

## Population Trends – Stage 5 of the Demographic Transition Model

### The demographic transition model

Demography is the study of population change. The theory of demographic transition, outlined originally in 1929 by Warren Thompson and later elaborated by other demographers, sought to explain the phenomenon by which all industrialised countries appeared to pass through a similar pattern of population growth. Thompson's main interest, even at that time, concerned potential imbalances between population and resources.

In pre-industrial societies the circumstances prevailing brought about high birth and death rates, which effectively cancelled each other out, hence the relative stability in population numbers characteristic of Stage 1 of the demographic transition model (Figure 1). The onset of industrialisation brought about a new relationship between fertility and mortality, and hence immense changes in society, through the reduction of the death rate.

Industrialisation brought improvements to people's lives, in terms of sanitation, public health, and quality of diet – very basic improvements at first, but sufficient to bring about significant change in standards of health and hygiene, and ultimately in life expectancy and rates of mortality. However, fertility did not immediately mirror the downward trend of mortality. This divergence between the two rates resulted in an unprecedented growth in population – Stage 2 of the demographic transition model. Stage 2 only came to an end when other facets of modernisation began to influence people's attitudes towards fertility.

By the end of the 19th century, a reduction in birth rates, and consequent slowing in the rate of population growth, was evident right across Europe. The convergence of fertility and mortality levels (Stage 4) took place at different times across the continent. For those countries which were slower to modernise, such as Spain, this demographic change occurred later – as recently as the 1970s or even 1980s. This is ironic, since

Spain has been one of the first countries to move into a possible 'Stage 5' of the model – one in which birth rates dip continuously below death rates, and natural decrease becomes the norm.

Despite the demographic transition model's explanation of European growth patterns, it has been applied somewhat indiscriminately elsewhere in the world, and some demographers see this as inappropriate. The model works well for other industrialised western societies, such as in North America, but the wisdom of its application to less economically developed regions, with cultural and economic circumstances that are immensely different from those of MEDCs, is questionable. Rates of change, timescale, and reasons for change are so diverse that two versions of the model would seem appropriate.

Not all demographers are in agreement that Europe is entering a fifth stage of the model. Thompson and his co-workers never envisaged such a stage, but there is a growing acceptance that it is upon us, and its dynamics require careful study.

