

Scotland's demography in international perspective

Chris Wilson
University of St Andrews

ccbw@st-andrews.ac.uk

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The value of a comparative view

What does Scotland's demographic regime look like from an international (mostly European) point of view?

Mortality

Migration

Fertility

Value of a comparative perspective

O wad some Power the giftie gie us
to see oursels as ithers see us!

Robert Burns, *"To a Louse"* - verse 8

Mortality

The UK in general, and Scotland in particular, is a relative under-achiever in health and mortality, given our level of income.

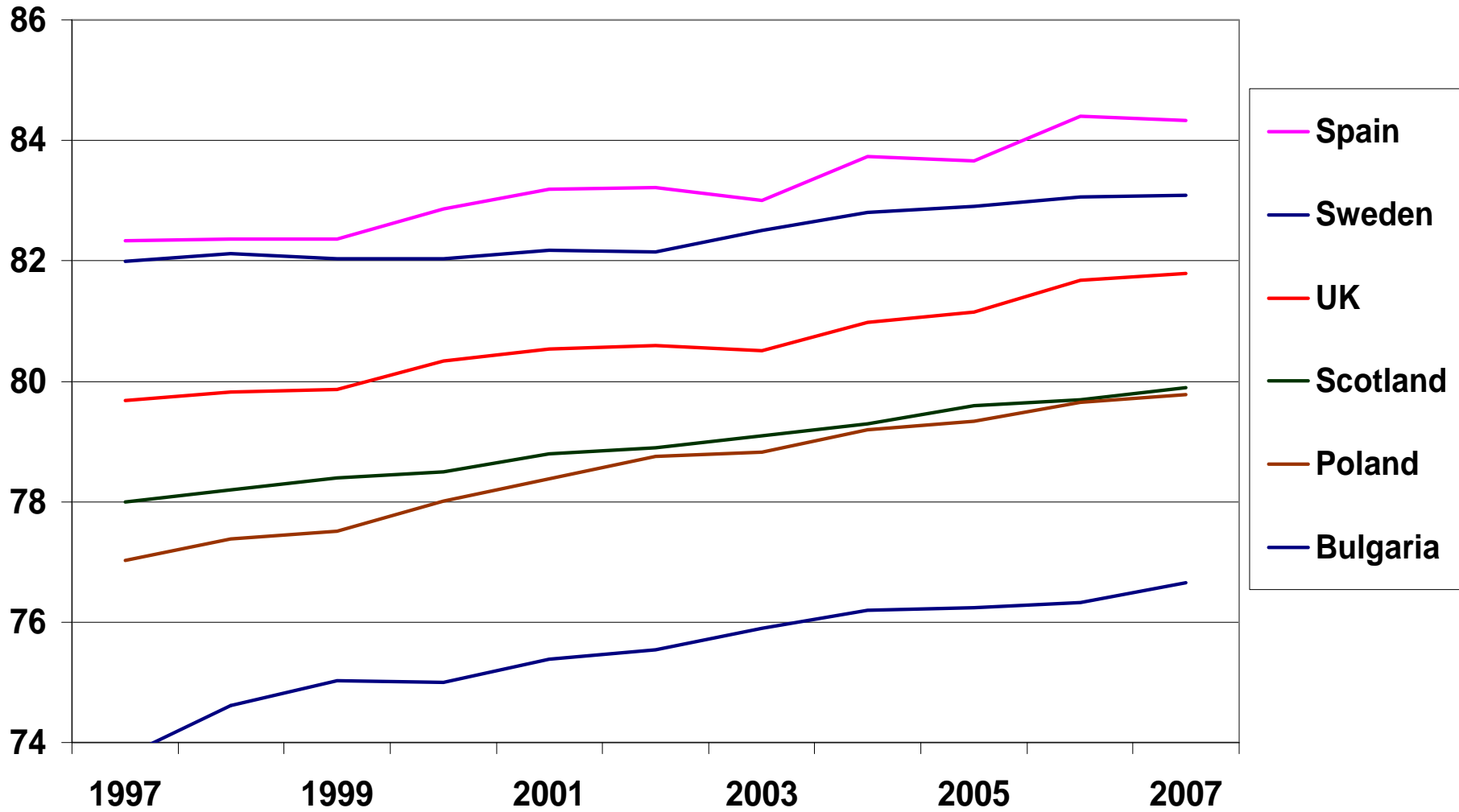
Life expectancy keeps on improving, but less rapidly than in many other parts of the EU, so Scotland is slipping down the rankings.

Today Scotland has the lowest life expectancy in Western Europe, only the former Communist countries are worse off.

Life expectancy is 2006-8, male 75.0, female 79.9.

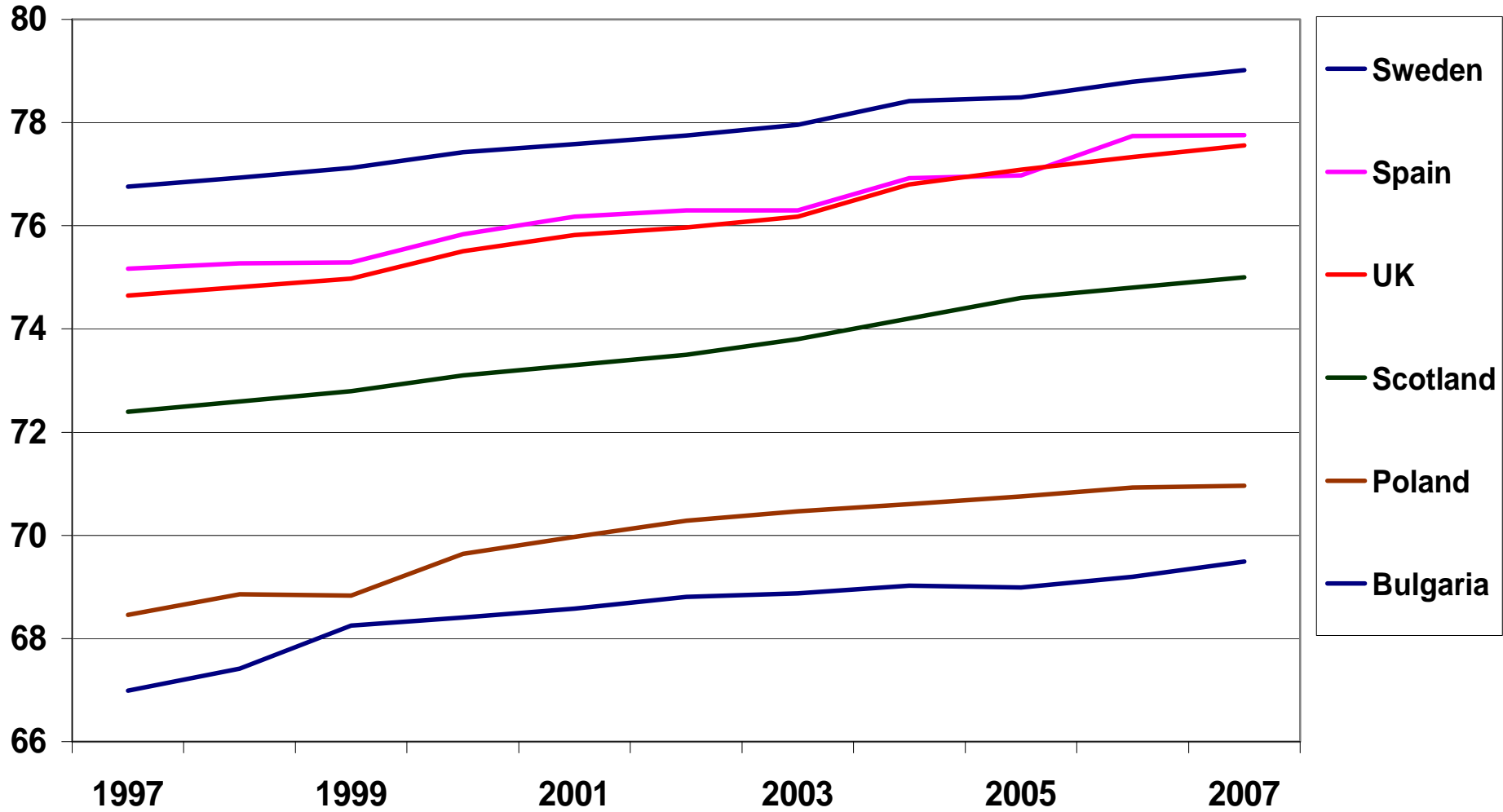
The best in Europe: male 79.6, female 84.8.

