence interval for each observed percentage centered on smoothed percentage. Estimates take account of sampling design effects.
Source: General Social Survey, 1973-1998.

Protestant Fertility

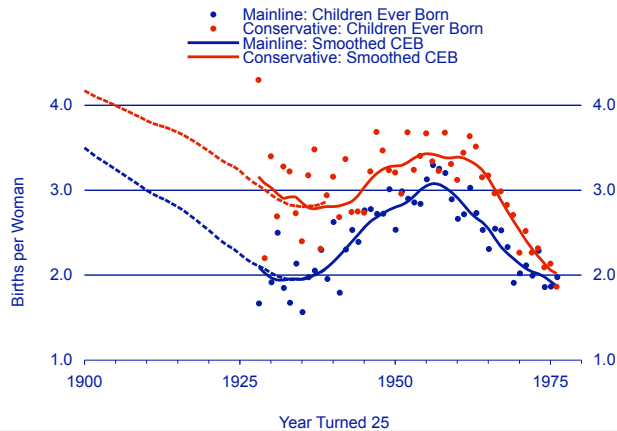


Figure 2
Fertility (Children Ever Born and Total Fertility Rate) by Denominational Type: Protestant Women, 45-69 Years Old, United States
NOTE: Children ever born (CEB) data are smoothed using locally estimated (loess) regression with a bandwidth of .2. The total fertility rate ("TFR") for each denomination was projected from TFR for all women and the denominational differences observed in the CEB data (see text for details).
Sources: Children ever born data from General Social Survey, 1972-1998; total fertility rates from Heuser (1974).

Demographic Model

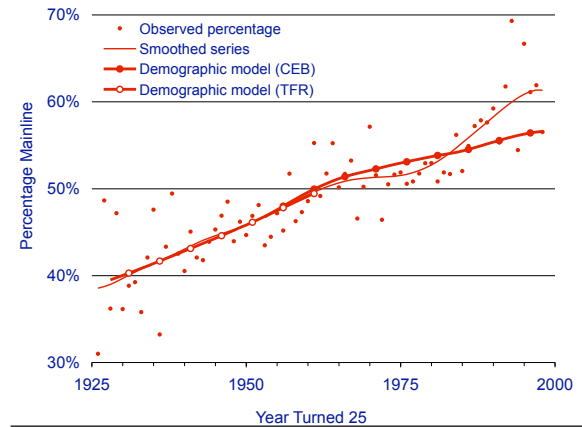


Figure 3
Observed Percentage of Protestants Professing a Mainline Denomination and That Predicted by the Demographic Model by Year of Birth: Protestants, 25-74 Years Old
NOTE: Data smoothed using loess regression (bw = .4). Estimates take account of sampling design effects.
Source: General Social Survey, 1973-1998.

Demographic Model

Demographic advantage accounts for **70%-75%** of conservatives' growth

Residual attributable to **decrease** in conservative to mainline **conversions** (upwardly mobile conservatives, especially)

Wall St. Journal op-ed (Aug 06) by Arthur Brooks suggests a similar dynamic for **political** conservatives

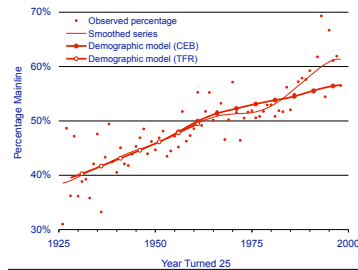


Figure 3
Observed Percentage of Protestants Professing a Mainline Denomination and That Predicted by the Demographic Model by Year of Birth: Protestants, 25-74 Years Old

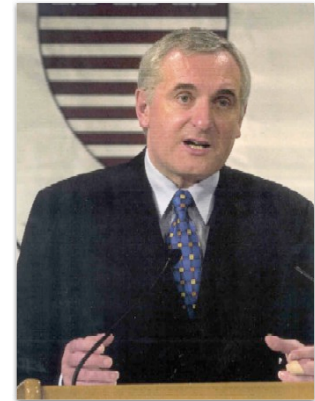
NOTE: Data smoothed using loess regression (bw = .4). Estimates take account of sampling design effects.

