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Populations of the Industrial World — A Convergent Demographic Community?

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ABSTRACT

Europe's populations have emerged from a long period of demographic transition. The old demographic *anciens regimes* no longer exist. The end-point of demographic transition is often assumed to be convergence to a new stable post-transitional regime. Convergence in demographic characteristics among all European countries might be expected to follow their acquisition of common economic and social structures. Remaining differences would then merely reflect different positions on the same trajectory to a common statistical destination. However, socio-economic convergence remains incomplete and cannot be assumed to bring uniform demographic responses in its wake. This paper measures demographic convergence in industrial societies to see if they are acquiring a common pattern. Despite some clear upper limits to demographic variables, for example fertility, in proportional terms international demographic variation remains high and is declining only slowly, if at all. Either the expectation of convergence is wrong, or we are looking for it too soon. Copyright © 2002 John Wiley & Sons, Ltd.

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INTRODUCTION

All industrial societies have now emerged from the turmoil of the first demographic transition. Many achieved replacement fertility over 60 years ago; all share a basic pattern of low birth and death rates, ageing population structures and low population growth. Has the developed world thus become 'globalised', sharing a new common form of demographic behaviour functionally appropriate to late industrial or post-industrial society (Chasteland and Chesnais, 1997)?

RESEARCH QUESTIONS

This paper asks whether tendencies towards convergence are evident in the industrial world today. That modest empirical goal is, in fact, quite hard to achieve.

The Assumption of 'Convergence'

The assumption of convergence follows from a number of considerations: firstly that socio-economic characteristics and ways of life will become similar across the industrial world; secondly, that demographic characteristics depend upon such factors (e.g. Nerlove, 1973). It is expected that the end-product of transition would be a stabilisation around convergent low rates of birth and death which would generate zero or negative rates of natural increase (Coward, 1986), supported,

according to van de Kaa (1999) by high levels of immigration. On that view, current patterns of diversity can be accounted for by different rates at which various societies are moving (Roussel, 1992) towards the same demographic 'point omega'. If this is so, then the end of demographic history may be in sight.

Socio-economic Convergence

Outside demography, several large-scale theories predict socio-economic convergence. Marxist analyses hold convergence to be more or less historically inevitable, as nations develop along defined tracks only temporarily diverted by the contradictions of capitalism from the uniform certainties of the future workers' state. In so far as events may not necessarily have turned out to the advantage of such views, the eventual ascendancy of liberal democracy is held instead to bring history to a different but equally final and uniform conclusion (Fukuyama, 1992).

Neo-classical economic theory holds that free markets bring economic convergence. Economic rationality and the competitiveness of the industrial mode of production in an increasingly globalised economy will force all industrial populations on to the same track of development (e.g. Abramovitz, 1986; UNECE, 2000). In addition, convergence may be a deliberate aim of economic or welfare policy. Regional, national and EU policies aim to equalise income levels, labour costs and welfare entitlements at different geographical scales. International systems impose both informal and formal, overt convergent pressure on national economies and welfare systems, and therefore on their demography.

Convergence was also an explicit aim of the former Communist countries of Europe, involving the elimination of regional and social differences, accelerated industrialisation, regional planning and controlled population distribution, pronatalist policies and the 'abolition of the contradiction between town and country' (Macura, 1974). Finally, the experience of trade, migration (national and international) and the international flow of information through the media and information technology will lead to the diffusion of common preferences and aspirations: so-called 'globalisation'.

Economic convergence has been widely believed to go hand in hand with convergence in social structure and politics, in labour relations and incomes, in work habits (Kerr *et al.*, 1962; Kerr, 1983) and chances of social mobility (Erikson and Goldthorpe, 1993). In open societies, urbanisation and the forms of urban life are expected to develop similarly in different countries (Hawley, 1950). Some empirical studies show that institutional convergence has indeed occurred: for example, in EU social welfare polices (Greve, 1994, Kosonen, 1995) and, at least in the earlier post-war period, social security, education and unemployment (Williamson and Fleming, 1996).

While convergence is probably the predominant view, other studies contradict it, in respect of the economy and other structures of industrial societies (e.g. employment, trade unions and labour relations: Goldthorpe, 1984; social mobility: Marshall *et al.*, 1998). The economies of poorer countries often do not grow faster than rich ones; instead they tend to settle on different growth paths (UNECE, 2000). Persistent diversity is seen in national healthcare systems, reflecting specific and apparently durable differences in national political culture (Field, 1998). While overall women's workforce participation has been rising everywhere, great disparities remain between countries in the hours worked by women and in other conditions (OECD, 1994).

Demographic Convergence

However, given convergent socio-economic trends, demographic convergence is assumed to follow. Economic determinism in demography is challenged by the claim that in modern societies, demographic behaviour is influenced more by ideational factors than by material ones (van de Kaa, 1987, 1994; Lesthaeghe, 1995). But the expected convergent outcome remains similar. As developed economies satisfy basic needs, 'post-material' values emphasising self-realisation and autonomy gain ground. Accordingly, inhibitions on personal and sexual behaviour are weakened, and traditional norms relating to marriage and children are eclipsed. Globalisation of these attitudes is mediated by universal literacy, global trade, media and telecommunications,

and the spread of common languages, notably English; in short, by many of the same processes by which economic convergence is also expected to arise (Inglehart, 1990). We are all post-materialists now, or soon will be.

All these considerations suggest that uniform demographic patterns will develop in modern societies (Jones, 1993, Mellens, 1999), in particular in fertility (Roussel, 1992) and family type (Goode, 1963). Population projections used to assume a diminution of current fluctuations and diversity and the convergence at least of fertility on to similar and sometimes identical values. Standard Eurostat projections were of this type, although some recent projections made with Eurostat help have explored 'diversity' scenarios (de Beer and van Wissen, 1999). Remaining demographic contrasts would only persist for as long as it took for countries at different stages on the same sequence to catch up. On that view, rich and 'progressive' countries such as the Netherlands, Sweden and Denmark set the pace which the rest of Europe will follow.

Convergence, Targets and Policy

Human volition and public policy also affect demographic convergence. In the past some goals were beyond reach (longer life) or beyond imagination (control of fertility). Today, both are partially under control. All wish to avoid premature death. All modern states, explicitly or otherwise, have policies aimed at minimising mortality, in the motivation of which international comparisons figure prominently. There is no such obvious common target, however, with respect to fertility.

Government Expenditure and Policy

While most governments of industrial countries lack explicit policies intended to influence fertility (pronatalist policies in Eastern Europe have been muted or abandoned since 1990), a number express concern about the low level of their birth rate (Macura *et al.*, 1995). Governments tend to regard replacement fertility as acceptable. Were effective policies to become general, they would therefore have a convergent effect. In practice, pronatalist policies differ little from those adopted to support families and working mothers ostensibly on welfare grounds. However, it has been difficult to demonstrate unequivocal effects of family and welfare policies upon demographic behaviour on an international basis (Gauthier, 1996). Strong effects on fertility have been claimed in specific cases, however, notably in (former) Eastern Europe and in Sweden (Hoem and Hoem, 1997; Olah, 1998).

The EU Commission believes that EU demographic and other social characteristics are already converging (European Commission, 1995) and will need similar policy responses (Hantrais, 1997). Demographic convergence is already regarded as one indicator of a desirable harmonisation of European social conditions. Although so far no Directive relating to standard European birth rates, death rates or household structure has been proposed, the possibility of harmonised EU demographic optima has already been raised (Gesano, 1999).

Demographers' Views on Convergence

Demographers' views on this, like the evidence (Blayo, 1987), are mixed. For some the long view reveals a long-standing social unity in Europe, including similar family models (Kaelble, 1989). Roussel (1994, 1995) insisted that current variety in family and fertility merely reflects the unequal progress of societies heading for the same destination. However, a test of convergence in family type up to the 1970s, using 15 variables including demographic patterns, found enough ambiguity in industrial societies to make the convergence hypothesis 'difficult to assess' (Inkeles, 1981). Data from ten countries in 1990–92 from the 'Family Life Forms and Everyday Family Life in European Comparison' suggest that our 'era of affluence' may truly have become an 'era of choice' (Kuijsten, 1996: 140–141), a view supported by wider samples (Rothenbacher, 1995).

Marked demographic divergence between Western and Eastern European countries is well known (e.g. Tomka, 2002). Demographers have also noted major divergences in demographic variables within Western Europe. For example:

'because of variation in timing and intensity

Table 1. Variation between developed countries for selected demographic variables, 1995 (statistics are unweighted).