Life expectancy - females



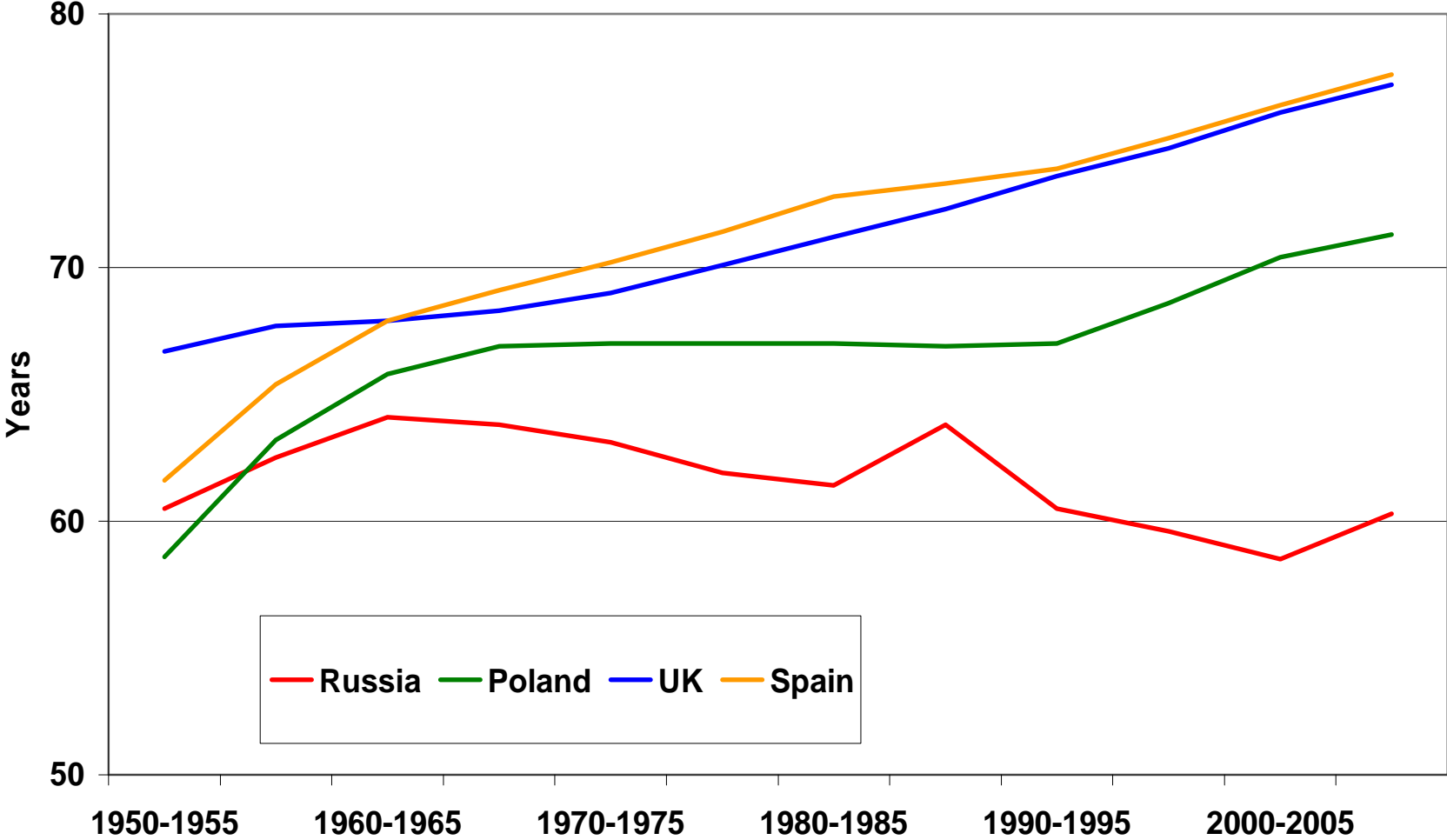
Data: Eurostat, GROS

Life expectancy - males



Data: Eurostat, GROS

Male life expectancy



Data: UN

Progress in mortality

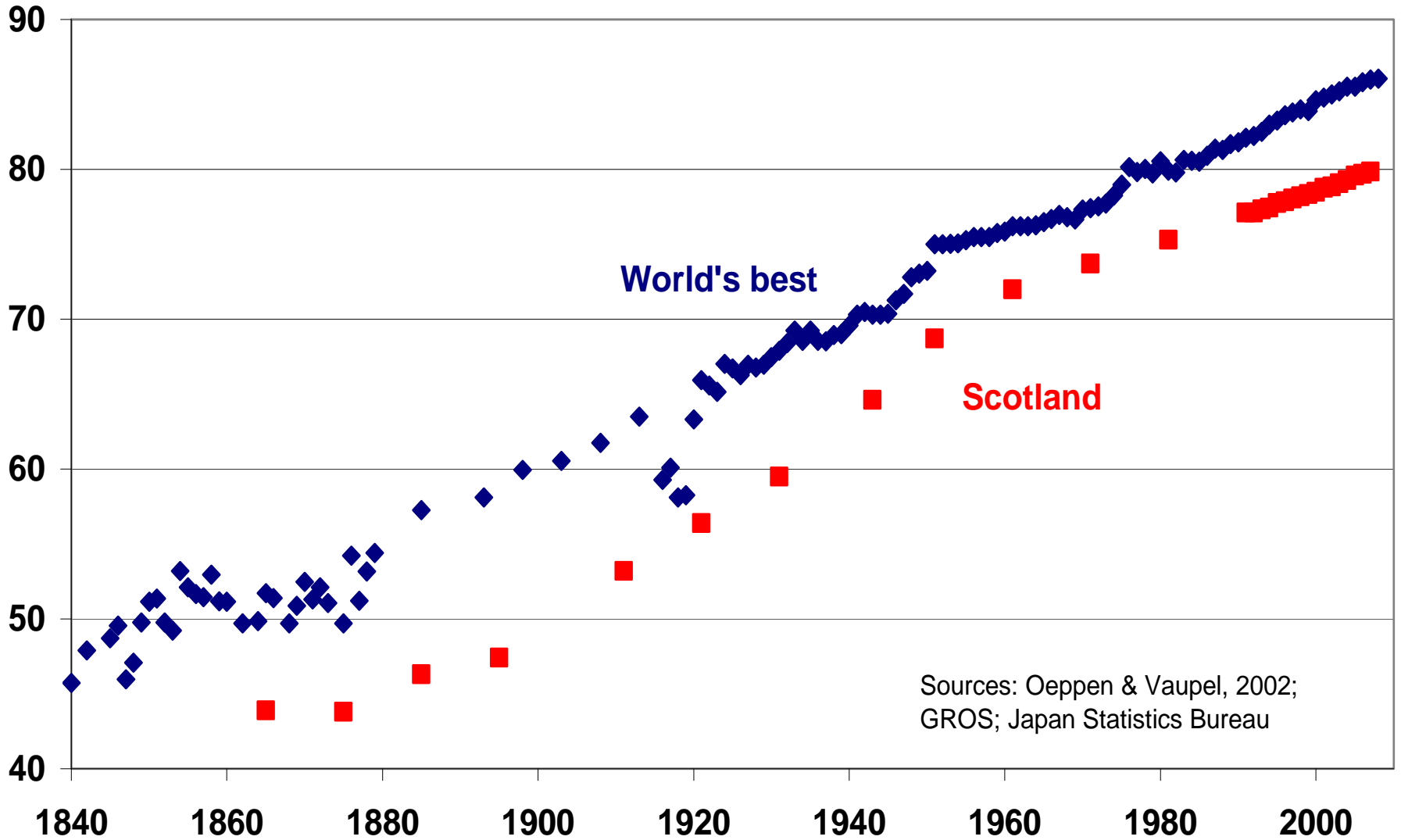
In Western Europe life expectancy has risen steadily since the mid-19th century.

Oeppen and Vaupel (2002) showed that the world-leading life expectancy has risen 2.5 years for each decade since the 1840s. Trends in individual countries follow a roughly similar rate of progress.

So a gap of 2.5 years in life expectancy can be thought of as being worth 10 years of progress.

We can situate Scotland relative to others in this time frame. We are about 20 years behind Europe's best.

Female Life Expectancy



Sources: Oeppen & Vaupel, 2002;
GROS; Japan Statistics Bureau

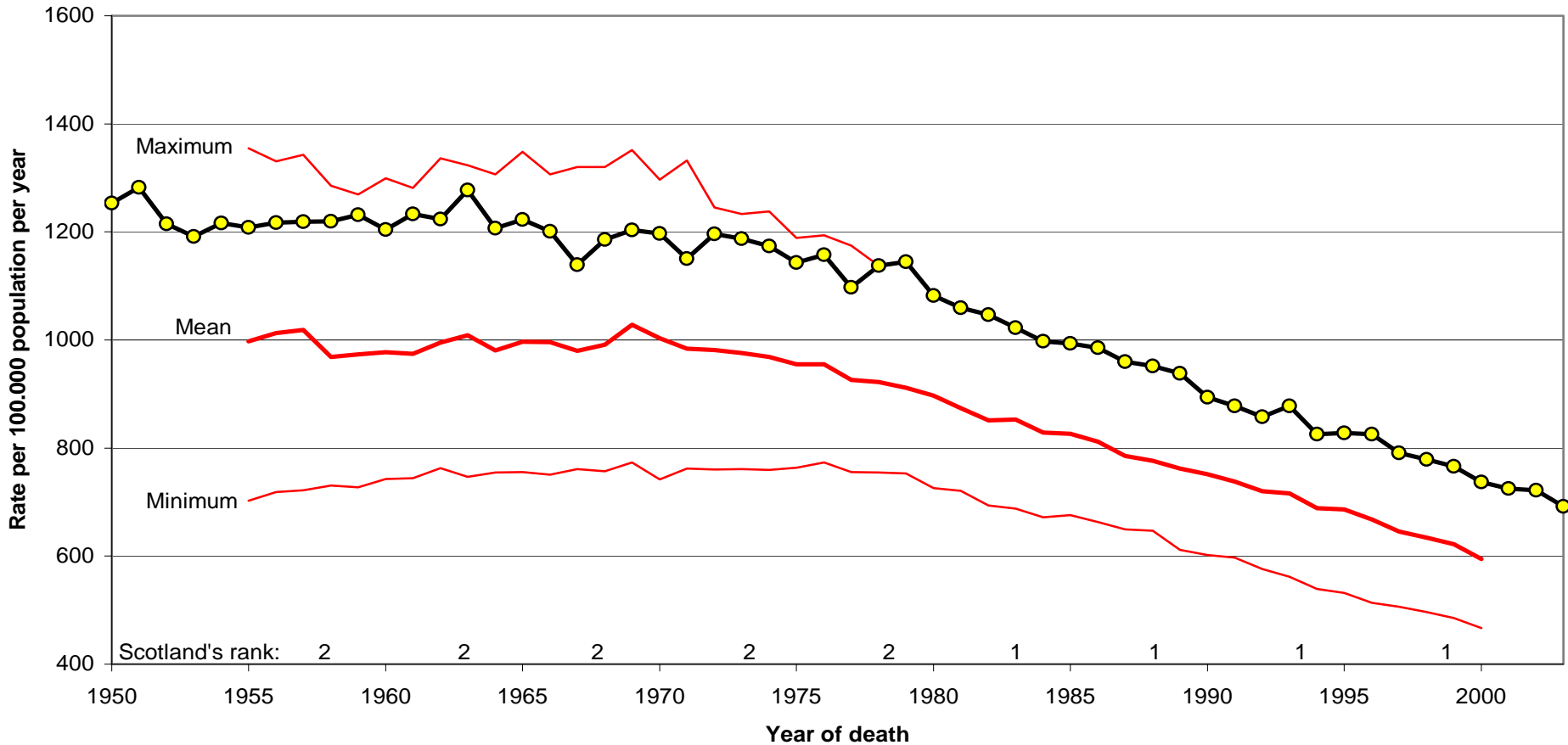
Mortality rate – males 15-74 – Scotland compared with W. Europe

Figure C1M

All cause mortality age standardised rates among men aged 15-74 years

Scotland in context of maximum, minimum, and mean rates for 16 Western European countries

Compiled by ScotPHO. Source data: WHOSIS (Dec 2004) & GRO(S)

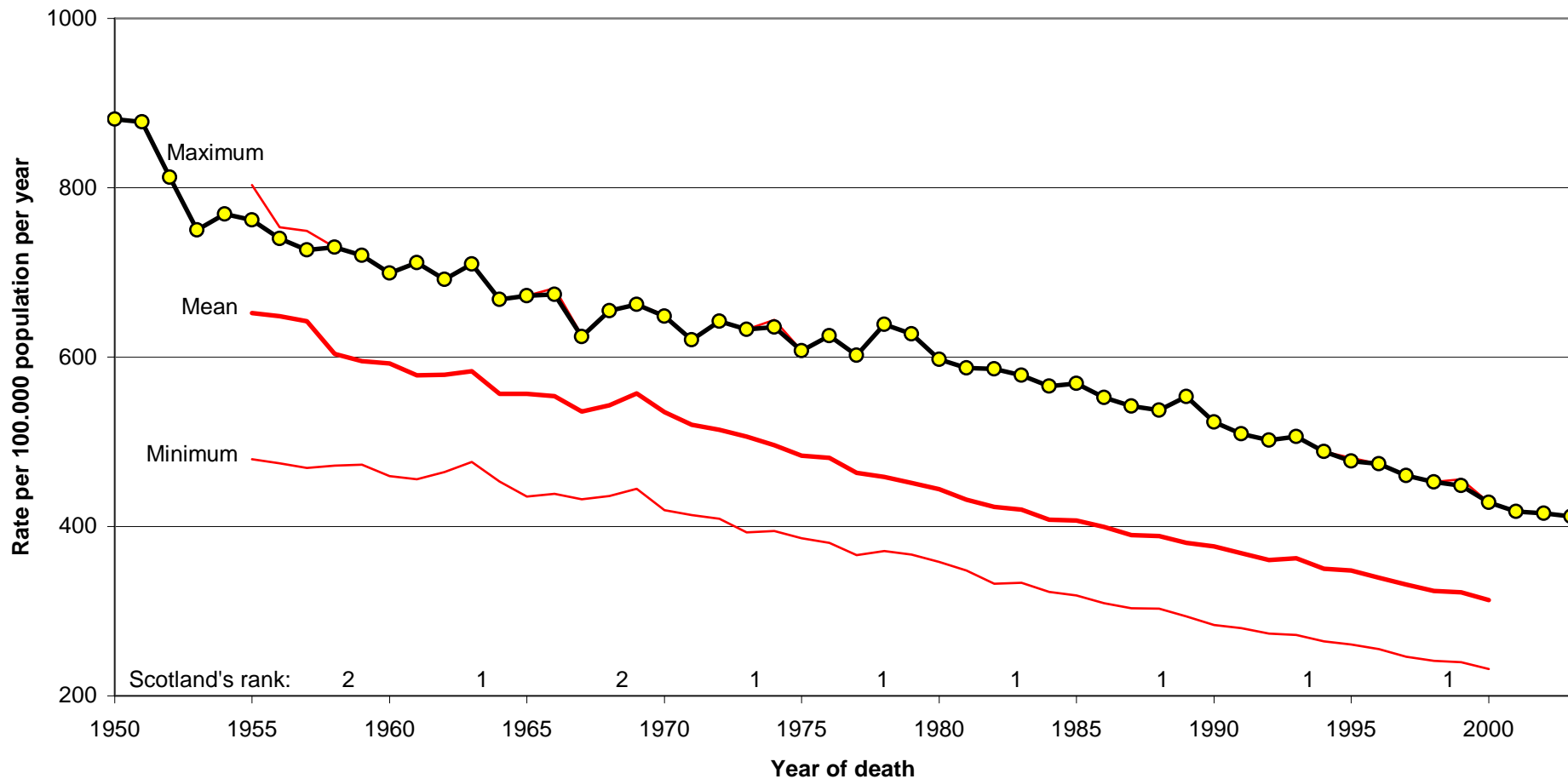


Mortality rate – females 15-74 – Scotland compared with W. Europe

Figure C1F

All cause mortality age standardised rates among women aged 15-74 years
Scotland in context of maximum, minimum, and mean rates for 16 Western European countries

Compiled by ScotPHO. Source data: WHOSIS (Dec 2004) & GRO(S)