Figure 1: The demographic transition in the UK, 1700–2000

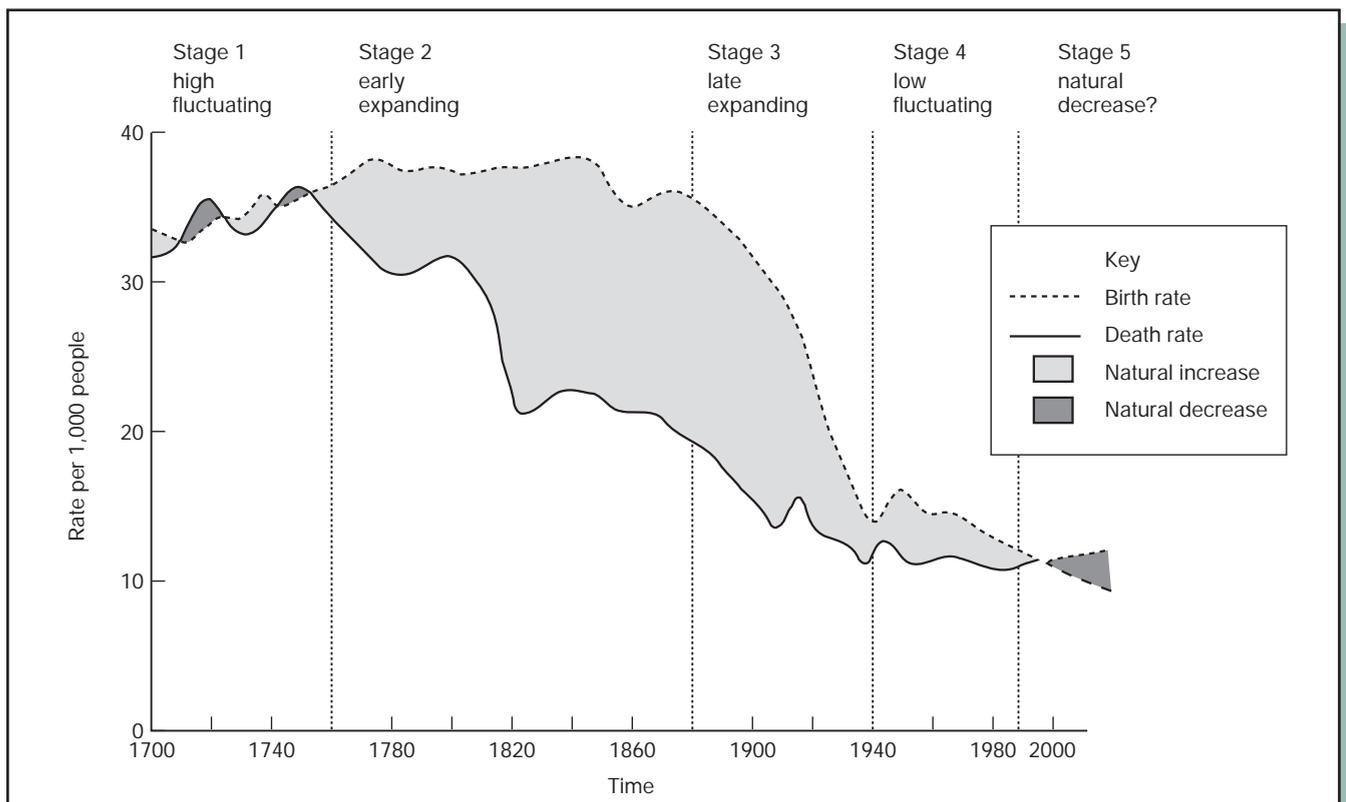


Figure 2: Demographic data – Europe compared with the world

Region	population (millions)				mid 1999				% of world population			
	1950	1970	1990	mid-1999	crude BR (per 1000)	crude DR (per 1000)	natural increase (%)	time to double population (years)	1950	1970	1990	mid 1999
World	2,516	3,697	5,267	5,982*	23	9	1.4	49	100.0	100.0	100.0	100.0
More developed	832	1,049	1,215	1,181	11	10	0.1	583	33.1	28.3	23.1	19.7
Less developed	1,684	2,648	4,052	4,800	26	9	1.7	40	66.9	71.7	76.9	80.3
Asia	1,376	2,102	3,107	3,679	23	8	1.5	46	54.7	56.9	59.0	60.8
Africa	222	363	628	771	39	14	2.5	28	8.9	9.8	11.9	12.9
Europe	574	695	788	728	10	11	-0.1	-	22.8	18.8	15.0	12.2
Latin America	165	284	435	512	24	6	1.8	38	6.6	7.7	8.3	8.6
North America	166	226	280	303	14	8	0.6	119	6.6	6.1	5.3	5.0
Oceania	13	27	29	30	18	7	1.1	63	0.5	0.5	0.7	0.5

Note: \* In September 1999, world population passed the 6 billion mark

Sources: Population Reference Bureau – World Population Data Sheet; World Bank – Population and Development: Implications for the World Bank

## World population growth

The current patterns of growth are a mixture of opposites. On one hand there is emphasis on rapid growth and the problems, or perhaps challenges, that it brings. Some countries – Kenya, for instance – retain growth rates in excess of 3% per annum, i.e. a doubling period of around 20 years. So provision of all resources must be doubled in the same time period, just to maintain current living standards, let alone to improve. It is therefore not surprising that the gap between the world's 'haves' and 'have-nots' is not narrowing, as we might wish, but has doubled since 1960 (UN Human Development Report, 1992). Total human population is rising by 90 million per year. By 2025 there will be another 123 million in North Africa and a further 169 million in West Asia (primarily the Indian subcontinent). Some 95% or more of world population increase will take place in the LEDCs, only 5% at the most in the MEDCs. Europe's population is expected, at most, to increase by only 4 million over the same time period, but in fact is more likely to decline. Predictions, the product of an inexact science, can be quite contradictory. Figure 2 shows that, since 1950, Europe's population has been growing, but at

a slower rate than elsewhere. Immigration has played a crucial part in this growth. As a percentage of world total population, Europe's share has been steadily decreasing. The latest data suggest that this situation is likely to be exacerbated. A situation of zero growth was reached in 1999, and a period of natural decrease now seems inevitable, at a rate of at least 0.1% per annum.

The following statistics, each representative of their continent, further illustrate the situation:

1980s national fertility averages:  
 highest = Rwanda 8.5 children per woman  
 lowest\* = Italy 1.3 children per woman  
 1994 regional fertility averages:  
 highest = sub-Saharan Africa 6.5 children per woman  
 lowest = Europe 1.6 children per woman  
 \* excluding China, due to its 'one child' policy

Source: Furedi (1997)

## Economic and social consequences of population decline in Europe today

In some respects, population decline used to be thought of in parts of Europe as economically desirable.

The expectation was that employment opportunities would increase, based on the assumption that fewer people would be competing for a fixed number of jobs, and there would be a greater supply of resources to go around.