Region	*n*	Mean	SD	Coeff of variation	Region	*n*	Mean	SD	Coeff of variation
Total fertility rate					*Life expectation at birth, males*				
Northern Europe	7	1.84	0.12	6.6	Northern Europe	7	74.27	1.62	2.2
Western Europe	7	1.52	0.13	8.7	Western Europe	7	74.01	0.69	0.9
Southern Europe	4	1.28	0.10	8.1	Southern Europe	4	73.85	1.59	2.2
Central/Eastern Europe	7	1.34	0.27	19.8	Central/Eastern Europe	7	67.78	2.00	2.9
Balkans	5	1.88	0.53	28.1	Balkans	3	69.93	0.35	0.5
Former Soviet Union	7	1.42	0.17	11.8	Former Soviet Union	7	62.08	2.08	3.4
Neo-Europes	4	1.87	0.16	8.6	Neo-Europes	4	74.33	1.33	1.8
Asia	5	1.55	0.26	16.7	Asia	4	74.12	3.20	4.3
Total Europe	**37**	**1.55**	**0.33**	**20.9**	**Total Europe**	**35**	**70.06**	**5.00**	**7.1**
Total	**46**	**1.58**	**0.32**	**20.1**	**Total**	**43**	**70.84**	**4.88**	**6.9**
Age-specific fertility rate for ages 15–19					*Infant mortality rate*				
Northern Europe	7	15.3	7.77	50.9	Northern Europe	7	5.1	1.12	21.8
Western Europe	7	8.9	4.64	52.4	Western Europe	7	5.3	0.46	8.6
Southern Europe	4	12.1	6.24	51.7	Southern Europe	4	6.6	0.85	12.9
Central/Eastern Europe	7	30.3	14.31	47.2	Central/Eastern Europe	7	12.1	5.15	42.7
Balkans	4	27.2	13.70	50.3	Balkans	5	16.8	9.96	59.4
Former Soviet Union	7	43.7	11.10	25.4	Former Soviet Union	7	16.3	3.29	20.3
Neo-Europes	4	34.0	16.25	47.9	Neo-Europes	4	6.5	0.82	12.5
Asia	5	7.3	5.58	76.1	Asia	4	5.0	1.24	24.7
Total Europe	**36**	**23.5**	**15.93**	**67.9**	**Total Europe**	**37**	**10.3**	**6.51**	**63.0**
Total	**45**	**22.6**	**16.17**	**71.6**	**Total**	**45**	**9.5**	**6.17**	**64.8**
Percentage births to mothers over age 30					*Crude marriage rate*				
Northern Europe	7	43.5	4.61	10.6	Northern Europe	7	4.9	0.91	18.5
Western Europe	7	44.3	7.78	17.6	Western Europe	7	5.2	0.47	9.0
Southern Europe	4	41.0	8.24	20.1	Southern Europe	4	5.7	0.80	14.0
Central/Eastern Europe	7	18.4	5.11	27.8	Central/Eastern Europe	7	5.1	1.01	19.7
Balkans	4	25.2	4.33	17.2	Balkans	4	5.8	1.66	28.9
Former Soviet Union	7	19.1	2.41	12.6	Former Soviet Union	7	6.5	1.53	23.4
Neo-Europes	4	40.5	3.94	9.7	Neo-Europes	4	6.6	1.54	23.2
Asia	4	26.7	10.47	39.3	Asia	5	7.5	1.17	15.6
Total Europe	**36**	**31.7**	**12.97**	**40.9**	**Total Europe**	**36**	**5.5**	**1.18**	**21.4**
Total	**44**	**32.1**	**12.45**	**38.8**	**Total**	**45**	**5.8**	**1.36**	**23.3**
Illegitimacy ratio per 1000 births					*Aged dependency ratio*				
Northern Europe	7	424.9	132.31	31.1	Northern Europe	7	22.25	3.68	16.5
Western Europe	7	183.1	105.15	57.4	Western Europe	7	21.95	1.56	7.1
Southern Europe	4	102.9	64.43	62.6	Southern Europe	4	22.46	1.15	5.1
Central/Eastern Europe	7	208.2	107.05	51.4	Central/Eastern Europe	7	19.21	2.36	12.3
Balkans	4	154.6	103.87	67.2	Balkans	4	16.46	2.52	15.3
Former Soviet Union	7	210.4	120.17	57.1	Former Soviet Union	7	18.44	2.23	12.1
Neo-Europes	4	318.2	64.02	20.1	Neo-Europes	4	18.2	0.91	5.0
Asia	3	31.4	21.44	68.2	Asia	5	12.47	5.26	42.2
Total Europe	**36**	**228.2**	**146.00**	**64.0**	**Total Europe**	**36**	**20.24**	**3.11**	**15.3**
Total	**43**	**222.9**	**146.92**	**65.9**	**Total**	**45**	**19.19**	**4.05**	**21.1**

Sources: Council of Europe, UN Demographic Yearbook, National Demographic Yearbooks.
SD, Standard deviation.

> …, one cannot simply conclude that countries follow the same trajectory in sequential fertility trends with certain time lags. When looking … at the tempo effects, one sees that the between country variation is large. … the results of this study lead me to assert that a divergence in fertility trends has occurred.' (Bosveld, 1996: 253–4)

Recuperation of births in recent cohorts show further diversity (Lesthaeghe and Moors, 2000; Frejka and Calot, 2001a). Event history analysis of Italy and Germany shows 'divergent postponement' such that 'a convergence in patterns of union formation and first births may not occur and Europe is likely to be characterised by distinct national and regional patterns in the near and immediate future' (Billari and Kohler, 2002: 10). By the early 1990s, EU demographic projections assumed the continuation of differences in tempo and quantum of cohort fertility, and life expectation in all their variants (Eurostat, 1996). More recent attempts have discussed the prospects of permanent diversity more explicitly (de Beer and van Wissen, 1999).

DATA AND METHODS

How do we measure trends towards demographic convergence and establish criteria for its attainment? Economists recognise two forms of convergence: to a common absolute level, and a parallelism of trends. The former seems a more suitable aim in this case. A statistically significant sustained downward trend in demographic variability establishes a trend towards convergence. Depending on the variables concerned, the appropriate measure could be the variance, the coefficient of variation, multivariate distance measures arising from correlation matrices, or the magnitude of coefficients derived from scaling and clustering exercises. All of these will be used. Specific indices of convergence (or divergence) do not seem to have been developed. The indices of dissimilarity and related statistics such as indices of polarisation favoured by geographers are more suited to one-by-one comparisons of specific groups or of regional distinctiveness within countries (Hamm and Litsch, 1987).

The 1930s would be the best choice as a starting point, but data are sparse for that time, and in most European countries trends were disrupted by the Second World War. Data for many countries remain patchy until around 1950, and some series can scarcely be used comparatively before 1960. Some countries, and the rural provinces of others now regarded as modern, retained transitional characteristics up to the 1950s, and in the Balkans up to the present day. While demographic behaviour from about 1970 may be more appropriate, that benchmark gives us less than 30 years of data. Results will be reported from several time-periods.

It is more difficult to choose a yardstick to tell us when convergence has finally been attained. Its choice must be somewhat arbitrary. At the aggregate level it seems clear that convergence has not yet arrived in fertility, when at the end of the 1990s total fertility rates (TFRs) in some countries of Europe were 60% higher than in others, and the proportion of births outside marriage varied tenfold (Table 1). A difference of 5% might be accounted trivial, clearly indicating convergence, while one of 25% would be more interesting. For health variables a narrower, functional criterion might be suitable: that level of similarity at which governments cease to be concerned about the relative international position of their populations – probably just a few per cent. Here, however, rank order also matters.

So far it has been assumed that the nation-state, rather than its constituent regions, is the appropriate unit for large-scale comparisons. Space does not allow this assumption to be justified here (see Coleman, 1996). The demographic utility of country-level analysis follows from the (usual but not universal) coincidence of culture and language with national boundaries, and also with the common influences on demographic behaviour of uniform national systems of taxation and of family welfare arrangements. National boundaries appear to have become more coincident with boundaries of demographic distinctiveness (Decroly and Vanlaer, 1991; Watkins, 1991). The coefficient of variation in fertility within countries seldom goes below 5. That seems also to be a reasonable minimum for differences between countries also, since zero variation is not to be expected.

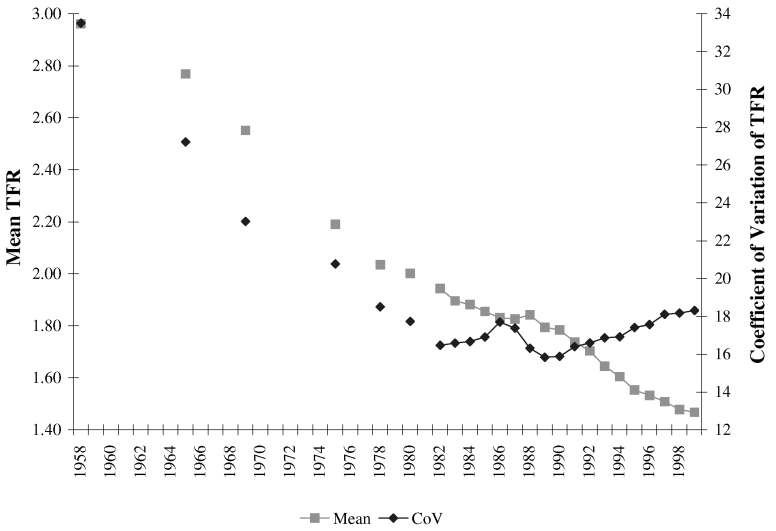

Figure 1. TFR mean and coefficient of variation for 46 developed countries, 1958–1999.

RESULTS

Fertility

Space permits the analysis of only a few variables. Fertility can only be analysed here according to one simple variable, the total fertility rate (TFR). International comparisons of components of fertility are presented by Lutz (1989), Sardon (1990), Grasland (1990), Beets (1995), Bosveld (1996), Hobcraft and Kiernan (1995), Lesthaeghe (2001), Frejka and Calot (2001b) and others.

Since 1945 the general trend in mean TFR, taking 46 developed countries together, is of almost linear decline, falling by 1 every 26 years (Fig. 1). The lack of time series from republics of the former Soviet Union or FSU (except the Russian Federation and Ukraine) restricts the number of years for which comparisons can be made. More recent decades exhibit divergent trends. A more restricted set excludes East Germany whose extreme decline dates only from its non-existence as a country in 1990 (Conrad *et al.*, 1996), and four of the five Far Eastern countries, which were not 'developed' before the 1960s. The ratio of maximum to minimum has changed rather little over time; 120% in 1958 and almost 110% as late as 1987. During the 1990s the excess fell to about 77%, partly due to radical declines in some less-developed Balkan countries and Moldova.

Groups of countries show a more complex picture. The 12 Northern and Western European countries (in the old UN classification, and excluding Iceland and Ireland) show modest variability and no downward trend since the mid-1970s – if anything the reverse. Germany and its neighbours speaking Germanic languages show a consistent and tightly grouped near-zero trend since 1975.

Despite clichés about 'Europe's declining fertility', the TFR increased in most Scandinavian countries from the early 1980s to the early 1990s, and remained stable in most of Western Europe and in the countries of European origin overseas (the 'Neo-Europes'). Sweden's striking increase to over 2.0 in 1992 was followed by a sharp decline to 1.5 in 1999; elsewhere, increases mostly levelled off. The last quarter of the twentieth century was the most stable period in the birth rate in these countries since the onset of the fertility transition.

The experience of the Northern (Scandinavia plus UK and the Irish Republic) and Western European countries is paralleled by that of the 'Neo-Europes' overseas: Australia, New Zealand, Canada and the US. These two pairs of countries share a similar trend in TFR: a generally higher trend of fertility than in Western Europe, a more or less continuous baby boom from the end of the Second World War to the 1970s, and the avoidance of really low fertility. They share with Western Europe the same timing of the baby boom. They share

Table 2. Illegitimacy ratios for selected groupings of industrial countries: interquartile range (in bold) and other basic statistics, 1945–1995.