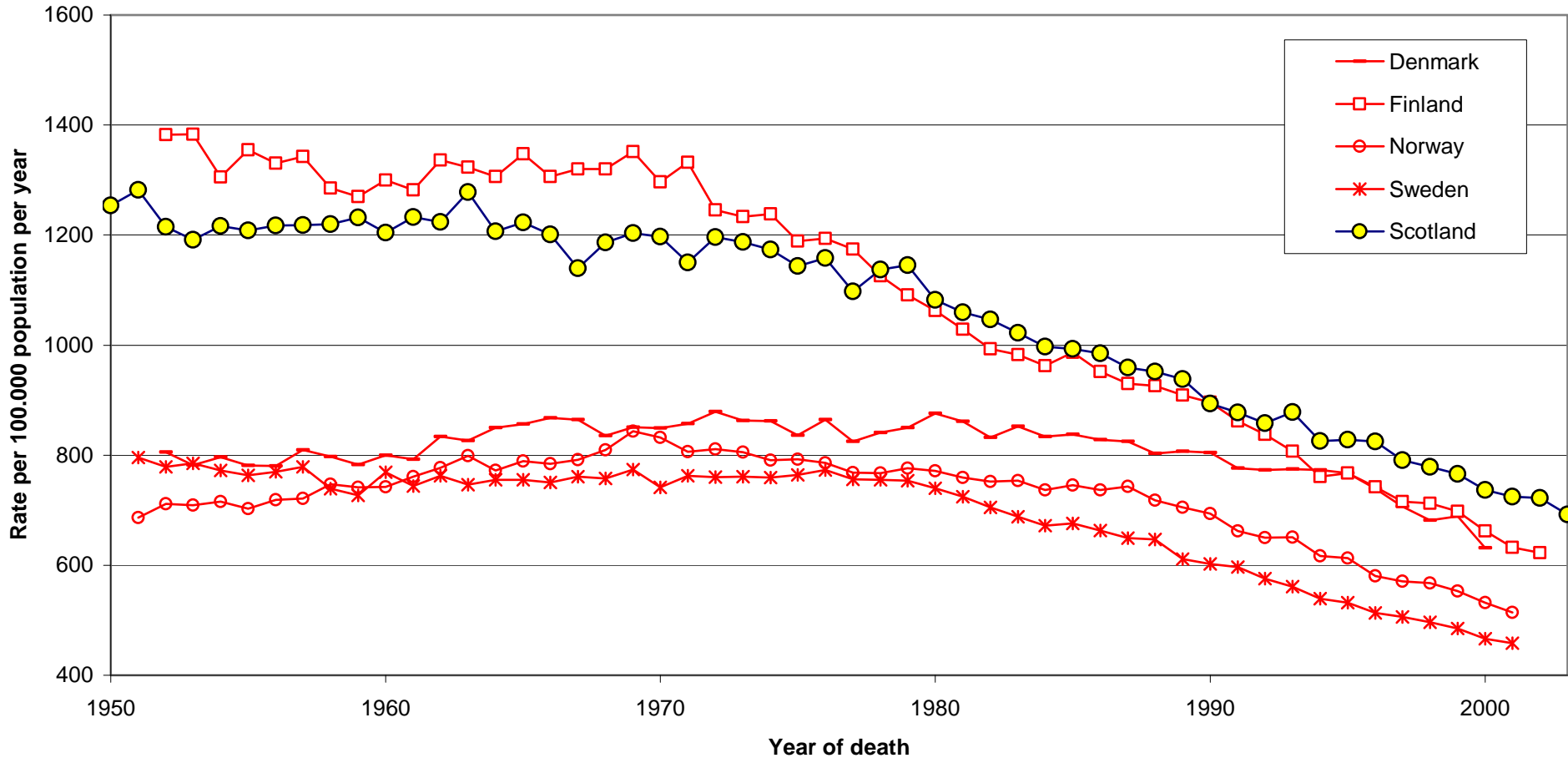
Mortality rate – males 15-74 – Scotland compared with Nordics

Figure C3M

All cause mortality age standardised rates among men aged 15-74 years

Scotland in context of Northern Europe

Compiled by ScotPHO. Source data: WHOSIS (Dec 2004) & GRO(S)



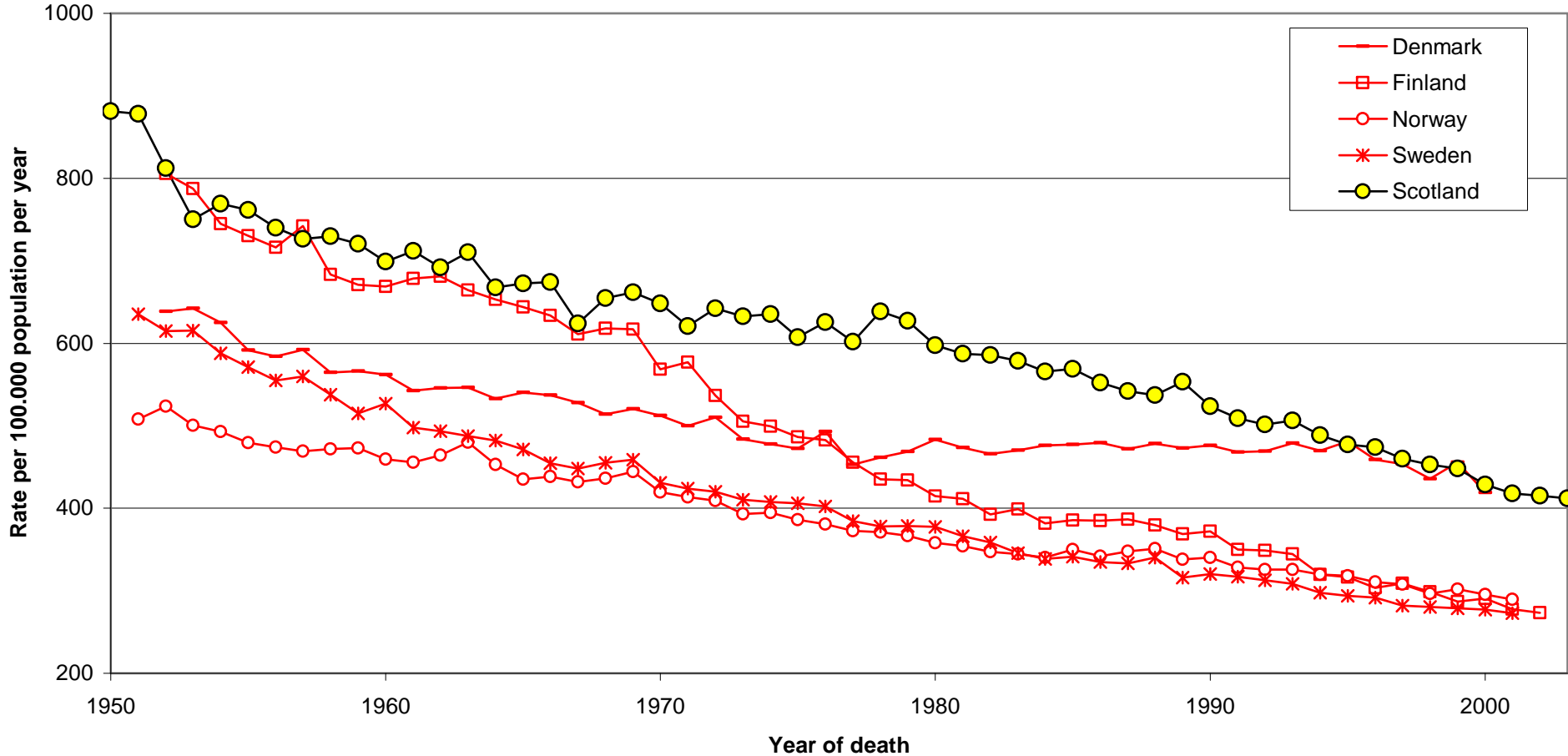
Mortality rate – females 15-74 – Scotland compared with Nordics

Figure C3F

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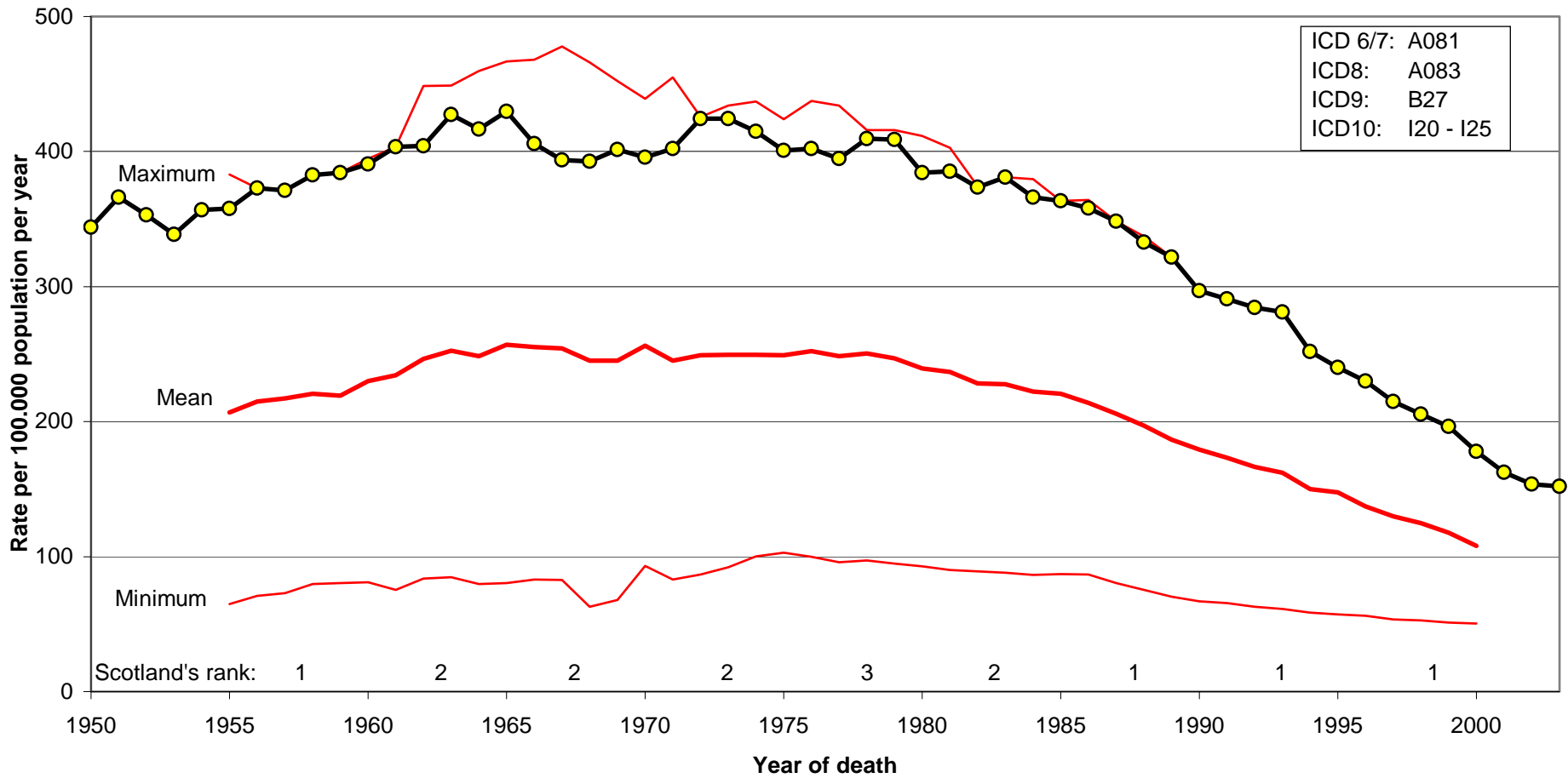


Heart disease – males 15-74 – Scotland compared with W. Europe

Figure K1M

Ischaemic heart disease mortality age standardised rates among men aged 15-74 years
 Scotland in context of maximum, minimum, and mean rates for 16 Western European countries

Compiled by ScotPHO. Source data: WHOSIS (Dec 2004) & GRO(S)



