Table 2: Factoring of the overall change in period total fertility rates 1965-1996/97 into changes in total fertility for age groups 15-29 and 30+ between 1965-1980 and between 1980-1996/97

		PTFR 1965	Change 1965-1980		Change 1980-1996/97		PTFR 1996/97
			F(15-29)	F(30+)	F(15-29)	F(30+)	
A. Northern Europe							
ICE	Iceland	3.71	-.69	-.54	-.49	+.05	2.04
NOR	Norway	2.94*	-.68	-.53	-.20	+.34	1.86
DK	Denmark	2.61	-.75	-.31	-.18	+.38	1.75
FIN	Finland	2.47	-.51	-.33	-.16	+.27	1.74
SWE	Swede,	2.41	-.53	-.20	-.33**	+.18**	1.53
B. Western Europe							
IRL	Ireland	4.03	-.13	-.67	-.89	-.42	1.92
UK	United Kingdom	2.87	-.64	-.34	-.34	+.17	1.72
FRA	France	2.81	-.51	-.38	-.47	+.21	1.70
BEL	Belgium	2.70	-.52	-.50	-.26	+.12	1.55
NL	Netherlands	3.04	-.65	-.79	-.45	+.39	1.54
SWI	Switzerland	2.60	-.63	-.42	-.29	+.22	1.48
FRG	Germany (W)	2.51	-.54	-.52	-.23	+.17	1.39
AUS	Austria	2.70	-.60	-.45	-.36	+.07	1.36
C. Southern Europe							
POR	Portugal	3.08	-.18	-.71	-.65	-.08	1.46
ITA	Italy	2.67	-.47	-.52	-.56	+.06	1.18
SP	Spain	2.97	-.17	-.59	-.87	-.19	1.15
GRE	Greece	2.32	+.22	-.31	-.89	-.02	1.32
D. Central Europe							
MAC	Macedonia	3.66	-.55	-.66	-.27	-.28	1.90
YUG	Yugoslavia	2.53	-.19	-.08	-.38	-.18	1.80
CRO	Croatia	2.19	-.10	-.40	-.27	+.27	1.69
POL	Poland	2.52	-.06	-.18	-.64	-.13	1.51
SLR	Slovak Rep.	2.78	-.14	-.32	-.75	-.10	1.47
LIT	Lithuania	2.40	+.17	-.57	-.43	-.18	1.39
HUN	Hungary	1.81	+.18	-.07	-.60	+.06	1.38
SLO	Slovenia	2.43	-.02	-.30	-.83	-.03	1.25
CZR	Czech Rep.	2.18	-.02	-.09	-.83	-.07	1.17
LAT	Latvia	1.74	+.31	-.15	-.66	-.13	1.11
GDR	Germany (E)	2.48	-.14	-.40	-.98	-.01	0.95
E. Eastern Europe							
MOL	Moldova	2.68	+.21	-.50	-.48	-.30	1.60
UKR	Ukraine	1.99	+.17	-.21	-.40	-.15	1.40
BLR	Belarus	2.25	+.16	-.41	-.44	-.17	1.39
ROM	Romania	1.91	+.54	.00	-.93	-.20	1.32
RUS	Russian Fed.	2.13	+.04	-.27	-.46	-.16	1.28
BUL	Bulgaria	2.08	+.11	-.14	-.89	-.07	1.09
F. Non-European							
USA	United States	2.74	-.55	-.35	-.01	+.19	2.02
CND	Canada	2.65	-.75	-.20	-.23	+.17	1.64
AUL	Australia	2.84	-.55	-.36	-.35	+.25	1.83
JPA	Japan	1.98***	-.18	-.09	-.51	+.20	1.40

Sources: computed from national series of age specific fertility rates in Council of Europe (1998) and UN Demographic Yearbooks (various issues)

Notes: *Norway: PTFR for 1961-65
**Sweden: the changes for the period 1980-1990 are +.16 and +.30 respectively yielding a PTFR of 2.13 for 1990; in the period 1990-1997, the changes in F(25-29) and F(30+) were -.48 and -.12, bringing the PTFR for 1997 back to 1.53.
***Japan: PTFR for 1963

