

# Ireland's Gain

The Demographic Impact and  
Consequences for the Health  
of Women of the Abortion Laws  
in Ireland and Northern Ireland  
since 1968



by Patrick Carroll



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Health of Women of the Abortion Laws in Ireland  
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*Published by*

PAPRI registered charity number 327942 in England

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ISBN 0-9514532-3-8

December 2011

Publication accessible on the web site of the publishers

[www.papriresearch.org](http://www.papriresearch.org) and <http://home.btconnect.com/papri>

## FOREWORD

The analysis by Patrick Carroll at PAPRI compares available statistical data on abortions carried out on women resident in Ireland and Northern Ireland over the epoch 1968-2010 with the corresponding data for Britain with regard to the demographic characteristics of the various parts of the two islands and discusses the implications for the health of women.

The study provides an in-depth ecological analysis that constitutes a unique insight into the effects, or lack thereof, of national and regional policy to restrict termination of pregnancies. The discussion of premature birth rates, stillbirth rates, mental health resource usage, medication usage for mental health, breast cancer rates, and immunological disorders all point to an urgent need to examine more fully the impact of liberalization of abortion laws and their adverse impact on women's health. Public health officials and legislators responsible for shaping national and regional policies for women's health must seriously engage the questions raised by the PAPRI report for the need to restrict and monitor termination of pregnancies.

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## PREFACE

Whereas the scale of legally induced abortion in the developed countries of the world is large and many women have been affected by its consequences, there are rather few studies of the demographic impact and of the impact on the health of women. Since the Britain's 1967 Abortion Act was passed in Westminster, there has been, however, an accumulation of UK data. This study avails of data supplied by the Department of Health in London, and prior to 2002, by the UK Office for National Statistics, in respect of women resident in Ireland and Northern Ireland coming to England and Wales for abortions since 1968. Most abortions among women from the island of Ireland are believed to take place in England and Wales but there is also reported some abortions taking place in Northern Ireland, small numbers in Scotland, and some in the Netherlands.

## ACKNOWLEDGEMENTS

Particular thanks are due to the Central Statistics Office Ireland and Office of National Statistics (UK) that have supplied the data. Computing has been done by Alexandre Paul, Sudhakar Brodie and Tejas Dhokalia, who carried out the demographic work on population projections for the island of Ireland.

## SUMMARY

1. Restrictive laws on abortion have enabled the birth rate in Ireland and Northern Ireland to remain much higher than the European average. Today birth rates on the island of Ireland are near to replacement level and the island benefits from a more youthful demographic profile with less dependence on immigration than other European countries.
2. Liberalisation of abortion laws in Ireland and Northern Ireland would result in a less youthful demographic profile with a smaller native population as illustrated for Northern Ireland in the period since 1968 and in Ireland for future years.
3. Distinct traditional features of demography on the island of Ireland are still apparent, such as large families for married couples in Ireland, notwithstanding the late age of childbearing in the island as a whole and the general trend to smaller families everywhere. The late age of women giving birth for the first time in Ireland and Northern Ireland, in conjunction with higher parity progression on the island, explains a high proportion of abortions among women resident on the island being nulliparous i.e. carried out on women who have had no previous full term pregnancy.
4. Most abortions among women resident on the island are nulliparous, and therefore especially damaging to their health. But these abortions are comparatively rare. Ireland and Northern Ireland show a low incidence of maternal and infant conditions known to be abortion sequelae: still births, low weight births whether in singleton or multiple births, preterm or premature births, cerebral palsy and maternal deaths. Ireland and Northern Ireland also benefits from low incidence of breast cancer and comparatively good mental health among women and a low incidence of certain diseases of the immune system, to which low abortion rates have contributed. Liberalisation of abortion laws in Ireland and Northern Ireland can be expected to result in higher abortion rates and a corresponding deterioration in respect of these conditions affecting the health of women.

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## CHAPTER 1

## Demographic Context: Legally induced abortions among women resident on island of Ireland since 1968

Due to the 1967 Abortion Act in Britain, Legally Induced Abortions became available to women in Ireland and Northern Ireland who travelled to Britain after April 1968 for an abortion. Within Ireland and Northern Ireland older restrictive laws on abortion remain in force. There are some induced abortions, fewer than 100 per year in hospitals in Northern Ireland, where a continuing pregnancy would have "a severe effect" on the health of the woman, and no recorded abortions in hospitals in Ireland.

Abortion Statistics [1] for England & Wales, gives the numbers for age groups of women resident in Ireland and Northern Ireland. Table 1 shows the trend in these numbers since 1968. Also to be counted are the numbers (assumed to be from Ireland) of women in recent years having Legally Induced Abortions in the Netherlands[2] and the numbers, from Northern Ireland and Ireland, having abortions in Scotland[3]. Legally Induced Abortions within Northern Ireland are reported in Sexual Health Information by the Department of Health, Social Services and Public Safety in Northern Ireland [4]. Numbers of induced abortions within Ireland are not reported and assumed to be zero.

Table 1 Numbers of Legally Induced Abortions by Location for Women resident on the island of Ireland

Year	Ireland			Northern Ireland		
	Eng & Wales	Netherlands	Scotland	Eng & Wales	N. Ireland	Scotland
1971	666	-	-	558	-	-
1981	3585	-	1	1432	-	2
1991	4168	-	3	1775	-	3
2001	6655	-	2	1574	75	3
2009	4411	134	1	1125	71	2
2010	4379	31	1	1082	74	2

By using the English and Welsh data [1] for single year of age with the numbers at each age as numerators and with the corresponding mid-year female population as denominators, we can compute age-specific Abortion Rates for Ireland and for Northern Ireland, where the numbers are smaller and supplied by 5-yearl age groups, these are also estimated for single year of age by spreading within 5-yearl age groups assuming the same distribution patterns as for Ireland. Totals of all ages from 15 to 45 then produce Total Abortion Rates or TARs, computed in the same way as Total Fertility Rates, for the period shown in Figure 1. These TARs incorporate a proportionate allowance for abortions known to have taken place in Scotland and the Netherlands, and within Northern Ireland.

Figure 1: Total Abortion Rates in the Ireland and Northern Ireland from 1968 to 2010

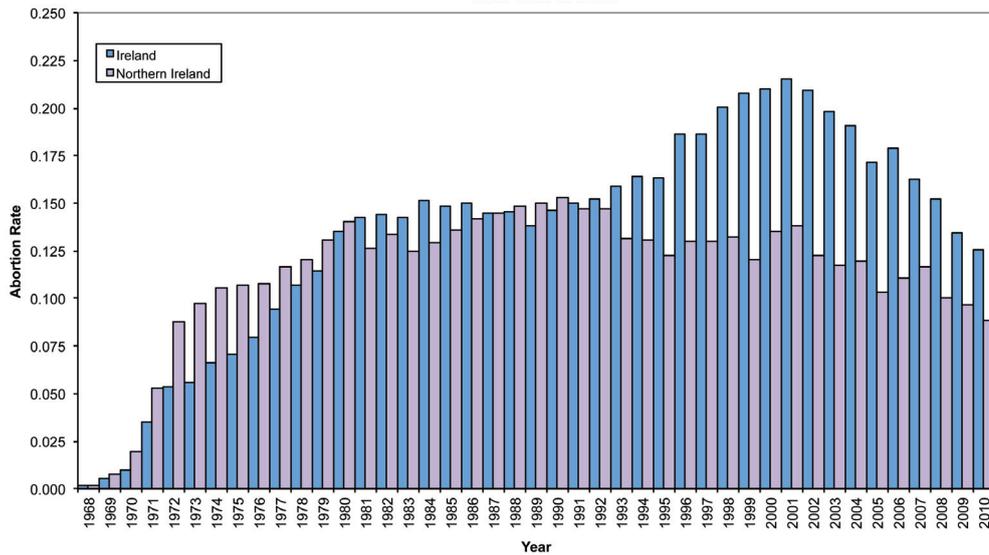


Figure 1 shows the higher abortion rates for Ireland in the late 1990s and early 2000s. This was the era of the Celtic Tiger when there were especially good opportunities for paid employment for women in Ireland.

There have been suggestions that some women from the island go abroad for abortions to Britain reporting English, Welsh or Scottish addresses at abortion clinics. To the extent that this takes place these rates will be underestimates. A report for the Crisis Pregnancy Agency in Dublin published in 2006 [5] on abortions performed on Irish women in the UK, which discusses the use of addresses in Britain by Irish resident women seeking abortions in Britain, says that with “*the increasingly liberal views on sex and abortion in Irish society... the number of women giving false addresses is likely to be lower now than in the past. Consequently, past rises in rates [up to 2001] may partly be due to women’s greater willingness to state they are from Ireland*”. The authors do not attribute the lower rates of abortion in both Ireland and Northern Ireland in recent years to an increase in women from these jurisdiction giving addresses in Britain when travelling to it for abortions.