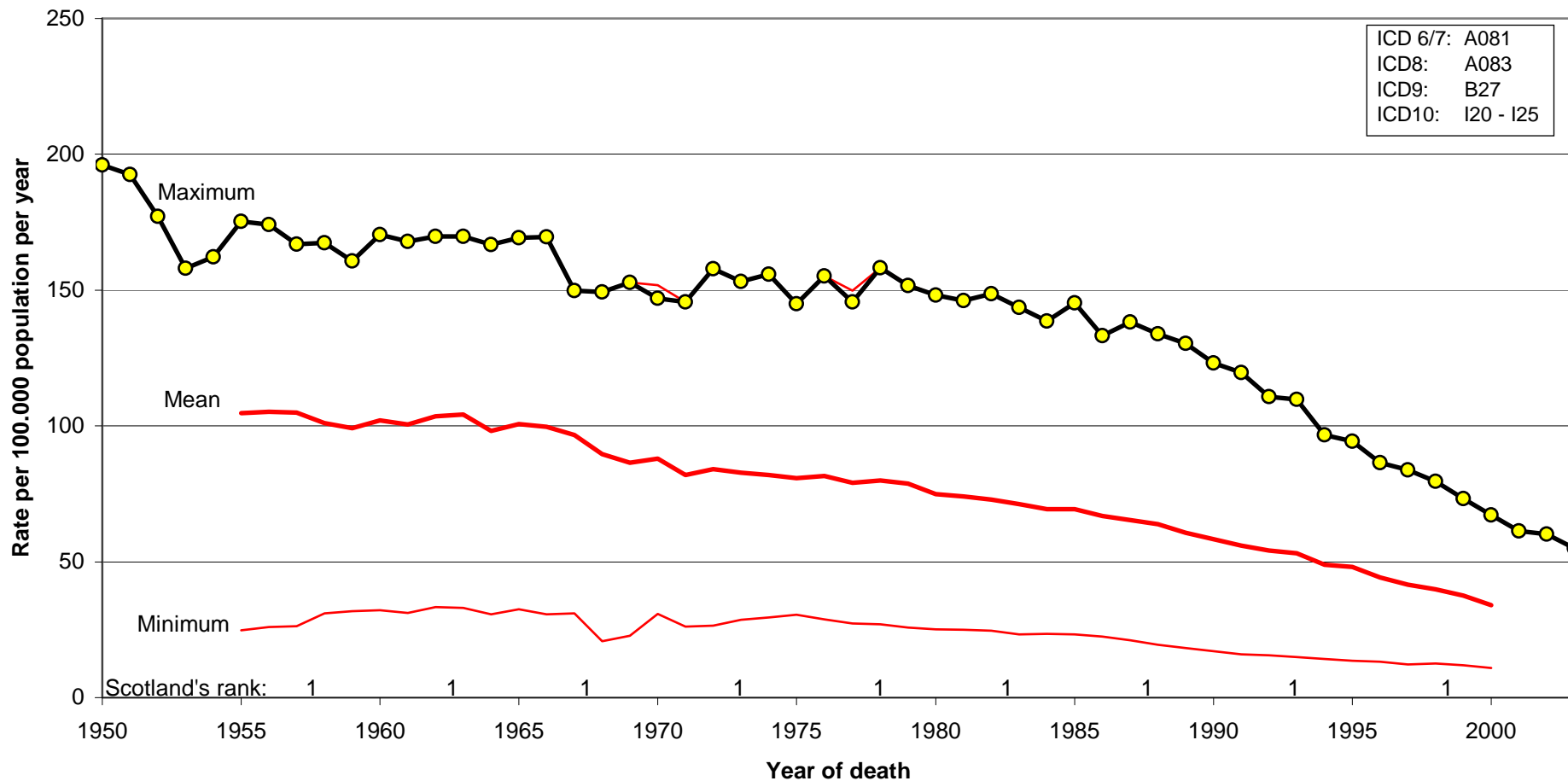
Heart disease – females 15-74 – Scotland compared with W. Europe

Figure K1F

Ischaemic heart disease mortality age standardised rates among women aged 15-74 years

Scotland in context of maximum, minimum, and mean rates for 16 Western European countries

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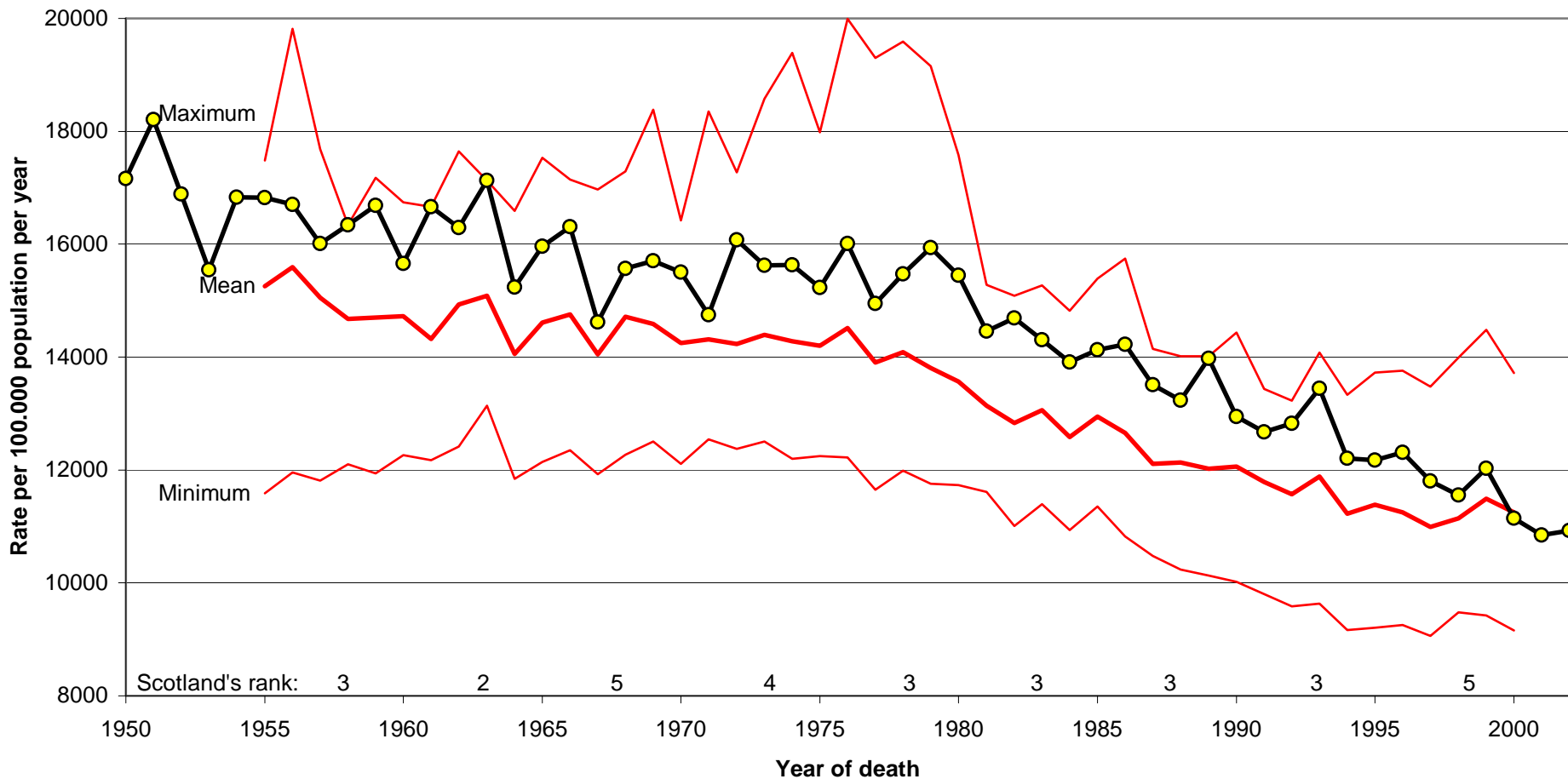


Mortality rate – males 75+ – Scotland compared with W. Europe

Figure D1M

All cause mortality age standardised rates among men aged 75 years and over
Scotland in context of maximum, minimum, and mean rates for 16 Western European countries

Compiled by ScotPHO. Source data: WHOSIS (Dec 2004) & GRO(S)

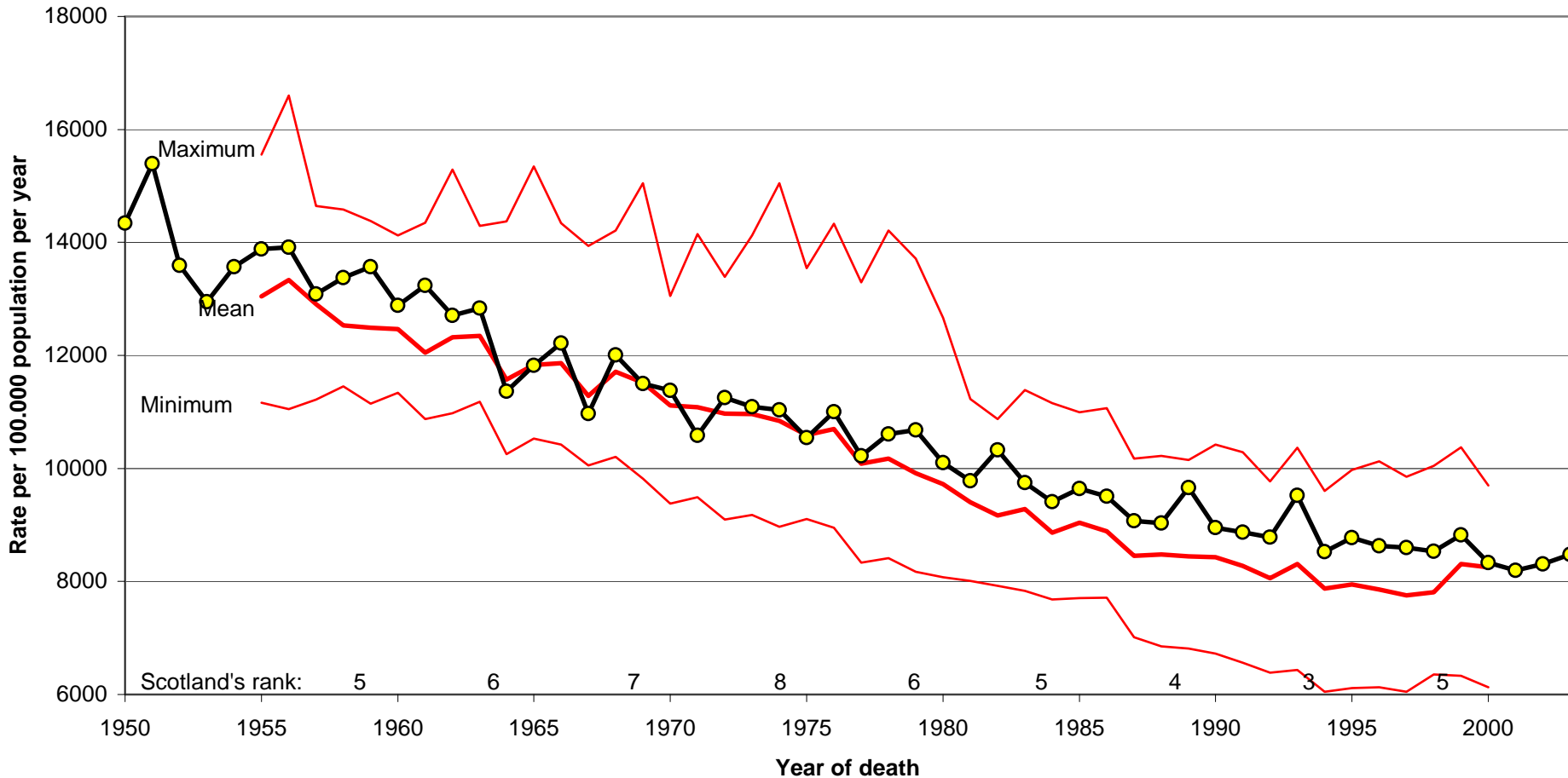


Mortality rate – females 75+ – Scotland compared with W. Europe

Figure D1F

All cause mortality age standardised rates among women aged 75 years and over
Scotland in context of maximum, minimum, and mean rates for 16 Western European countries

Compiled by ScotPHO. Source data: WHOSIS (Dec 2004) & GRO(S)



Causes of slow progress?

No-one knows for sure why we are under-achieving in health and mortality, given our level of income.

In spite of high average income, Scotland has some areas with high levels of socio-economic deprivation.

Life expectancy in Glasgow City: m 70.7, f 77.2.

Ten longest district level life expectancies in UK:
male 81.1 to 84.3, female 84.5 to 88.9.

Life expectancy is also low in Northern England, but not as low as in Scotland.

A mix of deprivation and unhealthy life style seems a plausible explanation.

Migration

For decades (centuries?) Scotland had net out-migration. Recently, this has changed. There are now net inflows both from the rest of the UK and overseas.