		Northern Europe	Western Europe	Southern Europe	Central, Eastern Europe	Balkans	Former Soviet Union	Neo-Europes	Asia	All Europe	Total
1945	*n*	3	3	n/a	n/a	n/a	n/a	4	n/a	6	10
	Mean	80	54	n/a	n/a	n/a	n/a	45	n/a	67	58
	SD	14	25	n/a	n/a	n/a	n/a	3	n/a	23	21
	IQR	**26**	**46**	n/a	n/a	n/a	n/a	**5**	n/a	**43**	**33**
1950	*n*	7	7	2	6	4	n/a	4	2	26	32
	Mean	89	66	85	71	72	n/a	38	24	76	68
	SD	87	59	47	15	21	n/a	2	1	11	54
	IQR	**56**	**72**	**66**	**43**	**85**	n/a	**3**	**1**	**56**	**53**
1955	*n*	7	7	3	5	5	1	4	3	28	35
	Mean	82	53	61	60	58	17	41	17	67	60
	SD	87	41	43	9	41	n/a	3	7	55	40
	IQR	**65**	**57**	**79**	**16**	**78**	n/a	**5**	**14**	**53**	**40**
1960	*n*	7	7	4	5	5	1	4	2	29	35
	Mean	84	51	39	55	61	131	47	15	63	58
	SD	81	40	38	14	25	n/a	4	4	49	46
	IQR	**78**	**43**	**62**	**21**	**45**	n/a	**6**	**4**	**51**	**48**
1970	*n*	7	7	4	6	4	6	4	1	34	39
	Mean	118	54	30	58	64	94	105	9	73	75
	SD	94	36	29	20	15	36	22	n/a	55	54
	IQR	**126**	**40**	**49**	**24**	**26**	**57**	**41**	n/a	**54**	**58**
1980	*n*	7	7	4	6	4	7	4	3	35	42
	Mean	224	80	47	61	74	101	161	37	105	106
	SD	146	51	32	27	38	43	43	51	94	91
	IQR	**282**	**73**	**59**	**37**	**61**	**61**	**81**	**90**	**75**	**80**
1990	*n*	7	7	4	6	4	7	3	2	31	40
	Mean	364	156	83	87	115	138	280	30	176	170
	SD	144	83	53	35	87	68	60	28	136	131
	IQR	**218**	**131**	**102**	**69**	**132**	**85**	**120**	**39**	**167**	**179**
1995	*n*	7	7	4	6	3	7	4	3	31	41
	Mean	425	185	103	173	151	210	318	31	232	220
	SD	132	105	64	59	121	120	64	21	148	147
	IQR	**199**	**145**	**123**	**101**	**223**	**171**	**117**	**42**	**203**	**193**

Sources: Council of Europe, National Demographic Yearbooks.
SD, standard deviation; IQR, interquartile range.

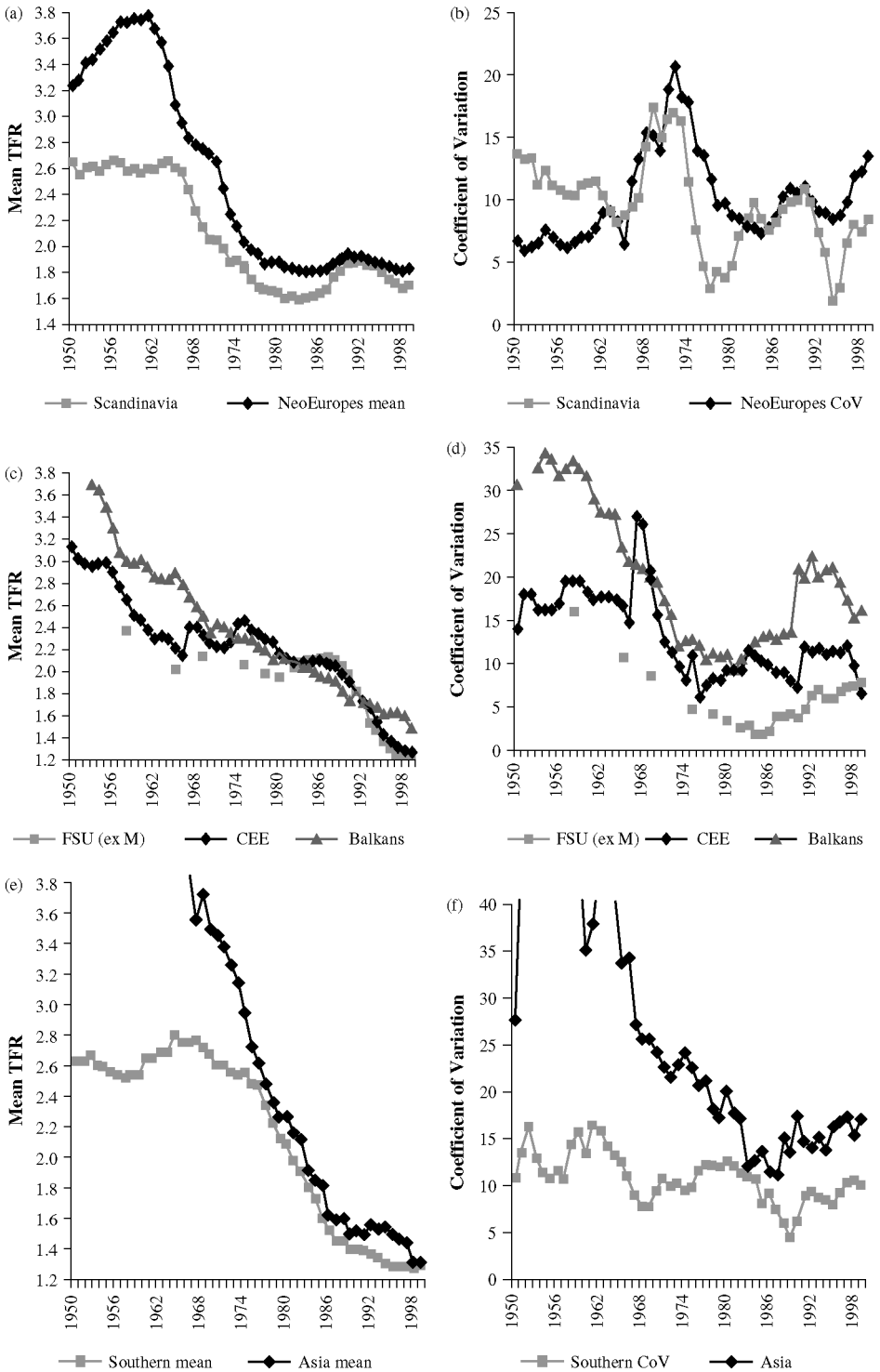

Figure 2. (a) TFR trends, Scandinavia and Neo-Europes, 1950–99. (b) Coefficient of variation of TFRs for Scandinavia and Neo-Europes, 1950–99. (c) TFR trends, former communist countries, 1950–99. (d) Coefficient of variation of TFRs, former communist countries, 1950–99. (e) TFR trends, for Southern European and Asian countries, 1950–99. (f) Coefficient of variation of TFRs, for Southern European and Asian countries, 1950–99. Note: 'ex M' = excluding Moldova.

with Northern Europe a rise in the birth rate since the mid-1980s, which took TFR in the US and in New Zealand back to replacement levels by the early 1990s. Fertility in New Zealand did not fall below 1.96 during the 1990s and rose slightly to 2.01 in 2000. Fertility in Australia and Canada is falling somewhat and thereby diverging from a previous pattern of relatively high fertility in the English-speaking countries (Chandola *et al.*, in press). But in the US the TFR has remained, uniquely, at around replacement level and indeed exceeded it in 2001 (TFR = 2.135)

Southern and Eastern Europe now have much lower levels of fertility, although since the early 1990s the populations of Southern Europe have halted the free fall in fertility which began around 1980 (earlier in Italy; Michaeli, 1996). An altogether more rapid decline was precipitated in Eastern and Central Europe from 1989, a sharp discontinuity from the gradual trends which preceded it. This has taken the birth rate down to Southern European levels in just a few years. Whether this should be regarded as 'crisis' or adaptation is beyond this paper (Lechner, 2001; Philipov and Kohler, 2001; Philipov, 2001). By the end of the 1990s the decline at national level appears to have stopped at about the same level as Southern Europe – around 1.2, perhaps a new empirical lowest level. The European Republics of the former Soviet Union, amongst which fertility levels had converged very closely by the 1980s, have experienced almost identical and severe fertility declines to a similar level, not excluding the Baltic States.

Does this add up to convergence? Different regional groupings of countries give different answers. The coefficient of variation in the Western European group of six countries in the EU core, and of the four Scandinavian countries (excluding Iceland), is down to a third of its level in 1950. The four countries of Southern Europe and the six countries of Central and Eastern Europe (CEE) have also become more similar. The European Republics of the former USSR converged to near-identity by the 1970s and diverged somewhat from the 1980s onwards. These were formerly 'provinces' of the same country where it was explicit policy to eliminate regional diversity. In the 1950s fertility in the Eastern group was exceptionally heterogeneous. Some countries were predominantly rural and only semi-transitional. All became subject to uniform systems of pervasive state control and forced urbanisation and industrialisation, punctuated by erratic bursts of transiently effective pronatalist policy, now withdrawn (Macura, 2000). The trends in the proportion of women childless in the two halves of Germany summarise East–West divergence up to the end of the 1980s. From a common position of 8% childless among the birth cohorts of 1935, childlessness among women in West Germany rose steadily to 20% by the birth cohorts of 1955, by which time only 6% of their sisters in the East remained without children.

Most of the Balkan statistical outliers, the republics of former Yugoslavia with high fertility (Macedonia, parts of Serbia such as Kosovo), had moved in a similar direction by that date, although still not convergent. But in the free markets of the post-transitional West, birth rates can go up as well as down. The unprecedented economic boom of the 1950s and 1960s passed by the communist East. Almost all shared a decline in the birth rate from around 1990, and small increases in the late 1990s. The variation of fertility in the Neo-Europes remains modest throughout the whole 45-year period (Table 2, Fig. 2) although the trend in Canada is looking divergent. The sharp convergence of the Far Eastern countries cannot be considered in the same light as the others; it arises from the rapid economic development and demographic transition in four of the countries which joined the developed world, including Japan, in the 1960s (Leete, 1994; Leete and Alam, 1993).

Between groupings of countries, and in the industrial world from 1960 to 1980, there was a modest trend towards statistical convergence. This trend ceased after the 1970s, and in the last decade a more divergent pattern dominates.