## IRISH FERTILITY

The decline in fertility throughout Europe since 1968 is also apparent in Ireland and Northern Ireland, but both jurisdictions continue to show higher fertility rates. The Total Fertility Rate is near to 2 in both parts of the island, which corresponds to a family of two children. This is much higher than the European average TFR around 1.4 and close to replacement level around 2.07 Total Fertility Rate. Figure 2 shows the fertility trend, near to replacement level since the late 1990s, and also the corresponding TARs (Total Abortion Rates) for each year for Ireland.

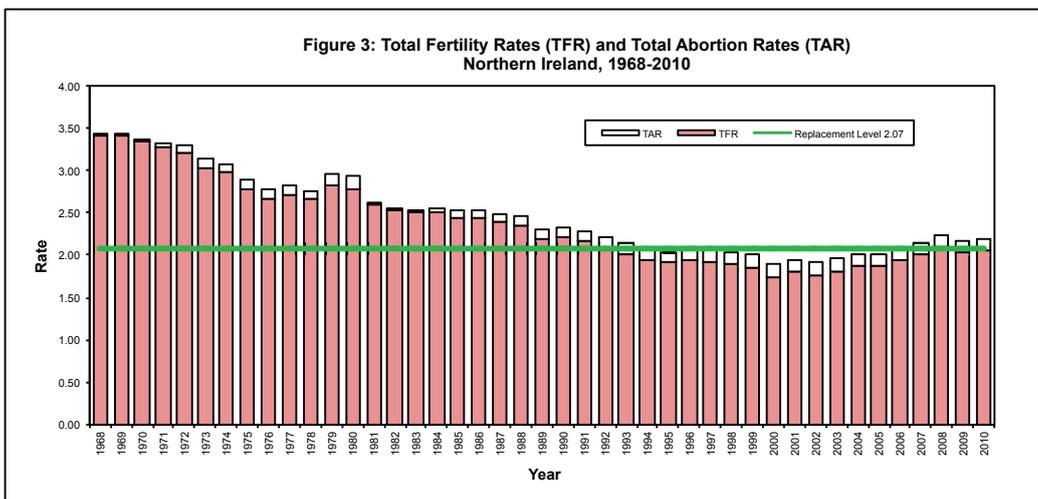
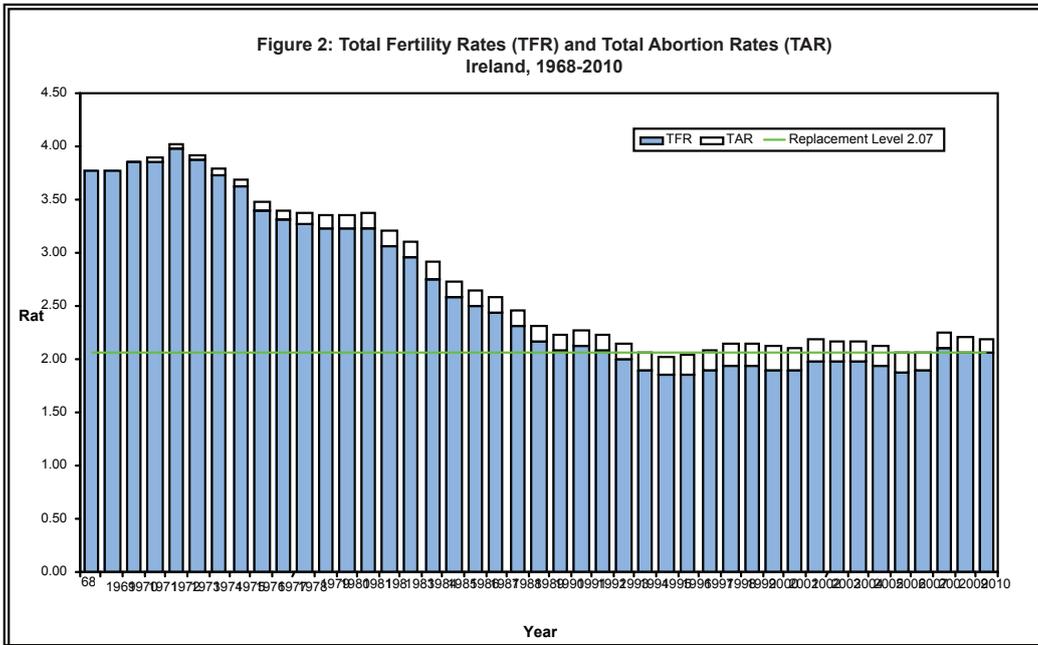


Figure 3 shows these trends for Northern Ireland. Again, since the 1980s we can see a close match with replacement level of the total level of conceptions when fertility and abortion rates are combined.

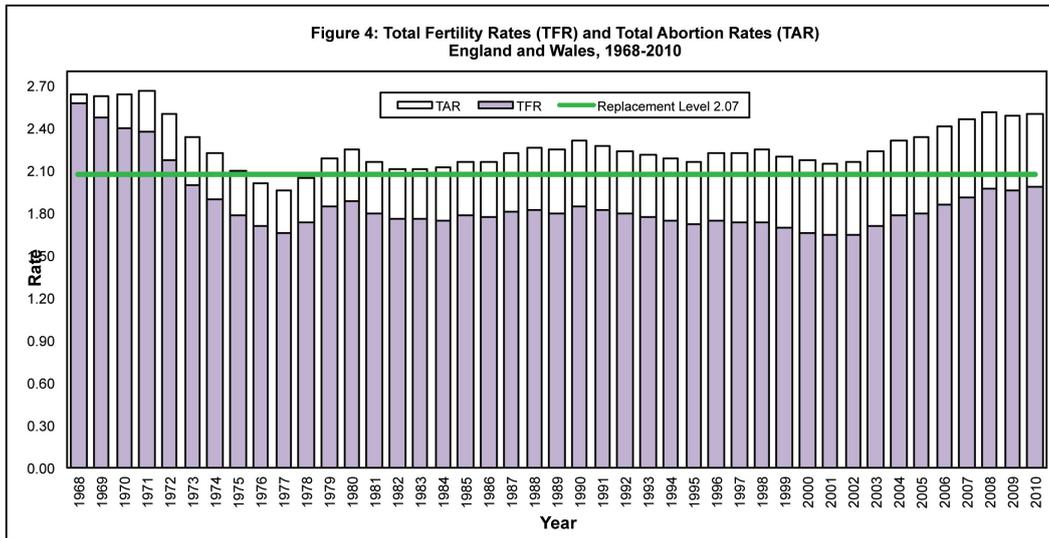
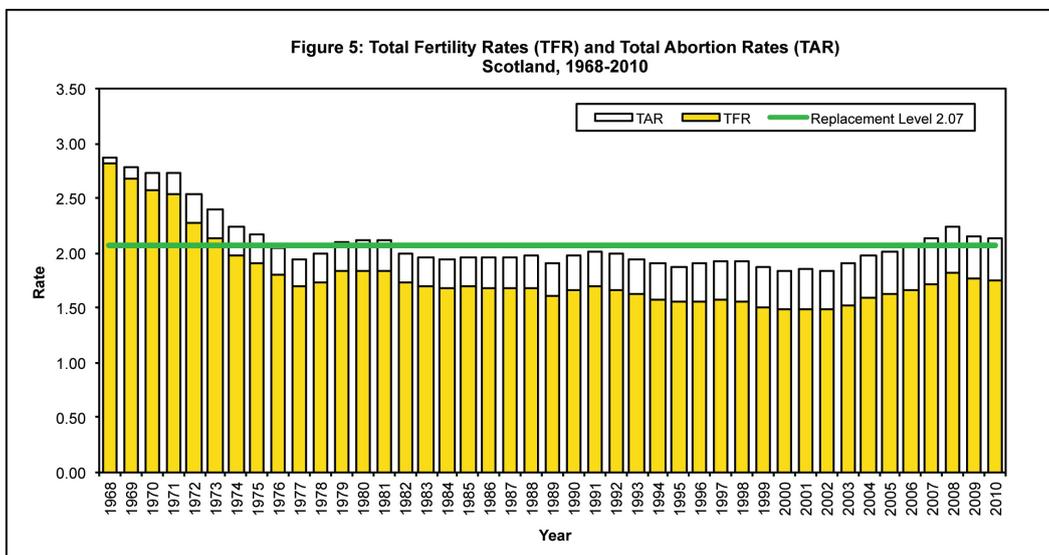


Figure 4 shows these trends for England & Wales. This also shows a close match between replacement level and the total rate of all conceptions over most of the period. Recently the English and Welsh birth rate has risen. Part of this recent increase is attributable to certain immigrant groups which have a higher fertility and are larger in England and Wales, compared to the island of Ireland.