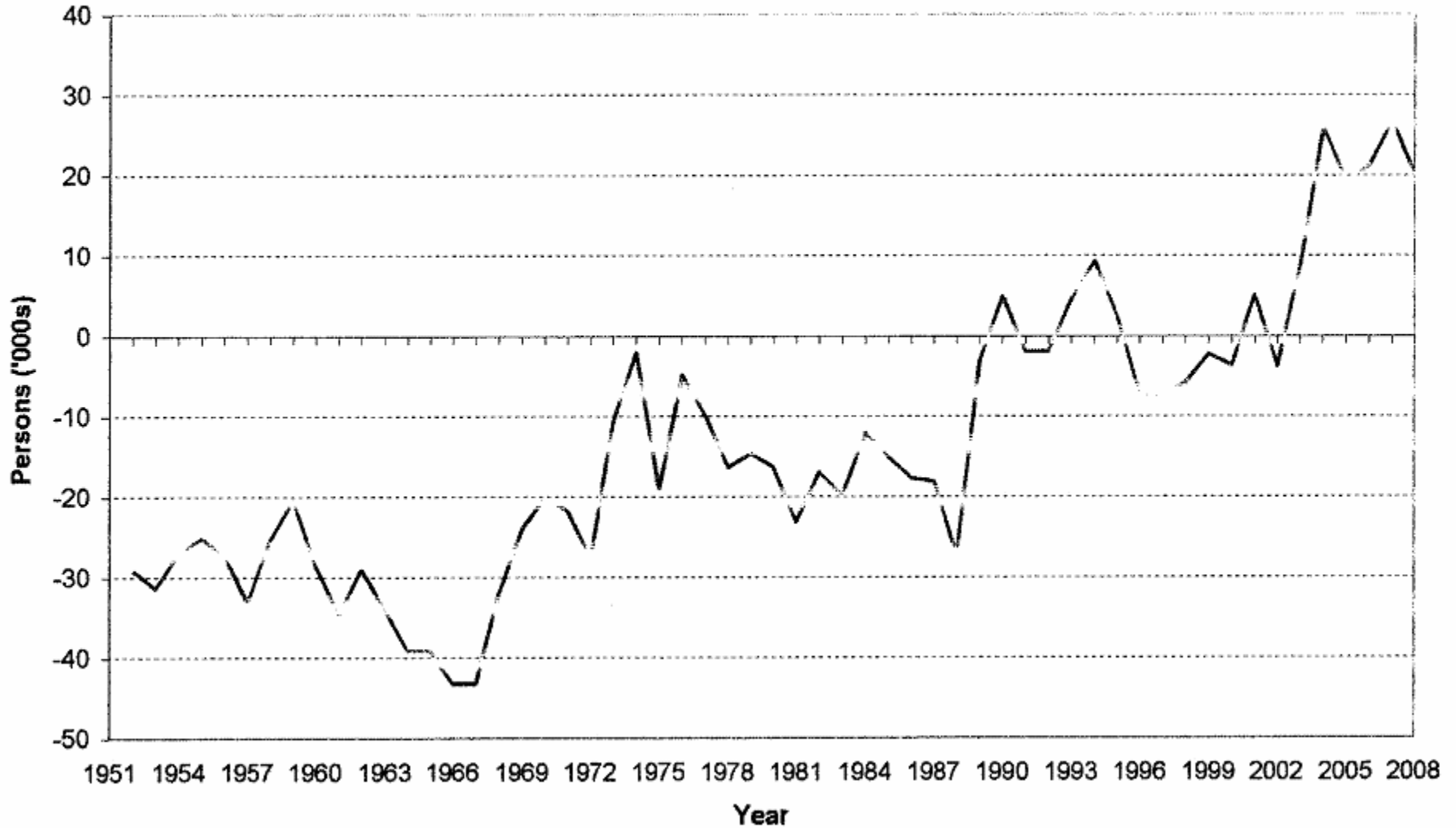
However, the rate of international immigration is still modest by most W. European standards and in most years is lower than for the UK as a whole.

The inflow of Poles since 2004 is about the same as for England and Wales.

A plausible model for future trends in migration from E. Europe to Scotland is the migration from S. Europe to France in 1960s.