Trends towards similarity were mostly completed by the mid- to late 1970s. From then on, relatively little change is seen, although the general level of variation remains modest. More importantly, while most groups of countries may have become more homogeneous by the end of the baby-boom period,

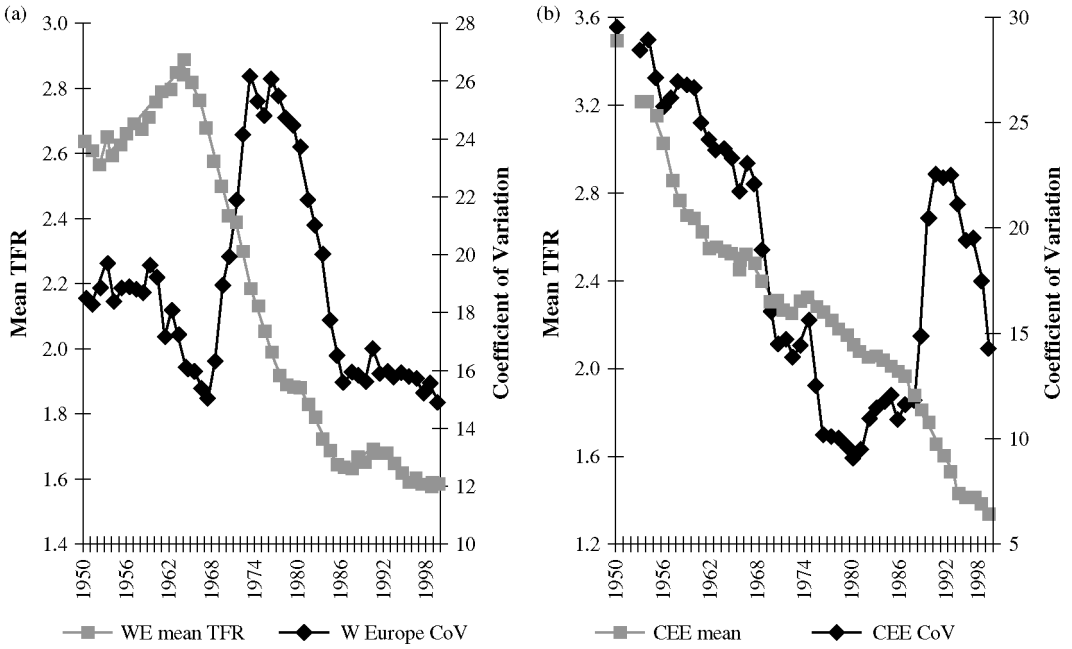

Figure 3. Mean and coefficient of variation for TFRs, 1950–99. (a) 18 Western European countries. (b) 12 CEE countries.

the groups themselves have not converged. Taking in succession the 18 Western European countries, 19 Eastern European countries and all 38 European countries, the convergence process had been very uneven. In Western Europe the level of variability since 1985 has been the same as in the 1960s. The marked convergence in the CEE/FSU group of 19 countries has been sharply reversed, and in the 1990s all Europe showed little trend to convergence (Fig. 3).

The coefficient of variation in the East began higher than any level seen in the West and ended up lower by 1980. By the mid-1980s a new divergence was evident in the CEE countries, even before its marked if transient accentuation after the revolutions of 1989.

Births outside Marriage

Births outside marriage are increasing everywhere, but from very different initial levels and at very different rates. Along with cohabitation and the related retreat from marriage, and increased marital breakdown, the proportion of births outside marriage ('illegitimacy ratio') is a prime marker of the 'second demographic transition' and the only one for which space permits discussion here. Like the others, it is today the most varied of demographic indicators both within and between populations. By the late 1990s the illegitimacy ratio had a ten-fold range in Europe alone: from under 5% to over 50%, for example, for Cyprus and Sweden respectively. This European diversity is paralleled by the behaviour of industrial countries overseas. There, the Neo-Europes of mostly Anglo-Hibernian origin behave like Northern Europeans, with very high levels of births outside marriage (especially New Zealand). By contrast the inhabitants of Japan and the 'Little Dragons', despite the remarkable delays in marriage, have so far favoured neither cohabitation nor births outside marriage. Instead, childless non-cohabiting partnerships are more common (Iwasawa, 2001).

National populations have always differed considerably in relative terms even when absolute levels were low. Although the overall mean illegitimacy ratio of 18 'Western' European countries in the 1950s was low (about 6%

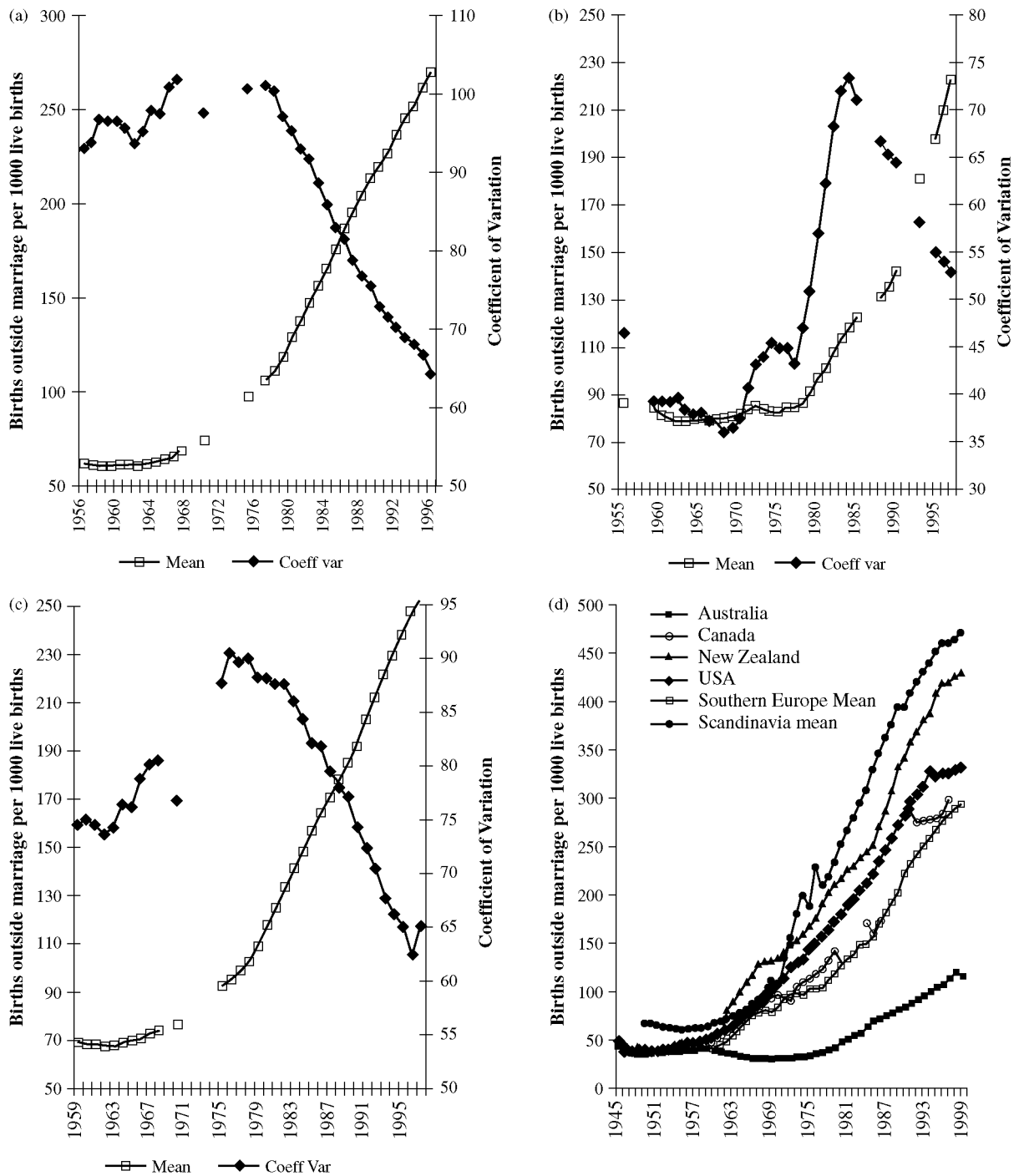

Figure 4. Illegitimacy ratios, unweighted means and coefficients of variation. (a) 18 'Western' European countries, 1956–1996. (b) 10 'Eastern' European countries, 1955–1997. (c) 28 European countries, 1959–1998. (d) Illegitimacy ratio trends, Neo-Europes compared with Southern Europe and Scandinavia, 1945–1999.

Table 3. Age-standardised death rates per 100,000 for males aged 0–64, all causes, by year.

	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995
Albania					400		412	397		
Austria	580	529	493	447	378	378	370	361	349	344
Belarus				685	699	736	775	863	880	930
Belgium	535	484	462	404	345	342	339			
Bulgaria	455	477	501	528	550	540	579	598	623	
Croatia				580	556	669	611	539	508	510
Czech Republic					595	557	539	509	501	487
Denmark	417	402	419	402	379	365	361	352	360	354
Estonia				766	760	801	830	931	1056	1005
Finland	659	601	513	475	439	422	404	385	366	365
France	508	494	456	427	383	379	371	367	357	
Germany					387	385	373	367	356	347
Greece	383	362	339	326	295	299	293	287	285	289
Hungary	567	590	681	743	775	782	824	840	824	798
Iceland		421	341	289	271	279	239	223	220	
Ireland	506	482	457	408	353	346	324	330		
Italy	492	458	423	369	323	327	318	302		
Latvia				755	791	837	906	1084	1220	1121
Lithuania				715	698	767	781	893	942	906
Luxembourg		580	452	433	371	395	357	357	329	340
Malta	521	523	489	411	289	296	296	258	263	259
Moldova				838	741	778	780	767	905	934
Netherlands	422	391	355	327	296	291	283	288	275	269
Norway	409	387	370	355	321	304	302	291	274	274
Poland	576	570	644	647	668	698	668	628	620	623
Portugal		618	541	469	436	447	434	432	398	410
Romania	569	524	582	612	622	621	667	685	706	724
Russia			944	866	818	835	938	1180	1329	1254
Slovakia					686	671	638	599	584	582
Slovenia				585	501	512	511	523	494	460
Spain	438	432	369	351	346	347	343	334	328	328
Sweden	360	363	351	312	279	277	262	254	245	238
Switzerland	437	386	364	326	308	309	300	282	277	
FYR Macedonia						460	485	471	471	450
Ukraine				722	721	778	833			
United Kingdom	495	461	429	380	334	324	312	309	295	295
Eighteen Eastern and Western European countries (no FSU)										
Mean	489	466	456	436	411	409	407	383	343	272
SD	81	76	100	123	144	149	162	192	230	251
Coeff var	16	16	22	28	35	37	40	50	67	92
Max as % min	183	166	201	238	278	282	314			
Fourteen Western European countries										
Mean	474	445	414	379	341	337	327	296	244	197
SD	81	69	57	50	43	40	39	93	137	156
Coeff var	17	16	14	13	13	12	12	31	56	79
Max as % min	183	166	151	152	157	152	154			

Source: World Health Organization Health for All database.