Figure 5 shows that Scotland has experienced a greater decline in fertility compared to England and Wales over this period.

The especially steep decline in fertility in Scotland can be linked to the decline in traditional industries that means young men in Scotland are less well placed to marry and assume family commitments. Also, the parallel growth in service industries provides opportunities for women who are now claiming a greater share of educational and professional opportunities [6,7]. The right of social housing tenants in the UK to buy the properties they are renting, has been a further factor in the decline of fertility that has impacted Scotland, especially as more couples are exposed to the financial strain of purchasing their house with the effect of reducing parity progression. [6.7].



In Figures 2 to 5 there is an approximate match between the Total Abortion Rates and the shortfall below replacement level of the Total Fertility Rate. Lower abortion rates are apparently linked to higher fertility rates in Ireland and Northern Ireland, which are much nearer to replacement level than those of other parts of Europe.

Just how low abortion rates in Ireland and Northern Ireland are compared to those in Britain is shown by Table 2.

Table 2 TARs: Total Abortion Rates in island of Ireland and Britain

	Ireland	Northern Ireland	England & Wales	Scotland
1971	0.04	0.05	0.29	0.20
1981	0.14	0.13	0.36	0.28
1991	0.15	0.15	0.45	0.33
2001	0.22	0.14	0.51	0.36
2009	0.13	0.10	0.53	0.39
2010	0.13	0.09	0.52	0.39

A report in Population Trends 2009 [8] said “the historical pattern in crude birth rates for each of the four UK countries is very similar”. But the report goes on to explain that there is some divergence:

“While over the last century the birth rate in Scotland has converged with and then fallen below the rates in England and in Wales, the birth rate in Northern Ireland has begun to converge but remains higher than the rates observed in England and in Wales. A specific point of interest is that all countries of the UK have experienced a similar upturn of greater than 10 per cent in birth rates since the lows of 2001/02.”[8]

Northern Ireland like elsewhere has seen a trend to later childbearing with a particular decline in the birth rate of women in their early twenties.

While immigration into Northern Ireland has been much less than that into to England and Wales, there has been a significant contribution by mothers born abroad to the recent upswing in the Northern Ireland birth rate [8]

#### DEMOGRAPHIC DISTINCTIVES AND ABORTIONS: IRELAND AND NORTHERN IRELAND

Traditionally, Ireland and Northern Ireland have exhibited a high birth rate, notwithstanding a late age of marriage and late age of childbearing. This pattern continues. Indeed the average age at childbearing in Ireland and Northern Ireland continues to rise, as shown in Table 2, while both jurisdictions also manifest the modern trends of a decline in marriage and lower fertility, in conjunction with a growth in extra-marital births, as a proportion of all live births. Table 2 illustrates that Ireland continues to show this demographic distinctive to a greater degree than Northern Ireland.

Average ages at which women give birth to their first child are shown in Table 3.

Table 3 Average ages of women at birth of first child in Ireland, Northern Ireland and England & Wales

	Ireland	Northern Ireland	England & Wales
1971	25.2	-	24.0
1981	25.0	24.5	25.6
1991	26.3	25.6	27.4
2001	27.6	26.6	29.5
2009	29.1	27.6	30.2
2010	28.9		

While the average age at first birth in Ireland and Northern Ireland has risen, the rise has been more pronounced in England and Wales since 1971. There has been a greater participation by females in higher and further education in England and Wales during this period and greater professional career opportunities for women.

In 1971, the traditional pattern whereby women in Northern Ireland and especially those in Ireland started their families later than in England and Wales, was still apparent and the traditional pattern of later childbirth in Ireland compared to Northern Ireland is also still apparent in 2009.

Table 4 shows these trends in respect of the average age at childbirth for all children.

Table 4 Average ages at Childbearing in Ireland, Northern Ireland and England & Wales.

	Ireland	Northern Ireland	England & Wales
1971	29.4	-	26.2
1981	28.9	27.6	26.8
1991	29.6	28.0	27.5
2001	30.3	29.4	29.0
2009	31.3	29.8	29.5
2010	31.5	29.9	29.5

In 2010 it still true to say that on the island of Ireland have their children at a later age than those in England and Wales with this pattern more pronounced in Ireland, while Northern Ireland has an intermediate age of childbearing between Ireland and England & Wales.

Figure 6: Percentage of women married aged 25-29 in Ireland, Northern Ireland, England & Wales and Scotland.

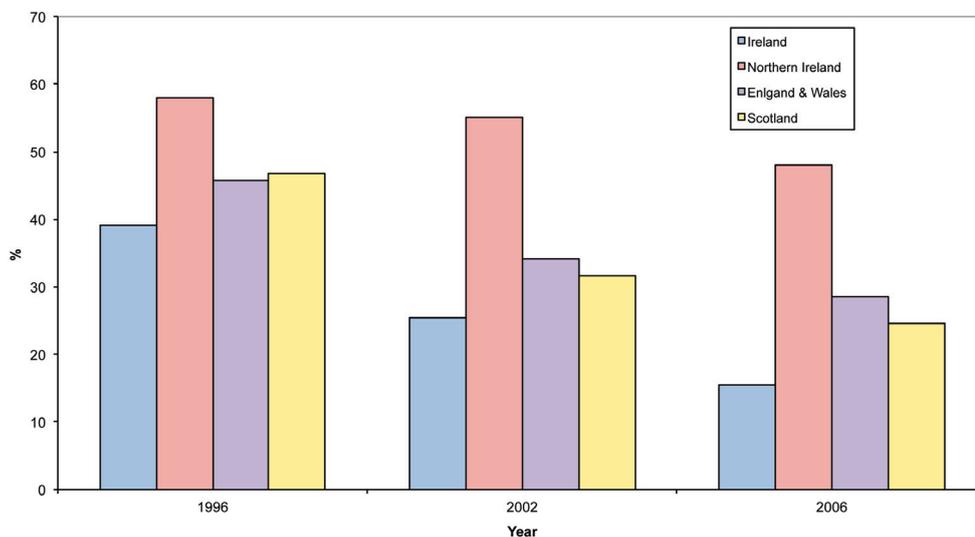


Figure 6 shows the proportion married at ages 25-29 when young women are likely to marry and start a family. Whereas Ireland continues to manifest the demographic distinctive of late marriage, Northern Ireland maintains a relatively high marriage rate. There is a consistency between the higher proportion married and high birth rate in Northern Ireland and the low abortion rate there. But there is a paradox in the conjunction of a higher proportion married in Northern Ireland compared with Ireland and the higher proportion in Northern Ireland of extra-marital births compared with Ireland. In 2009, in Ireland, 67% of births were to married parents but this ratio was 60.2% in Northern Ireland.

To examine this paradox we might consider parity progression in the two jurisdictions, making use of tables kindly supplied by Vital Statistics at the Central Statistical Office in Ireland and Census NISRA in Northern Ireland.

Table 5 Live Births within Marriage. Previous Live Born Children. Numbers and Proportions for 2009

		Total	Previous Live Born Children		
			0	1	2 and more
Ireland	Number	49,746	17,801	16,883	15,062
	Proportion (%)	100%	35.8%	33.9%	30.3%
Northern Ireland	Number	15,008	5,444	5,374	4,190
	Proportion (%)	100%	36.3%	35.8%	27.9%

Table 5 shows this Within Marriage for 2009. It is apparent that there is a higher parity progression within marriage in Ireland. Less than 36% of married mothers giving birth in Ireland in 2009 are having their first child while the proportion is over 36% in Northern Ireland. And larger families are more in evidence in Ireland where over 30% of those born within marriage already have 2 or more siblings, compared to less than 28% in Northern Ireland.

Table 6. Live Births outside Marriage. Previous Live Born Children. Numbers and Proportions for 2009

		Total	Previous Live Born Children		
			0	1	2 and more
Ireland	Number	24,532	13,550	6,724	4,258
	Proportion (%)	100%	55.2%	27.4%	17.4%
Northern Ireland	Number	9,902	5,289	2,803	1,810
	Proportion (%)	100%	53.4%	28.3%	18.3%

When we consider parity progression outside marriage shown in Table 6, we find it is higher in Northern Ireland. In 2009, less than 54% of single mothers giving birth are having their first child in Northern Ireland, whereas more than 55% are doing so in Ireland. Larger single parent families are more in evidence in Northern Ireland. Over 18% of those born outside marriage in Northern Ireland have already two or more siblings, while the proportion in Ireland is less than 18%.

