Demography and Migration in Ireland, North and South

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Introduction

THE RECENT DEMOGRAPHY OF IRELAND has been dominated by contrasts with the rest of the world and within itself. Ireland became highly exceptional among the populations of Europe by the mid-nineteenth century and has remained so almost up to the end of the twentieth. Ireland's remarkable example—North and South—has challenged any attempt to establish general rules for the demographic behaviour of modern industrial societies. One task of this chapter is to document this contrast with the rest of the industrial world, to attempt to explain it and to see how far, and why, Ireland's exceptionalism is now drawing to a close. Another is to analyse the internal contrasts between the demographic regimes in the island of Ireland, between and within North and South, and to evaluate possible explanations for them.

The Irish Question in Demography

Irish demographic exceptionalism is readily demonstrated. As late as 1970, for example, Irish fertility, whether measured by the total period fertility rate (TFR) or by the completed fertility of cohorts of women (see Coleman, 1996; Sardon, 1990) was by far the highest of any Western developed country. The TFR indicates the average family size per woman implied by the continuation of the fertility rates of the year in question. In 1970 the TFR in the Irish Republic was 3.87 and in Northern Ireland 3.25. In the same year, the mean TFR of 18 West European countries was 2.41 and of 14 Central and Eastern European countries was 2.30. The Irish

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Republic TFR in 1970 was more than three standard deviations from the West European mean (Figure 1).

In that year, with the exception of Albania (5.16), Irish fertility had no equal or even close rival anywhere on the continent of Europe. Even in 1990, after 20 years of decline, the TFR in the Irish Republic (2.19) was still exceeded only by that of Iceland in Western Europe (2.3), by Albania (3.0) and Moldova (2.39) elsewhere in Europe, and—slightly—by that of Northern Ireland (2.26). By 1993 the TFR in the Irish Republic (1.93) and in Northern Ireland (2.0) had for the first time fallen below the level required to replace the population in the long run (conventionally taken to be 2.1) and by 1994 had fallen further to 1.87 and 1.92 respectively. The Irish demographic transition is now over, although for the time being it has left Irish fertility at the top end of the European range.

Western Europe has been notable, over several centuries, for its unusual pattern of delayed marriage and high level of lifelong spinsterhood (Hajnal, 1965; 1982). From the mid-nineteenth to the late twentieth century Ireland was, along with Sweden, one of the most extreme examples of this pattern, with marriage often delayed until women were approaching age 30

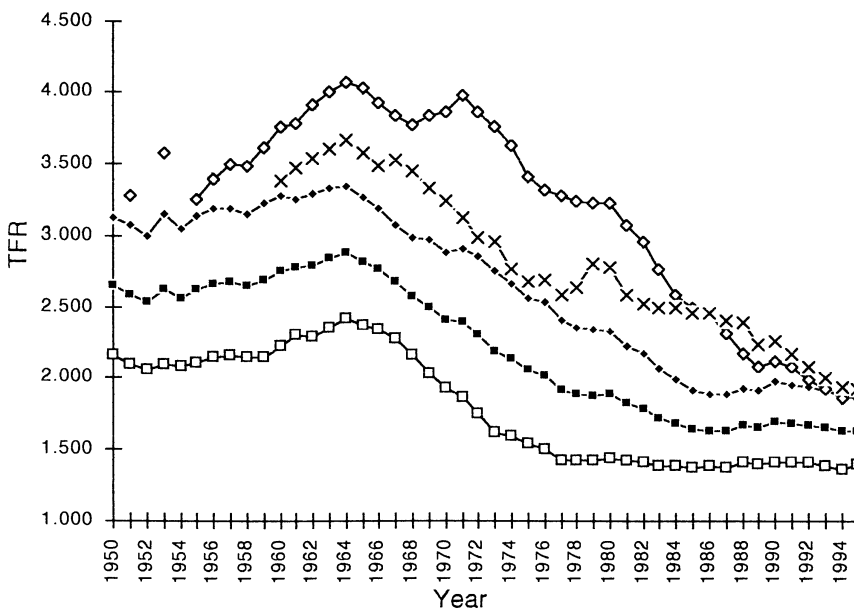

Figure 1. TFR 1950–95, Republic of Ireland, Northern Ireland and mean of 15 Western European countries +/− one standard deviation. (■) West European mean TFR, (□) mean − one standard deviation, (◆) mean + one standard deviation, (◇) RoI TFR, (×) NI TFR. *Sources*: Eurostat (1996), Council of Europe (1996), National Demographic Yearbooks.

and avoided altogether by at least a fifth of the population. Even today about 20 per cent of Irish women now in their fifties have remained childless, notwithstanding the average high fertility. Despite delayed marriage, illegitimate births continued to be rare in Ireland until recently; a remarkable testimony to social control, helping to make Ireland 'a unique entity in terms of her demography of sexuality' (Szreter, 1996: 16). Age at first marriage in Ireland is still late compared with most European countries (in 1992 mean age of marriage of spinsters was 27.0, the oldest in the 15 countries of the EU except for Denmark, Iceland and Sweden), although the picture is now clouded by the novel rise of cohabitation.

Generalisations about Ireland's demography are complicated by the overlapping in Ireland of a demographic regime described above, characteristic of the Irish Catholic population and another less marked variant of the Western pattern—with somewhat earlier marriage, lower celibacy and lower marital fertility—typical of the Protestants of the North and the South. In the North, the Protestants—or at least non-Catholics—now comprise about 58 per cent of the population (Compton, 1996), in the South about 5 per cent. Because of higher Catholic fertility, and in the South through emigration and assimilation, these proportions have fallen from 65 per cent and 10 per cent respectively in 1911. However, the Northern Irish Protestants do not share the same regime as their co-religionists in Scotland, England and Wales, but a distinctive Irish version of it, with higher fertility until recently and persistently higher mortality than in the rest of the UK.

The potentially very rapid population growth made possible by high fertility both in the South and the North has been, in most years, more than balanced by the highest proportional rate of emigration in the industrial world. A few developed countries already experience population decline because their death rates exceed their birth rates. The Irish Republic is still the only developed country which, in many recent years including 1995, has seen its population fall through net emigration despite a positive natural increase. As a consequence of high fertility, the Irish population is the most youthful in the industrial world with 24 per cent of the population under age 15 in 1996 and only 11 per cent aged 65 and over, and a mean age of 33.6 years (24 per cent and 13 per cent in Northern Ireland in 1993). By contrast the under 15s comprised 18 per cent of the population of the 15 EU countries in 1995. However, the Irish population is now ageing relatively fast as fertility has declined: in 1981 the under 15s comprised 30 per cent of the population and the mean age was 30.8 years (CSO, 1997). Among European countries with populations over 1 million, the Irish Republic was until 1996 alone in Europe in having no legal provision for divorce. Since a reform of the law in Belgium in 1990, the Irish Republic is

also alone in Europe in not permitting abortion for any purpose other than the saving of the life of the mother, and that only on the strictest conditions. For more on all these matters, valuable summaries of the demographic scene in Ireland may be found in (e.g.) Kennedy, 1994; Compton, 1995; Ó Gráda and Walsh, 1995.

Data and Their Difficulties

Demographic data on Ireland, North and South, past and present, are relatively limited. As always in historical demography, much ink continues to be spilled over insoluble controversies about premodern population size and vital rates. Contemporary estimates of population size began with William Petty's in 1697, based on the surveys for the hearth tax. The first completed census was held in 1821 following an earlier abortive attempt in 1813, but the census in Ireland was not considered to be reliable until that of 1841, the first to be based on a household canvass. Pre-census estimates of Irish population remain controversial.

The parish registers of baptisms, burials and marriages, so useful to historical demographers elsewhere since Henry's technical innovations, scarcely exist in usable form in Ireland. Civil registration of births, marriages and deaths did not begin until 1864 (except for Protestant marriages from 1844) and the returns are incomplete. There are also serious difficulties, up to the end of the nineteenth century, in relating aggregate vital events (births, marriages and deaths) to the local populations at risk (Teitelbaum, 1984; Ó Gráda, 1991). In the twentieth century both census and vital registration have been much improved. Even so, there was no census in 1921 and since then two parallel series of data, for the Irish Republic and for Northern Ireland, have complicated study.

Official demographic data for the Irish Republic and for Northern Ireland are limited compared to those available for most other Western countries, although this author has always found the offices themselves to be invariably helpful. For example annual birth data for Northern Ireland are not related to a population at risk by age, so it is difficult to compute fertility rates. In the official publications from both parts of Ireland, time-series of means and demographic indices are sparse. For example, no published series of mean age at marriage for the Republic extends before 1960 and none is more recent than 1990 (the 1992 data given above were from Eurostat, 1996). However, data on births by birth order and age of mother relate to all births, not just to births within marriage as in Northern Ireland. Time-series of such indices as the expectation of life at birth for the Republic of Ireland are published annually by Eurostat (1996) and by

the Council of Europe (1996) but not by the CSO. Unlike most censuses in Western Europe, that in Ireland North and South asks a (voluntary) question on religious affiliation, following a pattern begun in 1861.

Data from Northern Ireland are only sub-national data; these are not usually as comprehensive as those for a whole country. However, the problem really works the other way round: Northern Ireland suffers from its lack of integration into the UK. Like Scotland it has its own Registrar-General, but the resources of that office cannot match those available to the Office of Population Censuses and Surveys (now ONS) which publishes data for England and Wales, and the data are not as comprehensive as for England and Wales, or even for its regions. The limitations of demographic data for Northern Ireland restrict those for the whole UK. The total fertility rate cannot be determined for Northern Ireland before 1960, and therefore not for the UK either. Other data published for the 'United Kingdom' by the Council of Europe and by Eurostat (despite warnings by ONS) in fact refer only to England and Wales. Even today the Northern Ireland TFR is not published in the Annual Report but must be sought in the Annual Report of the Chief Medical Officer (DHSS, 1994). Mean age at first marriage was not published at all before 1962 and until the late 1970s was only given one year at a time in the text of the report .

Response to the census in Northern Ireland has been compromised in some years by non-cooperation and in 1981 by Republican violence. Data from the General Household Survey and the Labour Force Survey are now available. The first comprehensive fertility survey in Northern Ireland was not held until 1983 (Compton and Coward, 1989). However, a demographic review was published in 1995 (Compton, 1995) and a question on marital fertility was posed in the 1991 census (unlike that of 1981).

Data on migration are poor in most countries, particularly so in Ireland. Until 1922, migration to Britain and between Southern and Northern Ireland was 'internal' migration and was not directly counted except through sea passenger statistics. Census statistics on birthplace and on previous residence partly compensate for this lack. No controls have existed in peacetime on the border between North and South. Since 1922 the Irish Republic and the United Kingdom have formed a Common Travel Area whereby entry to one permits entry to the other without further check. Neither of the UK's sources of direct immigration data, the Home Office data on settlement and the International Passenger Survey of all incoming and departing passengers, applies to movements with the Irish Republic. Other UK sources, such as the National Health Service Central Register, the annual Labour Force Survey and Social Security statistics, in conjunction with Irish Republic sources and those from other

countries, permited indirect estimates to be made (Geary and Ó Gráda, 1987) at various times in the past.

In the Irish Republic, no direct comprehensive data on immigration or emigration are published in the absence of controls on the movement of persons in and out (Garvey, 1985). Indirect or survey-based estimates are published by the Central Statistical Office from the annual Labour Force Survey, the continuous Country of Residence Inquiry of passengers at airports and seaports, and social security statistics, amended retrospectively by the Census. The Irish Labour Force Survey includes a unique supplementary question on the intended country of destination of persons resident in the previous year who have since emigrated, and the CSO publishes annual data on the intended future residence of married couples. These sources enable gross and net international migration statistics to be published (Sexton, 1994). These Irish statistics, along with data from the British Labour Force Survey, National Health Service Register and National Insurance records, now permit annual estimates of gross and net movement between the UK and the Irish Republic to be made (see OPCS, 1996: MN table a) although they have not yet been published separately.

Northern Ireland is part of the UK's international and national migration system. Although the UK receives and sends substantial numbers of international migrants each year, and has in recent years been a net recipient of immigration even before asylum claimants are considered, Northern Ireland is remote from these international movements except for those involving the Irish Republic. That apart, most of its migration is with the other parts of the UK. In the absence of any system of national registration, movement can only be measured indirectly, for example through the NHS Central Register, which records changes of registration with medical practitioners. Otherwise, migration is estimated in net terms from birthplace data and from migration questions in the census and the Labour Force Survey.

The History and Survival of the Irish Demographic Regime

When the curtain goes up on Irish demographic history in the eighteenth century it reveals unusually rapid population growth. The Malthusian model suggests that this exceptional growth was encouraged by the ease of setting up and supporting a family through potato cultivation (Connell, 1950) in an immobile egalitarian rural society dominated by partible inheritance. This view appears to have stood the test of time: recent research has if anything reinforced the classic model of pre-famine Irish population, characterised by high rates of natural increase driven by high marital fertility (Clarkson, 1981; Dickson *et al.*, 1982; Kennedy and

Clarkson, 1993), although there is less agreement on whether pre-famine marriage was early by European standards. Irish population growth from 1753 to 1821 was already exceptional, being then the highest in Western Europe (Figure 2): on average 1.3 per cent per year between 1750 and 1845 according to Mokyr and Ó Gráda (1984: 476), or 1.4 per cent between 1791 and 1821; Daultry *et al.*, (1981: 625). Population more than doubled in the eighteenth century, having possibly doubled also during the seventeenth. But such growth was not sustainable. Ireland did not experience the agricultural or industrial revolutions so important to England's later economic success, and which enabled it to sustain a large population with a growing standard of living in the later eighteenth and early nineteenth centuries. Without such developments the catastrophe of the famine forced the population into a new regime in order to survive new circumstances.

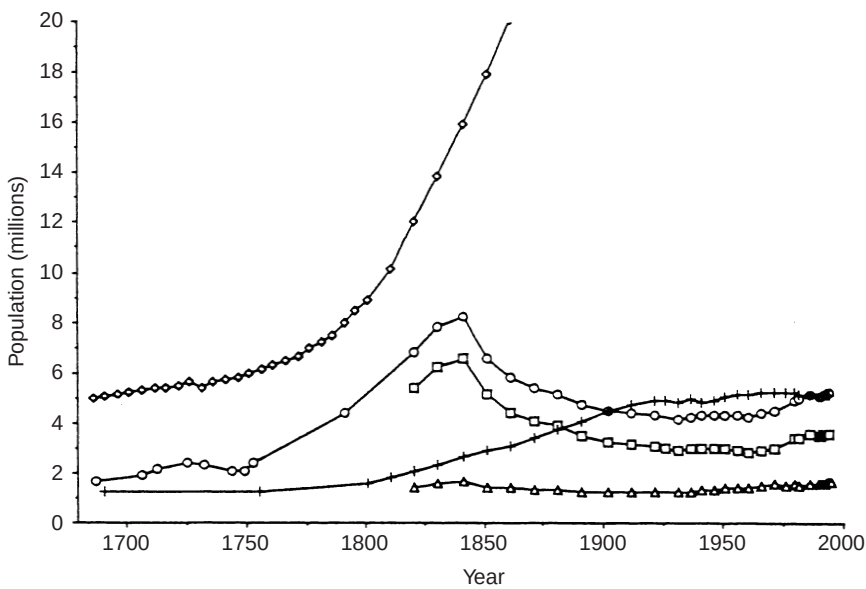

Figure 2. Population Trends, Great Britain and Ireland 1686–1994 (millions). (○) All Ireland population, (□) RoI population, (△) NI population, (◇) E&W population, (+) Scotland population. *Note*: No data for Wales could be found before 1801. Following the ratios in the 1801–21 censuses, 3% has been added to the England population before 1801. For Ireland before 1821, the average of the range of estimates of Dickson *et al.* (1982) was used. *Sources*: England before 1801: Wrigley and Schofield (1981) table A3.1, Scotland before 1801: Tyson (1995), Ireland before 1821: Dickson *et al.* (1982), Republic of Ireland from 1821: Central Statistics Office (various years), Northern Ireland from 1821: Registrar-General (Northern Ireland) various years, England and Wales 1801 onwards: Office for Population Censuses and Surveys (various years), Scotland 1801 onwards: Registrar-General Scotland (various years).

