Demographic Imperative in Social Change: Political Examples

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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

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

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

\[ A_t = A_0 \exp(r_a t) \]
\[ B_t = B_0 \exp(r_b t) \]

\( \begin{array}{c|c|c}
 & A_0 > B_0 & A_0 < B_0 \\
 \hline
 r_a > r_b & A_t > B_t \text{ for } t > \ln(B_0/A_0)/(r_a-r_b) & A_t > B_t \text{ for } t > \ln(A_0/B_0)/(r_b-r_a) \\
 r_a < r_b & A_t < B_t \text{ for } t > \ln(A_0/B_0)/(r_b-r_a) & A_t < B_t \text{ for } t > \ln(B_0/A_0)/(r_a-r_b) \\
\end{array} \)

Conservative Protestant Trend

\[ \text{Conservative Protestant Trend} \]

Figure 1


Year Turned 25: Protestant Women, 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.

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 the TFR for all women and the denominational differences observed in the CEB data (see text for details).


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.

**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

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**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?

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**Irish Demographic Dividend**

Income per Person = Income per Worker × Income per Person

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

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**Falling fertility...**

- Belgium
- Germany
- Spain
- France
- Ireland
- Italy
- Netherlands
- Austria
- Portugal
- Sweden
- United Kingdom
- Norway

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**Irish Demographic Dividend**

Bertie Ahern, Irish Prime Minister
... alters the age composition

...increasing workers per capita

...increasing workers per capita

Fewer children makes more women in labor force likely
Irish Demographic Dividend

In recent years real wages have increased in Ireland

A nation gets one chance at a demographic dividend

Falling fertility eventually increases senior population...

Most of Europe faces graying soon
... and decline eventually

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   Demographic dividend in economic growth