Source: General Social Survey, 1973-1998.

Irish Demographic Dividend

Ireland's "Celtic tiger" economic growth attributed to unions and employers agreeing to limit wage growth

Puzzle:
How do you increase income per capita if you hold down wages?



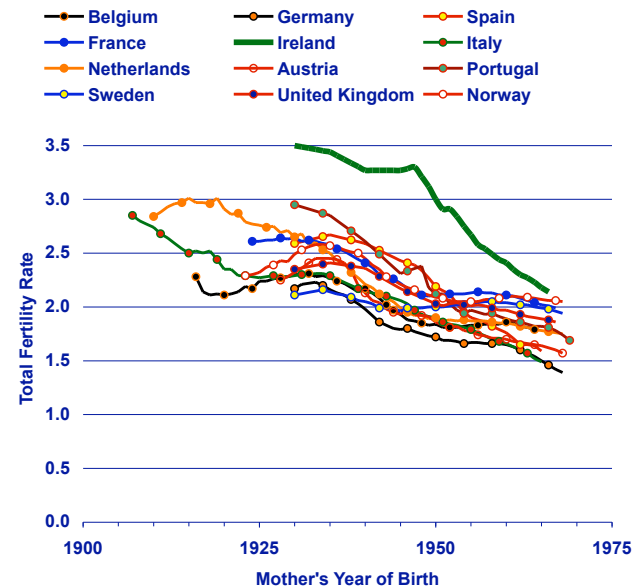
Bertie Ahern, Irish Prime Minister

Irish Demographic Dividend

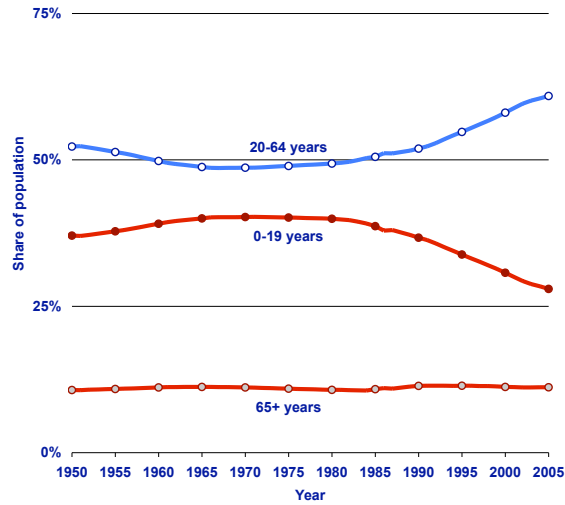
$$\text{Income per Person} = \text{Income per Worker} \times \text{Workers per Person}$$

You can increase income per person while holding down wages (income per worker) if you increase workers per person.

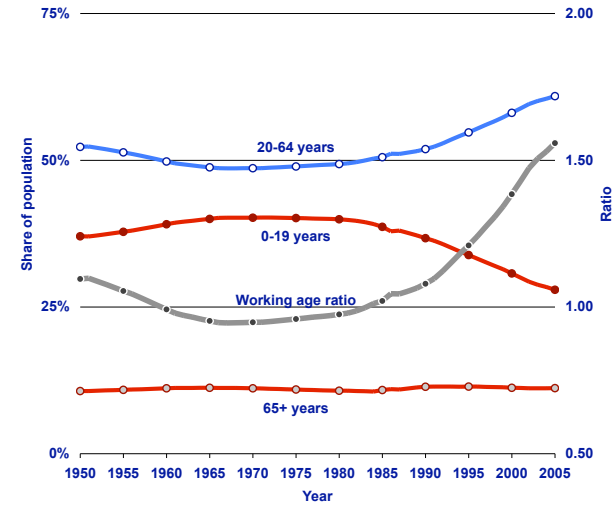
Falling fertility...