Little is known about marriage and fertility in Ireland before the 1840s. In the general prevalence of partible inheritance, farms could be and were subdivided; new land was also cultivated. But the favoured mechanism for accelerating population growth, the lowering of the age at marriage, has its critics. The 1841 census, for example, suggests that mean age of marriage just before the famine was an unexceptional 24–25 for women and 27–29 for men (Mokyr and Ó Gráda, 1984: 477). These estimates are supported by rare surviving enumerators' returns for Antrim, although these also suggest that mean age at marriage had increased a little since the beginning of the century (Morgan and Macafee, 1984). Marital fertility does appear to have become exceptionally high by European standards before 1840, possibly through changes in breastfeeding patterns connected with potato cultivation (Schellekens, 1993). Infant mortality around 1841 was higher than average in Europe (220–225 per 1,000 live births: Mokyr and Ó Gráda, 1984: 484). But adult mortality may have fallen, partly because the potato increased the subsistence base. Smallpox may have been checked by inoculation in the eighteenth century, especially on the East coast, but not to the same extent as in Britain.

The components of a distinctive Irish demographic regime became discernible by the mid-nineteenth century: exceptionally late marriage with low levels of illegitimacy or cohabitation; 'natural' high fertility within marriage; correspondingly low levels of overall fertility compared with other nineteenth-century populations. By this time, and possibly much earlier, most households were based upon the nuclear family. Before and after the famine, mortality is thought to have been moderate by the contemporary standards, possibly because of the low level of urbanisation and the avoidance of subsequent subsistence crises through emigration.

The whole system was overshadowed, and its peculiar nineteenth-century features made possible, by the institutionalisation of high rates of emigration. Emigration, especially from Ulster, had been substantial even before the famine, especially to North America: perhaps three quarters of the 250,000 to 400,000 emigrants from 1700–1776 were Protestants (Miller, 1985: Ch. 4). The conventional wisdom is that the elevated levels of emigration after the famine, and its continuation almost to the present day, became the cornerstone of an Irish demographic regime also characterised by continuing high marital fertility, delayed marriage, frequent celibacy and impartible inheritance. This enabled high rates of natural increase to continue for over a century without feeding back onto population size, to a greater degree than elsewhere in Europe (Table 1). After the famine, Irish population declined throughout the nineteenth century, until the 1950s; a trend unique in Europe for a country although

Table 1. Republic of Ireland, average annual population change (1871–1996).

Period beginning	Population change	Natural increase	Net migration	Rates per 1,000 population: Population growth	Natural increase	Net migration
1871	−18,317	31,855	−50,172	−4.6	8.1	−12.7
1881	−40,133	19,600	−59,733	−10.9	5.3	−16.3
1891	−24,688	14,954	−39,642	−7.4	4.5	−11.9
1901	−8,214	17,940	−26,154	−2.6	5.6	−8.2
1911	−11,180	15,822	−27,002	−3.7	5.2	−8.8
1926	−357	16,318	−16,675	−0.1	5.5	−5.6
1936	−1,331	17,380	−18,711	−0.4	5.9	−6.3
1946	1,119	25,503	−24,384	0.4	8.6	−8.2
1951	−14,226	26,652	−40,877	−4.9	9.2	−14.1
1961	15,991	29,442	−13,451	5.5	10.2	−4.6
1971	46,516	36,127	10,389	14.5	11.3	3.2
1981	8,231	28,837	−20,606	2.4	8.3	−5.9
1991	19,063	18,426	637	5.3	5.2	0.1

Source: CSO.

not uncommon for provinces of a country. There was therefore no demographic incentive for a reduction in marital fertility.

The Irish Question in historical demography, however, never seems to be quite settled. The post-famine novelty of relatively late marriage has been questioned; some sceptics doubt whether the famine inaugurated a new demographic regime (Kennedy, pers. comm.). Furthermore, the famine was not unique to Ireland. It is difficult to see how the famine itself could account for permanently higher levels of emigration once conditions had returned to normal in the 1850s; a problem also for the somewhat parallel case of the Scottish Highlands (Flinn, 1977: 32–8, 421–38), unless there was a widespread perception that the old ways were no longer sustainable. Higher levels of emigration, however, are beyond doubt and the gradual predominance of impartible inheritance after the famine must have been important in sustaining it (Ó Gráda, 1993: Ch. 5). The death rate, although slightly lower in the nineteenth century than in more urbanised Britain, appears to have been relatively more unfavourable to females and for longer. As many emigrants were women, Ireland thereby acquired an unusual sex ratio (only recently lost) with more males than females. This depressed the marriage chances of men, giving some substance to its depiction earlier this century as 'a nation of elderly bachelors'.

Ireland's Migration Pattern

Neither Ireland's population trends nor its fertility can be understood without considering emigration. The basic fact about Ireland's demography,

over the last 150 years, is that emigration of up to half of each birth cohort has overwhelmed the substantial natural increase in the population and caused numbers to decline. Emigration is the most distinctive feature of Ireland's demography, even more than its high birth rate, in per capita terms the greatest of all the European nineteenth-century diasporas. By the mid-twentieth century it was only in Ireland that emigration still had such a powerful effect upon the national population, continuing to limit total size and permitting the continuation of unusually high fertility. During the renewed exodus of the 1880s, provoked by agricultural depression and the Land Wars, emigration primarily to North America exceeded natural increase by two- or threefold. The 1950s saw emigration on almost the same scale, this time to the UK, attracted by postwar economic growth; a pattern slightly paralleled by that of Finland and Sweden.

Other countries, especially on the north-western fringes of Europe, also had high emigration rates: especially Norway and also Sweden, Finland and the UK, particularly Scotland (Baines, 1991). More emigrants left from Britain and from the German-speaking populations, but the rate was lower. While heavy emigration rates depressed population growth widely, Ireland is exceptional in that emigration put population growth into reverse. However, the Scottish Highlands and Islands—not dissimilar in agricultural terms—also suffered irreversible depopulation through emigration after the famine (Flinn, 1977); Scottish population growth as a whole was also slowed by emigration in the late nineteenth century and slightly reversed from 1921 to 1931 (Anderson and Morse, 1993) and again in the 1970s and 1980s (some of the latter migration being to the Irish Republic).

Since the 1880s, emigration has, in very broad terms, been declining except during the 1950s, and fell below a net annual loss of 20,000 people after the Second World War. Irish population ceased to decline in the 1950s. In 1972, the Irish Republic gained population through migration for the first time in peacetime (Figure 3). As that also coincided with a rise in natural increase the population grew relatively fast for a time (Figure 4). Both are reasonably attributed to the marked revival in the Irish economy in the middle to late 1970s.

The end of that episode of prosperity led to a marked elevation of unemployment and a resumption of emigration from the early 1980s, peaking at a net loss of 43,900 in 1989 (about 1 per cent of the population). Up to about 1990, about 60 per cent of postwar emigrants went to the UK and most were unskilled. In the 1990s, more have gone to the United States and to the EU. Most earlier migrants were unskilled; more recently they have been much better educated and more mobile. Since 1993, while unemployment continues at a high level, exceptional economic growth

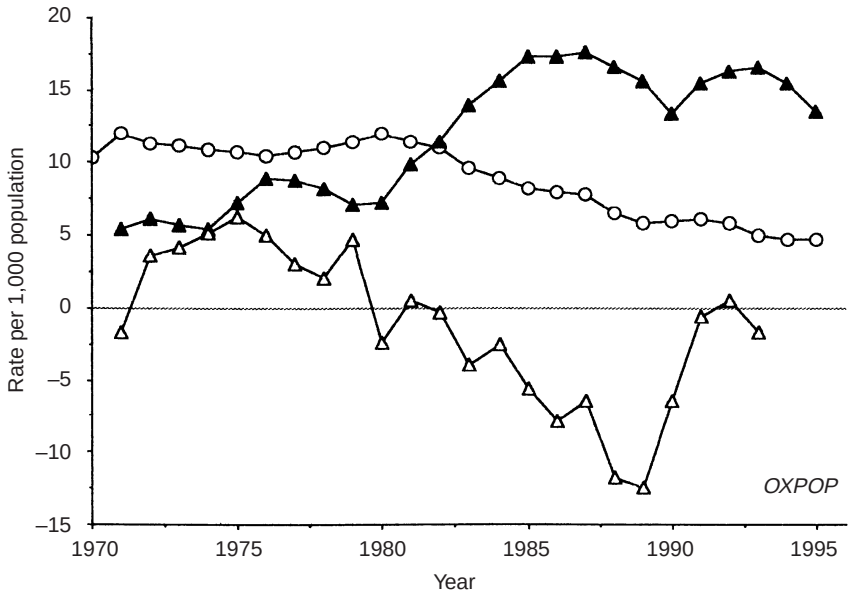

Figure 3. Irish Republic: Rates of natural increase, unemployment and net migration 1970–95. (○) RoI Rate of Natural Increase (per 1,000 population), (▲) RoI Unemployment (% of workforce), (△) RoI Crude Migration Rate (per 1,000 population). *Sources*: Central Statistics Office, OECD.

rates, associated with strong overseas investment in new manufactures and services and EU aid, have led once more to modest positive net immigration (6,200 in 1992, 5,600 in 1996). As in the 1970s, most of the immigrants were return migrants, although Ireland is now also attracting high-level foreign labour. However, migration is now volatile: 1994 and 1995 again saw a return to a small net outflow, of 5,500 and 1,700 persons respectively (Sexton, 1994; CSO, 1996; OECD, 1997: 116–19).

A notable feature of the demography of Ireland, compared with the rest of Europe, is the absence of any substantial foreign population, especially from outside Europe. Few international migrants have settled in Ireland (except returned expatriates of Irish origin) throughout the last century and beyond. In 1996 total foreign population in the Irish Republic was 95,500 (2.7 per cent) of whom 63 per cent were from the UK and only 15 per cent from outside the EU or the United States. Only 7 per cent of the population was born outside the Republic; 5.3 per cent in the rest of the British Isles and 1.7 per cent outside it. In 1991 only 1 per cent of the residents of Northern Ireland were born outside the British Isles (0.5 per cent each from the Commonwealth and from foreign countries); 91.4 per cent of its residents had been born in Northern Ireland, 4.1 per cent were

Figure 4. Estimates of mid-year population, Northern and Southern Ireland 1950–95. (○) RoI mid-year population (1,000s), (◑) NI mid-year population (1,000s). *Sources*: Central Statistics Office, Registrar-General, Northern Ireland.

from the rest of the UK, 2.2 per cent from the Republic of Ireland (CSO, 1997: table 21, DHSS/RGNI, 1992: table 7). Few of the UK's numerous non-European ethnic minority populations have settled in Northern Ireland; between 7,000 and 10,000, mostly Chinese (about 0.5 per cent of the population: Belfast Multi-Cultural Resource Centre, pers. comm.).

The Irish Republic until recently lacked general immigration legislation beyond the Aliens Act 1935, which covered rights of residence and employment. Gross and net flows with the (non-UK) EU are roughly balanced, and not more than 7,000 per year each way since 1989. Few residence and work permits are granted to non-EC nationals, mostly for special skills. Some 3,600 work permits were granted in 1992, and demand is increasing. In relation to population, numbers of work permits are about the same as are granted by the United Kingdom, but the Irish figures include renewals as well as new issues. The most numerous are to nationals of the United States, Canada and Japan, India and Pakistan.

So far, there are no organised non-European 'ethnic minority' populations in the Republic. The rise of asylum claiming in the Republic, however, may change that. Only a few tens of asylum claims per year were made in the Republic up to the early 1990s (19 in 1986, 39 in 1992, 91 in 1993, 362 in 1994, 424 in 1995, not including some Bosnian 'programme' refugees:

data from Department of Justice, Equality and Law Reform). In the absence of specific asylum legislation, administrative procedures were drawn up in 1985 in consultation with UNHCR. The 1996 Refugee Act set out in transparent statutory form the status and rights of persons recognised as refugees and procedures for recognition, with generous provisions. Not surprisingly, according to press reports (Murdoch, 1997), asylum seekers have now discovered the Irish Republic. Asylum claims, mostly from Eastern Europe and notably by Romanian gypsies, increased to 1,179 in 1996 and to 2,312 by the end of July in 1997. Relative to population, the latter figure if annualised is comparable to that in the UK.

Ireland's Fertility Transition

Ireland's post-1841 fertility and marriage regime has been put into European perspective by the Princeton group's international demographic project (Coale and Watkins, 1986; Teitelbaum, 1984). In the absence of data suitable for the calculation of total fertility rates, indices of indirect standardisation were used (Coale *et al.*, 1975). These 'Princeton' indices relate the fertility and marriage patterns of populations to the benchmark of the Hutterite (Anabaptist Protestant) religious enclaves of the rural United States (Hostetler and Huntington, 1996), which had in the 1950s the highest levels of fertility ever recorded. These indices enable the birth rates of populations with very different age-structures to be compared reliably with minimal data. They vary from 1.0 to 0, with 1.0 equalling Hutterite fertility. By dividing the index for all women (I_f) into that for married women (I_g) an index of marriage (I_m) showing the relative influence upon fertility levels of marriage patterns can be determined (1.0 = universal early marriage and therefore no limiting influence of marriage). Low levels of I_g suggest that some form of family limitation is being adopted within marriage. From the 1870s—and in a few cases much earlier—most European populations began to adopt family planning within marriage. Ireland in general did not, except for some Protestant communities and urban elites from about 1900 (David and Sanderson, 1990), although despite the indifference to demographic transition of the rural majority in Ireland there is some evidence of some 'spacing' of births even in parts of rural Ireland around that time (Ó Gráda, 1991).