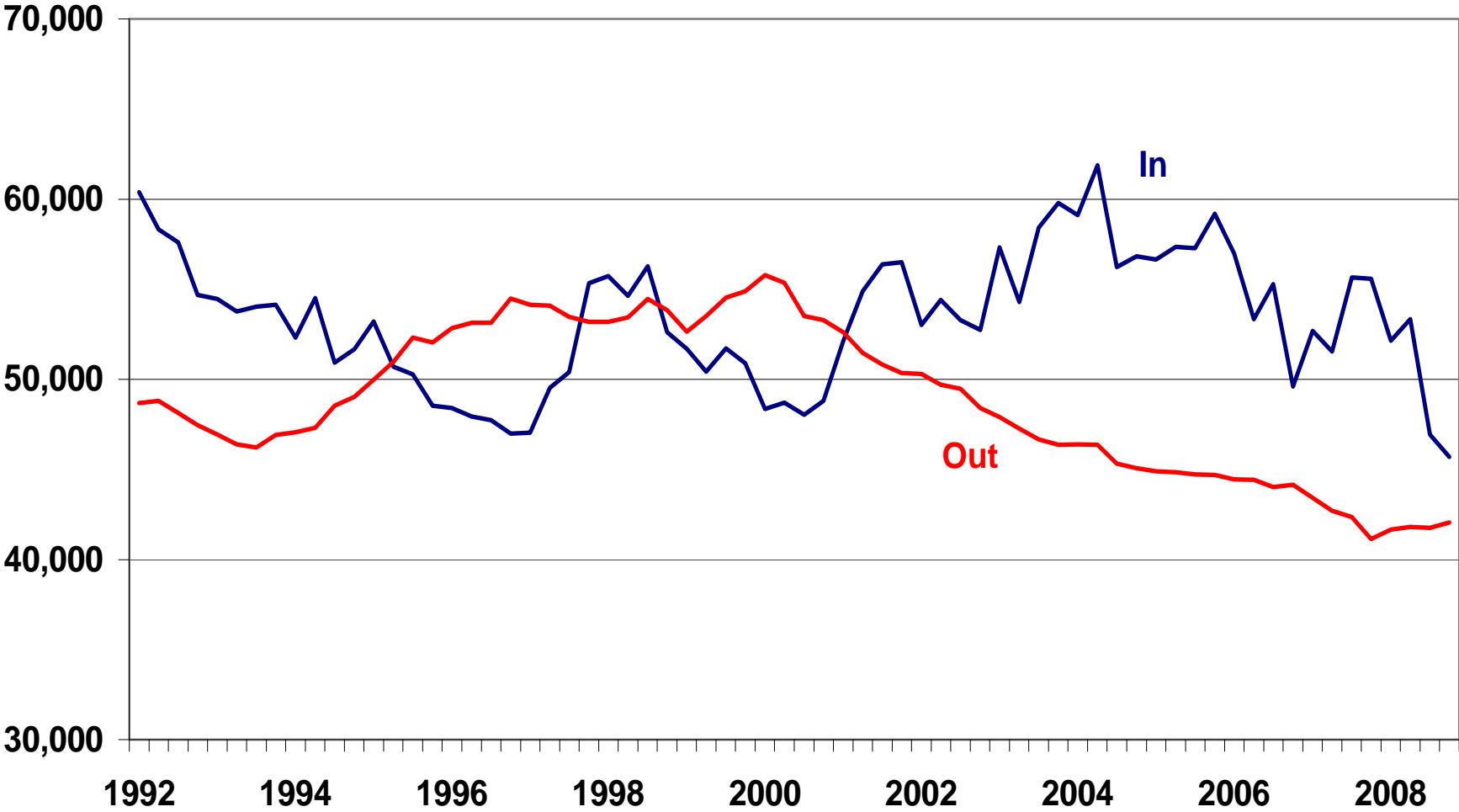
Net migration – Scotland 1951-2008

Net migration, 1951-2008



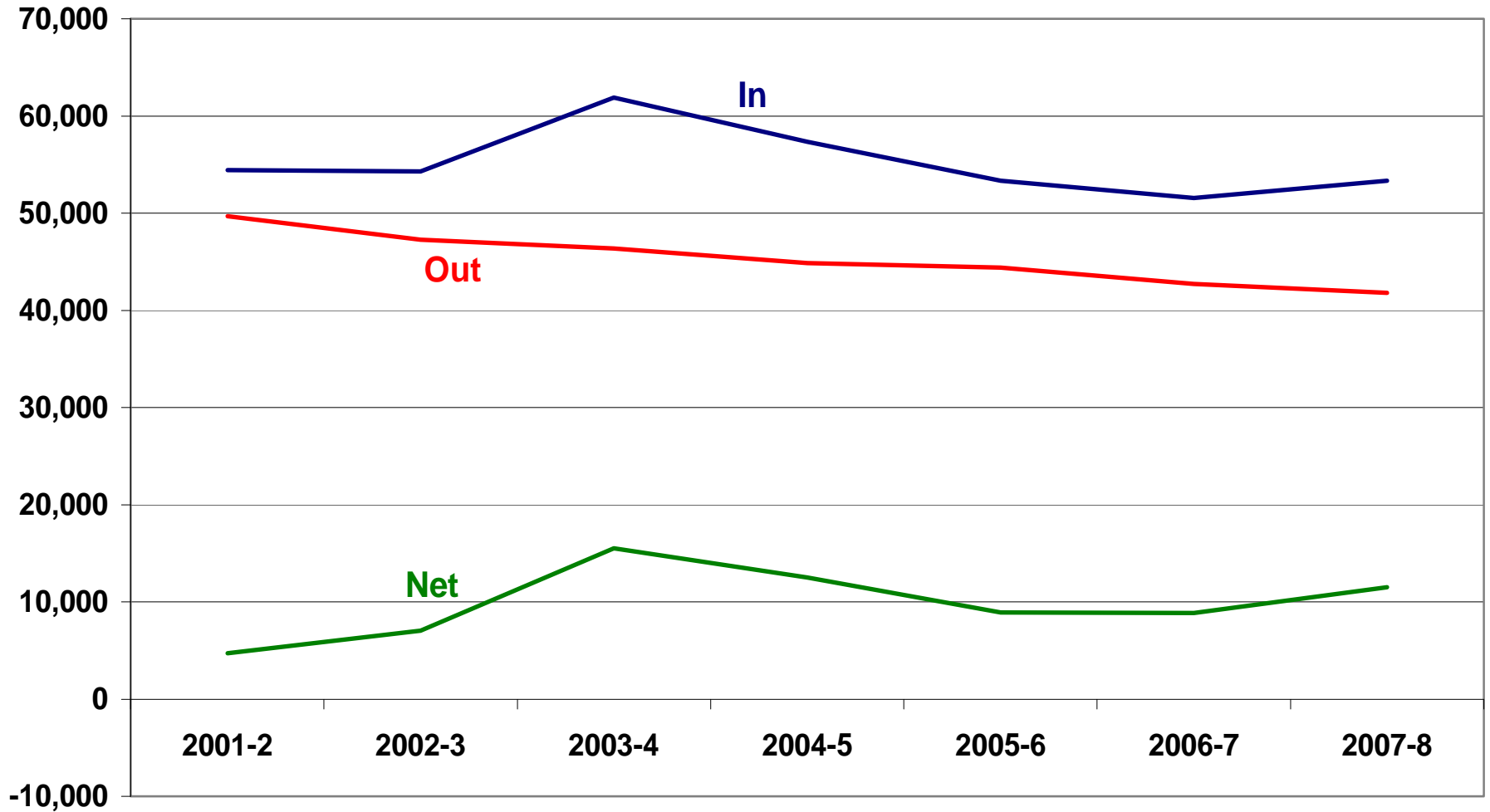
Source: GROS

Migration between Scotland and the rest of the UK



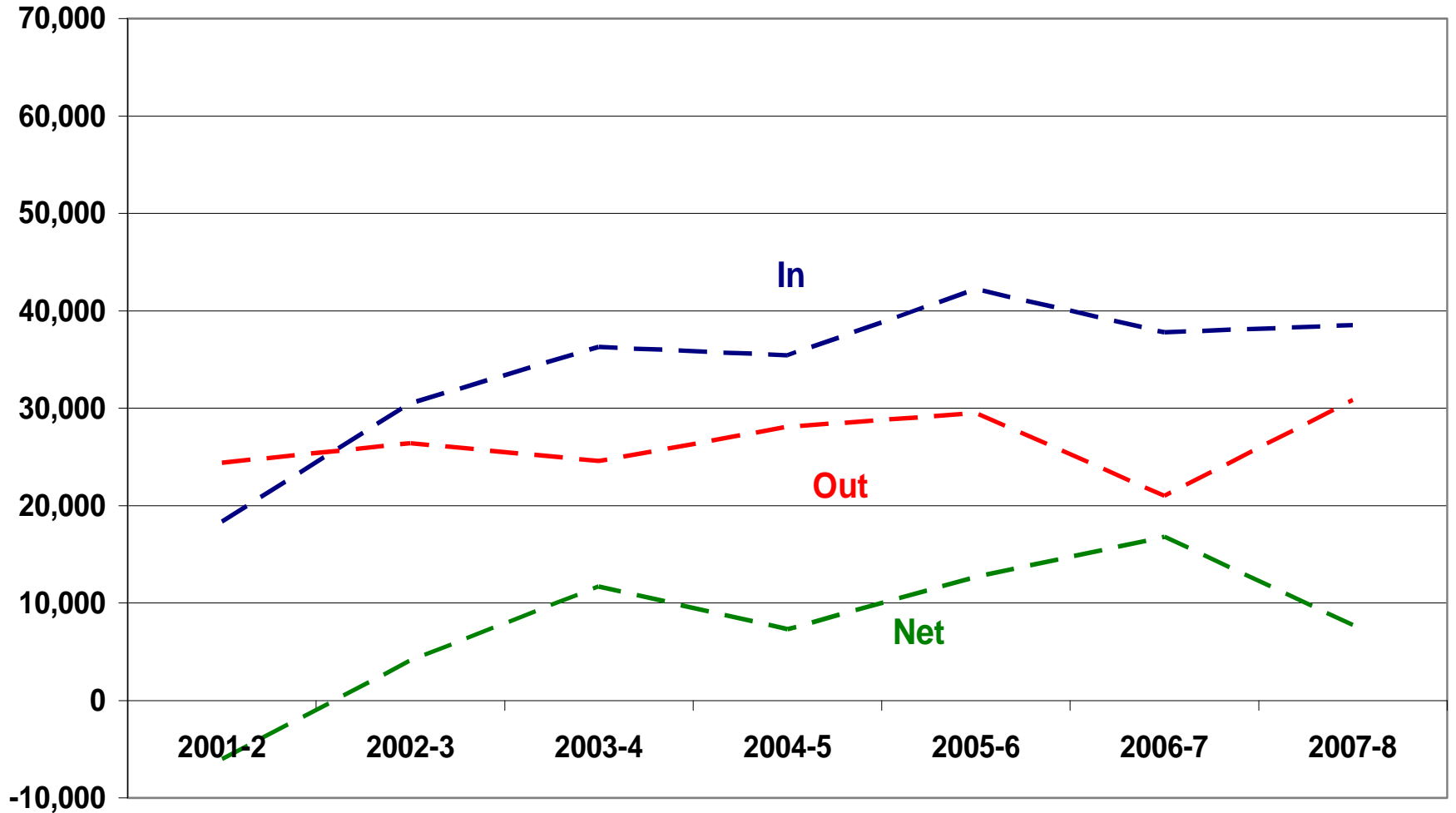
Data: GROS

UK-Scotland migration



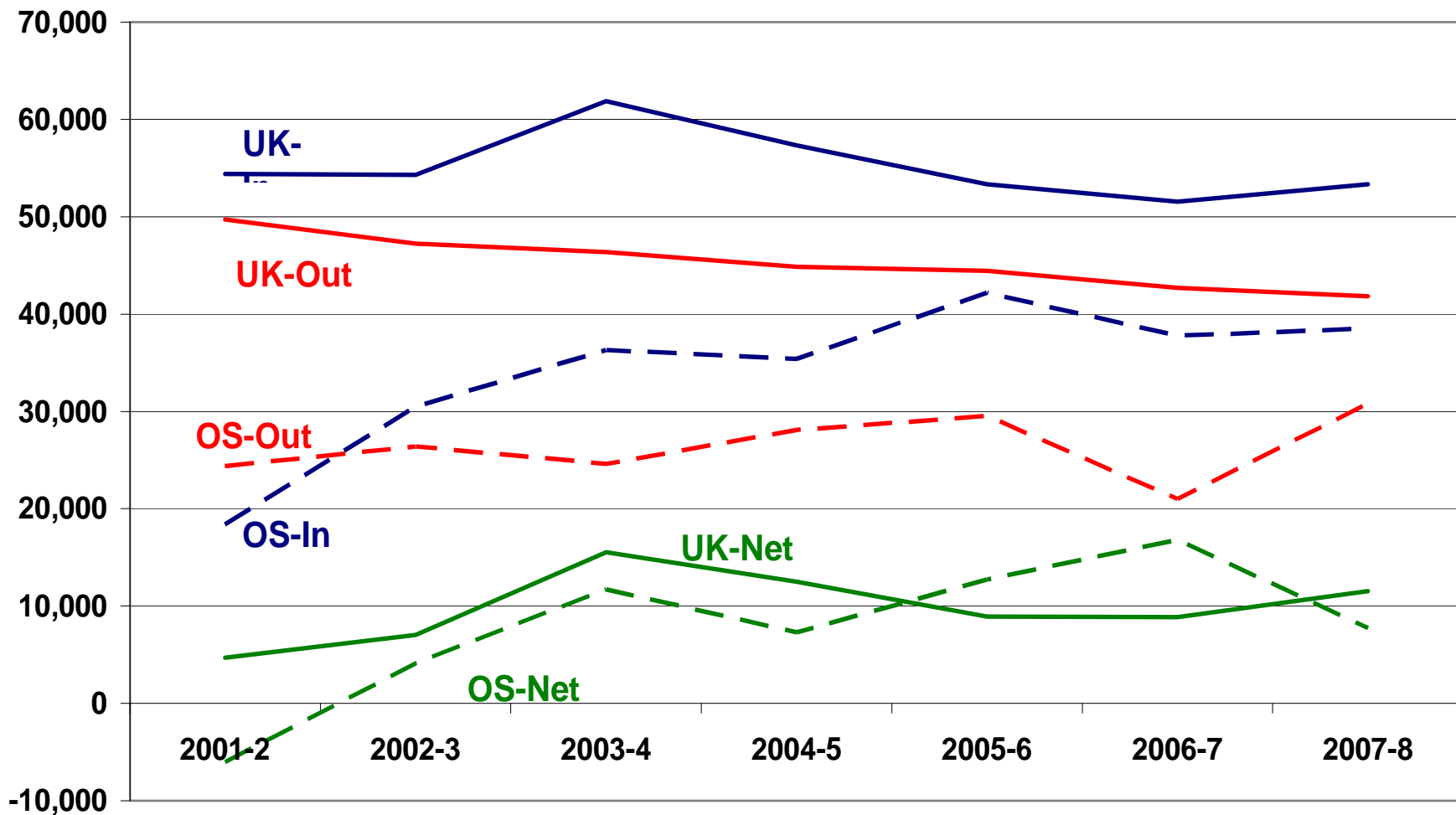
Data: GROS

International migration



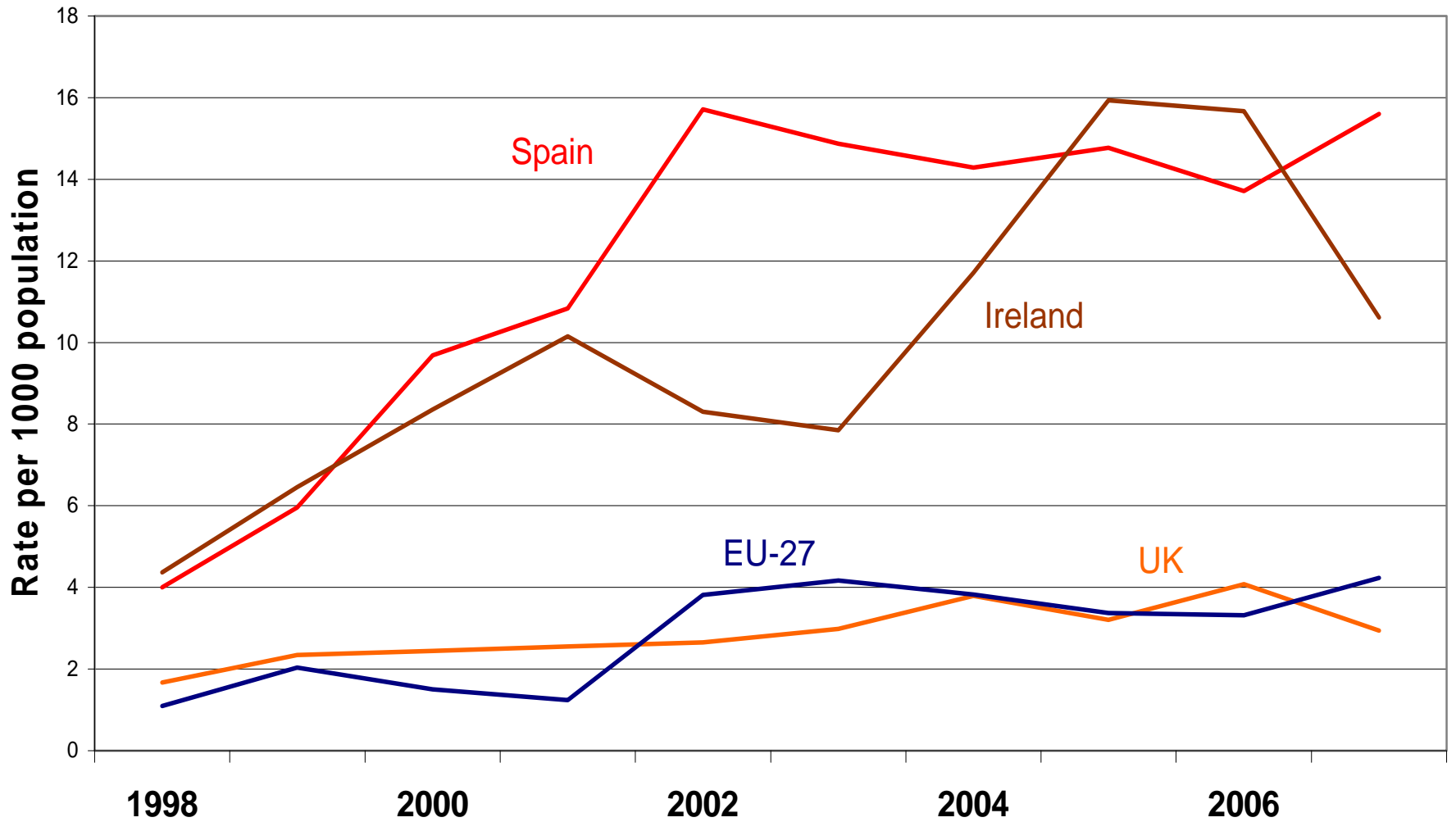
Data: GROS

Migration to and from Scotland



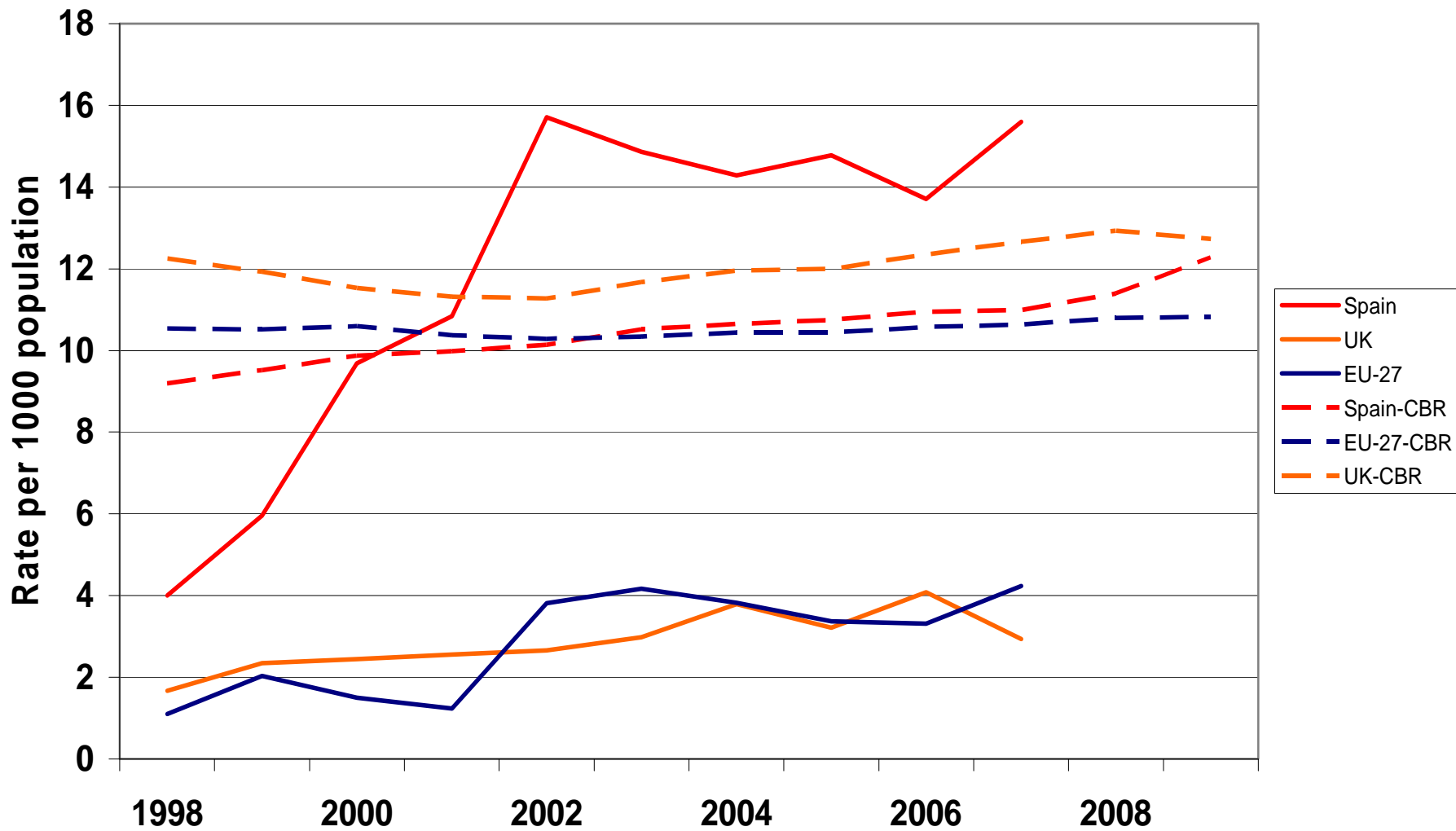
Data: GROS

Net international migration rate



Data: Eurostat

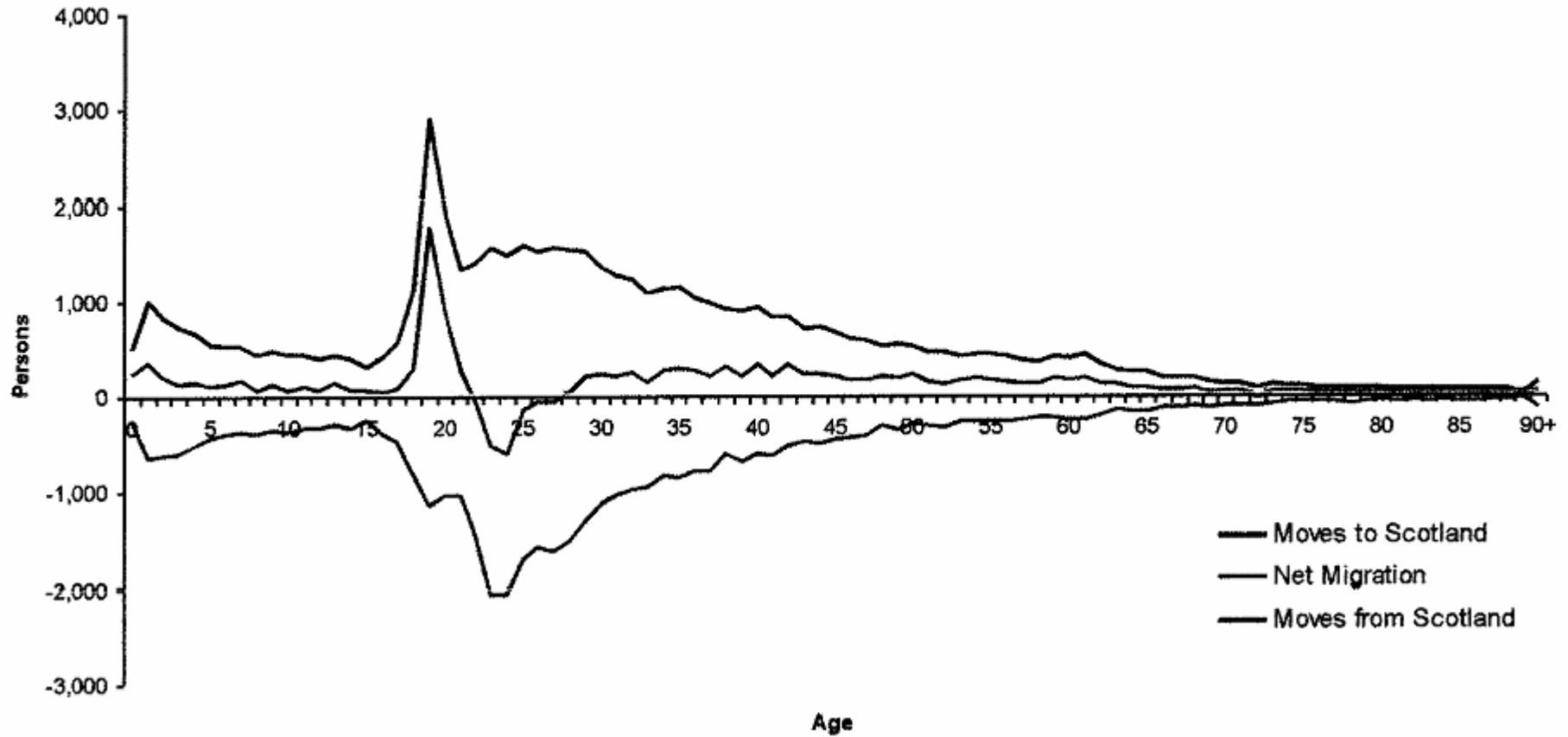
Birth rate and net migration rate



Data: Eurostat

Migration between Scotland and rest of UK by age, 2007-08

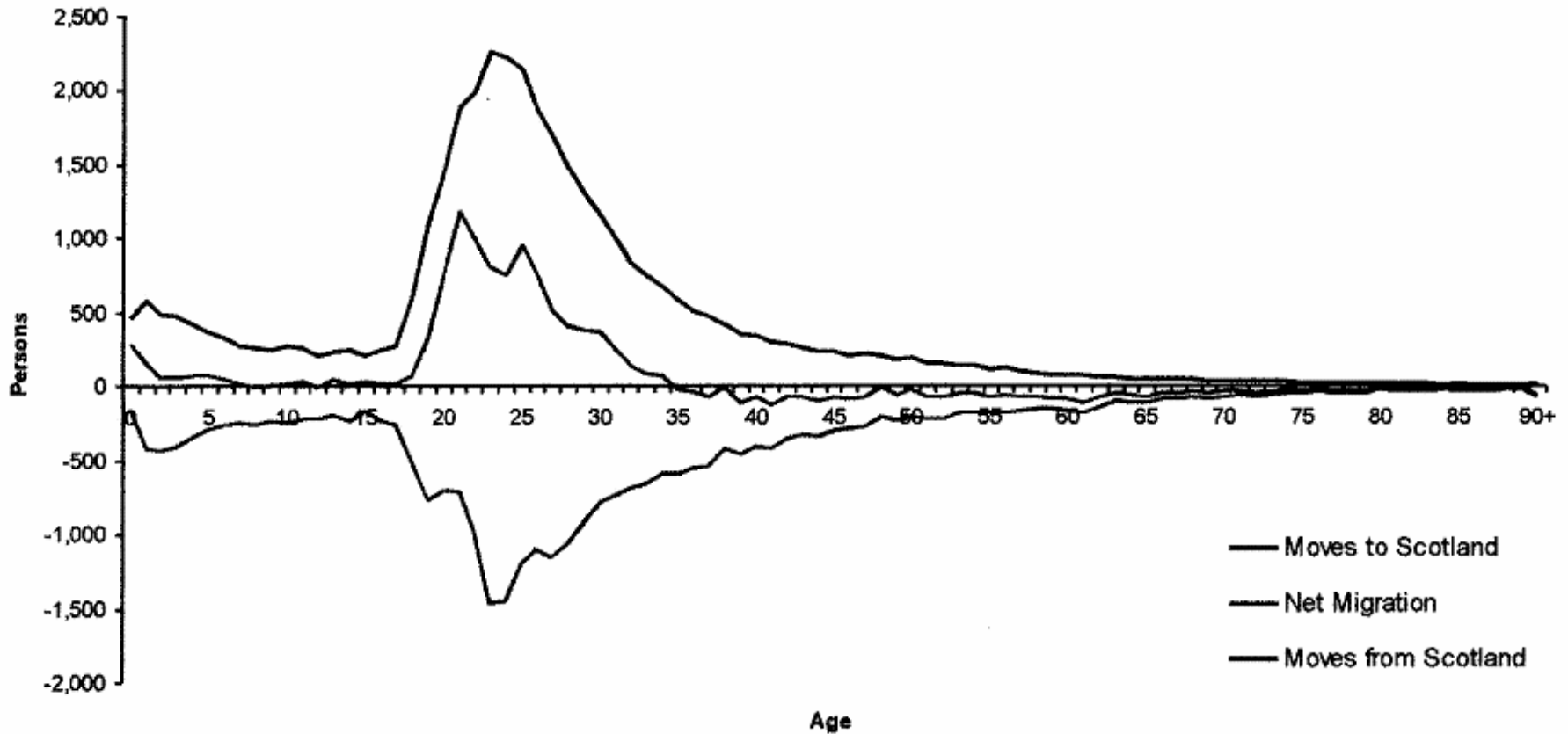
Migration between Scotland and the rest of the UK by age, mid-2007 to mid-2008



Source: GROS