It seems welfare benefits in Northern Ireland, as in the rest of the UK, are more generous and assist single parents to add to their families to a greater extent than in Ireland, while income tax reliefs give more assistance in Ireland to married couples to have larger families. In Ireland there are child tax allowances to determine Income Tax paid by parents. While in the UK, that includes Northern Ireland,

there are Child Credits subject to means-testing that are especially useful to single parents.

Trends in abortions and especially the changing pattern of Nulliparous Abortions, where the woman has not previously had a full term pregnancy, compared with Parous abortions in both Irish jurisdictions also reflect these marriage trends. There is known to be a high inverse correlation between marital status and abortion rates, with married women having a much lower incidence of abortion.

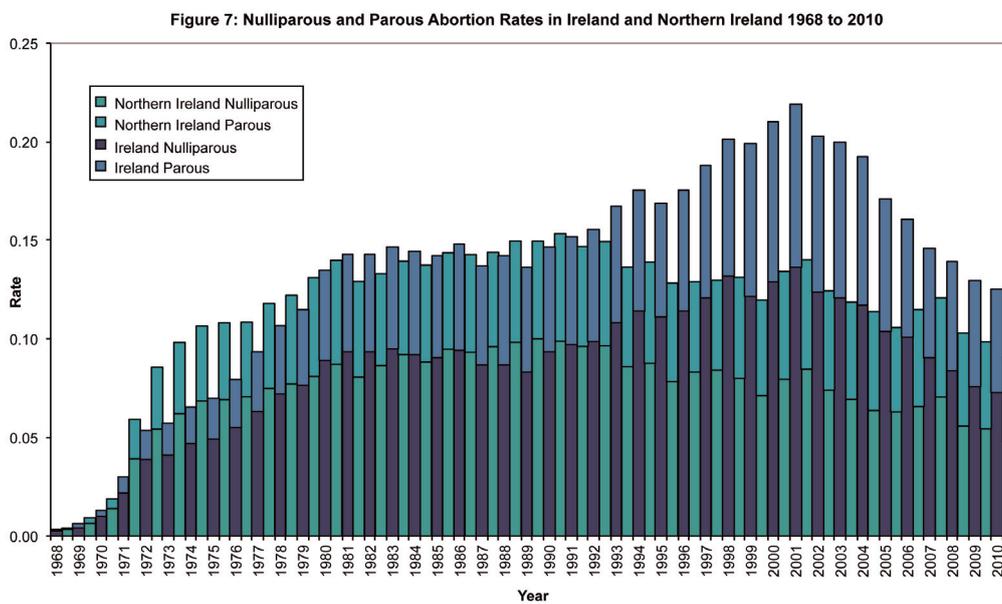


Figure 7 shows the relative sizes of Nulliparous and Parous Total Abortion Rates in Ireland and Northern Ireland since 1968. These are derived from age specific tabulations supplied by the Department of Health in London [1]. In both Ireland and Northern Ireland, the nulliparous abortion rate is less than half the England and Wales rate in the 1980s. Higher parity progression in Northern Ireland among single parents contributes to the especially low rate of parous abortions there, while the high proportion married there corresponds to the especially low rate of nulliparous abortions.

Table 7 Number of women resident in Ireland and Northern Ireland having Parous and Nulliparous Abortions in England during selected Years since 1968.

	Ireland			Northern Ireland		
	Nulliparous	Parous	%Nulliparous	Nulliparous	Parous	%Nulliparous
1971	428	136	75.89	441	188	70.11
1981	2,480	1,106	69.16	965	486	66.51
1991	2,802	1,411	66.51	1,192	587	67.00
2001	4,194	2,479	62.85	936	641	59.35
2009	2,512	1,910	56.81	609	514	54.23
2010	2,500	1,902	56.79	566	535	51.41



The percentage of nulliparous abortions at around 57% in 2010 in the Ireland remains higher than in England & Wales. In both jurisdictions on the island of Ireland, the increased proportion of parous abortions in recent years can be linked to the growth in single parenting and the decline in marriage. This reflects the continuing demographic distinctives of late marriage, late childbearing and higher birth rates in the two jurisdictions and by comparison with England & Wales, it reflects the lower proportion of births outside wedlock on the island. The very low Northern Ireland rate for nulliparous abortions can be linked to the higher proportion of women married in the age group 25-29 as shown above in Figure 6.



CHAPTER 2

## Population projections to illustrate how Fertility and Demographic Profile in Ireland and Northern Ireland might change with liberalisation of abortion laws.

### NORTHERN IRELAND SINCE 1968

What might have been the demographic impact of applying the 1967 Abortion Act to Northern Ireland?

Scotland, where the Westminster 1967 Abortion Act applies, provides a guide to what might have been the experience in Northern Ireland, if the abortion law had been liberalised. Scotland has a similar cultural and religious tradition to Northern Ireland and socio-economic conditions are also similar with both parts of the UK experiencing a significant decline in traditional industries. The same taxation and welfare systems that affect families with children are in operation in both Northern Ireland and Scotland. Furthermore, the system of social housing provision is similar in both jurisdictions and as already alluded to social housing tenants who rent from the Housing Executive in Northern Ireland or from local authorities in Scotland have the right to buy their home.

Table 8 shows the changed demographic profile in Scotland over the last ten years. 100,000s Persons

	2001	2010
0-14	9.07	8.52
%	17.9	16.3
15-64	33.50	34.91
%	66.2	66.9
65+	8.05	8.79
%	15.9	16.8
Total	50.62	52.22
%	100.0	100.0

A 1968 based population projection has been calculated to illustrate the effect of assuming Scottish abortion rates applied to Northern Ireland since 1968 with a correspondingly reduced fertility rate in Northern Ireland over the period. In this projection it was also assumed that the experienced rates of mortality and migration were unaltered. The Northern Ireland fertility rate since 1968 was reduced by the difference between the estimated abortion rates in Scotland and Northern Ireland after a six months time lag.

Table 9 summaries how this hypothetical population development (II) compares with the official historic estimates(I) of the population of Northern Ireland.



Table 9 . Summary table for Northern Ireland. 100,000s Persons.

Age Group	1971		1981		1991		2001		2010	
	I	II								
0-14	4.57	4.53	4.15	3.99	3.92	3.72	3.70	3.34	3.58	3.03
%	29.6	29.5	26.9	26.1	24.4	23.6	21.9	20.4	19.9	17.7
15-64	9.18	9.18	9.41	9.41	10.07	9.98	10.95	10.77	11.81	11.43
%	59.6	59.7	61.0	61.6	62.7	63.2	64.8	65.9	65.6	67.0
65+	1.66	1.66	1.88	1.88	2.08	2.08	2.24	2.24	2.60	2.60
%	10.8	10.8	12.2	12.3	13.0	13.2	13.3	13.7	14.5	15.3
Total	15.40	15.37	15.43	15.28	16.07	15.78	16.89	16.34	17.99	17.06

I – Historic Population Male and Female

II – Projected Population with Adjusted Fertility

This projection indicates that if Scottish abortion rates had applied to Northern Ireland with a corresponding reduction in the Northern Irish birth rate over the period 1968 to 2010, the Northern Ireland population would be 1.71 million in 2010 in contrast to the official estimate of 1.8million for 2010. The projection also shows an older demographic profile for 2010 than is now reported. In 2010 the age group 0-14 was 19.9%, nearly 20%, of the population. But if Scottish abortion rates had applied this proportion would be less than 18%.

## DEMOGRAPHIC PROSPECTS FOR IRELAND

How might the future demographic profile change with liberalisation of the abortion law?

Presently Ireland enjoys a youthful demographic profile that compares favourably with other developed countries.

Table 10 shows the comparison with the UK and Germany and Japan for 2001 of the distribution of the Irish population over three age groups. In the UK Pensionable Age has been raised as a way of managing the increased cost burden of paying old-age pensions when the cost is to be spread over a relatively reduced population of working age. In Germany and Japan it has been found increasingly difficult to recover from recession because of lack of consumer demand on the part of an aged population and there is a greater reliance on exports for any future economic upswing.

Table 10. Total Population 2001 (Millions)

Age	UK		Ireland		Germany		Japan	
	Number	%	Number	%	Number	%	Number	%
0-14	10.85	18.0	0.83	21.6	12.9	15.6	18.55	14.6
15-64	39.93	66.2	2.58	67.1	56.3	67.8	85.99	67.8
65+	9.51	15.8	0.44	11.4	13.8	16.6	22.23	17.5
Total	60.27	100.0	3.84	100.0	83.03	100.0	126.77	100.0

Sources: national web sites and <http://www.indexmundi.com>

Whereas the over 65 age group accounted for 11.4% of the population in Ireland in 2001, it was 17.5% in Japan. The more youthful population in Ireland, with a higher proportion in the working ages and a lower proportion in the older age groups, has made possible lower PRSI (Pay Related Social Insurance) Contributions which are less than social security costs in other developed countries.