Overall Irish fertility (I_f, Figure 5) was distinctive in Europe by the later nineteenth century because it was relatively low, not because it was high, thanks to delayed and avoided marriage. By remaining relatively constant in the century that followed, it came to appear distinctively high by the 1920s, exposed to view by the receding tide of fertility almost everywhere

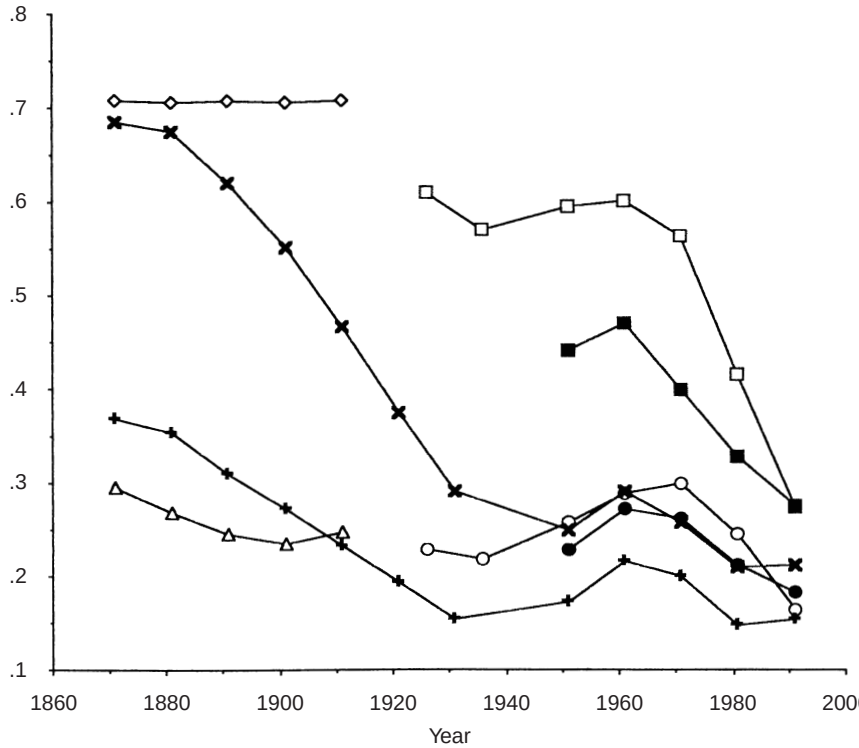

Figure 5. Princeton Indices I_f and I_g for Ireland and England and Wales 1871–1991. (○) I_f RoI, (□) I_g RoI, (△) I_f all Ireland, (◇) I_g all Ireland, (+) I_f England & Wales, (×) I_g England & Wales, (●) I_f NI, (■) I_g NI. *Note*: The pre-1961 values given here for Ireland are those of Teitelbaum, not the higher estimates of Ó Gráda. *Sources*: Teitelbaum, 1984; Coale and Watkins, 1986; CSO; OPCS; Registrar-General (Northern Ireland), various years.

else. I_g (marital fertility) from 1871 to 1911 shows only modest decline in Ireland (recent work contradicts the earlier picture of no decline at all and suggests a fall from a higher level of about 0.825 in 1881 to 0.735 in 1911; Ó Gráda, 1991). I_g fell almost everywhere else. Before the transition, for any given age at marriage, Irish fertility was little higher than that of Scotland or of England and Wales. Overall, it resembled the Scottish pattern of lower nuptiality and higher marital fertility rather than the English pattern (Anderson and Morse, 1993). But Ireland did not join in the substantial decline in marital fertility in Scotland and England after the 1870s which followed the adoption of family limitation in marriage. This reduced British I_g to 0.25 by 1961 when in Ireland it remained at 0.60 (after some decline which will be discussed later). Instead of family planning, the trend of I_m shows that in Ireland, but not in England or Scotland, there

was a substantial further reduction in nuptiality, thus increasing age at marriage still further and reducing the proportions of those ever marrying. This is usually interpreted as a partial response through marriage to those pressures which in England and Scotland were resolved through family planning.

Urban women tended to marry earlier than rural women. The adoption of fertility control by some urban women around the turn of the century brought their fertility back in line with that of the traditionally later-marrying population (David and Sanderson, 1988). Different parts of Ireland were already diverging in fertility, which rose somewhat in rural Galway while it fell in Antrim, Down and Belfast. Throughout this period the proportion of births outside marriage remained very low. Illegitimacy fell throughout Europe in the nineteenth century; those at risk would have been the most avid customers of the new knowledge of contraception. No such decline is evident in Ireland, although illegitimate births may have suffered from under-registration.

Twentieth-Century Fertility Trends to 1995

Irish fertility declined slowly in the first three-quarters of the twentieth century; an increasingly anomalous example of persistent high fertility. The fertility levels of England and Ireland parted company around 1910. By then, the 1911 census shows that fertility differences between the Protestant and Catholic populations of Northern Ireland were already discernible: a difference in completed family size of 0.3 children from the marriages of the 1880s. Protestant fertility, however, remained higher than on the British mainland, (Ó Gráda, 1984). In fact overall, natural increase in Northern Ireland was higher than in the Republic until 1969 (Figure 6) although that was partly due to a higher death rate in the Republic. From 1960, the first year from which the TFR statistic is available, the fertility trends in North and South Ireland are remarkably similar (Figure 7), and still uniquely high in Europe. In the baby boom which began in the 1950s the TFR rose to a peak of 4.1 in 1964, a figure matched only by New Zealand among the Western countries. More than in most Western countries, the Irish baby boom was a result of earlier births. There was no increase in completed family size, which fell from a peak around the mid-1950s (births to mothers born in the mid-1930s). Both completed family size and TFR declined substantially from the late 1970s onwards. In that respect Irish period fertility trends have most in common with those of Roman Catholic, Southern European countries (e.g., Spain, Portugal).

The Irish baby boom followed the weakening of the unique Irish

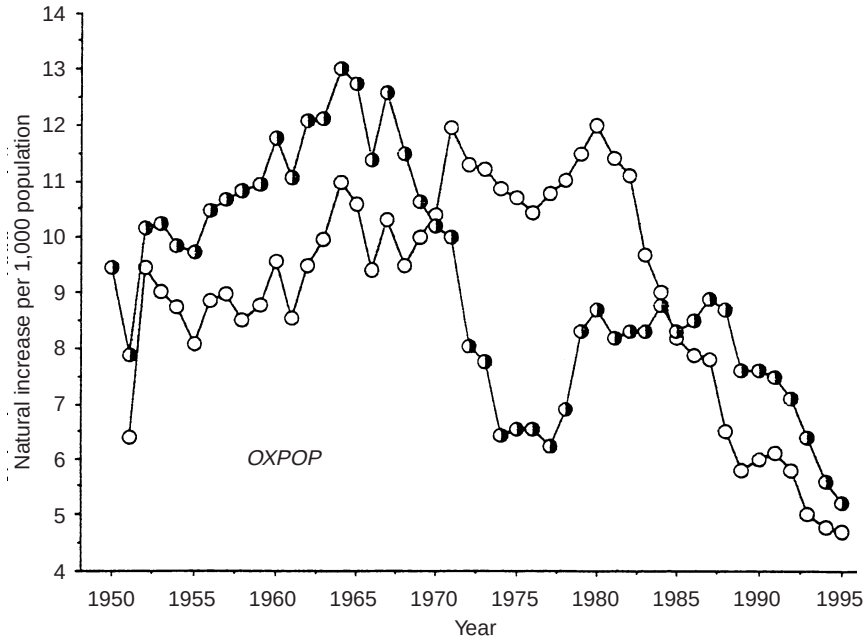

Figure 6. Natural increase per 1,000 population, Northern and Southern Ireland 1950–95. (○) RoI Rate of Natural Increase, (◑) NI Rate of Natural Increase. *Sources*: CSO, Registrar-General (Northern Ireland) various years.

pattern of very late marriage (see Kennedy, 1989). Even in 1960, mean age at first marriage was still 31 for bachelors and 28 for spinsters, and by 1977 women were marrying at average age 24. Earlier marriage had started to become popular in other European countries a quarter of a century earlier, in the late 1930s (e.g., England and Wales). This late decline in mean age at marriage (which brings forward childbearing) temporarily inflated the TFR and to some extent concealed the substantial decline in marital fertility from the 1970s (Sexton and Dillon, 1984). The Irish baby boom was unusual in another way. Despite a higher TFR, the number of births did not rise in proportion because the maternal generations producing the babies were relatively small. Therefore Ireland lacks the very characteristic West European 'bulge' of an expanded baby-boom age structure around age 30; instead, the most numerous cohorts are now around age 15. The decline of large families after 1960 is reflected in the reduction of high order births (Figure 8). In the 1960s, almost one half of all births occurred in families where there were at least three children already—way above the European average. By the late 1970s this proportion had fallen to just over a quarter and in 1995 was 15 per cent. Correspondingly, first births

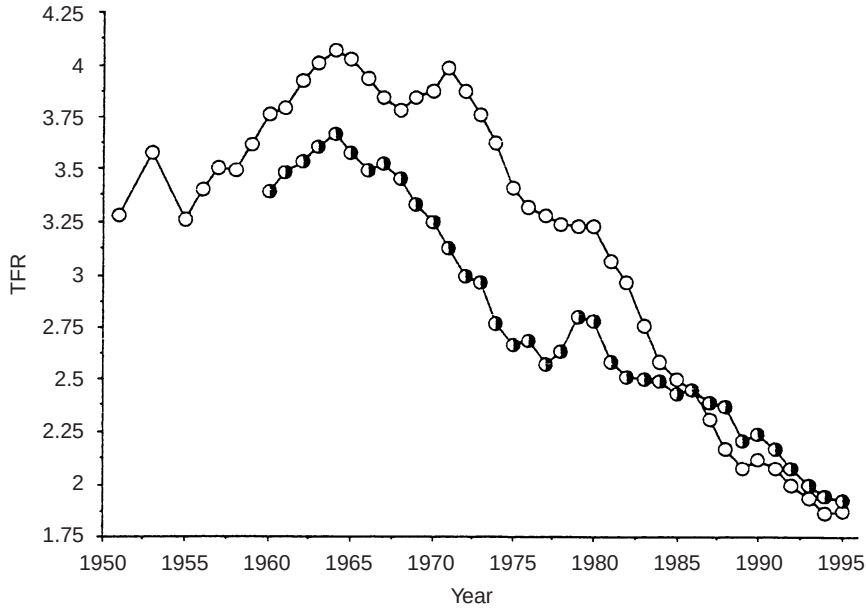

Figure 7. Total Fertility Rate, Northern Ireland and Irish Republic, 1950–95. (○) RoI TFR, (◑) NI TFR. *Sources*: CSO, Registrar-General (Northern Ireland) various years..

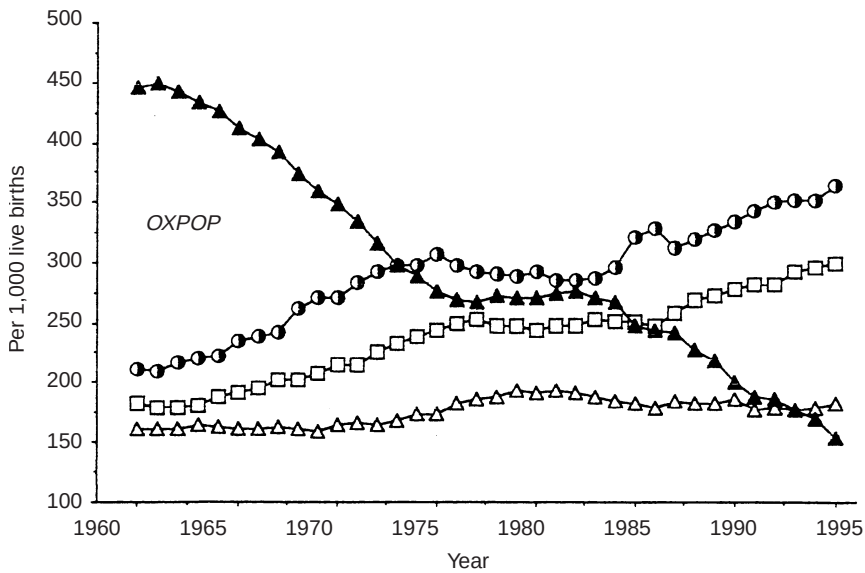

Figure 8. Irish Republic: births by birth order 1960–95, per 1,000 total births. (◑) Proportion 1st births, (□) Proportion 2nd births, (△) Proportion 3rd births, (▲) Proportion 4th births. *Source*: CSO (various years).

increased from about one in five in 1960, to over one in three in 1995—still substantially less than in other Western societies, however, where on average 40 per cent of births are first births.

Everything started to change between 1970 and 1980. TFR and natural increase, which up until then had seemed relatively immune to the example of decline elsewhere in Europe, moved sharply downwards and have continued downwards ever since. Mean age at first marriage, having reached a low of 24.0 years in 1979, several years after most of the rest of Europe, started to rise again, as it has in other European countries. The Irish TFR fell below the replacement level (2.1) in 1992 for the first time in history. By 1995 it was 1.85; still higher than in most European countries but no longer requiring graphs to be re-scaled to accommodate it. As elsewhere in Europe, in part these declines in fertility can be attributed technically to the delay of childbearing. Mean age at first birth, still over 27 years of age in the Irish Republic in 1960, fell to a low point of 25 between 1971 and 1982 and since then has risen to 27 by 1995. Even at its lowest this was late by European standards: elsewhere the mean age at first birth fell to as low as 22. However, Ireland has become less distinctive than it was in that respect. As until recently almost all births were legitimate, these trends were closely linked with movements in mean age at first marriage, which has since increased, along with the rest of Europe. But that trend is complicated by the new rise of cohabitation and illegitimacy, noted below.

The 'Second Demographic Transition' in Ireland

The 'first demographic transition' is the term given to the acquisition of low levels of mortality and fertility over the course of the last century or more; whereby expectation of life for both sexes rises to over 70 years and average family size falls to around two children. While a two-child family was achieved in most Western countries some time in the 1930s, Ireland has only reached this level of fertility in the last few years. In that respect it is 60 years behind the times.

In the meantime, before the first transition is quite over in Ireland, it has become commonplace to speak of a second demographic transition in the Western industrial world. This is not so much distinguished by trends in overall fertility and mortality, but rather by new patterns of sexual behaviour, contraception, abortion, cohabitation and illegitimacy. The proposition is that since the 1960s there has been a marked and discontinuous upward trend in all these phenomena. Behaviour once rare and stigmatised has become accepted or even normal. Their increase in most Western societies is hardly in doubt (see van de Kaa, 1987). However, they

have reached very different levels in different countries. Critics of the concept (e.g., Cliquet, 1991) doubt the discontinuous nature of the change, detecting its signs at an earlier date. The new patterns of interpersonal behaviour and living arrangements are associated with declines in traditional behaviour such as religious affiliation. They are conventionally associated with the spread of more individualistic, 'post materialistic' ideas made possible by the satisfaction of material needs through economic growth and welfare (Inglehart, 1977; De Graaf and Evans, 1996). Those who adopt the new patterns of behaviour—notably cohabitation—tend to have non-traditional attitudes towards parental and legal authority, sexual freedom and especially show little interest in religion (Lesthaeghe and Moors, 1996).