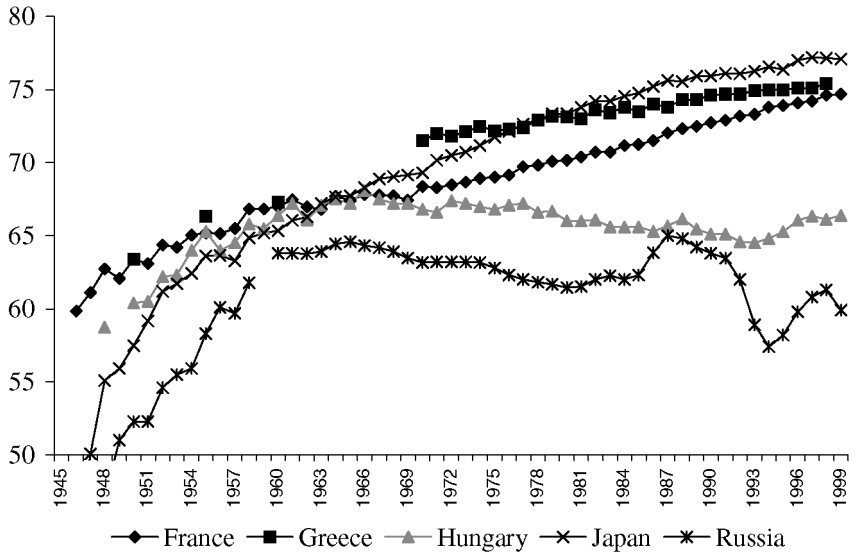

Figure 5. Expectation of life at birth for males of selected countries, 1945–1999.

unweighted), its variability was already high (coefficient of variation about 100, Fig. 4a–d). This reflects persistent traditional differences in reproductive habits dating from much earlier times (Wall, 1983; Ajus and Henye 1994; Viazzo, 1986). In 1950, for example, the illegitimacy ratio in Iceland was 25%, in Austria nearly 20%, in Portugal 12% and in Sweden 10%. Elsewhere the figure was well under 10%, and for the first two post-war decades it fell rather than rose.

Since the mid-1960s, although the mean and range of the illegitimacy ratio in 'Western' Europe has increased five-fold, the coefficient of variation actually fell over the period from about 100 to about 70 (Fig. 4a). What was once highly variable but little evident has become salient and obvious, and of course of much greater social and economic significance. In this respect any ratio measure such as the coefficient of variation, which corrects for differences in mean, removes the main feature of interest. That one country has 50% of its births outside marriage and another 5% is much more interesting, from the point of view of population diversity, and defining statistical norms of behaviour, than if one has 5% outside marriage and the other 0.5%: the same ratio. Measures of dispersal that take into account the absolute magnitude of differences, such as the interquartile range, may be more appropriate. Thus taking 42 countries together, the standard deviation and interquartile range in 1950 were 53 and 46 respectively (per 1000 live births), and in 1995 had trebled or more to 149 and 198 respectively.

There are no regular data on births outside marriage at all for the individual republics of the former Soviet Union except Russia, or for Romania before 1970 or for Albania except 1951–1964. Elsewhere in the East around 1950, births outside marriage were somewhat higher than in the West, nearer 10% than the Western average of 5% (East Germany: 12%). In the FSU as a whole, where policy had intermittently tended to discourage traditional family structures, the proportion reached 18% in 1948. Elsewhere, there was much less variation over space and time than in Western Europe. That situation remained little changed up to the end of the 1970s. However, average levels rapidly increased through the 1980s, substantially in East Germany, the Czech Republic and Hungary, much less so in Poland. In this respect Eastern Europe ended the half-century more varied statistically than the West (Fig. 4b). Overall, the statistical effect in Europe as a whole is of convergence of the coefficient of variation (Fig. 4c), but marked divergence using measures based on absolute values (Table 3).

The populations of the Neo-Europes have moved together in this respect – all have

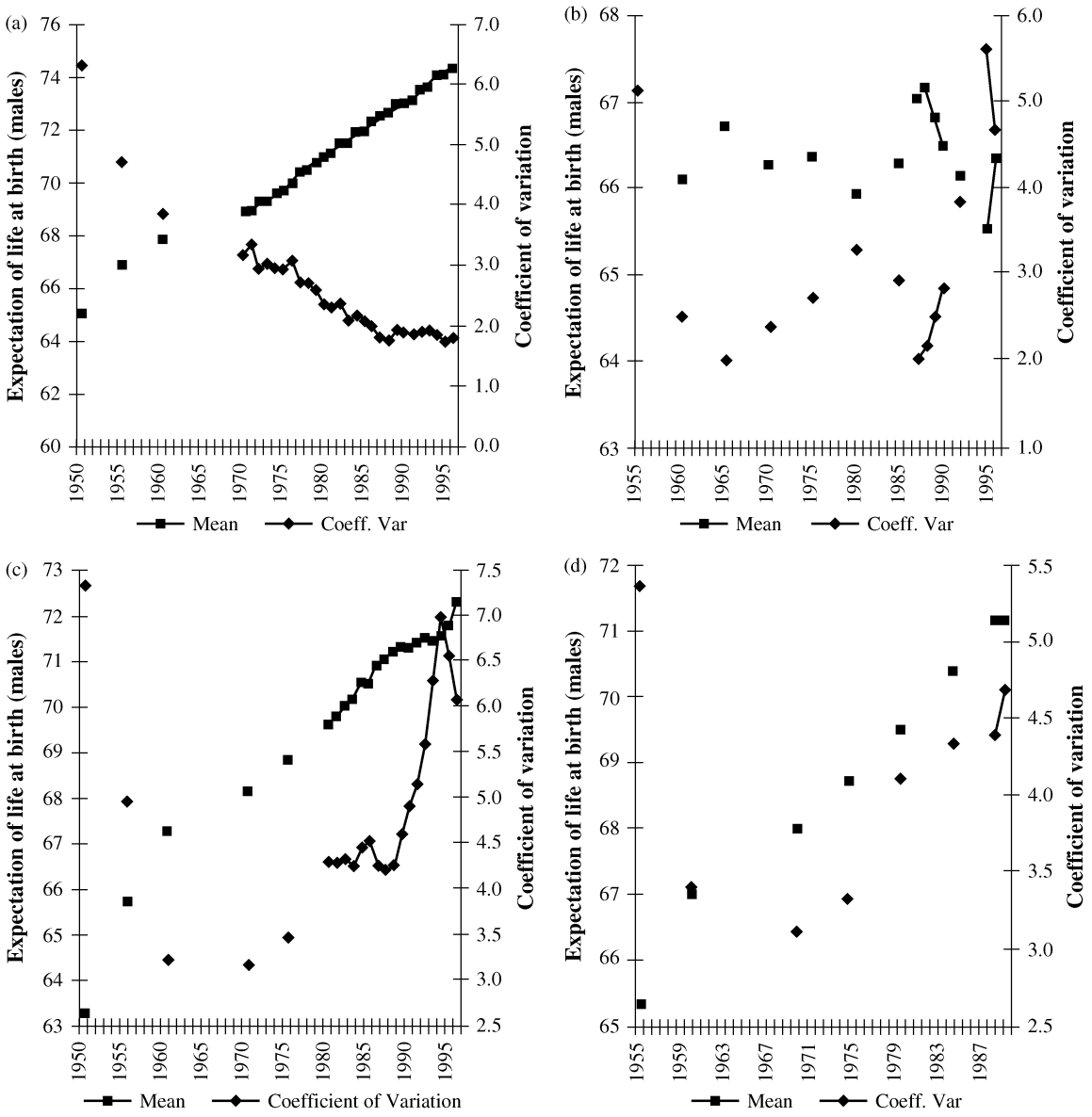

Figure 6. Expectation of life at birth for males, with means and coefficients of variation. (a) 18 Western European countries, 1950–96. (b) Selected Eastern European countries, 1955–96. (c) 33 developed countries, 1950–96. (d) 37 developed countries, 1955–90.

shown substantial increases to about the same level since the early 1960s. The coefficient of variation is correspondingly modest. Its abrupt increase from 1960 to 1961 (Fig. 4d) reflects the full incorporation in 1961 of data from the New Zealand Maori population, among whom a high proportion of births are outside marriage. Canadian data are also incomplete and inconsistent, although not enough to upset the general conclusions. Data are only available for two or three of the five Asian countries (Singapore will provide none) and, are not shown here. Few births are outside marriage (usually less than 2%) and show little sign of increasing (in 1995, 0.5% in Hong Kong, 1.2% in Japan and 2.8% in Taiwan).