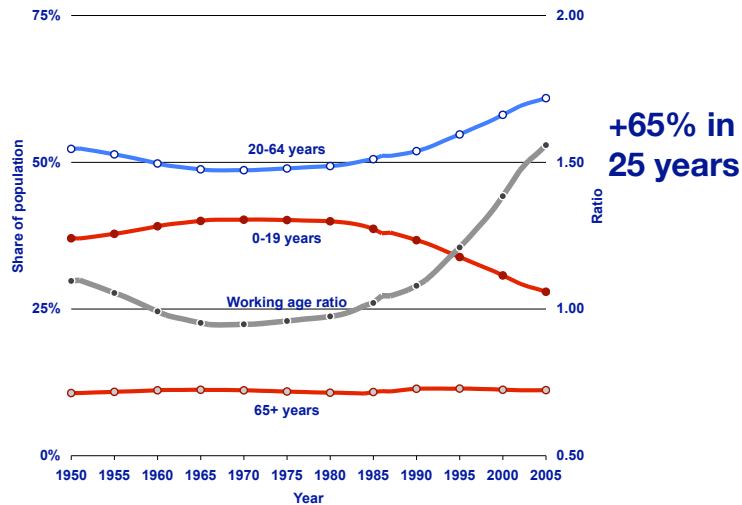
... alters the age composition



...increasing workers per capita

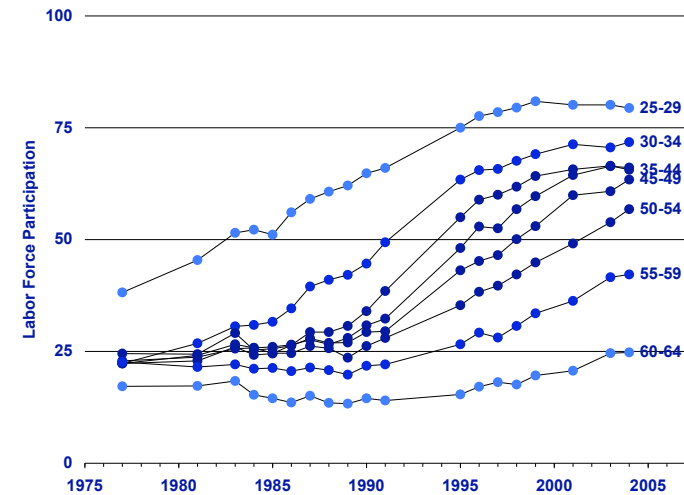


...increasing workers per capita

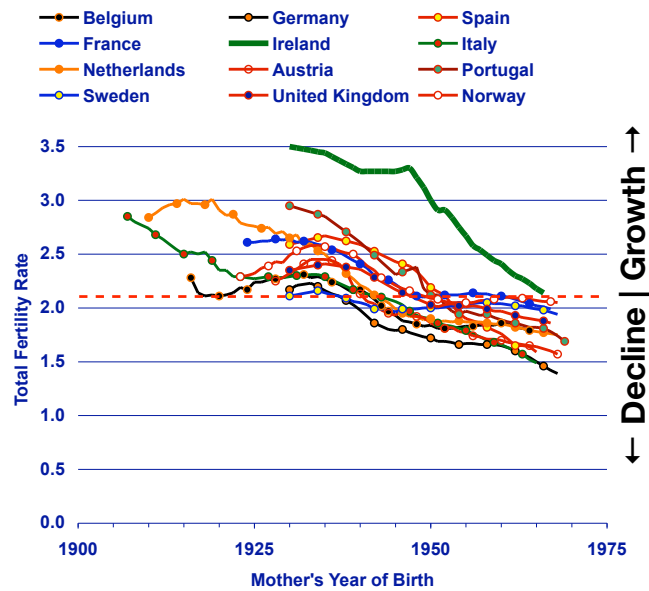


Fewer children makes more women in labor force likely

Women



... and decline eventually



Demographic effects: three types

Direct: Demographic differences change social composition

Upsurge of Evangelical Protestants in USA

2nd order: Demographic changes change age composition and that directly affects outcomes

Pension burden increases as population ages

3rd order: Demographic changes change age composition and that indirectly affects outcomes

Demographic dividend in economic growth