Ireland North and South have begun the second demographic transition with some gusto, before they have even quite finished the first: a 'compressed' demographic transition (Kennedy, 1989). In both places, illegitimate births, once very rare (25 per 1,000 live births in 1960), have increased sharply since the 1970s, and the trend between North and South is scarcely to be distinguished (Figure 9). Although still only half the level of that in Scotland and England and Wales, rates in 1995 were well beyond

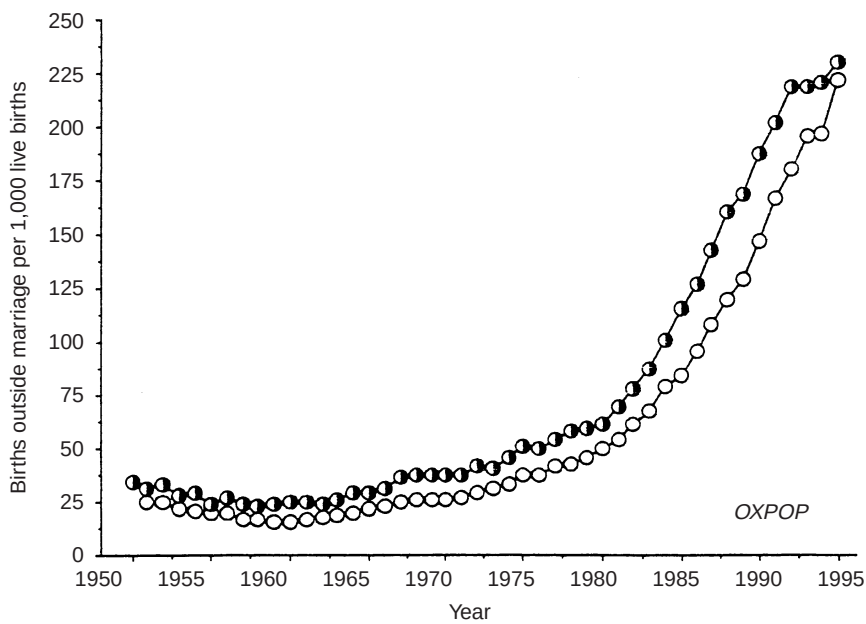

Figure 9. Northern and Southern Ireland: illegitimacy ratio 1950–95 (births outside marriage per 1,000 live births). (○) RoI Illegitimacy Ratio, (◑) NI Illegitimacy Ratio. *Sources*: CSO, Registrar-General (Northern Ireland).

any historical level and have comfortably exceeded levels in other European countries (Italy, Spain, Germany, Netherlands) even though starting from a lower position. This indicates a startling change in attitudes; the end of a tradition of sexual restraint before long-delayed marriage (Szreter, 1996). The social changes which are hastening the end of the first Irish demographic transition are, at the same time, ushering in the second, with more sexual freedom and a plurality of family forms.

Data on cohabitation are less easy to come by. The Irish LFS is silent on the topic and cohabitation only featured as a question in the Irish census in 1996. That revealed 3.9 per cent of 'family units' to be cohabiting, 40 per cent of them with children. Responding to the change in the times, the UK census has asked about remarriage as a separate category since 1981 and in 1991 introduced a separate category of 'living as married', i.e., cohabiting. While the question was asked on the Northern Ireland 1991 census forms, responses have not been routinely tabulated. However, special tabulations show that there were about 8,000 cohabiting unions in the province, about 2.4 per cent of all unions (Compton, 1995)—much less than in England and Wales (11 per cent in 1994), and it seems less than in the Republic in 1996. In only about one half of the partnerships were both partners single. Most lived in the east of the province; many fewer in the Catholic and rural west. Cohabiting partners were predominantly less educated than average, and likely to be unemployed and living in public housing—a more pronounced 'underclass' profile than shown by their counterparts in England and Wales. And while in England and Wales much of the recent increase in illegitimate births has occurred to such unions, this does not seem to be the case in Northern Ireland, where only 2,575 cohabiting women had children (there are about 5,000 illegitimate births per year in Northern Ireland), suggesting that much more of the illegitimacy in Northern Ireland is of the 'traditional' kind (Compton, 1995) where the girl is left holding the baby.

This is, however, a complex kind of sexual revolution. What is the point of a second demographic transition without abortion or divorce? Yet the first is officially absent in the Irish Republic and both are less developed in Northern Ireland than in the rest of the UK. In the Irish Republic the beginning of the impressive upward trends in illegitimacy coexisted with a reaffirmation, in the June 1986 referendum, of the 1937 constitutional ban on divorce, overwhelmingly supported by 63 per cent against 36 per cent. The same electorate voted in 1983 for the incorporation into the constitution of the prohibition of abortion. No other major European country forbade divorce. In the last ten years, however, there has been a radical turnaround. Following another referendum in November 1995, the Family Law (Divorce) 1996 Act became law in February 1997 to permit divorce on

grounds of 4 years separation. The first (exceptional) case went through the Irish courts on 17 January 1997. Irish laws are now more in line with those of the rest of Europe. Separation, annulment and desertion, and divorce abroad, have substituted to some extent for the absence of domestic divorce arrangements in the Irish Republic, creating a large backlog of candidates for the new law. In 1986 there were 37,245 separated persons in Ireland (in proportional terms, a larger number than in England); by 1996 this had doubled to 87,800.

In Northern Ireland, divorces increased from 1,653 in 1983 to 2,200 in 1995. It is not possible to compute synthetic indices of divorce for Northern Ireland, but a simple comparison with marriages celebrated in the same year gives a rate of 165 divorces per thousand marriages in 1983 and 250 per thousand in 1995, or alternatively a rate per 1,000 married population of 2.5 to 3.4 respectively. These are about a quarter of the corresponding rates in England and Wales, with the implication that current rates of divorce in Northern Ireland would end about 10 per cent of marriages by their 25th wedding anniversary. The possible impact of the new liberalisation of divorce in the Irish Republic is given by divorce rates for Catholics in Northern Ireland, where the rate per 1,000 married population is 2.3 compared with 3.4 for the whole population (Compton, 1995: Table 8.12). These patterns of divorce naturally give Northern Ireland and Southern Ireland very different population distributions in relation to marital status, and also ensure that almost all weddings in the South, unlike those in the North, are first marriages (the decline in the death rate has ensured that weddings of widows and widowers are now relatively rare).

Abortion reform, however, is still in the future. The prohibition of abortion in cases other than the most severe medical emergency is only shared among major countries by Belgium (until 1990) and (since 1990) Poland. In Northern Ireland, the provisions of the 1967 Abortion Act do not apply, and the much more restrictive provisions of the Criminal Justice Act (Northern Ireland) 1945 still obtain (which permitted abortion but only on stricter medical grounds). Accordingly residents both of Northern Ireland and of the Irish Republic seek abortions in Britain, almost entirely in England and Wales (there were, for example only 12 abortions on non-residents of Scotland out of 11,143 performed in Scotland in 1995). Up to 1,800 residents of Northern Ireland annually have obtained abortions in England and Wales in recent years. Access to British abortion facilities has brought the Northern Ireland abortion ratio up from (at least) 59.2 per 1,000 live births in 1985 to (at least) 64.9 in 1995. These figures are based upon data on abortions performed in England and Wales only to non-residents. While the abortion ratio for women resident in the Irish Republic

(based on the same source of data) was (at least) 62.5 per 1,000 live births in 1985, the ratio had increased to 93.4 in 1995; higher than some other European countries (Figure 10).

Contrasts in Demographic Regime Within Ireland

The Irish demographic regime can be compared by religion and national origin in three areas in the British Isles; in the Irish Republic and in Northern Ireland between Catholics and Protestants, and in Great Britain (where most Catholics in the British Isles now live) both between Catholics and Protestants and between the Irish born and British born (see Spencer, 1982). Here there is only space for comparisons within Northern Ireland.

Throughout most of the twentieth century Northern Ireland shows the sharpest demographic contrast between any two neighbouring communities in Europe outside Kossovo in Serbia. Since the 1920s two different demographic regimes have emerged, preserved by a religious and political divide. Overall, the TFR in Northern Ireland was 3.39 in 1961, 3.13 in 1971, subsequently falling fast to 2.64 in 1978. It first fell below replace-

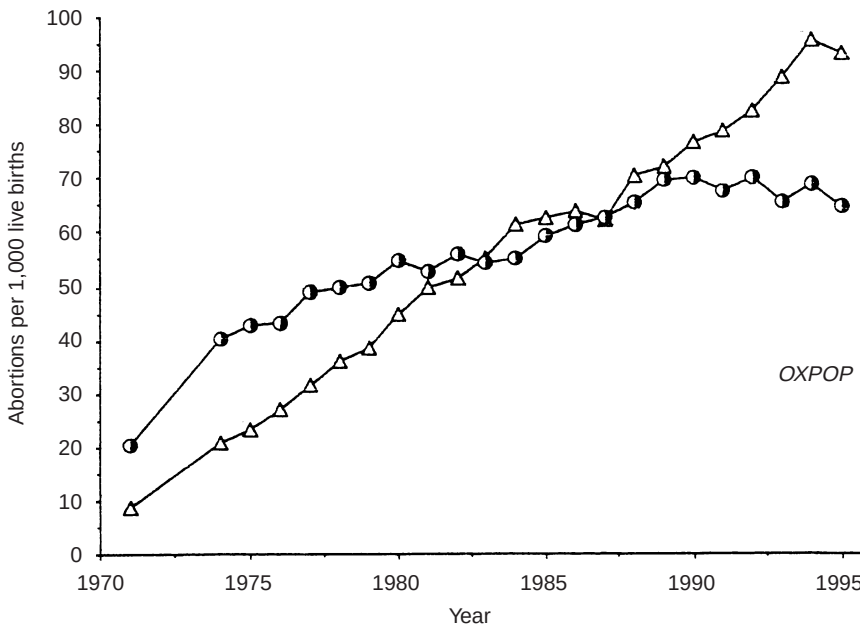

Figure 10. Northern and Southern Ireland, abortion ratio 1971–95. (△) RoI Abortion Ratio, ◑ NI Abortion Ratio. *Note*: Abortions carried out in England and Wales. *Sources*: OPCS Abortion Statistics Series AB table 25, table 6.11.

ment level (to 2.0) in 1993 and fell further to 1.92 in 1995. For most of the postwar period it was somewhat lower than that of the Republic, especially during the worst period of violence between 1969 and 1980; it has now been undershot by the rapid fertility decline in the Republic.

Comparisons between the numbers and growth rates of the Roman Catholic and non-Catholic populations in Northern Ireland have attracted particular interest because of their possible constitutional implications; specifically that if Roman Catholics became a majority then the electorate of the province might vote in a referendum to leave the United Kingdom. However, it is important to keep in mind that confessional adherence by no means translates simply into political preference; for example, the 1991 Northern Ireland Social Attitudes Survey indicated that 4 per cent of Protestants favoured a United Ireland while 35 per cent of Catholics favoured retention of the links with the UK (Jardine, forthcoming).

The census in Ireland has asked a voluntary question on religious affiliation since 1861, and this tradition is continued in both North and South. In 1971 it has been estimated that 10 per cent did not reply to it (mostly Roman Catholics; Compton, 1982) and 20 per cent in 1981, when a Republican campaign of non-cooperation was mounted against the census. However, partly due to a change of mind among nationalist politicians, response to the 1991 census was encouraged and non-response rates to the question on religion were lower (7.3 per cent). It may be that Protestants were more likely not to respond (Compton, 1996). For whatever reason, that census was the first to reveal that those claiming adherence to a Protestant denomination were no longer a majority (Macourt, 1995). For the first time also the response 'no religion' became a fully-fledged category (62,692 responses). Falling away from religion is thought to be more common among non-Catholics. Corrected data suggest that the Northern Ireland Catholic population has increased from 34 per cent of the total in 1951 to 42 per cent in 1991 (Jardine, forthcoming).

Data on the relative fertility and other demographic parameters of the Roman Catholic and non-Catholic populations are unsatisfactory, indirect and controversial (see, e.g., Spencer, 1982; Macourt, 1995; Compton, 1996). But for obvious reasons they are the subject of much interest. When the UK census asked a question on previous births, as it did from 1911 until 1971, then the fertility of the two communities could be compared. A retrospective fertility question was also asked at the 1991 census in Northern Ireland (not in the rest of the UK). Unfortunately the question was only asked in respect of married women. The results, which would therefore only be of limited interest, had not been published by July 1997. Data on religious affiliation are not collected on the registration of births. Estimates of annual births can be made nonetheless. Residential

segregation is so strong (Boal, 1981; Boal and Douglas, 1982), exacerbated by the violence since 1969, that estimates of births to the major religious groups can be made from the local geography of their occurrence. Sources from the churches themselves (Spencer, 1977) using baptismal records are also used. There are few conversions and not more than 5 per cent of unions are thought to have been religiously mixed in 1991 (Compton, 1996)—many fewer than would be expected in any other European country between groups of such size.

The fertility differential between Roman Catholics and others, which first became obvious in statistics in the 1920s, widened considerably up to the 1950s. In 1961 Catholic TFR in Northern Ireland (derived from census data) was 4.6 compared to the Protestants' 3.0 (averaged over all women); in 1971 the difference was 4.1 to 2.8. However measured, Roman Catholic fertility in the 1970s was between 40–50 per cent higher than Protestant (Compton, 1981) and was probably higher than in the Republic of Ireland (Coward, 1980). When standardised for marriage the difference was widened; on average Roman Catholics marry later than Protestants. The 1983 Northern Ireland Fertility Survey (NIFS), the first of its kind in the Province (Compton and Coward, 1989), together with earlier data from the census, underlined the differences between Catholic and Protestant fertility regimes. Catholics were more likely to be married but married later. Their higher fertility arose from a lower level of childlessness (8 per cent compared with 12 per cent), shorter birth intervals (by 33 per cent) and later stopping: the average Catholic family took 9.5 years to complete compared with 7.5 years in Protestants.