Population decline can have several impacts, not just economic ones: social, cultural and political consequences also ensue, and these are all interlinked. The 20% of us inhabiting the developed world enjoy 80% of all the world's resources. Assuming Europe moves firmly into Stage 5 of the demographic transition model, i.e. that the current situation is not a temporary fertility fluctuation within Stage 4, the pressure for immigration into Europe will be huge. In Europe there is increasing concern over a potential shortage of workers, particularly in some sectors of the economy, mainly services. It can even be argued that this whole situation is creating the potential for social unrest on a grand scale. We can look to the recent past to see what can be learned about human reactions to declining population.

## Impacts of recent European immigration

Historically, both in Europe and beyond, as nations have become

richer and more urbanised, reproduction has tended to dwindle. Replacement population has then had to come from beyond such nations' boundaries. Examples of such immigrant communities in Europe include the large numbers of Turks in Germany, Algerians in France, and Caribbean, Pakistani, Indian and Bangladeshi ('New Commonwealth') immigrants in the UK. Such groups have tended to prove 'culturally indigestible'. It has been difficult for them to assimilate because they are different in so many obvious ways – racially, in religion, culture, forms of dress and social mores. Indeed, such immigrant groups have tended to cling to their identity, which is an understandable attitude for a minority group living in an alien culture. The prevailing demographic trend of such minority groups is one of a higher birth rate than the dominant local group.

Experience indicates that this situation can breed discrimination. The local group would like to limit the growth of the immigrant one. The degree of difference between local and immigrant groups is crucial to the level of acceptance. In Germany the Turks – different in race, culture, language and religion – have not integrated much, despite their long stay. Many have been there almost 30 years, and a whole generation of younger adults has been born and brought up there, speaking German as a joint first language with Turkish, and having been educated in the German system. Some have achieved highly, but fewer proportionately than in the native German population. Even those Turks who are born in Germany are not allowed full citizenship. They do, however, have a right to stay; their parents, who entered the country as *Gastarbeiter* (guest workers), do not. It was originally intended that they would return home when their work contracts were completed. In Berlin, the Turks tend to inhabit limited areas of the city, which have become ethnic ghettos.

In some contrast, in the United States, Mexican, Central American and Caribbean immigrants, mostly Spanish-speaking, have been accepted in considerable numbers into American society, where they are given more opportunity to play a parallel role in society with the older resident population. However, they are not distinguished from the

existing population by a fundamentally different religion – as Catholics, they join the dominant Christian group. Spanish is also a European language. These factors make assimilation into the host society easier, from both host and immigrant points of view, than in the German/Turkish case above.

It is not uncommon to find, in the host population, a fear that immigrant numbers will expand too fast. In Germany the native population started to decline in 1973. Simultaneously, the immigrant population (32.7% Turkish) was increasing, from 2.98 million in 1970 to 4.36 million in 1985. German birth rates are far below replacement level; Turkish rates are far above. Such a situation itself militates against assimilation; it tends to keep the two groups apart and has maintained the Turks as an underclass, giving them no economic gain from having fewer children and hence maintaining their high growth rates.

The German situation may change. Other, non-Turkish, immigrants – mainly Yugoslavs, Greeks and Italians – have a low reproductive rate, closer to that of the Germans. With improved economic status, the Turkish population may see it in its own interests to follow.

### Political consequences of Stage 5

Stage 5 of the demographic transition model, assuming one accepts from the evidence above that it is already a fact in Europe, and likely to become increasingly so, could have quite a range of political consequences. One of these is increasing nationalism. One of the ex-USSR states, Estonia, is a case in point.

In the latter days of the Soviet Union, available statistics show a rate of growth slightly greater than that in the United States: 8.8/1,000/annum compared with 7.0/1,000/annum (*UN Demographic Yearbook*, 1985). However, a general figure like this for the whole of the USSR obscured the difference between the higher fertility of the USSR's Asian Muslims and the lower rate of the European Russian population. The demography of the latter conforms very closely to that of Western Europe, i.e. ethnically Russian populations are on the verge of failing to reproduce themselves or

have, perhaps, already passed that point. The fall in the number of children born to each Russian woman, from 2.17 in 1989 to 1.4 in 1997, has been labelled a demographic crisis. Neighbouring Estonia is already in demographic decay, and, interestingly, the political effect of this has been to enhance Estonian national consciousness. There is considerable fear of ethnic dilution.

This kind of fear – xenophobia – can be linked with recent political changes in Austria, where a new coalition government was formed in February 2000 including Jorg Heider's right-wing Freedom Party, which had fought the election on an anti-immigration platform. The EU has reacted strongly against this party.

Throughout Europe, immigration and the marginalised situation of immigrant communities have tended from time to time to provoke a volatile public response from the host population, particularly at times of economic uncertainty. Racism is a current phenomenon in European societies, and racist attitudes and resentment can be deep-seated. Across Europe, political parties on the far right have emerged, seeking to make capital of popular anti-immigrant sentiments. If numbers of immigrants increase, will such problems also proportionally increase?