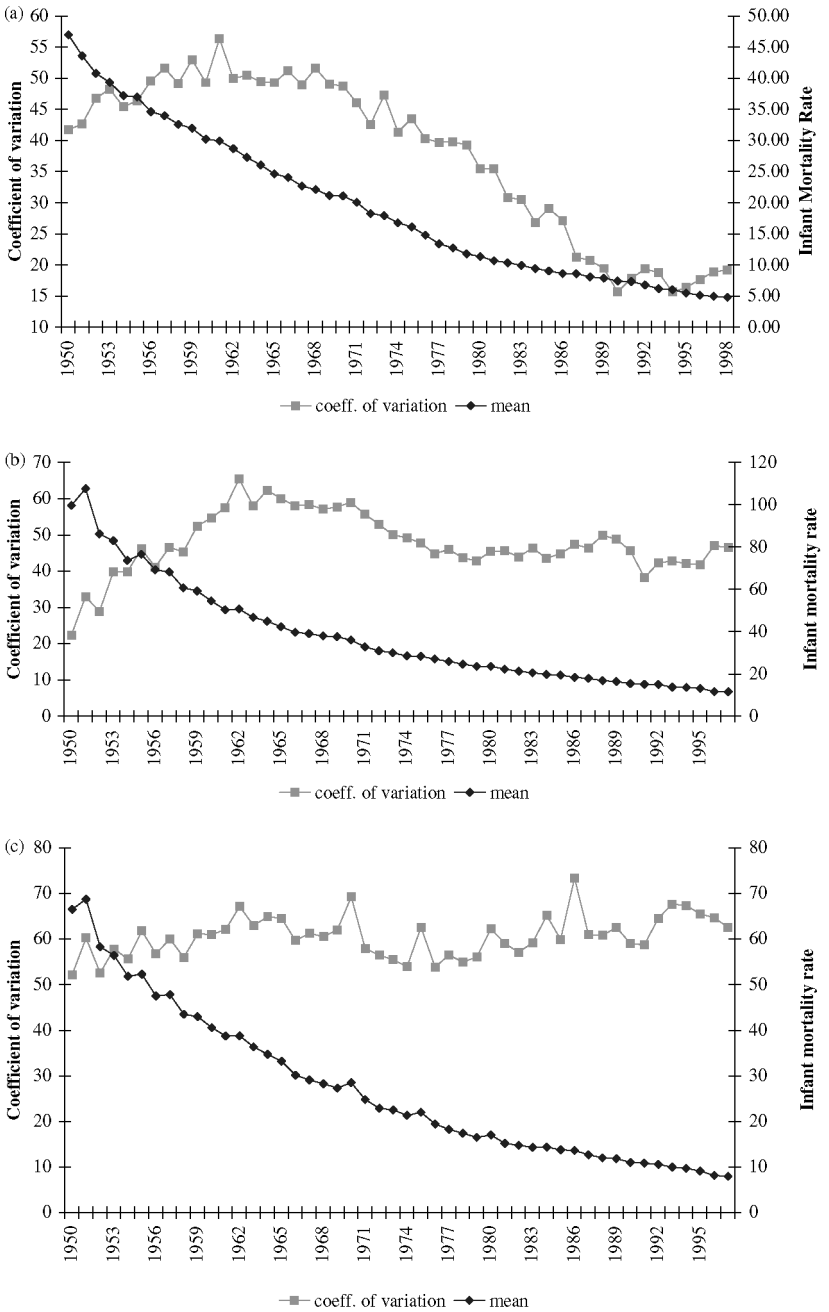

Figure 7. Male infant mortality rates, unweighted means and coefficients of variation. (a) 18 Western European countries, 1950–98. (b) 13 CEE countries, 1950–97. (c) 40 industrialised countries, 1950–97. *Sources*: Council of Europe, UN Demographic Yearbook, National Demographic Yearbooks.

Mortality

Only mortality in males will be considered, as in post-war Europe, males have experienced the more volatile, diverse and damaging trends. Mortality, of all demographic variables, would be expected to have converged, as all individuals and all policies desire its reduction. Indeed, if there is a natural absolute limit to low mortality, which all populations

are approaching at their own pace, convergence can eventually be expected merely on technical grounds. However, that day, if it is coming, appears to have been postponed. Instead, trends in male expectation of life at birth in a variety of industrial countries presents a grossly divergent and uneven picture (Figs 5 and 6).

While the overall life expectancy (of 37 industrial countries) has increased unsteadily over the last half-century, there has been no general trend towards convergence. The coefficient of variation, although never high, is much as it was 50 years ago. The main reason is obvious: the failure since the 1960s of the Eastern Bloc countries (with some important Balkan exceptions: Meslé *et al.*, 1996, Meslé and Hertrich, 1997; Gjonça and Bobak, 1997) to follow Western improvement in survival, exacerbated by the additional mortality crisis of the 1990s from which only some have now clearly emerged. Outside the Eastern Bloc the developed world shows a more or less linear increase in life expectancy (19 Western European countries) and an equally linear decline in coefficient of variation to very low levels (less than 2), albeit with little change since the mid-1980s.

In the Neo-Europes, trends in life expectancy have been nearly identical and the coefficient of variation accordingly very low (under 2), although increasing over time (not shown). By comparison with their mean value, divergences between the Western countries are relatively small and surely pass most statistical requirements for convergence. For obvious reasons, however, persistent international differences in indicators of health and mortality, and the rank-order of particular countries, provoke controversy in the less favoured nations. The expectation of life, however, is a summary measure which, because of the inevitability of very high death rates at very old age, cannot respond to even quite substantial proportional differences in death rates at younger ages. These can remain statistically impressive, and salient in terms of welfare and politics.

For example, in visual terms the graph of the infant mortality rate (IMR) seems to provide clear evidence of near-complete convergence: an (unweighted) average of 66 per 1000 live births in 37 countries in 1950 had fallen to 6 in 1993 (Fig. 7). In the context of health policy, this must count as convergence, even though in relative terms the coefficient of variation of the IMR has ended the period almost unchanged at over 55. Eighteen Western European countries have clearly converged since the 1960s to a relatively low coefficient of variation by 1993 (about 20). The four Neo-Europes have converged even more strongly, but the Asian industrial countries rather less so, because of indifferent progress in Korea and Taiwan. Taking the developed world as a whole, the main impediment to statistical convergence in IMR comes from Central and Eastern Europe (Fig. 7c), with no clear trend towards convergence since the early 1970s. Although some CEE countries ended the century with very low IMRs, in others infant mortality is still a real health problem. This is a more variable picture than in the 1950s, when all IMRs were high. The CEE countries are a source of divergence, not convergence, in the industrial world. The former Soviet Union is hard to incorporate into the analysis because of the limitations of data for individual republics from before 1980 and the need to correct the reported levels (Ksenofontova, 1994).

Contrasts in mortality rates are most marked in later adult life. Age-standardised mortality rates (ASMRs) for males aged 0–64 (standard-

Table 4. Infant mortality rates for 19 CEE and FSU countries, 1970–1993, selected statistics.

Year	Mean	SD	Coeff. var.
1970	36.8	24.2	65.9
1975	30.6	15.8	51.8
1980	24.7	11.7	47.5
1984	21.6	10.6	49.1
1985	20.4	8.8	42.9
1986	20.3	11.6	57.3
1987	18.7	8.4	44.8
1988	17.4	8.0	45.9
1989	17.2	8.2	47.4
1990	16.1	6.8	42.5
1991	16.3	6.5	39.6
1992	16.6	6.9	41.4
1993	15.6	6.4	40.7

Sources: Council of Europe, National Demographic yearbooks.

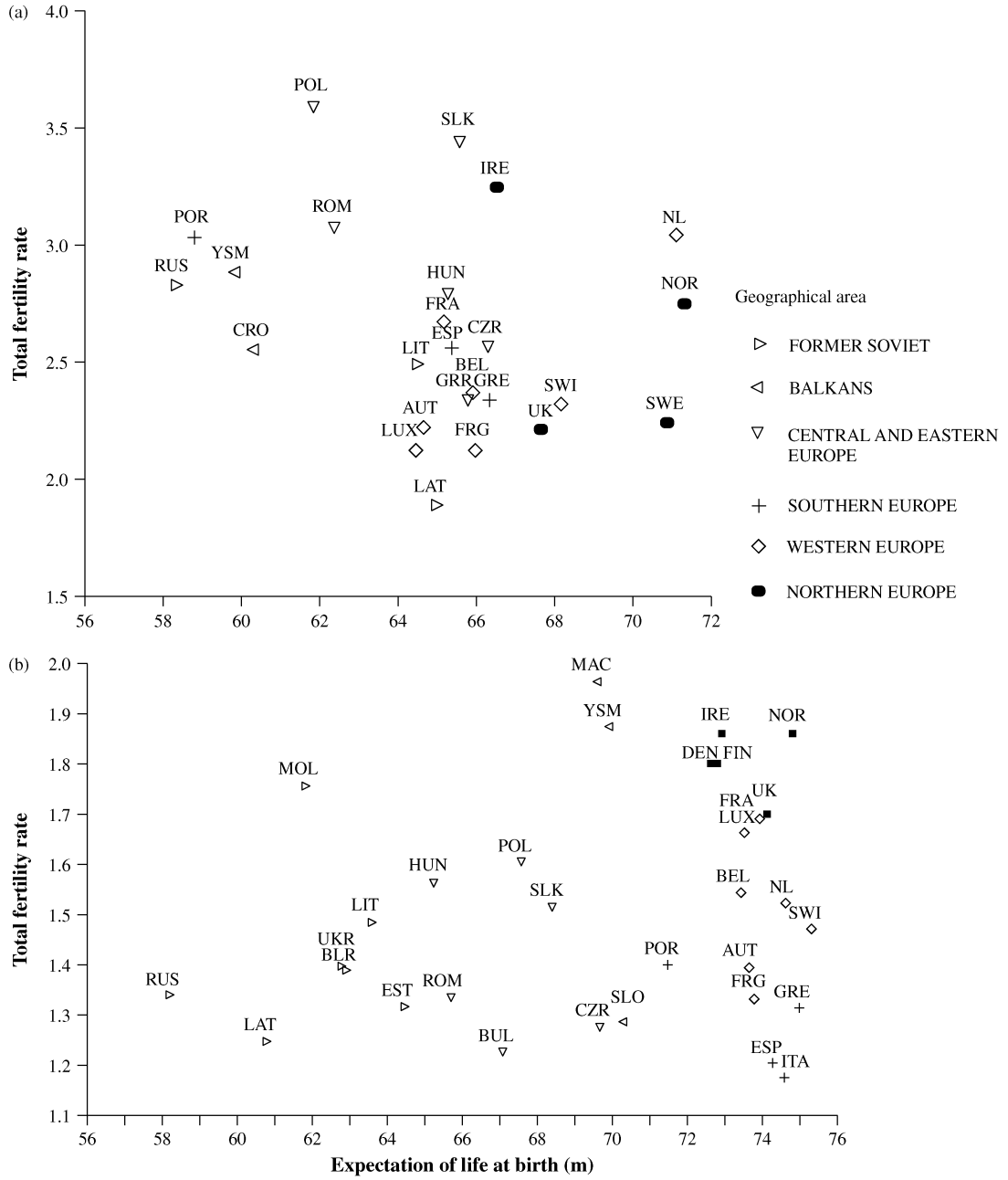

Figure 8. Total fertility rates (TFR) and male life expectancy for European countries. (a) 1955. (b) 1995.

ised on the Standard European Population) for a rather limited selection of 18 European countries show much more variation than does expectation of life at birth. In 1970 the maximum ASMR was 83% higher than the lowest; by 1992 it was over double. The coefficient of variation correspondingly increased from 16 to 40. The data in Table 4 understate the growing contrast, as suitable ASMRs were not available for the FSU countries (where mortality is highest) until the 1980s.