Nonetheless the survey showed a gradual decline of completed family size in both communities (Figure 11) from the marriage cohorts of 1920 (5.29 and 3.56 births per woman respectively) to those of 1963 (4.09 and 2.80 respectively). In percentage terms the Roman Catholic 'advantage' had hardly changed (49 per cent and 46 per cent respectively) although in absolute terms it has shrunk from 1.7 births to 1.3 over the two periods. Statements on intended fertility suggested that the Catholic marriages of 1982/83 would yield 2.93 children compared with 2.49 to Protestants (Compton and Coward, 1989: Table 4.2). According to these authors, fertility might converge between the 1990s to early in the next century. So far, the simple data on births and deaths which are available suggest that this has not yet happened. Around 1990 the Catholic birth rate was estimated to be just under 20 per 1,000 with a death rate about 9 per 1,000; compared with 14–15 and 11.5 per 1,000 respectively for the non-Catholic population (Compton, 1996). The rate of natural increase (excess of births over deaths) and therefore effectively the rate of population growth except for migration remains about three times higher among the

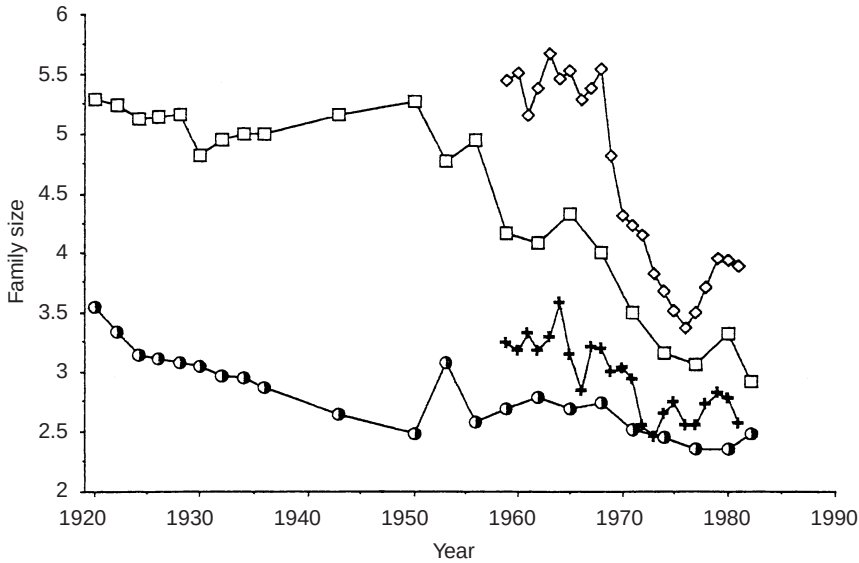

Figure 11. Northern Ireland fertility trends 1920–83. (□) Roman Catholic Completed Family Size by marriage cohort, (◑) Protestant Completed Family Size by marriage cohort, (◇) Roman Catholic Total Marital Fertility Rate, (+) Protestant Total Marital Fertility Rate. *Note*: To facilitate comparison, data for marriage cohorts are located 28 years after the year of marriage (i.e., at approximate mean age of childbearing). Data for fertility rates are located on the year to which they apply. CFS = Completed Family Size (a cohort measure of actual completed fertility). TMFR = Total Marital Fertility Rate (a period measure of the average completed family size of married women assuming the continuation of current rates). *Sources*: Data from Crompton and Coward (1989). CFS data beyond marriage cohorts of 1964 based on intentions.

Catholic compared with the non-Catholic population; about 1 per cent compared with about 0.3 per cent.

The effect of net emigration on the size of the religious communities is even harder to assess. Up to the 1961 census it was estimated that most emigrants (60 per cent) were Roman Catholics (Barritt and Carter, 1972), therefore partly compensating for the Roman Catholic fertility 'advantage'. Between 1971 and 1991 this proportion may have diminished to 50 per cent, therefore still reducing the Catholic population somewhat more than the non-Catholic. A range of projections indicate that while the numerical gap between the two communities is certain to narrow, a Catholic majority is by no means inevitable and in any case would be unlikely to emerge for the next 30 years or so. The situation may 'eventually settle down to a rough numerical equivalence' (Compton, 1996: 280).

Family Planning and Religion

There have been no formal restrictions on contraception in Northern Ireland in the twentieth century. Contraception in the Irish Republic was made illegal in the 1920s although the letters to Marie Stopes and other sources reveal considerable unmet demand at the turn of the century. It finally came out of the closet in the 1970s. A Supreme Court decision in 1973 (McGee) established the legality of contraceptive sale for 'bona fide' purposes (whatever they are), a provision formalised by legislation in 1979. By 1982 there were 48 clinics of various kinds employing 2,000 people (Nic Ghiolla Phadraig, 1984). In 1985 further legislation made non-medical contraceptives of all kinds available to anyone aged over 18 years without prescription. Contraceptive supply was still hedged with impediments quite recently: in February 1991 the Virgin Megastore in Dublin was fined £500 in the High Court for selling condoms and was told that it had 'got off lightly'.

The rather limited surveys on family planning suggest that practice in the Irish Republic is rapidly converging with the rest of the industrial world. By 1975, 66 per cent of a sample of 600 married couples had used some form of birth control, 37 per cent had used 'natural' (church approved) methods, 19 per cent had used the pill and 10 per cent other artificial methods. This seemed a very high level of use in view of the reported ideal family size of 5.6 children. Family planners, as usual, were from higher social classes, were better educated and younger. Few who avoided contraception mentioned specifically religious reasons, although 13 per cent thought the pill 'immoral' (Wilson-Davis, 1982). In a sample a few years later in a Dublin maternity hospital 81 per cent of the married mothers had used some form of contraception: 61 per cent the pill, 13 per cent other (mostly artificial) methods, only 7 per cent 'natural' methods. Twenty per cent of the married women's pregnancies had been unwanted, 89 per cent of those of the single women. Among the latter 64 per cent had used no method of contraception; a legacy of weak knowledge and supply of family planning (Greene *et al.*, 1989). Twenty-eight per cent had considered abortion in the UK: in the early 1980s 37 per cent of pregnant single women in Ireland may have sought abortion in the UK (Dean, 1984).

In Northern Ireland around the same time most Roman Catholics in the NIFS—74.1 per cent—approved the principle of family planning, 8 per cent had no opinion and 17.9 per cent disapproved; 90.3 per cent of Protestants approved, with only 4 per cent having no opinion. But the evangelical Protestant Fundamentalists (less than 10 per cent of all Protestants in the sample) shared Catholic reservations; almost half the Catholics who disapproved did so on moral grounds. Twenty-six per cent of Roman Catholics had never used birth control, compared with 13 per cent

of Protestants; 22 per cent had only ever used natural means but 52 per cent had used artificial means: 40 per cent the pill, 16 per cent condoms, 10 per cent IUD. Only 5 per cent had been sterilized (Table 2). Family planning has rapidly gained favour among Catholics in Northern Ireland, 66 per cent of those married before 1955 had never used family planning and only 15 per cent had used artificial methods. But among Catholics married after 1974, only 14 per cent had never used family planning and 69 per cent had already used artificial methods. Corresponding Protestant figures for the later cohort were 4 per cent and 92 per cent respectively. A rapid transition of Roman Catholic behaviour was nearly completed even by the 1980s and among the most educated women occupying high-status jobs, denominational difference in contraceptive practice had already disappeared. Furthermore, 14 per cent of Roman Catholics favoured a liberalisation of abortion legislation in Northern Ireland, as did 52 per cent of Protestants and 21 per cent of Protestant Fundamentalists.

Table 2. Northern Ireland 1983. Attitudes and practice towards contraception by religious denomination.

	Denomination							
	Protestants		Protestant Fundamentalists		Roman Catholics		All Denominations	
	%	N	%	N	%	N	%	N
Attitudes								
Approve FP	90.3	1,412	77.2	132	74.1	851	83.5	2,480
No opinion	3.8	60	8.8	15	8.0	92	4.6	167
Ever-use								
Never used FP	13	205	21	35	26	293	19	533
Natural only	7	100	6	10	22	251	13	361
Artificial only	63	975	41	86	33	376	50	1,437
Both	17	265	22	38	19	209	18	512
Selected methods, ever-use								
Safe + Billings	9	139	13	22	36	415	20	576
Condom	42	651	37	62	16	183	31	896
IUD	14	222	19	33	10	116	13	371
Pill	57	883	42	72	40	456	50	1,472
Sterilization	17	267	16	27	5	57	12	366

Source: Compton and Coward, 1989: Table 5.1, 5.8. (NIFS).
Note: Totals of ever-use may exceed 100.

The Mortality Transition

In the last quarter of the nineteenth century, expectation of life (e_0) in Ireland (for both sexes) was relatively high by European standards and

exceeded that of England and Wales, as might be expected in a predominantly rural population. This advantage was lost in the twentieth century, but since the Second World War overall mortality has converged although Northern Irish mortality rates remain higher than those of England and Wales. In 1992, expectation of life for women was 79 years in the Irish Republic and in England and Wales, and 78.3 in Northern Ireland. For the last two decades both parts of Ireland have shared the same improved trend (Figure 12).

In detail, causes of death in both parts of Ireland are distinctive. Northern Ireland suffers the highest levels of Ischaemic Heart Disease (IHD) in the world, with the South not far behind. In these as in other respects, Ireland is a prominent exemplar of mortality characteristics common to other North European countries. Deaths from stroke and respiratory diseases are also very high. On the other hand, compared with the rest of the UK, death rates from cancer of the (female) breast and of the uterine cervix are lower in Northern Ireland, although both the UK and Ireland as a whole, and Northern Europe as a whole, suffers high breast cancer rates compared with the rest of Europe (Levi *et al.*, 1995). The former differences with the rest of the UK are plausibly accounted for by regional differences in diet (Fehily *et al.*, 1990) and possibly smoking;

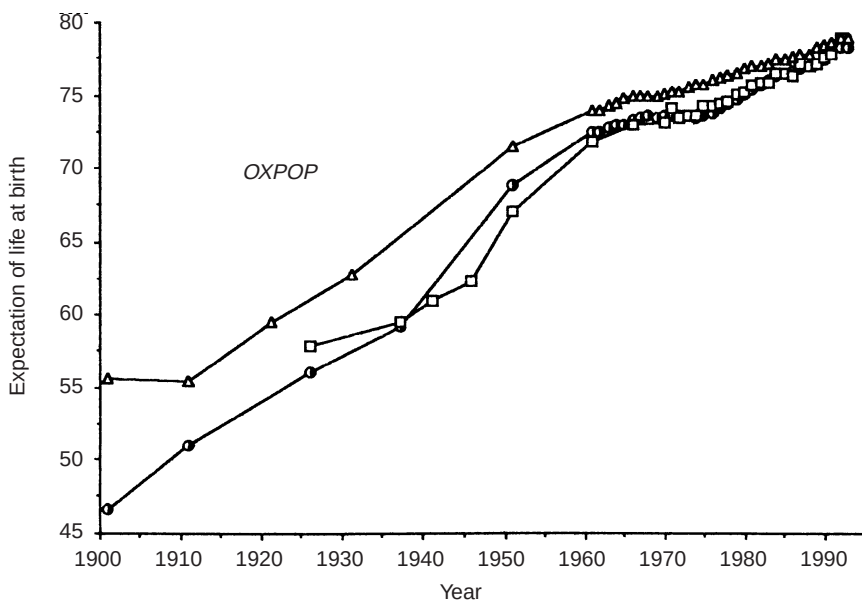

Figure 12. Expectation of life at birth, females, Northern and Southern Ireland, England and Wales 1901–94. (◑) e_0 Northern Ireland (females), (□) e_0 Republic of Ireland (females), (△) e_0 England and Wales (females). *Sources*: CSO, Registrar-General (Northern Ireland), OPCS.

the latter by (past) differences in childbearing and in sexual behaviour. Although perinatal mortality is relatively low in both parts of Ireland, neural tube defects (spina bifida and related conditions) are especially frequent in Ireland and among the Irish (Leck and Lancashire, 1995).

This author has not located explicit comparative studies of mortality in North and South published since 1981. However a crude comparison of the percentage causes of death in 1993 reveals a near-identity in North and South in the percentage of all deaths attributed to cancer of the lung and of the female breast, and of respiratory disease (pneumonia + bronchitis, emphysema only). Deaths from IHD and from stroke in the North are higher than in the South (which itself ranked fifth in the industrial world in 1985; Shelley *et al.*, 1991); deaths from motor vehicle traffic accidents, relatively high in North and South, are higher in the South as a proportion of all deaths (Central Statistics Office, 1994; Registrar-General Northern Ireland, 1995). Despite the high incidence of total abstinence (Fehily *et al.*, 1990), alcohol-related disease is still more prevalent among the Irish (especially males) both in Ireland and in the UK (Harrison *et al.*, 1993; Carney and Sheffield, 1995). Infant mortality (deaths under age 1 per 1,000 live births), formerly higher in the Irish Republic than in Northern Ireland or England and Wales has also converged since the war. Indeed, since the early 1980s the infant mortality rate in the Irish Republic has been the lowest of the three; it was 5.9 per 1,000 live births in 1994, compared with 6.1 in Northern Ireland and 6.3 in England and Wales.

Ireland has also had a distinctive pattern of mortality differentials according to sex. Earlier this century, Ireland was unusual in Europe in that women still lived no longer than men. Elsewhere such a pattern was only to be found in a few other predominantly rural societies such as Italy and Bulgaria. It is found today only in the less-developed world, especially northern parts of the Indian sub-continent (Ruzicka, 1984) although in the past excess female mortality was relatively common in the rural West. Between 1840 and 1910, in about 60 per cent of Western countries female mortality exceeded that of males around age 10, and in about 30 per cent around age 30 (Stolnitz, 1955a; 1955b). The life table for Ireland in 1891 showed a female deficiency of nearly one year of life, declining to 0.4 years by 1901 and becoming slightly positive by 1911. By 1891 the female excess in England and Wales was already 4 years (Figure 13). The first English life table of 1840 (e_0m = 40.2 years) showed female life expectation at birth to be already 2.0 years higher than that of males, an advantage which in London had been evident since the days of John Graunt. However, in Ireland at that time, females had the same expectation of life as males in Irish towns outside Dublin (30 years) and one year less than men in rural districts (29 years: Kennedy, 1973a: 45). Female excess mortality was a

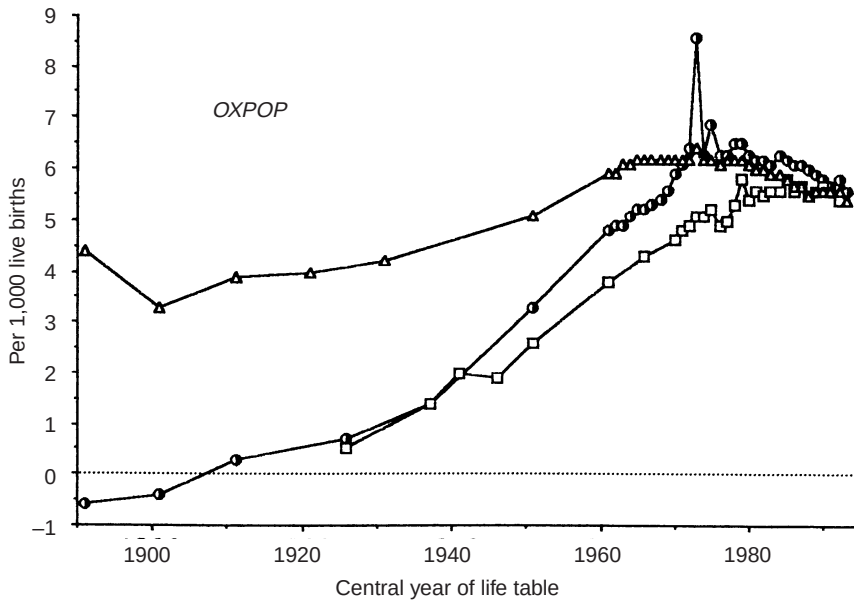

Figure 13. Excess expectation of life at birth of females over males, Northern and Southern Ireland, England and Wales 1891–91. (◑) Northern Ireland e_0 difference, (□) Republic of Ireland e_0 difference, (△) England and Wales e_0 difference. *Sources*: CSO, Registrar-General (Northern Ireland), OPCS.

rural, not an urban problem, in Ireland as elsewhere. Even in 1961 the female excess expectation of life was just under 4 years in the Irish Republic—about 2 years less than in other developed countries. The 1981 life table shows a truly modern pattern. The female advantage in the Irish Republic in 1992 (5.4 years) was little less than the average for the industrial world (6.3 years).