The trend continued with a greater divergence manifest in 2011 as shown in Table 11.

Table 11 Total Population 2011 (Millions)

Age	UK		Ireland		Germany		Japan	
	Number	%	Number	%	Number	%	Number	%
0-14	10.88	17.4	0.99	21.1	10.85	13.3	16.60	13.1
15-64	41.48	66.2	3.14	67.3	53.85	66.1	80.94	64.0
65+	10.34	16.5	0.54	11.6	16.77	20.6	28.93	22.9
Total	62.70	100.0	4.67	100.0	81.47	100.0	126.48	100.0

Sources: national web sites and <http://www.indexmundi.com>

Here we can note the elderly, over age 65, are 22.9% of the Japanese population but only 11.6% of the Irish population.

To illustrate how the future prospects for the demographic profile of Ireland might be affected by liberalisation of the abortion law, forward projections based a midyear 2010 population for Ireland obtained from the CSO web site, have been made. Projection 1 assumed that abortion rates in Ireland increase linearly over 10 years to converge with 2010 Scottish abortion rates with a corresponding reduction in fertility from 2010 rates. Zero net migration and a 1% per annum reduction in mortality from 2010 was assumed. Projection II assumed that fertility remained constant at 2010 levels in Ireland. Projection II was as specified on the CSO web site with assumptions of high migration and fertility.

The results are shown in Table 12 for 2021 and 2031 comparing the results with the UK and Japan.

Table 12. 12a. Official and Projected Population 2021 (Millions of Persons)

Age	UK		Ireland						Japan	
			I		II		III			
	Number	%	Number	%	Number	%	Number	%	Number	%
0-14	11.95	17.8	0.87	17.7	0.90	18.3	1.02	19.1	16.92	13.4
15-64	42.34	63.0	3.27	66.6	3.27	66.1	3.57	66.6	74.28	59.0
65+	12.90	19.2	0.77	15.7	0.77	15.6	0.77	14.4	34.66	27.5
Total	67.19	100.0	4.90	100.0	4.94	100.0	5.36	100.0	123.57	100.0

12b. Official and Projected Population 2030 (Millions)

Age	UK		Ireland						Japan	
			I		II		III			
	Number	%	Number	%	Number	%	Number	%	Number	%
0-14	11.99	16.9	0.70	14.9	0.79	16.4	0.94	16.2	13.23	11.3
15-64	43.29	61.2	3.30	65.4	3.32	64.3	3.72	64.8	69.58	59.2
65+	15.47	21.9	0.97	19.7	0.97	19.3	1.03	19.0	34.77	29.6
Total	70.75	100.0	4.98	100.0	5.08	100.0	5.69	100.0	117.58	100.0

Table 12 shows a less youthful profile for Ireland in future years for Projection I, to reflect liberalisation of the abortion law. According to this projection children aged under 15 will be less than 15% of the population in 2031.



## SOURCES

- Total Population for Ireland, Germany and Japan for 2001 and all data for the year 2011 - <http://www.indexmundi.com>
- Total Population for UK for 2001 - [http://en.wikipedia.org/wiki/Demography\\_of\\_the\\_United\\_Kingdom](http://en.wikipedia.org/wiki/Demography_of_the_United_Kingdom)
- Data for UK Population Projection – <http://www.gad.gov.uk/Demography%20Data/Population/index.aspx?y=2006&v=Principal>
- Data for Japan Population Projection - [http://www.ipss.go.jp/pp-newest/e/ppf02/t\\_1\\_e.html](http://www.ipss.go.jp/pp-newest/e/ppf02/t_1_e.html)
- I - Adjusted Fertility Rates, assuming Abortion Rates converges linearly over ten years to the Scottish Rates and zero net migration
- II - 2010 Fertility Rates with zero net migration for 2010 estimates, 2006 based
- III - Official as on CSO website with assumptions for fertility and migration as below (Method M2F2)
  - F2: TFR to decrease to 1.65 by 2016 and to remain constant thereafter
  - M2: Immigration continuing at more moderate levels
    - +50,000 per annum in 2006/2011 +35,000 per annum in 2011/2016
    - +25,000 per annum in 2016/2021 +10,000 per annum in 2021/2026
    - +10,000 per annum in 2026/2031 +10,000 per annum in 2031/2036
    - +10,000 per annum in 2036/2041

## CHAPTER 3.

## Maternal Health and Neonatal Health of Infants in Ireland and Northern Ireland since 1968

There is known to be higher risks of Stillbirths and Premature Births (and also of Low Weight babies born) when women have had previous induced abortions. The risk of women giving birth prematurely following an abortion that can leave a woman with residual damage has long been recognised [9].

Table 13. Stillbirth Rate per 1000 live births in Ireland, Northern Ireland, England & Wales and Scotland

	Ireland	Northern Ireland	England & Wales	Scotland
1971	18.0	14.3	13.3	12.5
1981	8.2	8.8	6.3	6.6
1991	7.6	4.7	5.5	4.6
2001	5.7	5.1	5.7	5.3
2009	3.2	4.8	5.4	5.2
2010	3.8	4.1	4.9	5.1

For the period since 1968, we have UK and Irish I data for stillbirths as shown in Table 13. There has been a noticeably greater improvement in Ireland and Northern Ireland in this rate over the period than in England & Wales and Scotland.

Rates of still births in the two jurisdictions are now lower than those in Britain. Presumably the lower incidence of induced abortion among women in Ireland and Northern Ireland has helped to accomplish this health gain.

Table 14. Low weight Births (under 2500g) per 1000 Live births.

	Ireland		Northern Ireland		England & Wales		Scotland	
	All	Singleton	All	Singleton	All	Singleton	All	Singleton
1999	49.9	37.0	61.9	49.9	75.7	-	71.2	54.8
2000	48.7	38.0	61.0	49.0	75.5	62.6	72.8	57.2
2001	51.8	39.4	59.6	51.1	75.8	62.2	71.2	55.4
2002	49.4	38.2	62.9	49.4	77.0	65.0	71.5	55.6
2003	45.0	38.3	59.5	45.0	76.5	68.8	71.5	57.7
2004	49.8	36.3	59.0	49.8	75.3	66.8	74.4	59.6
2005	50.3	36.2	60.1	50.2	74.8	64.5	69.5	55.7
2006	50.1	38.7	63.3	50.1	74.8	60.6	72.4	59.1
2007	52.8	40.2	58.7	52.6	71.4	57.7	65.3	53.4
2008	57.4	41.3	59.8	56.2	71.4	59.4	67.0	53.9
2009	54.3	39.7	61.1	53.1	-	56.3	68.4	52.3

Ireland has a much lower incidence of low weight babies (less than 2500gm) born than England & Wales and Northern Ireland also has a lower incidence of this condition. This is shown in Table 14 and can be linked to the lower incidence of induced abortion among women on the island of Ireland. The proportion of low weight multiple birth can be influenced by use of modern fertility treatments that lead to multiple births. English studies [10] have shown that the rate of low weight babies is much higher among unmarried mothers, where abortions are more common, to a greater extent than the authors explained by deprivation or socio-economic conditions. The difference between the Ireland and Northern Ireland, whereby Northern



Ireland has proportionately more low weight babies, is consistent with the higher proportion of births outside marriage in Northern Ireland. Unmarried women are more likely to exhibit other risk factors such as deprivation, poor diet and smoking that are conducive to low birth weight.

Table 15. Very low weight Births (under 1500g) per 1000 Live births. Ireland and Great Britain

	Ireland		Northern Ireland		England & Wales		Scotland	
	All	Singleton	All	Singleton	All	Singleton	All	Singleton
1999	8.3	6.5	9.5	n/a	12.8		10.6	7.8
2000	8.4	6.6	11.7	-	12.4	10.8	10.6	8.0
2001	8.5	6.0	10.7	-	12.5	11.1	11.6	8.9
2002	8.2	6.3	11.9	-	12.5	11.5	10.6	8.0
2003	7.1	6.0	11.5	-	12.7	14.6	11.1	9.0
2004	8.8	6.3	10.9	-	12.3	12.0	11.2	8.9
2005	8.4	6.2	12.0	-	12.4	11.5	10.9	8.8
2006	8.6	6.5	11.2	-	12.3	9.6	11.1	8.6
2007	9.0	6.8	10.6	-	11.4	9.2	10.1	8.2
2008	10.7	7.8	11.0	-	12.3	12.4	10.7	8.8
2009	10.5	8.2	-	-	-	9.0	10.7	7.7

Table 15 shows a similar pattern in respect of very low weight births. Scotland has an abortion rate that is intermediate between England & Wales and that in Ireland and Northern Ireland but has a higher proportion of births outside wedlock than England. Some of the higher incidence of low weight births in England is attributable to a more numerous community of Asian origin who have lower birth weights as a genetic tendency. But preterm births measured as of less than 37 weeks gestational age are also of less frequent occurrence in Ireland and Northern Ireland, especially in the former, as shown in Table 16 and this measure is not affected by genetic characteristics of Asians.