A Broader Picture

The European demographic space is shown more effectively by taking two or more of these

variables together. Two key parameters are fertility (TFR) and male expectation of life at birth (e_0m). There is almost no correlation between the two variables in modern, post-transitional countries, but in combination they mark out a variety of demographic options. In 1955, towards the height of the baby boom, the industrial world was concentrated around e_0m of 65 and a TFR of 2.5. Diverse countries from all parts of Europe shared apparently similar fertility and mortality characteristics. Outliers included all the Neo-Europes with higher birth rates, some Scandinavian countries with clearly superior life expectancy, and some Eastern European countries where the reverse was true. By 1970, at the end of the baby boom, the same features of overlap – convergence – still predominated, with only Scandinavia standing out with its particularly favourable mortality. By 1980, however, the poor mortality record of the communist countries was beginning to segregate them from the rest of the industrial world. By 1990 that separation was absolute – even more by 1994 – and furthermore the collapse of the birth rate in southern Europe and its buoyancy in the North (and in the Neo-Europes) had produced a pleasingly cartographic segregation of countries: a rough mirror-image of the European map (Fig. 8b).

Multidimensional Approaches

Several demographic variables can be combined to position countries in a multidimensional demographic space. Their spatial relationship then reflects their relative similarity or distance, and the trend in the overall size of the space needed to accommodate all the counties would measure their 'convergence' or otherwise. A number of techniques can do this; multidimensional scaling (Kruskal and Wish, 1978) is presented here (Figure 9a). This technique computes matrices of proximities or dissimilarity between objects (here up to 41 countries), usually from standardised variables (here up to 15 demographic variables), and then attempts to find structure in the data by positioning close together in n-dimensional Euclidèan space those countries that are in overall terms most similar according to the statistical distances in the matrix derived from the data.

All variables must be present for all years analysed, so only a moderate number of basic variables with a modest number of populations can be used; even then it is difficult to make comparisons before 1960. Variables include TFR, percentage of births over age 30, rate of natural increase, median age, percentage of population over age 65, illegitimacy ratio, crude marriage and divorce rates, IMR and expectation of life at birth.

Recognisable structures for 30 countries can be identified for 1960 and 1995. Some of the Balkans and the former Soviet republics have to be omitted. In 1960 the picture is much less coherent, although the Western and Southern European populations are distinguishable from the others (with Japan's honorary membership of Southern Europe already apparent). The results are shown (for a restricted group of countries) in Fig. 9. A Western European group emerges clearly, except the Netherlands, out on a limb doubtless because of their then very high fertility. The Central and Eastern European countries (then with only 15 years experience of communism) are distinct from the rest but scattered. Southern and Northern Europe are closer to each other than they subsequently become.

By 1995, more coherent relationships are evident (Fig. 9). CEE countries occupy the bottom right-hand quadrant, and Scandinavia and the English-speaking countries the opposite quadrant, with Western and Southern Europe distinct but close. On this scale, Western European countries are rather close together. Slovenia is close to Southern and Western Europe (and was so in 1960), with the Czech Republic and Hungary relatively close by. Poland and the Slovak Republic occupy the same space. Russia and Bulgaria remain outsiders. Japan remains in Southern Europe.

Such techniques do not directly answer the question 'are populations converging?' They do, however, indicate that certain geographical groupings of countries have preserved some coherent demographic similarities over half a century, although more clearly at the end of the period than in the middle, during the baby boom period. In the 1990s the groupings into which they fall are in some ways more distinct

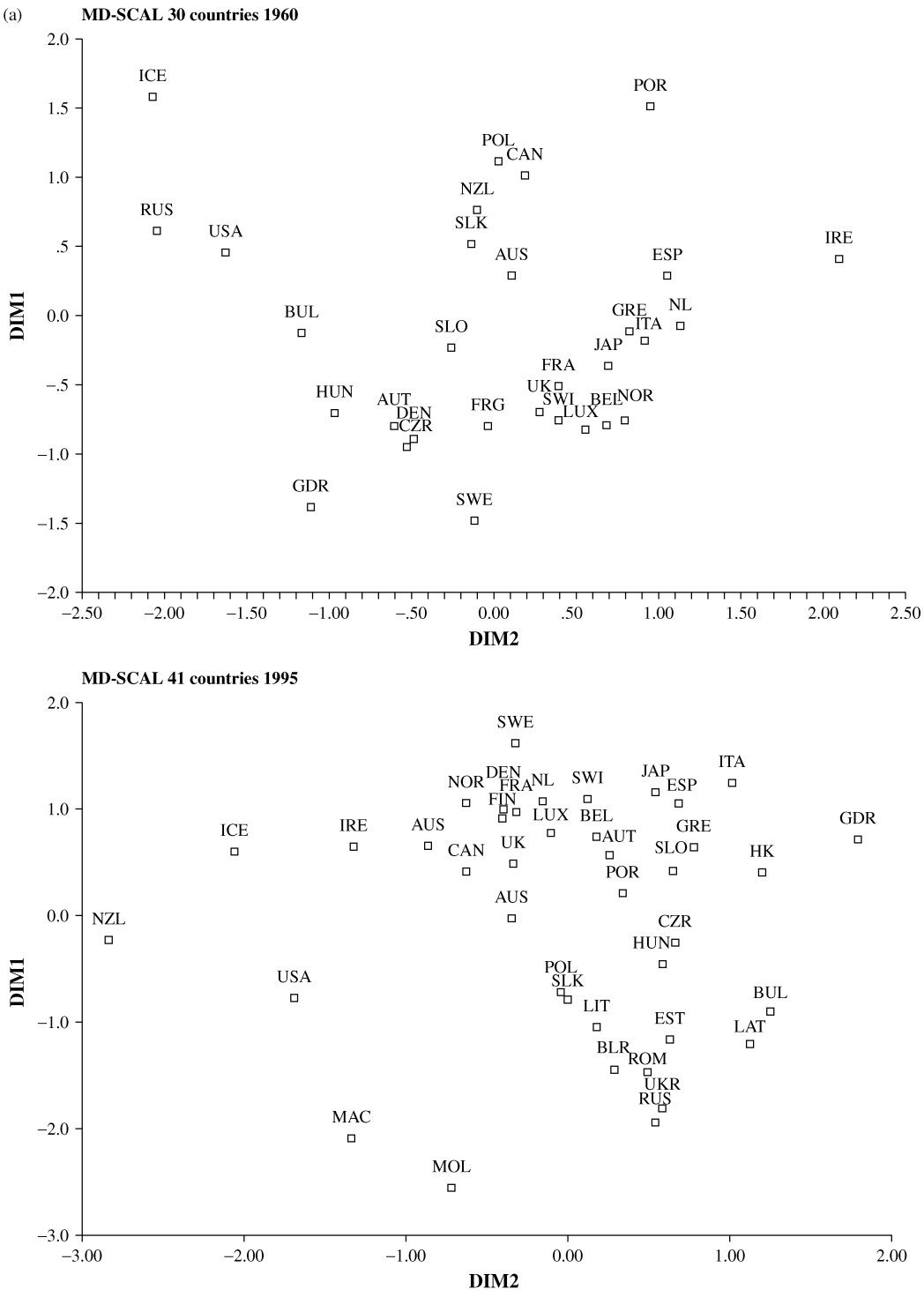

Figure 9. (a) Multidimensional scaling, industrial countries 1960 and 1995, 11 demographic variables. (b) Multidimensional scaling of industrial countries, 1960 and 1994. Demographic variables include: median age difference between sexes, percent of births to mothers aged 30+, crude marriage rate, crude divorce rate, dependency ratio of youth and aged, life expectation at birth for men and women, illegitimacy ratio, rate of natural increase, net immigration rate, percent of population aged 15–64, total fertility rate.

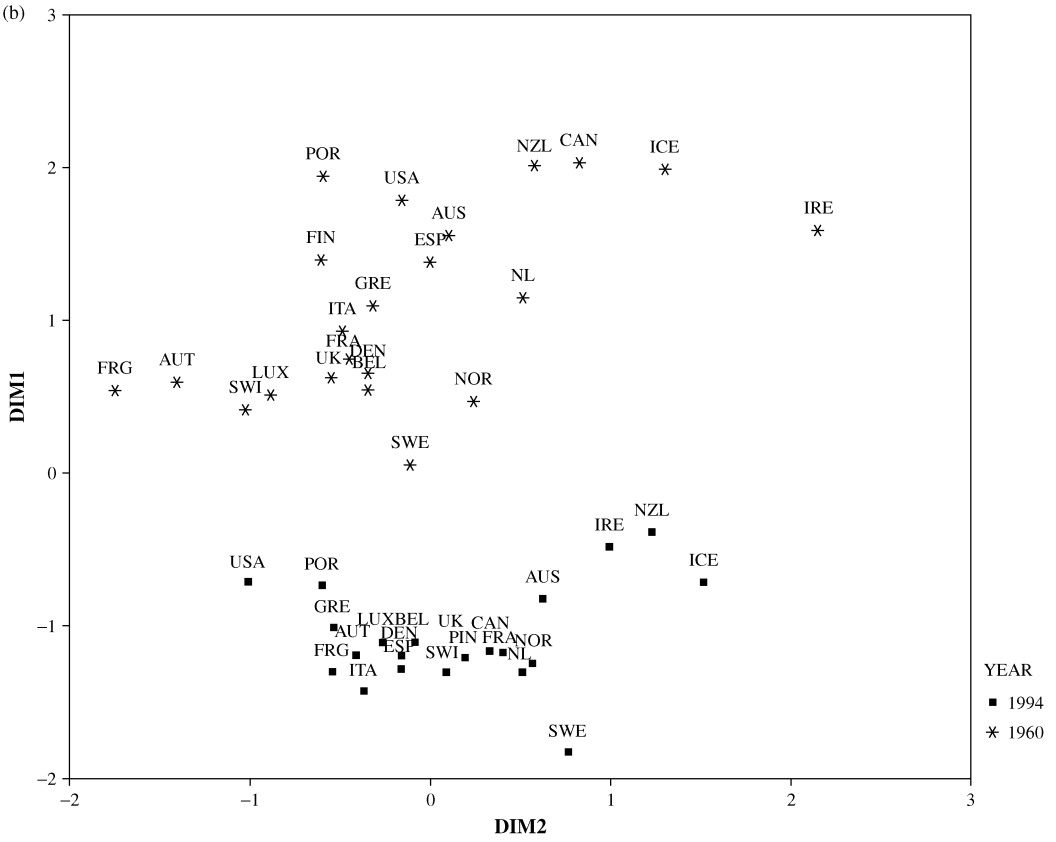

Figure 9. *Continued.*

and are more closely related to geographical contiguity and to boundaries of culture and language.