In the less-developed world today, excess female mortality is attributed to the systematically disadvantaged position of females in such societies, not just to maternal mortality. Patterns of male dominance were also prevalent in European rural societies in the past, with similar consequences (Johansson, 1991). Such behaviour persisted in the Irish countryside longer than elsewhere (Kennedy and Clarkson, 1973: Chapter 3) and was statistically salient because the total population remained unmodernised and rural for so long. A further factor may be a rise in deaths from tuberculosis (TB), to which young females, and people of Irish origin, appear to be more vulnerable than males. Such an increase might be associated with the late mobility transition in Ireland, which brought large numbers of immunologically naive country people into contact with a wider population and its

diseases (B. Benjamin, pers. comm.). Between 1974 and 1984 Irish TB mortality was still the highest in the EC (Barry, 1992).

Female excess deaths disappeared faster in the more urbanised Northern Irish population than in the Irish Republic. However, the rapid relative increase in female life expectancy since the late 1960s in Northern Ireland may owe less to relative improvement in female health than to excess male mortality from diseases such as IHD, in which Northern Ireland is world leader. The peaks of male mortality in 1973 and following years shown in the graphs are attributable to deaths from terrorist activity, which have a disproportionate statistical effect because of the relative youth of many of the victims. There was also an increase in road traffic accident deaths, mostly young males, in Northern Ireland, indirectly related to the security problems.

Accounting for Fertility Decline

These trends present us with a number of interesting problems, particularly in respect of the birth rate. Crucial questions, most of which are not successfully answered here, include:

1 Why did fertility in Ireland take so long to decline?

2 Now that it has fallen to more average European levels, how to account for the decline?

3 What will happen next—does Ireland face a southern European future of very low fertility, like Italy and Spain, or will geography triumph with higher rates typical of north-west European countries (some Catholic, such as Belgium)?

4 Will the low birth rate eventually kill off the emigration culture and high unemployment by making labour scarce at last?

5 How do we account for the differences and the similarities between South and the North?

Analysis at the county level was valuable in identifying demographic pioneers and their characteristics at the onset of the demographic transition (Teitelbaum, 1984) and has yielded futher valuable insights into recent decline (Sexton and Dillon, 1984; Ó Gráda and Walsh, 1995). This promising line of inquiry had to be neglected here for want of space, despite the striking polarisation of the distribution of the Irish Republic population, with 42 per cent still rural and 26 per cent living in the capital; both the highest proportions in Western Europe.

Otherwise, these issues are complicated by the lack of agreement about the answers to more general problems, of which the Irish demographic

question is just a sub-plot: for example why European fertility began to decline in the first place (Coale and Watkins, 1986; Cleland and Wilson, 1987); how do we explain the subsequent level and variation of fertility and the rise of the second transition (van de Kaa, 1996). Explaining Ireland's exceptionalism is an additional problem perched on top of an already unsteady theoretical superstructure.

Changing Preferences for Families

The EU's Eurobarometer surveys of attitudes showed that ideal family size in Ireland fell from 3.62 in 1979 to 2.79 in 1989, compared with EU averages of 2.2 and 2.1 respectively, the highest in the 12 in both cases. What altered values or economic rationalities lie behind the declining ideal family size and the acceptability, or necessity, of family planning? In most European countries, the problems of explaining the once-off fertility transition to small family sizes, the baby boom and subsequent low and often fluctuating birth rates are sequential and separate. In the Irish case they are somewhat telescoped. Studies of the demographic transition in Europe have not revealed any one single key which can specify the timing of the onset of decline. Nonetheless, high fertility normally wilts in the face of the increased costs of higher quality children in a modern economy; the effects of near-universal literacy and higher education standards (especially among women), an open society offering rewards to those skills and education; the parallel erosion of traditional and religious influences aided by greater geographical mobility and urbanisation, and the movement of married women into the workforce. Some research emphasises economic rationality, some the autonomous importance of the diffusion of individualistic ideas emphasising self-realisation in prosperous economies (Lesthaeghe, 1983; Simons, 1986; Cleland and Wilson, 1987).

Different models may be appropriate for different periods of time and be eclipsed when circumstances change. Especially since the late 1950s, Irish economy and society has been changing in ways which would be expected to lead to a fertility decline simply from the varied propositions of the demographic transition noted above. Better off, less agricultural, more urbanised literate societies have lower birth rates (Kennedy, 1989). Up to the 1950s Ireland was a rural society where 40 per cent worked on the land. Since then Irish employment has shifted to urban, manufacturing and service jobs: only 15 per cent worked in agriculture in 1987 and 10 per cent in 1995, compared with 24 per cent in manufacturing and 53 per cent in services. However, the rural population, 54 per cent in 1961, was still 42 per cent in 1996. Movement from rural smallholdings undermined one of

the main props of long-delayed marriage or celibacy. The education reform of 1967 removed costs from secondary education—a late reform now clearly bearing fruit in economy and society. Elsewhere such economic changes have usually brought small family size, often at a much earlier stage as in the rural societies of prewar Italy, Greece and Bulgaria, but in Ireland the effects seem to have been delayed. Formal economic analyses of the Irish fertility decline are lacking, which might show whether the decline is in line with that experienced elsewhere or whether, as seems likely, Irish fertility levels have been for some time out of line with Irish economic and social development. Easterlin's ingenious cohort size model receives little support in the Irish case (Wright, 1989).

Women in the Workforce

In most European societies, the demographic transition has been more or less complete for half a century, establishing a two-child norm on which the short-term factors of employment and the economic cycle can re-establish their influence once clear of the overwhelming downward trend of transition. A simple Malthusian model, operating primarily through the effects on mens' wages in facilitating earlier marriage and more children, can account in part for the upturn of the baby boom but not for its decline. It has been displaced from favour by econometric 'new home economics' models. These present a new rationality of fertility taking into account the post-1950s movement of women into the workplace and its effects on household income and women's independence (de Cooman *et al.*, 1987; Ermisch, 1996). These retain the 'Malthusian' ability to relate fertility to male earnings, but additionally incorporate the new opportunity costs of childbearing arising from married women's participation in the workforce. That element is expected to depress, not elevate fertility as household income increases. However, the system moves on. Those models, once reasonably well supported, look less convincing in Scandinavia (Kravdal, 1992). There, welfare arrangements have it seems made childbearing and work no longer alternative choices, enabling fertility to rise even in the face of high women's workforce participation. NHE models have also been challenged (Murphy, 1992) on more general grounds. Causation here can and does work both ways—declines in fertility facilitate women's work—and it is not always clear which is the stronger.

Does any of this make sense in the Irish case? Inspection of the trend of fertility shows that we should be particularly interested in the events around 1980, when the birth rate (TFR, I_g, rate of natural increase) started a sharp and so far unreversed decline. In 1971 only 7.5 per cent of married

women in Ireland were in the workforce compared with over 40 per cent in most Western countries. That increased threefold to 23.1 per cent by 1988, then the lowest in the EC except for Spain (Courtney, 1990) and to 40.7 per cent by 1995, according to the Labour Force Survey. At young ages workforce participation of married women is only slightly below the EC average (51.4 per cent in 1988 compared with 58.2 per cent at ages 15–24). However, older married women are much less likely to be in work: 45.5 per cent at age 25–34 compared with the EC's 59.1 per cent, 29.7 per cent at age 35–44 against the EC's 58.5 per cent (Eurostat, 1991). The cross-sectional correlation of women's workforce participation rates with fertility is low (West Germany has only average rates, Italy below average). Time series correlations work better. Figure 14 is at least suggestive, but it also accommodates equally plausibly a relationship with the more classical economic

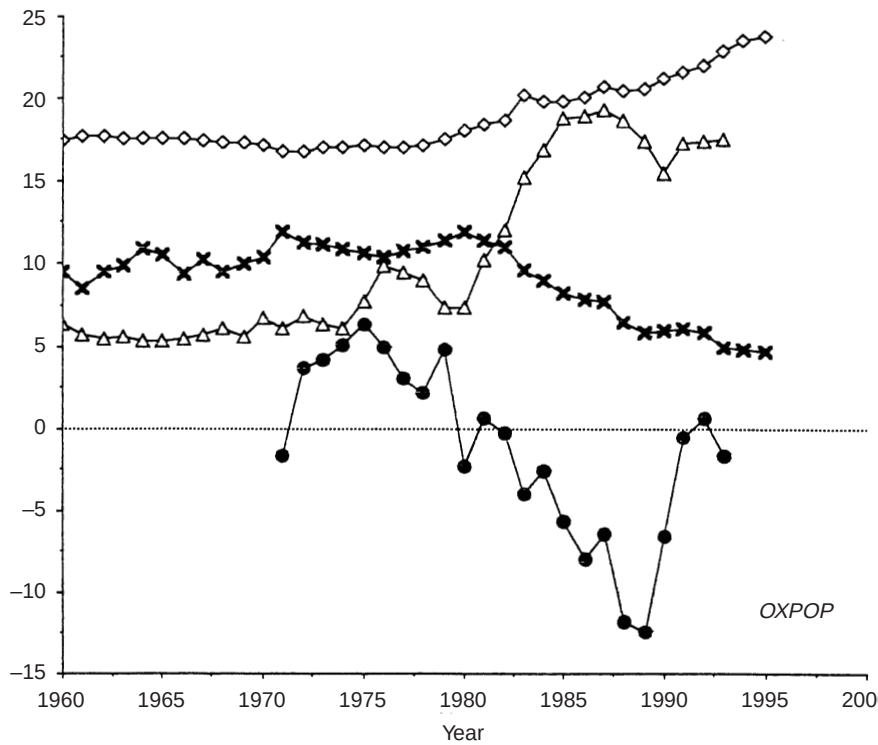

Figure 14. Irish Republic 1960–95: Net migration and natural increase per 1,000 population, male unemployment and female workforce participation %. (△) Male unemployment %, (●) Crude Migration Rate (net migrants per 1,000 population), (×) Rate of Natural Increase per 1,000 population, (◇) Female workforce participation rate %/2. *Note*: The female workforce participation rate in per cent has been divided by two in order to fit the data onto the same scale. *Sources*: CSO, OECD.

variable of rising unemployment. A simple model is presented in Figure 15, relating fertility to female workforce participation rates in four countries. Where workforce participation has been higher for longer (Sweden) and where welfare compensation is high, women's work no longer depresses fertility. In Ireland where neither is true the statistical effect is still strong. Figure 16 shows actual and fitted values for the TFR in the Irish republic from 1950 to 1995 in relation to male and female workforce participation. The fit is good but the utility of the model crucially depends upon the fit

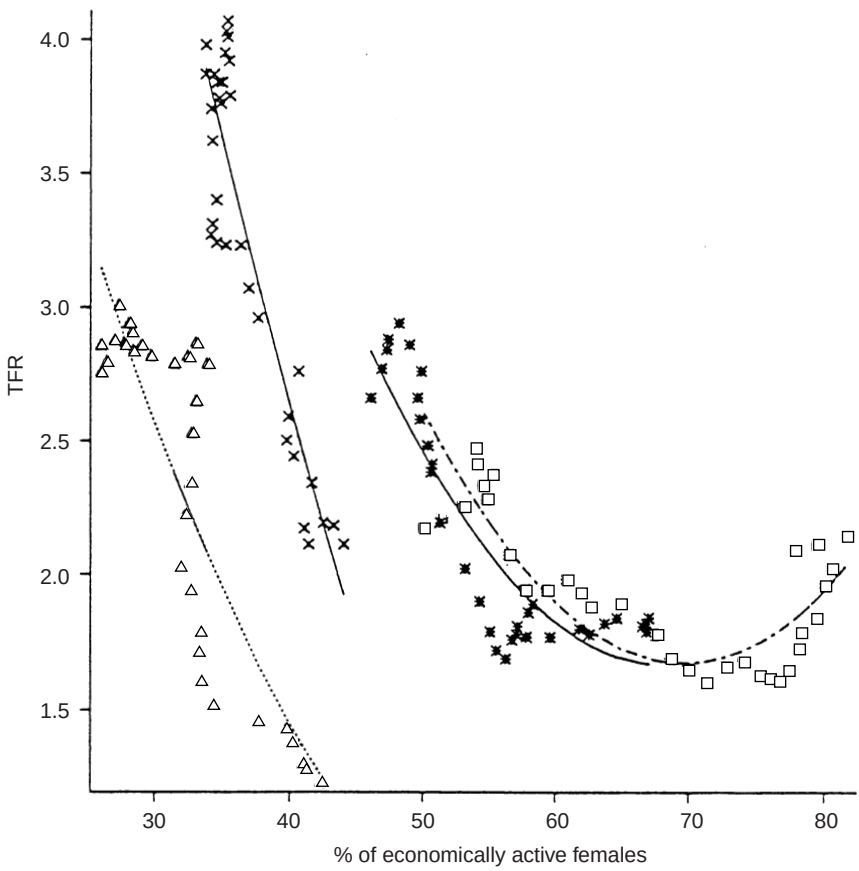

Figure 15. Observed and fitted values of total fertility rates, selected countries 1960–90. (△) Spain (actual data), (·····) Spain (fitted), (×) Republic of Ireland (actual data), (——) Republic of Ireland (fitted), (*) United Kingdom (actual data), (——) United Kingdom (fitted), (□) Sweden (actual data), (– · – ·) Sweden (fitted). *Note*: Model: TFR = k + a.economic activity (female) + b.country + c.economic activity (females)^2 + d.country.economic activity (females). Fitted by GLIM. *Sources*: EUROSTAT (1997); OECD (1995); national demographic yearbooks.

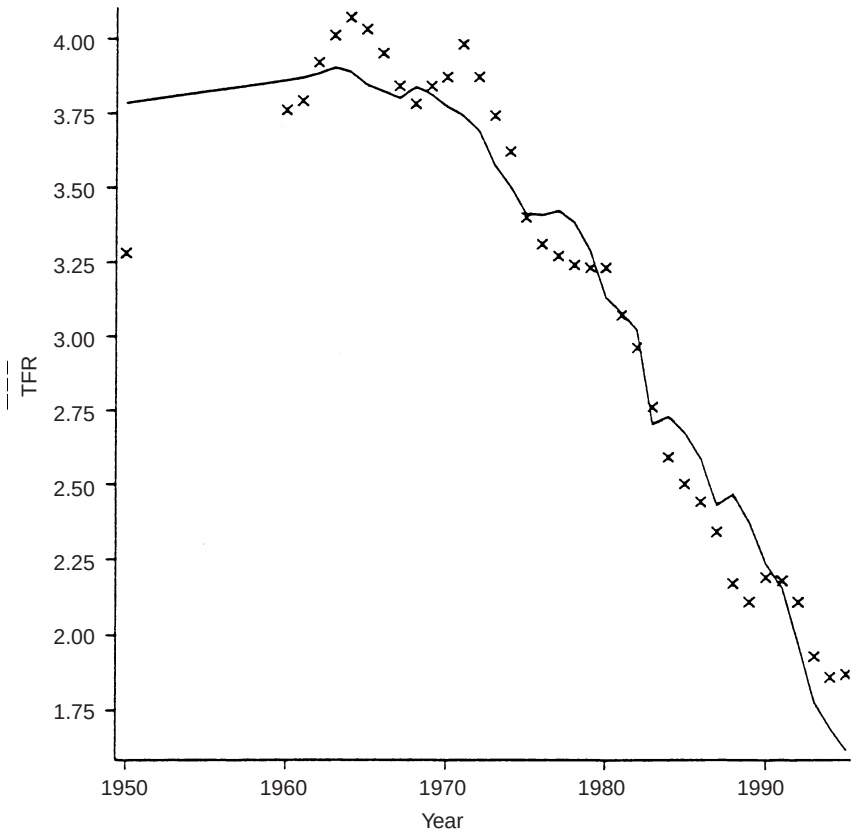

Figure 16. Actual TFR and TFR fitted by regression on workforce participation trends, Republic of Ireland 1950–95. (×) Actual TFR, (——) Fitted value. *Note*: Model TFR = k + a.economic activity (females) + b.economic activity (males). r^2 = 0.95. The fitted line is irregular because the data are graphed on the y axis according to calendar year. Were the dependent and independent variables to be graphed against each other in a bivariate plot then the regression line would, of course, be a straight line. *Sources*: CSO, OECD (1995).

before 1970, when TFR began to decline. Unfortunately, data on workforce participation are scarce before 1960. Space does not permit futher statistical exploration of possible causal factors. Both 'end of transition' and 'women's workforce participation' factors are likely to be working together to depress Irish fertility; the compensating effects of elaborate childcare provision are not (yet) present.