Even in the United States, such feelings may manifest themselves in the future, despite the American tradition of welcoming immigrants from many sources, a characteristic of a 'frontier' nation. The labelling of ethnic groups in the American census makes it difficult to obtain a true picture; Hispanics can be categorised as either Black or White, depending on their place of origin. But there is no doubt that the portion of US population who are of direct European descent is failing to reproduce itself. The acceptance of Hispanic immigrants into the population may be in jeopardy if this demographic situation, which could lead to Hispanics eventually predominating, persists. The reaction to such a situation is unknown.

The European Union's position on demographic matters is interpreted by some as hypocritical, to say the least. It promotes population control

policies for the LEDCs, while expressing concern about declining fertility in Europe. A European Parliament resolution (1983) stated:

'population trends in Europe will have a decisive effect on the development of Europe and will determine the significance of the role which Europe will play in the world in future decades.'

*European Journal of Population*, vol. 9 (1993) p. 149

Herein lies the reason for any perceived hypocrisy. Moreover, Europe and the other MEDCs are likely to suffer the negative consequences of an ageing population – too few workers to support the growing number of pensioners. Why else would the current and previous British governments, irrespective of party, be promoting self-help and planning for one's old age? We have begun to experience problems already, illustrated by changes made to the old age care system and the much-publicised strains on the National Health Service.

### Pro-populationist policies

For all these reasons, some European countries are now instigating actively pro-populationist policies. The best example is Sweden, which uses its well-developed welfare system to encourage people to have children. A non-taxable family allowance is paid to parents for each child, very much like the United Kingdom's child benefit system, but more generous. Payments continue to the age of 16, or 20 if the young person is in full-time education. However, it differs from the UK system in that the rate increases for third and subsequent children. The maternity leave system is also much more generous than in Britain, including four months' fully-paid leave, prior to the birth, plus 12 months' leave afterwards. Leave for a further six months, unpaid but with state welfare payments, is allowed, with complete job security. A child may therefore be 18 months old when its mother returns to work; day care facilities are then available for all children aged between 18 months and 6 years, i.e. compulsory school age, with fees based on parents' ability to pay. A system of paternity leave is also being developed.

Such a system is expensive, but Swedes are used to paying high tax rates for what is rated as the best welfare system in Europe. Whether it

would be feasible to develop a similar pro-populationist policy elsewhere in Europe is uncertain. In the United Kingdom, taxes would have to be increased to fund such a policy, which might not be a vote-winner in general elections.

### Conclusion

The evidence presented in this unit supports the argument that much of Europe is entering, or indeed has already entered, Stage 5 of the demographic transition model. This does seem to be more than a variation within Stage 4.

However, given all the variations of the past, it is unlikely that demographic rates will not change again. Of course from here it is impossible to predict in which direction those changes will be. There have been sudden shifts of demographic behaviour in the past, and predictions have been proven wrong. The depression years of the 1930s and war period of the 1940s saw both British and American birth rates dip below replacement level. Forecasters were predicting the continuation of this trend, when they were confounded by the post-war baby boom.

The whole situation in Europe and North America may be changed by what happens at the bottom of their social hierarchies. Poor immigrant populations may be the ones to change demographic behaviour most dramatically. They may give up producing larger families if they choose to accept the mores of the dominant group, seeking to attain

higher standard of living. This is quite likely, given that it is the alternative to remaining a self-perpetuating underclass, economically.

Of course the native population may also change its behaviour, perhaps in response to immigrant behaviour, particularly if immigration were to increase significantly. The dwindling population may become a political issue, and so lead to the adoption of systems such as that in Sweden, with people accepting the associated tax burden.

What is sure, is that a total mixing of rich and poor, MEDC and LEDC, is impossible. Supply of labour in the LEDCs far outstrips demand for it in the MEDCs, even if the lowest birth rates become the European norm. But sufficient mixing is likely to occur to cause irreversible changes in European cultures, and perhaps also in politics.

### Bibliography

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## Focus Questions

1. Using the data in Figure 2, construct a compound bar graph to show the changing balance of the continents as percentages of world population from 1950 to the present day.
2. Compare the changes in proportions of world population of the more developed and less developed groups of countries – i.e. how have Europe and North America fared, compared with Asia, Africa and Latin America?
3. This unit has suggested that natural decrease in the MEDCs will lead to LEDC immigration into Europe, i.e. the pattern experienced so far will continue, but to a greater extent. Therefore the consequences so far experienced will be exacerbated in the future. To what extent do you think this will be so? What other factors, if any, might enter the equation to create a different outcome?
4. Discuss the ways in which the population of MEDCs, in particular Europe, might be encouraged to raise their birth rate.