Migration between Scotland and overseas by age, 2007-08

Migration between Scotland and overseas, by age, mid-2007 to mid-2008



Source: GROS

Fertility

The EU-27 can be divided into four broad regions that have had distinct fertility histories, and are fairly homogeneous.

North-West: British Isles, Nordics, Benelux, France.

South: Portugal, Spain, Italy, Greece, Malta, Cyprus.

East: Baltics, Poland, Czech R, Slovakia, Hungary, Slovenia, Romania, Bulgaria.

Centre: Germany and Austria.

The most widely used index of fertility is the total fertility rate (TFR) – expressed in terms of children per woman over a lifetime.

Regional patterns

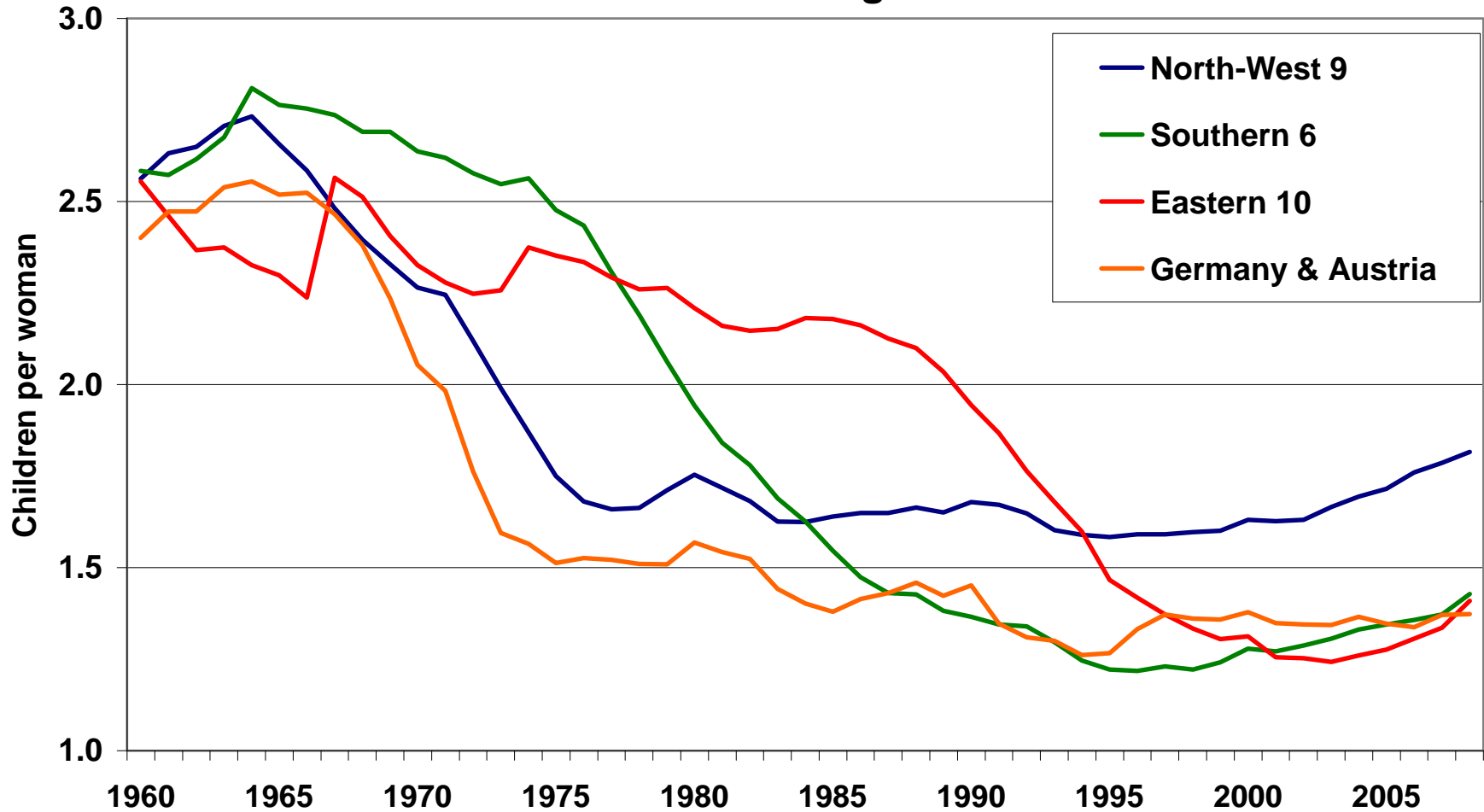
Fertility has been highest for last 15-20 years in North-West Europe: France, Benelux, British Isles, the Nordic Countries – 170 million population.