Ideological explanations of fertility change, noted earlier, have gained ground because of the inadequacy of socio-economic models (Cleland and Wilson, 1987; Lesthaeghe, 1983) and because they can account for some

anomalies, although without adequate theoretical explanation of cause. Ireland returns conservative scores in European attitude surveys, as do other relatively high fertility countries such as England and France, where religiosity is much lower (Simons, 1986). In the European Values Survey 1981 round, Ireland scored by far the highest rating for 'familism' and 'religiosity', and by far the lowest on the measure of 'nonconformity' (Lesthaeghe and Meekers, 1986).

A Catholic Explanation?

The most potent ideology in Ireland is Roman Catholicism and the obvious explanation for the persistent high birth rate of the Irish fertility regime is the dominance of the Roman Catholic Church in Ireland, the pronatalism of its doctrines translated into demographic consequences by Irish religiosity. Irish religiosity is surely higher than anywhere else in Western Europe. According to the 1991 European Values Survey, 85 per cent of Roman Catholics in the Irish Republic claimed to attend services at least once a week (85 per cent in 1981), and 73 per cent in Northern Ireland (93 per cent in 1981). Irish Catholics must be the only population in Europe to go to church almost as often as they have sex. Protestants in the Republic and in Northern Ireland also attended more regularly than in England and Wales, but the sample size makes detailed figures unreliable. At a different level, the influence of the Roman Church, whose 'special position' is recognised in the Republic's constitution, has been evident in government policy on, for example, abortion and contraception.

There are, however, too many international exceptions (Quebec, and Italy and Spain, with the lowest birth-rates in the world) to allow a simple confessional hypothesis to pass unchallenged. Quebec, where fertility was particularly high until the 1960s, may then have seemed a close parallel. Catholics with a strong sense of identity were in a minority position in historical circumstances which had given the Church great prestige and influence. They were distinguished by a different culture, language and religion; until the 1960s the population was mostly rural. The collapse of the old high fertility regime, and of church influence, were particularly dramatic. By the 1980s Quebec's fertility rate (TFR = 1.4) was much lower than the rest of Canada (although it has since recovered somewhat). However, in Quebec the retreat from religion was more marked than in Ireland; it may therefore not be a good parallel. If populations effectively cease to be Catholic they cannot be expected to display 'Catholic' fertility any more.

More generally, 'Catholic fertility' simply does not work as a general proposition. Roman Catholic influence, independent of socio-economic

status, can only be shown to be important where Roman Catholicism acquired particular authority through being a focus for the national sentiments of a disadvantaged minority in a larger population (Day, 1968). This formulation helps to account for the apparent Polish and Irish exceptions. In both, the Catholic Church was, into this century, the only institution surviving as a focus for national identity during the absorption of the society into a wider polity. In both, fertility remained high into the 1980s. However, neither has been a 'minority' for seventy years. Any survival of this effect for religious reasons in Ireland, independent since 1922 in a way that Poland was not from 1939–89, may seem surprising. But the political conflicts which aligned Roman Catholicism with nationalism and thus preserved its status have not yet disappeared in North or South, although they have been eroded in the South by prosperity and a more settled political regime, urbanisation, education and the media, perhaps especially by the 1967 reforms and by television. The ease of return migration from the UK in the postwar period may have helped to diffuse different attitudes, whereas earlier in the century the example of Protestant family planners in Ireland itself may have been shunned.

The preference of Irish Catholics, and especially of Northern Catholics for larger families—however now eroded—cannot be explained away by any socio-economic or any other standardisation. They seem to have been a genuine difference in preference (Ó Gráda and Walsh, 1995). The particularly high fertility of Catholics in Northern Ireland, higher than in the South (Coward, 1980), has, it seems, correctly been held up as a specific example of the 'minority status effect' (Siegel, 1970) on birth-rates (Kennedy, 1973b). Ireland has once again been exceptional in being a rare example of Catholicism—and all it was aligned with—actually having an effect on demography.

In Ireland today, Catholicism now seems to be 'customised' or 'compartmentalised'; its adherents accepting some parts, rejecting others, to meet their new preferences and the realities of their economic lives, as must be the case with all populations of practicing Catholics with low birth rates. Public opinion surveys in the 1980s showed that a majority of adults in Ireland (especially young people), even though most continued to be church-goers, no longer accepted the Catholic Church's teaching on contraception and instead approve its use, mirroring the responses in Northern Ireland. The same population in the Republic which reaffirmed by referenda the continuing ban on abortion in 1983, and on divorce in 1986 was also starting to embrace the 'second demographic transition'.

Can parallels be found in other Catholic countries? Catholic France and Belgium, with their secular constitutions, embraced controlled fertility long ago and offer few (religious) comparisons. Italy and Quebec main-

tained moderate and higher fertility respectively until the 1970s, then declined fast to lower levels. Most spectacularly, Spain and Portugal preserved relatively high fertility until about 1980, which then declined rapidly to become almost the lowest in the world at the time of writing. In these four cases, more than in Ireland, the Church suffered a sharp loss of prestige, with declining vocations, Mass attendance, the failure of campaigns against divorce and abortion, and a transformation of personal behaviour. The most abrupt of these transitions occurred in Spain and Portugal where the Church suffered from too close an association with autocratic regimes overturned in 1975. The rejection and obliteration from memory of the *ancien régime* and its ideological baggage is still one of the driving forces behind Spanish politics and its dedication to a new identity in the EU. No such cataclysm occurred in Ireland, where many are happy both to go to Mass and to visit the chemist. Nonetheless, there is some parallel in that the institutions of the Irish state, including its understanding of the Church's special position, were developed in the 1930s. In their romantic terminology and lack of class base the major political parties still seem to belong to a somewhat different world from those in most European polities.

The Emigration Factor

Other factors need to be invoked to explain the persistence of high fertility so long after independence and so long after all other European Catholic countries have adopted a low fertility regime. The Irish case is complicated by the survival of the strong emigration tradition begun in the 1840s. This has permitted high levels of natural increase to co-exist with declining population size for over a century. It has exported demographic feedbacks which otherwise might have depressed fertility. Without emigration, population growth and density would have become uncomfortable many decades ago, increasing land values, access to agricultural holdings, rents and prices. It would have been difficult to create jobs at the rate of population growth which otherwise would have occurred with high fertility. Studies on other high-fertility, high-emigration countries (e.g., Puerto Rico; Mosher, 1980) suggest that emigration and fertility decline can be regarded as alternative 'multiphasic' demographic responses to the problems posed by population growth (Davis, 1963). These 'multiphasic' options provide a useful escape clause for demographers as well as for the Irish. Long-term high emigration retards the modernisation of fertility. In a few countries, mostly relatively small, size and geographical location allow mass emigration to be a partial alternative to the limitation of

fertility. Ireland, some of the Caribbean islands and remote upland provinces of larger countries (e.g., Scottish Highlands; Flinn, 1977: Parts 5, 6) are among them. Emigration may have other, selective effects on cohorts, leaving behind the more conservative (Walsh, 1972). Negligible immigration has meant less exposure to alternative attitudes to fertility, religion and authority.

Past emigration derived from fundamental imbalances in the Irish economy, North as well as South, especially chronic unemployment, itself powered by 'relentless' high rates of natural increase (Gudgin and O'Shea, 1993). Emigration had become 'traditional'; an accustomed means of resolving problems, facilitated by the links preserved with the large numbers of previous Irish emigrants in the UK, the United States and elsewhere. Twenty-five per cent of the university graduates as recently as 1987–1998 have emigrated (Shuttleworth, 1993). Despite recent declines in the birth rate, the age-structure will ensure high rates of entry to the potential labour force, and hence continuing pressures to emigrate during the 1990s (Sexton, 1994; Kennedy, 1994: Chapter 6). But the situation shortly after the turn of the century will change dramatically, and demographic and economic change should finally end the traditional Irish emigration regime.

What Future?

The distinctive Irish fertility regime is nearly over, and will join those of Quebec, Spain, Portugal and other Catholic countries as questions of recent history rather than of the contemporary world. Will Irish fertility become indistinguishable in pattern from that of the rest of Europe? Not necessarily. Some distinctive patterns such as the particularly low fertility of Germany and its neighbours have persisted for almost two decades. While 'Catholic fertility' has disappeared in the industrial world, other differences concerned with sexual behaviour have not. Although cohabitation and illegitimacy are growing in almost all industrial countries, they are doing so at very different rates and from different starting points. The southern Catholic countries have lower levels of cohabitation and illegitimacy than others. Ireland, with its high illegitimacy rates, is behaving more like its north-west European neighbours (some of which, such as France and Belgium are of course also predominantly Catholic) than its Southern coreligionists. However, Ireland today does not enjoy the kind of welfare support for families which is provided in France or Belgium, let alone that available in Scandinavia.

Despite that, this author expects that fertility in Ireland will stabilise in most parts of Irish society at a level more typical of north-west than of

southern Europe (that is with a TFR about 1.7–1.8) and with correspondingly high rates of illegitimacy. There is some speculative circumstantial evidence for this supposition. The English-speaking world shares common demographic behaviour to a surprising degree: especially in terms of the pattern, trend and level of fertility, divorce, illegitimacy rates, and other characteristics such as cause of death. In these respects Britain resembles the United States, Canada, Australia and New Zealand more than its European neighbours (Coleman, 1997). As these overseas societies are all to a considerable degree still Anglo-Hibernian in origin, it may be that the common factors, whatever they are, will make their demography a good model for Ireland's future as well.

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References

Anderson, M. and Morse, D. J. (1993) 'High Fertility, High Emigration, Low Nuptiality: Adjustment Processes in Scotland's Demographic Experience 1861–1914' part 1, *Population Studies*, XLVII(1): 5–26.

Baines, D. (1991) *Emigration from Europe 1815–1930*, London: Macmillan.

Barritt, D. P. and Carter, C. F. (1972) *The Northern Ireland Problem: a Study in Group Relations*. 2nd edn, London: Oxford Paperbacks.

Barry, J. (1992) 'Avoidable Mortality as an Index of Health Care Outcome—Results from the EC Atlas of Avoidable Death', *Irish Journal of Medical Science*, 161(8): 490–2.

Boal, F. W. (1981) 'Ethnic Residential Segregation, Ethnic Mixing and Racial Conflict: a Study in Belfast, Northern Ireland', in G. C. K. Peach, V. Robinson and S. Smith (eds), *Ethnic Segregation in Cities*, London: Croom Helm.

Boal, F. W. and Douglas, J. N. H. (eds) (1982) *Integration and Division: Geographical Perspectives on the Northern Ireland problem*, London: Academic Press.

Carney, M. W. P. and Sheffield, B. F. (1995) 'Alcoholism Diagnosis and Celtic Names', *Irish Journal of Psychological Medicine*, 12(3): 95–100.

Central Statistics Office (1989) *Statistical Abstract*, 1989 (and earlier), Dublin: Central Statistics Office.

Central Statistics Office (1990) *Statistical Bulletin*, Sept. 1990 Volume LXV No. 3.

Central Statistics Office (1992) *Report on Vital Statistics 1989*, Dublin: Central Statistics Office.
Central Statistics Office (1994) *Vital Statistics. Fourth Quarter and Yearly Summary 1993*, Dublin: Central Statistics Office.
Central Statistics Office (1996) *Vital Statistics. Fourth Quarter and Yearly Summary 1995,* Dublin: Central Statistics Office.
Central Statistics Office (1997) *Census 1996: Principal Demographic Results*, Dublin: Central Statistics Office.
Clarkson, L. A. (1981) 'Irish Population Revisited, 1687–1921', in J. M. Goldstrom and L. A. Clarkson (eds), *Irish Population, Economy and Society: Essays in Honour of the late K.H. Connell*, Oxford: Clarendon Press.
Cleland, J. and Wilson, C. (1987) 'Demand Theories of the Fertility Transition: an Iconoclastic View', *Population Studies*, 41: 5–30.
Cliquet, R. L. (1991) *The Second Demographic Transition: Fact or Fiction?*, Strasburg: Council of Europe.
Coale, A. J. and Watkins, S. C. (eds) (1986) *The Decline of Fertility in Europe*, Princeton: Princeton University Press.
Coale, A. J., Hill, A. G. and Trussell, T. J. (1975) 'A New Method of Estimating Standard Fertility Measures from Incomplete Data', *Population Index*, 41: 182–210.
Coleman, D. A. (1983) 'The Demography of Ethnic Minorities', in *Biosocial Aspects of Ethnic Minorities*, *Journal of Biosocial Science Supplement*, No. 8, Cambridge: Galton Foundation.
Coleman, D. A. (1996) 'New Patterns and Trends in European Fertility: International and Sub-National Comparison', in D. A. Coleman (ed.), *Europe's Population in the 1990s*, Oxford: Oxford University Press.
Coleman, D. A. (1997) 'Britain's Place in Europe's Population', Paper presented to the ESRC Conference 'Population and Household Change', London, Policy Studies Institute April 1997.
Compton, P. (1981) *The Contemporary Population of Northern Ireland and Population Related Issues*, Belfast: Institute of Irish Studies, Queen's University.
Compton, P. A. (1982) 'Fertility, Nationality and Religion in Northern Ireland', in D. A. Coleman (ed.), *The Demography of Immigrants and Minority Groups in the United Kingdom*, London: Academic Press.
Compton, P. A. (1995) *Northern Ireland: Demographic Review*, Belfast: Northern Ireland Economic Council.
Compton, P. A. (1996) 'Indigenous and Older Minorities', in D. A. Coleman and J. Salt (eds), *Ethnicity in the 1991 Census Volume 1: Demographic characteristics of the ethnic minority populations*, London: HMSO.
Compton, P. A. and Coward, J. (1989) *Fertility and Family Planning in Northern Ireland*, Aldershot: Avebury.
Connell, K. H. (1950) *The Population of Ireland 1750–1845*, Oxford: Clarendon Press.
Connolly, S. J., Houston, R. A. and Morris, R. J. (1995) *Conflict, Identity and Economic Development in Ireland and Scotland 1600–1939*, Preston: Carnegie.
Cooman, E. de, Ermisch, J. and Joshi, H. (1987) 'The Next Birth and the Labour Market: a Dynamic Model of Births in England and Wales', *Population Studies*, 41: 237–68.