Table 16. Preterm Births rate per 1000 live

	Ireland	Northern Ireland	England & Wales	Scotland
2000	43.1	n/a	72.8	73.1
2005	43.4	-	69.7	73.3
2007	43.0	-	39.7	69.1
2008	44.9	-	51.8	70.9
2009	45.9	-	50.7	75.6

## CEREBRAL PALSY

Table 17. New cases of Cerebral Palsy in Northern Ireland. Numbers per annum and rates.

	Number of Cases	Rate (per 1,000 live births)
77-08	55	2.19
98-08	50	2.21
2004	56	2.51
2005	47	2.10
2006	51	2.19
2007	40	1.64
2008	44	1.72

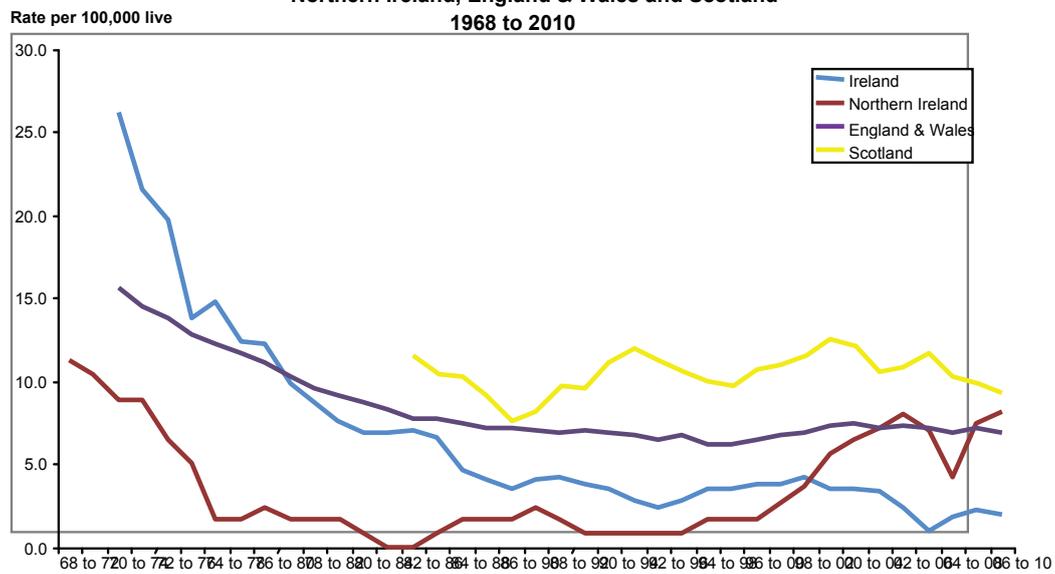
Source: Register of Cerebral Palsy in Northern Ireland, Belfast.[11]

Table 17 shows how the number of cases of cerebral palsy recorded by the Northern Ireland Register has tended to average around 50 per annum in Northern Ireland since the 1998 and the rate has been around that 2.21 per 1000 live births with the average rate in the last 5 years to 2008 being 2.03. While the Register of Cerebral Palsy in Northern Ireland still operates other registers in the UK have ceased operations. For the United Kingdom as a whole the rate of cerebral palsy is understood to be around 1 in 400 live births or 2.5 per thousand. It is among premature births that cerebral palsy is especially common. (Shah et al 2009)[12] This analysis finds the preterm birth rate in Northern Ireland is low and there is a low rate of premature births in Northern Ireland. These findings suggest the critical necessity to further evaluate the effects of abortion on preterm birth, especially in the light of new information in preterm birth in its relationship to abortion. [12] Public health officials and MLAs must thoroughly evaluate this women's health not only for its impact on the healthcare infrastructure but for its impact on women's health and the family

### MATERNAL DEATHS

Abortion laws have been liberalised in countries where there have been large numbers of maternal deaths attributable to clandestine abortions. In Ireland the trend in maternal deaths during the period since 1968 has come to compare more favourably with Britain as shown in Figure 8.

**Figure 8 Comparison of the Maternal Death Rate per 100,000 livebirths in Ireland, Northern Ireland, England & Wales and Scotland**



Whereas Ireland has shown considerable improvement in this measure, over the period since 1968, Northern Ireland, where the numbers are small, has historically had very few maternal deaths but has recently seen some deterioration.

## CHAPTER 4

## Mental Health of women in Ireland and Northern Ireland since 1968

A recently published paper in the British Journal of Psychiatry 2011 (Coleman)[13] has reported that the risks of mental illness post abortion are increased:

*“Women who had undergone an abortion experienced an 81% increased risk of mental health problems, and, nearly 10% of the incidence of mental health problems was shown to be attributable to abortion”. It was also concluded that “increased risk occurred ...pertained to substance abuse and suicidal behaviour.”*

### SUICIDE

Table 18. Female suicide rate per 100,000 women in the Ireland, Northern Ireland, England & Wales and Scotland.

	Ireland	Northern Ireland	England & Wales	Scotland
1971	-	3.3	8.4	-
1981	3.8	3.7	8.1	-
1991	3.2	5.6	5.1	6.9
2001	3.8	3.2	5.1	9.2
2009	5.1	4.9	4.6	7.4
2010	4.4	-	-	7.4

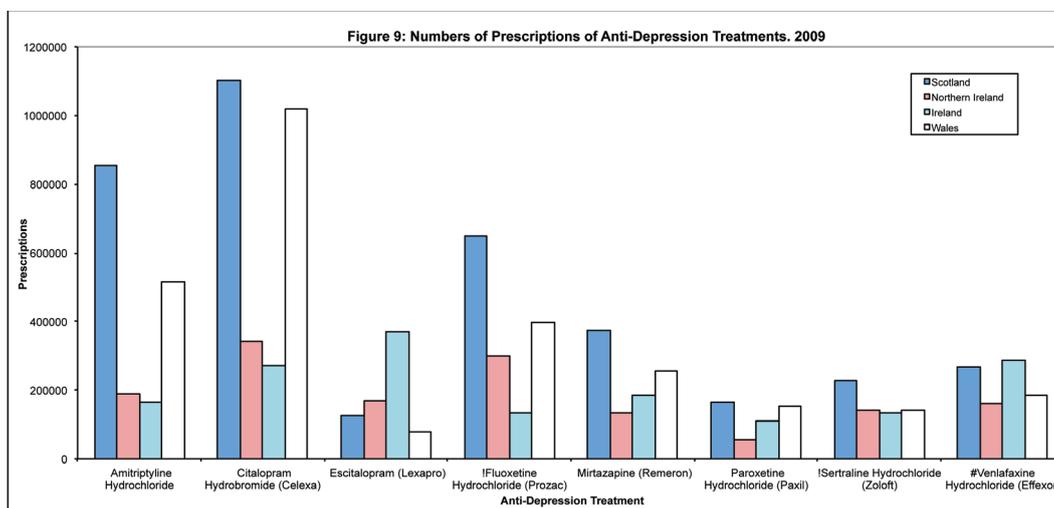
Table 18 compares the national suicide rates for women on the islands of Britain and Ireland. The rates of suicide among those from the island of Ireland have been lower in the period since 1968. Further analysis of this finding in the context of confounding variables would be useful. However, long term (almost 40 years of data) ecological studies like the present one with maternal mental health outcomes, do allow for questions regarding the impact of abortion on mental health to be brought to the attention of legislators and public health organizations.

### USE OF PSYCHOTROPIC ANTI-DEPRESSANTS IN IRELAND AND NORTHERN IRELAND

In Ireland and Northern Ireland, as elsewhere, there is an increase in use of anti-depressants. Use of anti-depressants is particularly associated with women who have abortions, both before they have abortions [14,15] and post abortion. Data from NHS Prescription Statistics in Britain and the Primary Care Reimbursement Agency in Ireland enable comparisons of usage in Ireland with Britain for 8 of the most popular treatments of this kind.

For the Ireland, the Primary Care Reimbursement Agency covers the payment of these treatments for a large part of the population, while the UK National Health Service covers the whole population in Wales and Scotland and Northern Ireland. Making allowance for the size of the populations, this comparison suggests that consumption of these is less in Ireland.