Can these techniques answer the initial question on convergence? They can measure the size of multidimensional demographic space occupied by our populations and show if it is expanding or diminishing. A graphical impression is given in Fig. 9b, which shows the relationships between a more restricted set of 22 countries using the same variables on the same scale. It is apparent that a smaller demographic space is needed in 1994, although this is partly due to the migration of outliers such as the Irish Republic.

A numerical answer can be given by determining the absolute average and standard deviation (and thence coefficient of variation) of all the distances between each pair of countries at successive points in time, derived from the matrix of proximities computed from the correlation matrix. However, the means (equivalent to the average radial distance from the centroid) at different time-periods cannot be compared directly. The variables are automatically transformed to z-scores with mean zero and standard deviation 1, so the mean based on these standardised variables is therefore made constant over time. The variation about the mean in the distance matrix, however, will show whether countries are converging or diverging. We can get round this problem by standardising each variable across all time periods at once, and then selecting the appropriate subset of data pertaining to each time period being analysed. The values of the average distances will then not be equal, and neither will their standard deviations (Fig. 10).

In the Western European countries by themselves, the mean distance between countries for the set of 14 variables fell by about 30% over the 40 years from 1955 to 1995. The

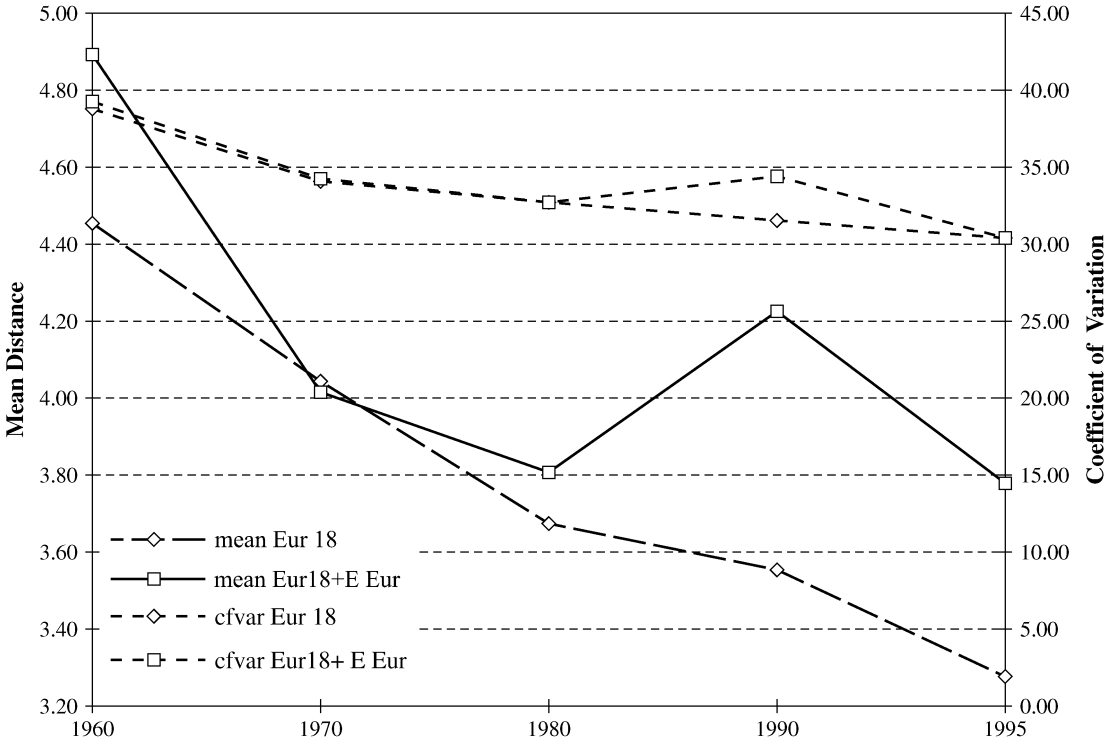

Figure 10. Mean and coefficient of variation of absolute Euclidean distance between 25 European countries, 1960–1995.

standard deviation also fell, so the coefficient of variation was therefore more constant at about 25 – much the same as that for fertility and other key variables. That must be considered to indicate some overall convergence, although some variables (including those influenced by past trends, e.g. median age) showed marked convergence, while others (mortality, household size) did not. When put together with Eastern Europe, however, the overall European picture shows less net convergence. The interpretation of the absolute value of that global distance between countries, and a coefficient of variation of 30, is more difficult. It may depend on the comparison with variability during previous times, during and before the transition, or during the 1930s.

DISCUSSION AND CONCLUSIONS

Convergence is expected on various plausible grounds, but the data from 1950 to 1995 lead us to mixed conclusions. A contraction of the demographic space occupied by the 'developed' countries is indeed apparent from the figures, mostly as a result of the completion of the first demographic transition in a relatively small number of 'outlier' populations such as Iceland, the Irish Republic, Albania and Macedonia. Geographically peripheral, and initially more rural and poorer than average, they have become more 'developed' over the post-war period. Some had never achieved independent statehood before the twentieth century; some were 'provinces' until ten years ago. Against that are divergent developments which are wholly new. Most important among these are the adoption of very low fertility by the Southern European countries, along with the accentuation of family living by the young, and the popularity of other, new living arrangements in NW Europe and overseas (not discussed in this paper). The latter may be embraced by the 'second demographic transition' model; the former certainly cannot be.

Other major departures are the chronically severe mortality patterns in the CEE and FSU countries, and more recent radical changes in family and fertility. The former inheritance of communism may be self-healing; the latter may, paradoxically, represent the beginning of the end of the old Hajnal distinctions and eventually herald a greater homogeneity between East and West.

In looking to the future there are two problem areas: (a) the supposed determinants of demographic characteristics, economic and ideational, are difficult to forecast and are not necessarily converging themselves; (b) they may not be demographic determinants at all. Once (and if) the under-developed outliers have become completely 'modern', further convergence may not be expected. Some engines of demographic change (for example, women's workforce participation) may no longer have the demographic effects that seemed obvious in the 1970s. While welfare systems may emancipate union formation and childbearing from free-market constraints, the Swedish case shows that they remain vulnerable to economic forces.

The trend towards 'post-material' values and attitudes is presented by the votaries of the 'second demographic transition' as an historically inevitable universal development of irresistible force. Identification of 'leader countries' which others follow has proved difficult; there does not seem to be one single trajectory. Liberating forces need not lead to convergence, unless all agree to be liberated in the same direction. The expected demographic consequences are in any case incoherent. Populations most enthusiastic for non-traditional living arrangements (NW Europe and the Neo-Europes) tend to have the highest fertility, while 'traditional' attitudes persist in rich countries with very low fertility (Japan, Italy: Bettio and Villa, 1996). In addition, high levels of divorce and lone parenthood, which transfer some of the costs of the consumption of women and the production of children to the general taxpayer, may not be affordable in the long run. The age of entitlement may have only temporarily insulated people from the consequences of their reproductive actions, and thereby only transiently permitted a wider spectrum of behaviour.

If symmetrical gender equity is an important determinant of fertility levels (McDonald, 2000) then convergence may indeed be slow, as its acquisition would require a major cultural transformation in the countries with very low fertility. Finally, modern countries maintain longstanding differences quite separate from the realm of 'materialism'. These include political systems and electoral preferences, national characteristics of various kinds (Inkeles and Masamichi, 1996), and attitudes to risk-taking. One striking example of non-convergence is the persistence of large differentials in standardised mortality rates from accidents and violence in 31 industrialised countries, in particular traffic accidents, despite near identity in the cars driven, the standards of road and signs, the use of seat belts, laws against drink-driving, and so on (Adams, 1985).

It was reasonable to expect convergence within the CEE group of populations, and their divergence from the West, until 1990. Until then all were run on a centrally planned basis with little operation of market forces, but with erratic and sometimes effective attempts to promote fertility. In union formation and fertility, intended and unintended effects of public policy not only maintained but reinforced previous patterns of universal and early marriage and childbearing, with much reduced variance of family size.

The divergence in mortality between East and West is the most obvious difference, and in some respects the least interesting, because it is easiest to account for. Its first component is the failure of improvement in survival in Eastern and Central Europe and Russia since the 1960s, a matter too complex to be dealt with here (see Lutz *et al.*, 1994; Meslé *et al.*, 1996). A unique political system has put these populations under unnatural constraints for decades. These constraints, summarised by Elwood Carlson as the 'State Socialist Mortality Syndrome', have driven them off the trajectory of improvement in survival which would have been expected earlier in the century. On top of that is the recent increase in the death rate in many (not all) of the countries in transition.

Secondly, there is diversity within the former communist bloc. Some Central European countries, especially those formerly aligned to 'Western' Europe and forcibly

'Easternised' after 1945 (e.g. the Czech Republic), have recovered faster in economic and health terms. The Balkans, backward rural areas in the late 1940s with high mortality, then had the lowest expectation of life in Europe. But they did not share the worst of the Eastern Bloc mortality pattern.

Thirdly, even within Western Europe there is still enough lack of convergence to excite the epidemiologists. An early group of low-mortality achievers (the Netherlands, Denmark and Norway, for example) reached a high expectation of life in the 1950s and 1960s (about 70) but then failed to make much further progress. The statistical mediocrity of survival in very successful economies such as that of Germany, with high expenditure on medical services, suggests that further convergence cannot be expected simply on economic grounds (Vallin *et al.*, 2002). Models of economic inequality (Wilkinson, 1996) compete with dietary hypotheses. The superior survival of the populations of the 'olive oil belt' of poorer Southern Europe compared with the richer 'sausage, beer and chips' belt of Northern Europe confounds economic explanation of mortality differentials, but does connect persuasively with parallel advantages shown surprisingly in such places as Albania (Gjonça and Bobak, 1997) and Macedonia.

It may be that the twentieth century saw so many upheavals that its outcome is beyond the reach of theory, and the turbulence created has unhelpfully muddied the demographic waters. The expectation for any future regime(s) must be one of constrained variety. Past trends may be some guide, in that demographic characteristics do seem to be geographically located and some salient characteristics today connect with the particularities of the past, for example the familism and household patterns of Southern Europe (Reher, 1998), and the Scandinavian history of births outside marriage, now shared by Estonia. The ancient division of Europe by Hajnal's line, which outlasted the Ottoman and Russian Empires and was if anything reinforced by the Soviet one, looks as though it will not survive the end of the Iron Curtain. But what shape it will assume, and to which of the diverse patterns of Western Europe its components will converge, remains beyond prediction.

ACKNOWLEDGEMENTS

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