Council of Europe (1996) *Recent Demographic Developments in Europe 1996*, Strasburg, Council of Europe (and earlier).
Courtney, D. A. (1990) 'Women, Parenthood and Labour Force Activity in Ireland during the 1980s', Paper presented to the Council of Europe Seminar on Present Demographic Trends and Lifestyles, Strasburg 1990.
Coward, J. (1980) 'Recent Characteristics of Roman Catholic Fertility in Northern and Southern Ireland', *Population Studies*, 34: 31–44.
David, P. A., Mroz, T. A., Sanderson, W. C., Wachter, K. W. and Weir, D. R. (1988) 'Cohort Parity Analysis: Statistical Estimates of the Extent of Fertility Control', *Demography*, 25(2): 163–88.
David, P. A. and Sanderson, W. C. (1988) 'Measuring Marital Fertility Control with CPA', *Population Index*, 54(4): 691–713.
David, P. A. and Sanderson, W. C. (1990) 'Cohort Parity Analysis and Fertility Transition Dynamics: Reconstructing Historical Trends in Fertility control from a Single Census', *Population Studies*, 44(3): 421–45.
Davis, K. (1963) 'The Theory of Change and Response in Modern Demographic History', *Population Index*, 21(4).
Day, L. H. (1968) 'Nationality and Ethnic-Centrism: Some Relationships Suggested by an Analysis of Catholic-Protestant Differentials', *Population Studies*, 22: 25.
Dean, G. (1984) *Termination of Pregnancy, England 1983. Women from the Republic of Ireland*, Dublin: Medico-Social Research Unit.
De Graaf, N. D. and Evans, G. (1996) 'Why are the Young more Post-Materialist? A Cross-Natural Analysis of Individual and Contextual Influences on Post-Materialist Values', *Comparative Political Studies*, 28: 608–35.
Department of Health (1990) *1987 Annual Report on Vital Statistics*, Dublin: Central Statistics Office.
DHSS (1994) *The Health of the Public in Northern Ireland. Annual Report of the Chief Medical Officer 1994*, Belfast: Department of Health and Social Services.
DHSS/Registrar-General Northern Ireland (1992) *Northern Ireland Census 1991 Summary Report*, Belfast: HMSO.
Dickson, D., Ó Gráda, C. and Daultrey, S. (1982) 'Hearth Tax, Household Size and Irish Population Change 1672–1821', *Proceedings of the Royal Irish Academy 82C*, 6: 125–50.
Ermisch, J. (1996) 'The Economic Environment for Family Formation', in D. A. Coleman (ed.), *Europe's Population in the 1990s*, Oxford: Oxford University Press.
Eurostat (1991) *A Social Portrait of Europe*, Luxemburg: Office for Official Publications of the European Communities .
Eurostat (1996) *Demographic Statistics 1996*, Luxemburg: Office for Official Publications of the European Communities (and earlier issues).
Eurostat (1997) *Labour Force Survey Results 1995*, Luxemburg: Office for the Official Publications of the European Communities.
Eversley, D. E. C. (1989) *Religion and Employment in Northern Ireland*, London: Sage.
Fehily, A. M., Barker, M. E., *et al.* (1990) 'The Diets of Men in 4 Areas of the UK: the Caerphilly, Northern Ireland, Edinburgh and Speedwell Studies', *European Journal of Clinical Nutrition*, 44(11): 813–17.

Flinn, M. (1977) (ed.) *Scottish Population History from the 17th Century to the 1930s*, Cambridge: Cambridge University Press.
Garvey, D. (1985) 'The History of Migration Flows in the Republic of Ireland', *Population Trends*, 39: 22–30.
Geary, P. T. and Ó Gráda, C. (1987) *Post War Migration between Ireland and the UK: Models and Estimates*, Working Paper No. 49, Dublin: Centre for Economic Research, University College Dublin.
Greene, S. M., Joy, M.-T., Nugent J. K. and O'Mahoney, P. (1989) 'Contraceptive Practice of Irish Married and Single First-Time Mothers', *Journal of Biosocial Science*, 21(4): 379–86.
Gudgin, G. and O'Shea, G. (1993) *Unemployment Forever? The Northern Ireland Economy in Recession and Beyond*, Belfast.
Hajnal, J. (1965) 'European Marriage Patterns in Perspective', in D. V. Glass and D. E. C. Eversley (eds), *Population in History*, London: Arnold.
Hajnal, J. (1982) 'Two Kinds of Preindustrial Household Formation System', *Population and Development Review*, 8(3): 449–94.
Harrison, L., Carrhill, R. and Sutton, M. (1993) 'Consumption and Harm – Drinking Patterns of the Irish, the English and the Irish in England', *Alcohol and Alcoholism*, 28(6): 715–23.
Henripin, J. *et al.* (1978) *La fin de la revanche du berceau*, Quebec:
Hostetler, J. and Huntington, G. E. (1996) *The Hutterites of North America*, New York: Harcourt Brace College Publishers.
Inglehart, R. (1977) *The Silent Revolution: Changing Values and Political Styles among Western Publics*, Princeton: Princeton University Press.
Jardine, E. F. (forthcoming) 'Demographic Structure in Northern Ireland and its Implications for Constitutional Preference. A paper to the Statistical and Social Inquiry Society of Ireland', 5 May 1994, *Journal of the Social and Statistical Inquiry Society of Ireland*.
Johansson, S. R. (1991) 'Welfare, Mortality and Gender. Continuity and Change in Explanations for Male/Female Mortality Differences over Three Centuries', *Continuity and Change*, 6(2): 135–77.
Kennedy, F. (1989) *Family, Economy and Government in Ireland*, General Research Series Paper No. 143, Dublin: Economic and Social Research Institute.
Kennedy, L. and Clarkson, L. A. (1993) 'Birth, Death and Exile: Irish Population History 1700–1921', in B. J. Graham and L. J. Proudfoot (eds), *An Historical Geography of Ireland*, London: Academic Press.
Kennedy, L. (1994) *People and Population Change: a Comparative Study of Population Change in Northern Ireland and the Republic of Ireland*, Dublin and Belfast: Co-operation North.
Kennedy, R. E. (1973a) *The Irish: Emigration, Marriage and Fertility*, Berkeley: University of California Press.
Kennedy, R. E. (1973b) 'Minority Groups and Fertility: the Irish', *American Sociological Review*, 38: 85.
Kravdal, Ø. (1992) 'The Weak Impact of Female Labour Force Participation on Norwegian Third-Birth Rates', *European Journal of Population*, 8(3): 247–63.
Leck, I. and Lancashire, R. J. (1995) 'Birth Prevalence of Malformations in

Members of Different Ethnic Groups and the Offspring of Matings Between them', *Journal of Epidemiology and Community Health*, 49(2): 171–9.
Lee, J. (1981) 'On the Accuracy of the Pre-famine Irish Censuses', in J. M. Goldstrom and L. A. Clarkson (eds), *Irish Population, Economy and Society*, Oxford: Clarendon Press.
Lesthaeghe, R. (1983) 'A Century of Demographic and Cultural Change in Western Europe', *Population and Development Review*, 9: 411–36.
Lesthaeghe, R. and Meekers, D. (1986) 'Value Changes and the Dimension of Familism in the European Community', *European Journal of Population*, 2: 225–68.
Levi, F., Lavecchia, C., Lucchini, F. and Negri, E. (1995) 'Cancer Mortality in Europe 1990–92', *European Journal of Cancer Prevention*, 4(5): 389–417.
Macourt, M. P. A. (1995) 'Using Census Data on Religion as a Key Variable in Studies of Northern Ireland', *Environment and Planning A 27*, 4: 593–614.
Meghen, P. J. (1970) Ch. 2 'The Census of Population', Ch. 3 'Vital statistics', *Statistics in Ireland*, Dublin: Insititute of Public Administration.
Miller, K. A. (1985) *Emigrants and Exiles: Ireland and the irish Exodus to North America*, New York: Oxford University Press.
Mokyr, J. and Ó Gráda, C. (1984) 'New Developments in Irish Population History, 1700–1850', *Economic History Review*, 2nd ser XXXVII, 4: 475–88.
Morgan, V. and Macafee, W. (1984) 'Irish Population from the Pre-Famine Period: Evidence from County Antrim', *Economic History Review*, 37(2): 182–96.
Morris, C. and Compton, P. (1985) '1981 Census of Population in Northern Ireland', *Population Trends*, 40: 16–20.
Mosher, W. D. (1980) 'The Theory of Change and Response: an Application to Puerto Rico 1940–1970', *Population Studies*, 34: 45–58.
Murdoch, A. (1997) 'Why Irish Eyes aren't Smiling on the Great Romanian invasion', *The Independent*, 23 May: 8.
Murphy, M. (1992) 'Economic Models of Fertility in Post-War Britain—A Conceptual and Statistical Re-interpretation', *Population Studies*, 46: 235–58.
Nic Ghiolla Phadraig, M. (1984) 'Social and Cultural Factors in Family Planning', in *The Changing Family*, Dublin: University College.
OECD (1995) *OECD Historical Statistics 1960–1993*, Paris: OECD.
OECD (1997) *Trends in International Migration. SOPEMI Annual Report 1996*, Paris: OECD.
Ó Gráda, C. (1984) *Did the Catholics always have Larger Families? Religion, Wealth and Fertility in Rural Ulster before 1911*, Centre for Economic Policy Research Discussion paper No. 6, London: CEPR.
Ó Gráda, C. (1991) 'New Evidence on the Fertility Transition in Ireland 1880–1911', *Demography*, 28(4): 535–48.
Ó Gráda, C. (1993) *Ireland Before and After the Famine: Explorations in Economic History 1800–1925*, 2nd edn, Manchester: Manchester University Press.
Ó Gráda, C. and Walsh, B. (1995) 'Fertility and Population in Ireland, North and South', *Population Studies*, 49(2): 259–79.
OPCS (1995a) *Abortion Statistics 1993 Series AB No. 22,* London: HMSO.
OPCS (1995b) *Birth Statistics 1993 Series FM1 No. 22*, London: HMSO.
OPCS (1996) *International Migration Statistics Series MN*, London: HMSO.

Petty, W. (1687) 'Treatise of Ireland', in C. H. Hull (ed.), *The Economic Writings of Sir William Petty*, Cambridge: Cambridge University Press.

Registrar-General (1982) *Fifty-Ninth Annual Report of the Registrar-General 1980* (and earlier), Belfast: HMSO.

Registrar-General Northern Ireland (1995) *Annual Report 1993, No. 72* (and earlier), Belfast: HMSO.

Ruzicka, L. T. (1984) 'Mortality in India: Past Trends and Future Prospects', in T. Dyson and N. Crook (eds), *India's Demography: Essays on the Contemporary Population*, New Delhi: South Asian Publishers.

Ruzicka, L., Wunsch, G. and Kane, P. (eds) (1989) *Differential Mortality: Methodological Issues and Biosocial Factors*, Oxford: Clarendon Press.

Sardon, J.-P. (1990) *Cohort Fertility in Member States of the Council of Europe*, Population Studies No. 21, Strasburg: Council of Europe.

Schellekens, J. (1993) 'The Role of Marital Fertility in Irish Population History 1750–1840', *Economic History Review*, XLVI(2): 369–78.

Sexton, J. J. (1994) *A Review of Irish External Migration, Past and Present*, Dublin: Economic and Social Research Institute (ESRI).

Sexton, J. J. and Dillon, M. (1984). 'Recent Changes in Irish Fertility', *Quarterly Economic Commentary*, May 1984: 21–40.

Shelley, E., O'Reilly, O., Mulcahy, R., *et al.* (1991) 'Trends in Mortality from Cardio-Vascular Disease in Ireland', *Irish Journal of Medical Science*, 160: 5–9.

Shuttleworth, I. (1993) 'Irish Graduate Emigration: the Mobility of Qualified Manpower in the Context of Peripherality', in R. King (ed.), *Mass Migration in Europe: the Legacy and the Future*, London: Belhaven.

Siegel, B. J. (1970) 'Defensive Structuring and Environmental Stress', *American Journal of Sociology*, 76: 11.

Simons, J. (1986) 'Culture, Economy and Reproduction in Contemporary Europe', in D. A. Coleman and R. S. Schofield (eds), *The State of Population Theory: Forward from Malthus*, Oxford: Basil Blackwell.

Spencer, A. E. C. W. (1977) 'The Relative Fertility of the Two Religious-Ethnic Communities in Northern Ireland 1947–1977', *Transactions of the Sociological Society of Ireland 1977–8*.

Spencer, A. E. C. W. (1982) 'Catholics in Britain and Ireland: Regional Contrasts', in D. A. Coleman (ed.), *The Demography of Immigrants and Minority Groups in the United Kingdom*, London: Academic Press.

Stolnitz, G. J. (1955a) 'A Century of International Mortality Trends I', *Population Studies*, IX: 24–55.

Stolnitz, G. J. (1955b) 'A Century of International Mortality Trends II', *Population Studies*, X: 17–42.

Summers, R. and Heston, A. (1991) 'The Penn World Table (Mark 5): An Expanded Set of International Comparisons', *Quarterly Journal of Economics* (May 1991).

Szreter, S. (1996) *Falling Fertilities and Changing Sexualities in Europe Since c. 1850: A Comparative Survey of National Demographic Patterns*. Working Papers in Demography No. 62: 35. Canberra: Australian National University Research School of Social Sciences.

Teitelbaum, M. S. (1984) *The British Fertility Decline: Demographic Transition in the Crucible of the Industrial Revolution*, Princeton: Princeton University Press.

Tyson, R. E. (1995) 'Contrasting Regimes of Population Growth in Ireland and Scotland during the Eighteenth Century', in S. J. Connolly, R. A. Houston and R. J. Morris (eds), *Conflict, Identity and Economic Development: Ireland and Scotland, 1600–1939*, Preston: Carnegie.

Van de Kaa, D. J. (1987) 'Europe's Second Demographic Transition', *Population Bulletin*, 42(1).

Van de Kaa, D.J. (1996) 'The Second Demographic transition Revisited: theories and expectations', in G. C. N. Beets *et al.* (eds), *Population and Family Life in the Low Countries 1993 Late Fertility and Other Current Issues*, Amsterdam: Swets and Zeitlinger.

Walsh, B. M. (1972) 'Ireland's Demographic Transformation 1958–70', *Economic and Social Review*, 3: 251–75.

Wilson-Davis, K. (1982) 'Fertility and Family Planning in the Irish Republic', *Journal of Biosocial Science*, 14: 343–58.

Wright, R. E. (1989) 'The Easterlin Hypothesis and European Fertility Rates', *Population and Development Review*, 15(1): 107–22.