Previous work by Reardon, et al, 2003[16], found using inpatient mental health claims in almost 60,000 women with no prior psychiatric health claims in the year prior, that, those with abortions (some 15,000+) had 160% more total mental health claims within 90 days of their abortion compared to those giving birth. Across the 4 years studied, there were 110% more claims for adjustment reaction, 90% for single depressive psychosis, 110% for recurrent depressive psychosis, and 200% increase in bipolar disorder.[16] However, caution must be exercised when comparing different demographic groups. Again, these findings in a large, multiyear, database suggest to public health officials and legislators, the need to address these findings in their populations.



There is heavy usage of these eight commonly prescribed anti-depressants. Usage may be less in Ireland, even after allowing for the fact that many women in the State do not have medical cards and are not covered by the schemes administered by the Primary Care Reimbursement Agency, which reported the data on its web site.

In Northern Ireland and Scotland, the prescribing of drugs without a charge may have led to overprescribing. In England, most prescriptions of anti-depressants are dispensed free of charge but some pay the £7.40 charge that has been waived elsewhere in the UK.

In Ireland, a €0.50 charge has been introduced for those who have medical cards. Women without medical cards in Ireland have to pay for anti-depressants, which are quite expensive but are reimbursed of the excess if the total monthly cost of their prescriptions exceeds €120 and this last group are counted in the above data for Ireland.

Women's mental health has deteriorated in England. According to Adult Psychiatric Morbidity Survey 2007. London

*"The proportion of women (aged 16 to 64) suffering a common mental disorder (CMD) – typically depression or anxiety – increased from 19.1 per cent in 1993 to 21.5 per cent in 2007... The largest increase in rate of CMD was in women aged 45-64 among whom the rate rose by a fifth."* [17]

These more recent cohorts of women in England have experienced a higher abortion rate. CMDs were especially common among black women [17] among whom there is also a higher abortion rate.

In Ireland there seem not to have been recent surveys of mental health. The Mental Health Commission Annual Report 2010 [18] found that Involuntary Admissions to mental health hospitals over the years 2007 to 2010 dropped 8% from 2126 to 1952, of whom 34% were female. In Northern Ireland, the Health and Social Wellbeing Survey 2005/06 [19] found that 21% of women were likely to show signs of a mental health problem, which is slightly lower than the corresponding figure of 23% showing such signs in the British Psychiatric Morbidity Survey [17]. Prescription charges in Northern Ireland were scrapped from April 1 in 2010. The former Health Minister Michael McGimpsey described it as "the end of a tax on illness".[20] Dr Brian Dunn of the British Medical Association's Northern Ireland Council attributed the high usage of anti-depressant drugs to the legacy of the Troubles and poor mental health services.[20] The findings in this report confirm the urgent need to explore the impact of abortion services on women's health in Ireland, Northern Ireland and Britain.

## CHAPTER 5

## Breast Cancer.

The Cancer Atlas of the United Kingdom and Ireland, published in 2005, [21] found a low rate of female breast cancer incidence throughout the island of Ireland. That epidemiological study used several years of data 1994-99 from Ireland, where registration commenced in 1994, and 1993-1999 from Northern Ireland, where cancer registration commenced in 1993.

The low incidence of breast cancer in Ireland and Northern Ireland is the more remarkable when the tradition of late childbearing on the island is noted in conjunction with the comparative neglect of breast feeding. An early age at first birth and breastfeeding are protective against breast cancer. But the low incidence of breast cancer among women from the island of Ireland becomes more explicable if the low abortion rate among women from the island is acknowledged as a relevant factor in conjunction with the continuation of higher fertility. The especially low incidence rates in Northern Ireland can be regarded as consistent with the Northern Ireland's lower abortion rate from the 1970s compared to Ireland. Cancer in Ireland: A comprehensive report published in April 2009[22] found for female breast cancer (malignant ICD10-C50) "incidence rates were 3.5% lower in Northern Ireland than in Ireland during 200-2004," which is all the more remarkable as screening over that period was more developed in Northern Ireland. The same report [22] found in respect of incidence across both jurisdiction on the island that "incidence rates during 1998-2000 were lower than in the EU (15 countries), UK, USA, Canada and Australia".

As shown in Table 19, breast cancer rates among women in Ireland and Northern Ireland from 1999 to 2007 were lower on average than rates among those in Britain.

There are also apparent year-on-year fluctuations in rates, some of which is attributable to the effects of breast cancer screening programmes that cover women in rotation by age. Screening starts at age 50 in the UK, including Northern Ireland, though some women receive letters inviting screening at age 49. The UK screening programme started in Britain to cover age groups 50 to 64 and reached full population coverage around 1994 and in Northern Ireland it started in 1993. In Ireland, the screening programme started later in 2000, also covering women over 50. In the latter there has been a more recent introduction of digital screening machines, which are more efficient at detecting cancers, especially in situ cancers.

Cancer Ireland 2011 [23] reports:

*"Breast cancer incidence has generally been increasing with an average APC of 1.9 for the period 1994-2009. There appears to have been an increase in incidence in 2000-2002 at the start of the national breast screening programme in the east of the country, and a second increase in 2007 with the roll out of this programme to the rest of Ireland."*

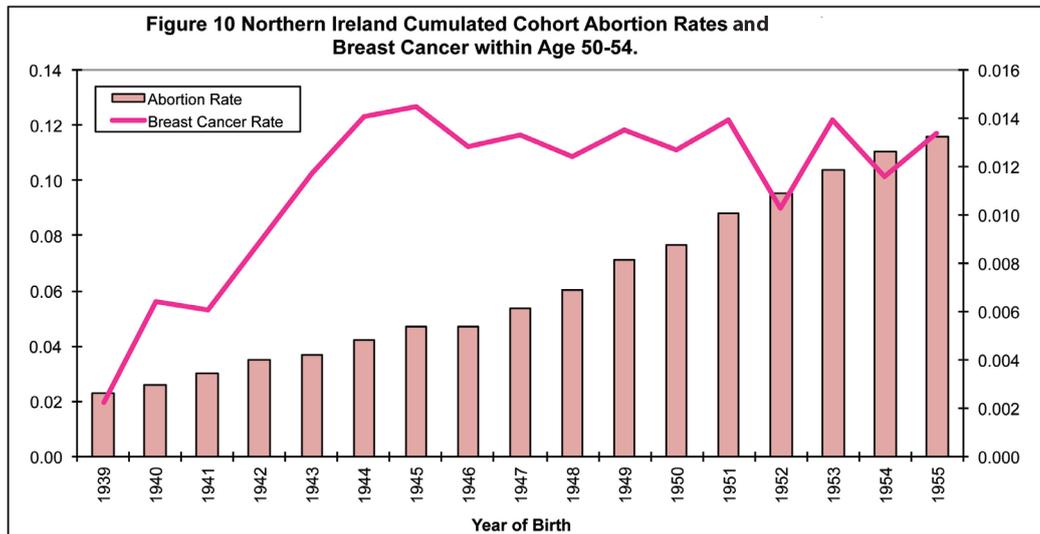
Table 19 Malignant Breast Cancer Incidence rate per 100,000 Women aged 45-49 and 50-54

	Ireland		Northern Ireland		England & Wales		Scotland	
	45-49	50-54	45-49	50-54	45-49	50-54	45-49	50-54
1995	163.6	227.5	177.9	257.7	170.5	253.4	185.5	266.0
2000	92.5	180.2	184.5	242.3	182.7	275.2	178.1	306.4
2005	135.3	167.4	179.0	213.7	185.7	265.4	171.1	262.1
2006	113.4	177.7	184.9	208.9	185.9	262.3	178.8	271.3
2007	115.6	201.7	160.6	292.9	181.2	258.7	178.3	289.3
2008	150.2	219.2	196.1	260.7	196.1	271.8	176.7	253.2
2009	134.8	191.1	177.3	300.9	202.2	274.2	187.2	282.2

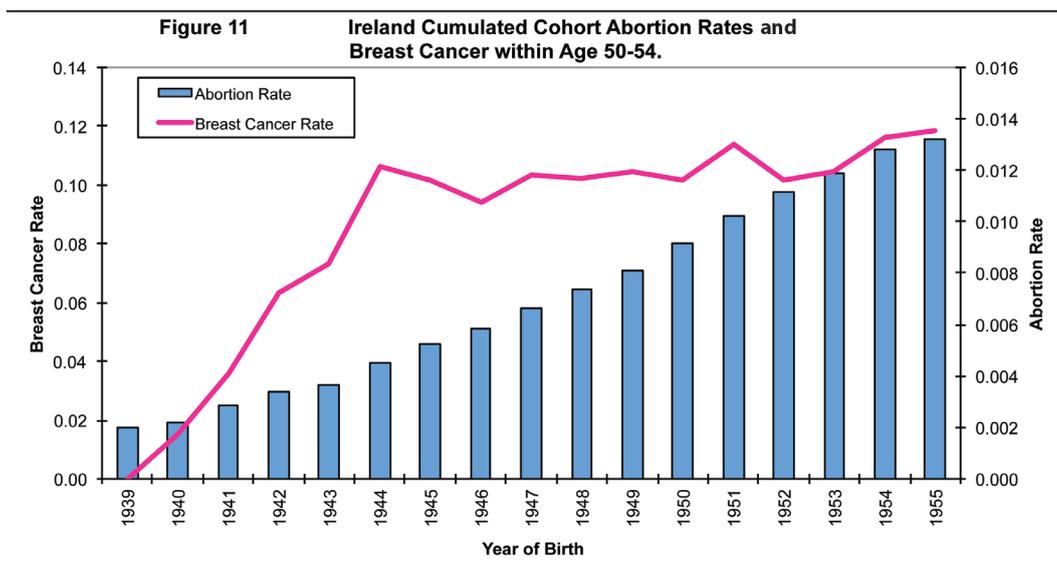
Breast cancer is known to vary in incidence with the effects of hormonal and reproductive risk factors.