Fertility has risen throughout this high fertility group.

For the rest of the EU – 315 million people – TFR is now rather similar – the range is 1.33 to 1.51, with only Luxemburg and Estonia between 1.51 and 1.77.

TFR	2001	2008	Range 2008
Scotland	1.49	1.80	
North-West	1.74	1.94	1.77-2.03
Rest of EU	1.29	1.41	1.33-1.66

TFR in Regions

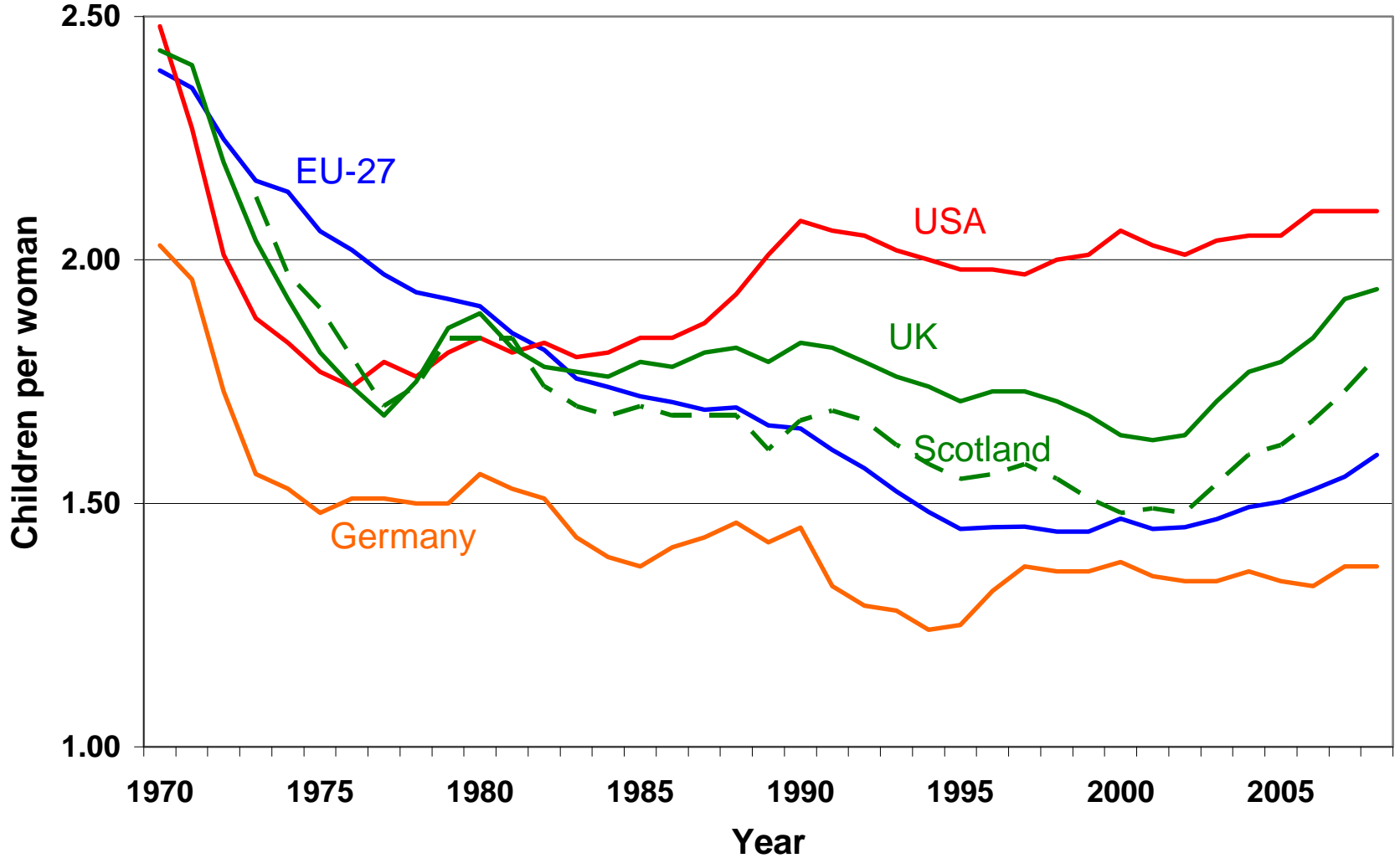


NW-9: F, BE, LU, NL, UK, IR, DK, SW, FI
S-6: IT, ES, PT, GR, CY, MA
E-10: EE, LT, LV, PL, CZ, SK, HU, SI, RO, BG

2008 Populations
NW-9: 189 million; S-6: 128 million
E-10: 102 million; G&A: 91 million

Data: Eurostat

Total fertility rate since 1970



Data: Eurostat, USCB

Combining fertility and migration

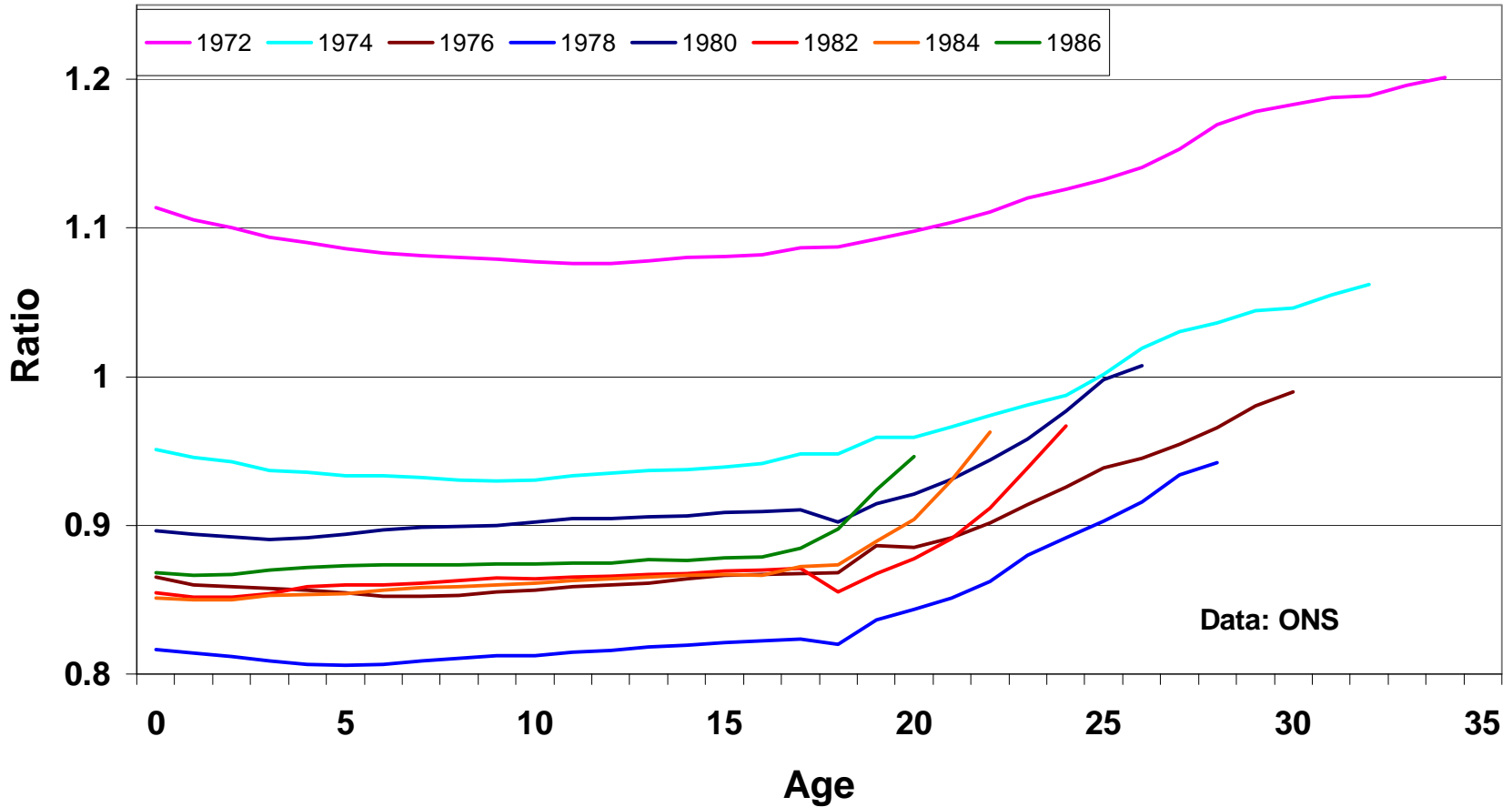
We can calculate a “overall replacement ratio” that takes into account both fertility and migration. This gives a more realistic view on inter-generational replacement.

One very simple calculation is to compare the size of a birth cohort over time, relative to the cohort of mothers in the year of birth.

A more complicated method proposed by Preston et al calculates a “gross replacement rate” (GRE).

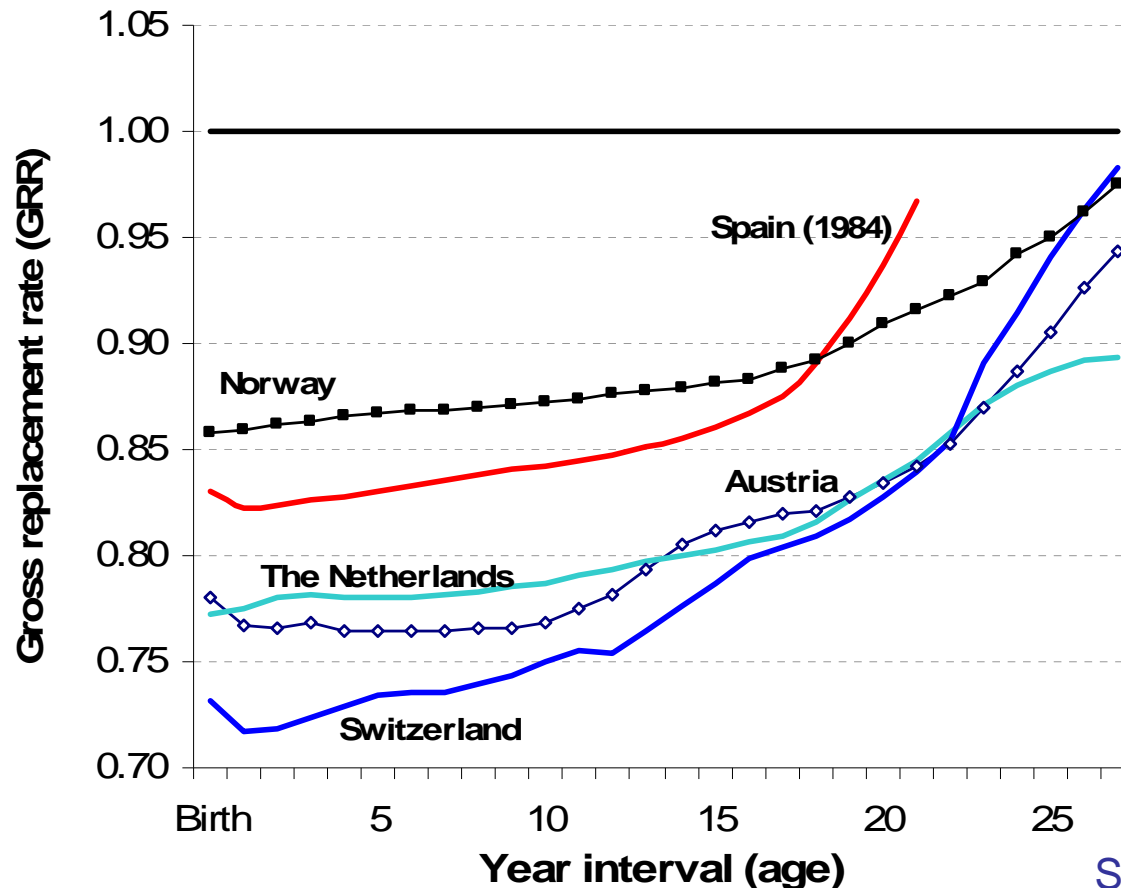
Ratio of cohort size to mothers' cohorts, England and Wales

Ratio is female cohort size at each age divided by size of 20-35 female age group in year of birth.



Cross-country comparison: different combinations of fertility and migration levels

5 countries: GRE for 1978 (1984 for Spain)



Source: Tomas Sobotka