Whereas childbearing and breast feeding are protective against breast cancer, a late age at first birth, childlessness, induced abortion prior to first term pregnancy and preterm delivery prior to 32 weeks, and hormonal treatments such as Hormone Replacement Therapy and Oral Contraceptives are positive risk factors.

More stable than the yearly incidence rates are the cumulated cohort rates (being less reflective of variations in screening activity). Figure 10 shows how these show small increases in recent years for Northern Ireland and Figure 11 shows how these have shown some increase for Ireland. These figures also show the cumulated abortion rates for the same cohorts of women. High correlations between cohort abortion and breast cancer rates in both jurisdictions and elsewhere [24] suggest that the cumulated cohort abortion rates can be useful predictors of incidence trends in female breast cancer.



Correlation Coefficient: 0.54



Correlation Coefficient : 0.77

Figure 11 shows breast cancer incidence discovered within ages 50 to 54 in Ireland. The trend in recent

years has shown small increases until the last two years.

Forecasts were published in 2007 [24] for 8 European countries of breast cancer incidence in future years. These forecasts used modelling in which abortion rates and fertility rates are the two explanatory variables. These covered Northern Ireland and Ireland, where relatively small increases in incidence were anticipated, and England & Wales and Scotland, where larger increases were forecast, from their higher abortion rates prior to first term delivery and lower birth rates.

Table 20 shows how these forecasts have performed for the years since 2005 up to 2009 for Ireland, Northern Ireland, England & Wales and Scotland.

Table 20. Forecast and Observed Breast Cancer Incidence

Table 20A. Number of Cases of Malignant Breast Cancer Observed v. Predicted

Year	Ireland			Northern Ireland			England & Wales			Scotland		
	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)
05	2336	2195	95.4	1117	1134	94.9	40,018	40,854	102.1	3917	3996	102.0
06	2381	2289	96.1	1161	984	84.8	41,120	40,754	99.1	4067	4156	102.2
07	2426	2503	103.2	1185	1159	97.8	42,222	40,747	96.5	4171	4141	99.3
08	2470	2808	113.7	1208	1168	96.7	43,325	42,616	98.4	4274	4318	101.0
09	2515	2766	110.0	1232	1204	97.7	44,427	43,184	97.2	4378	4392	100.3

Table 20B. Number of Cases In Situ Breast Cancer Incidence in Ireland, N. Ireland and Britain Observed v Predicted

Year	Ireland			Northern Ireland			England & Wales			Scotland		
	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)
05	163	177	108.6	87	108	124.1	3848	4445	115.5	345	439	127.2
06	166	204	122.9	89	106	118.6	3953	4676	118.3	354	444	125.3
07	169	221	130.8	92	144	156.9	4058	4854	119.6	364	414	113.8
08	172	318	184.9	94	134	142.3	4163	5122	123.0	373	456	122.2
09	175	390	222.9	97	170	176.0	4268	5077	119.0	383	432	112.9

Table 20C. Number of cases of Breast Cancer Incidence, Malignant and In Situ in Ireland, N. Ireland and Britain Observed v Predicted

Year	Ireland			Northern Ireland			England & Wales			Scotland		
	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)	Expected	Observed	Obs/Exp(%)
05	2499	2405	96.2	1224	1187	97.0	43,866	45,299	103.3	4308	4513	104.8
06	2547	2493	97.9	1250	1090	87.2	45,073	45,430	100.8	4421	4600	104.0
07	2595	2721	105.0	1276	1303	102.1	46,280	45,601	98.5	4534	4555	100.5
08	2642	3126	118.3	1303	1302	100.0	47,488	47,738	100.5	4648	4774	102.7
09	2690	3156	117.3	1329	1374	103.4	48,695	48,261	99.1	4761	4824	101.3

Across the board, progress with screening has brought an increase in detection of in situ cancers and this has been especially true of Ireland since 2007.

## CHAPTER 6.

**Diseases of the Immune System.**

The transfer of foetal cells to the mother in pregnancy and at labour can give rise to adverse reaction in the mother with certain conditions and diseases becoming more prevalent. It is found that caesarian section births bring additional risks of this kind. [25] In a similar way it is thought that induced abortions can also be occasions of transfer of foetal cells so as to produce a reaction in the mother conducive to diseases such as Rheumatoid Arthritis, Multiple Sclerosis, Systemic Sclerosis and Thyroiditis including Graves' and Hashimoto's Thyroiditis.[26]

These diseases tend to be more common among women but are also found among men. The ratio of female to male incidence could be an indication of how such pregnancy related risk factors are taking effect. When the birth rate continues to be high in Ireland and Northern Ireland and the incidence of induced abortions among women resident in these jurisdictions low, we may have an indication of how abortion compares with full term pregnancy as a risk factor for these diseases on the island by making international comparisons.

Table 21 shows how incidence of hospital cases of Rheumatoid Arthritis compare in several European countries. The female to male ratios tend to be lower in Ireland and Northern Ireland. We have computed the odds ratios for this in Table 22, where the numbers for the two jurisdictions are aggregated and the numbers for all regions summed for the period 2005 to 2008. When the birth rates in Ireland and Northern Ireland are higher and abortion rates lower it is suggested that the low abortion rates could be protective against this disease among their women. Further study of these findings with controls for confounding variables could clarify this association.

Table 21. Rates per 100,000 males or females of hospital treatments.

**Rheumatoid Arthritis ICD-10 AMM05-M06**

\*2008 figures are provisional for Ireland

	Rates per 100,000					
	2007			2008		
	Male	Female	Male/ Female	Male	Female	Male/ Female
Sweden (hospital Discharges)	110.2	301.1	2.7	115.9	322.6	2.8
Sweden (Patients)	66.4	188.8	2.8	69.1	197.7	2.9
England	50.1	136.1	2.7	54.4	147.6	2.7
Finland (Hospital discharges)	136.6	425.0	3.1	136.2	422.2	3.1
Finland (Patients)	92.0	291.3	3.2	92.1	285.5	3.1
Scotland	22.2	79.4	3.6	14.7	53.1	3.6
Ireland*	103.7	198.3	1.9	101.6	185.0	1.8
Northern Ireland	228.3	605.0	2.6	238.3	681.1	2.9



Table 22. Numbers of patients discharged 2005-2008 outside and inside two jurisdictions on the island of Ireland. Odds ratios and 95% CIs(Confidence Intervals).

#### Rheumatoid Arthritis ICD-10 AMM05-M06

	Male	Female	Male/Female Ratio
Countries not incl. Ireland & NI	81928	239769	2.9
Ireland & NI	12334	29514	2.4
Odds ratio	0.8176		
95% CI	0.7995	0.8362	

There is also some evidence for other diseases of the immune system such as some kinds of Thyroiditis and Sclerosis that male to female ratios are higher in Ireland in respect of cases admitted to hospitals. For these other diseases, including Graves' and Hashimoto's thyroiditis that are more often treated at primary care level and not referred to hospitals, the numbers are smaller and the differences in odds ratios less significant.

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#### ABOUT THE REPORT

The report discusses the consequences of the abortion laws in both Ireland and Northern Ireland compared to those elsewhere in respect of demography and the health of women on the island of Ireland since 1968.

#### ABOUT THE AUTHOR

Patrick Carroll M.A., F.I.A. is an actuary and statistician who has contributed several papers to the actuarial literature. He is the author of previous works published by PAPRI that include: *Pension Age in a Changing Society* (1990), *Abortion and other Pregnancy Related Risk Factors in female Breast Cancer* (2001) and *Assessing the Damage* (2007).

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Price €7 UK £5 US \$10

ISBN 0-9514532-3-8



0-9514532-3-8