FIGURE 2

Period 1965-1980 : Changes in fertility before and after age 30

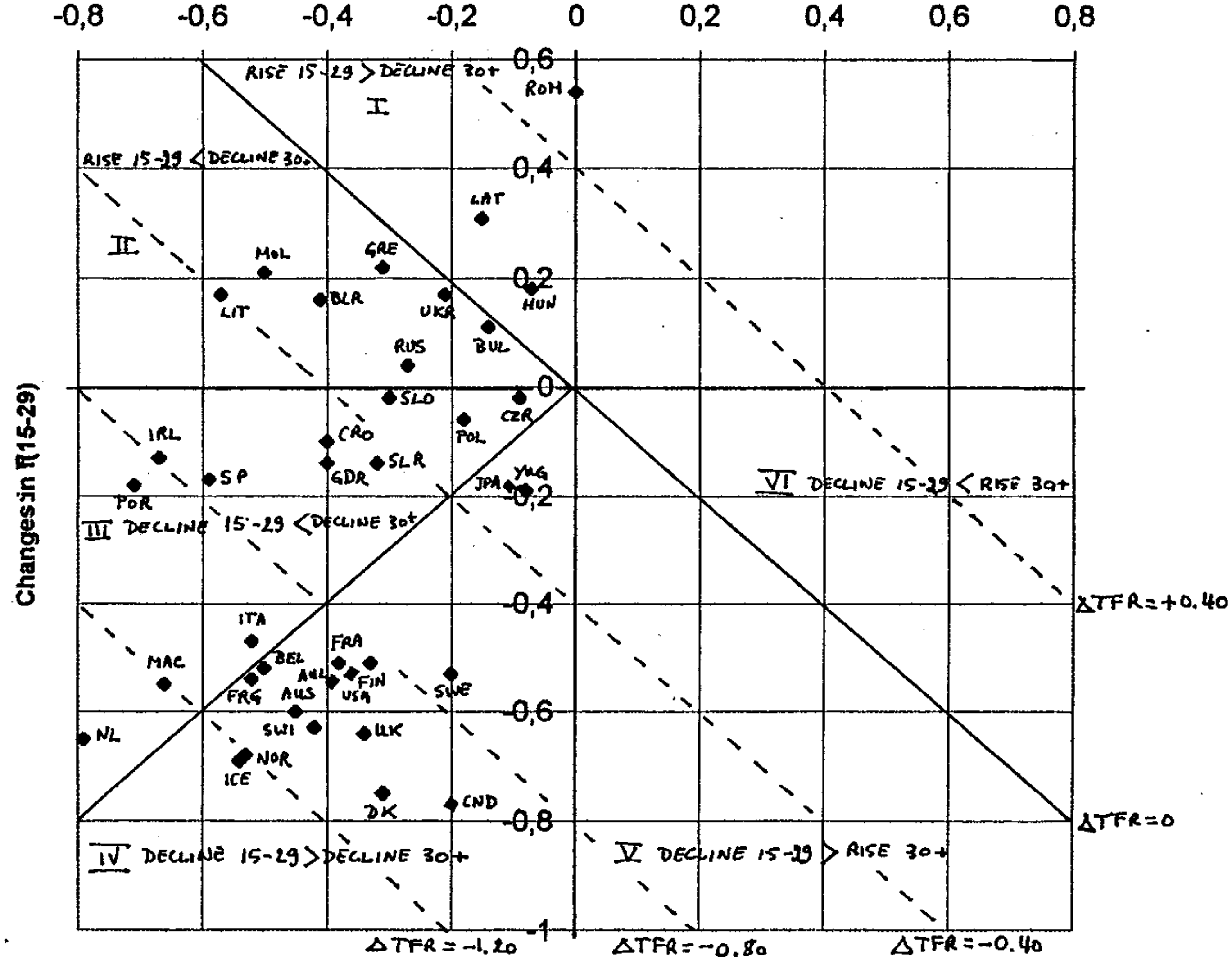
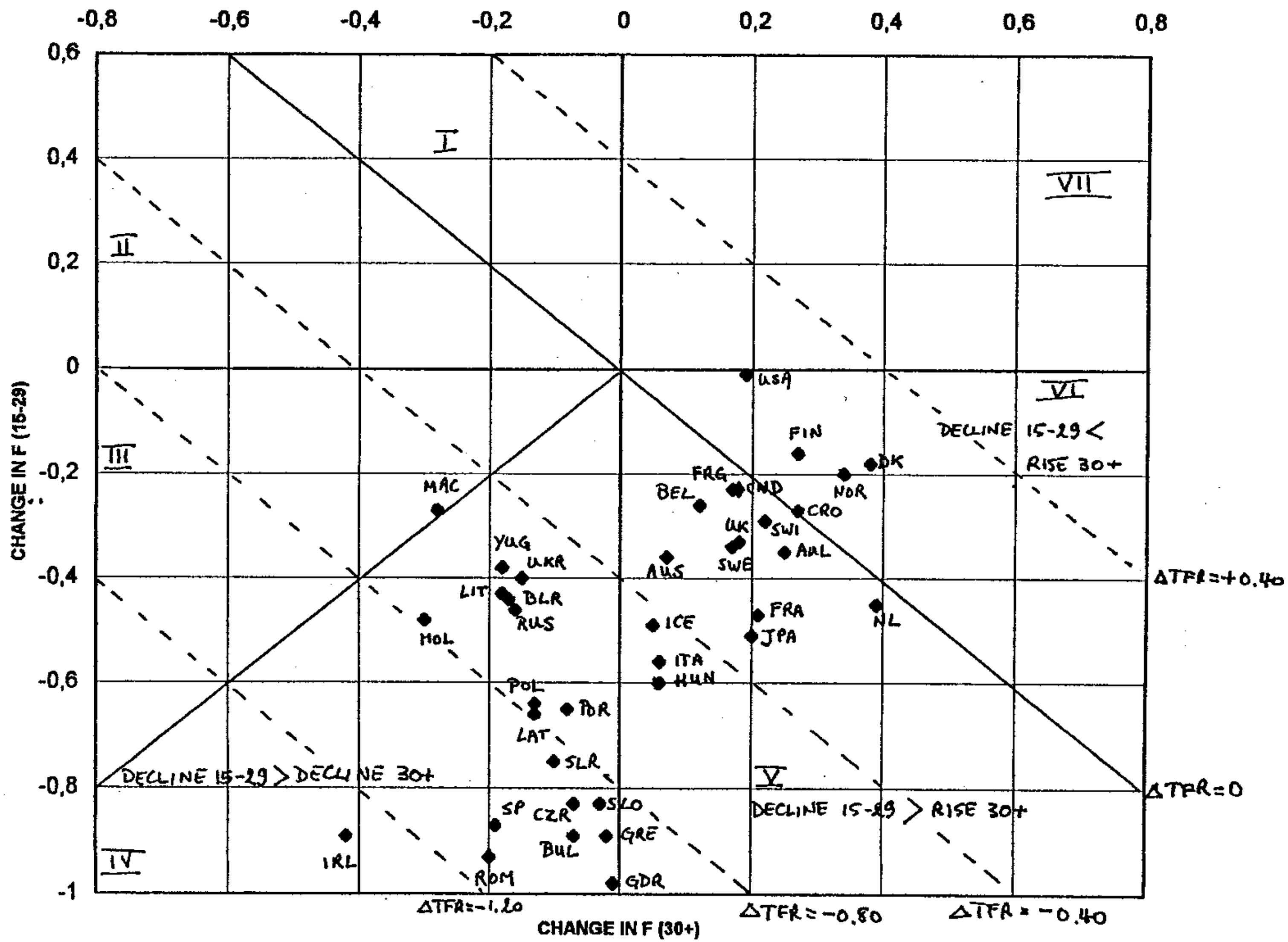


FIGURE 3

PERIOD 1980-1996/97 : CHANGES IN FERTILITY BEFORE AND AFTER AGE 30



those that had already started the second phase marked by the tempo shift to later ages.

Equally noteworthy are countries with only modest declines in PTFR during the 1965-80 period: they are Eastern European plus Japan. Several had only a reduction in F(30+) of less than 0.2 children. These countries were trailing behind in the adoption of hormonal contraception and had often restricted legal access to abortion as a reaction to earlier excessive abortion figures.

Figure 3 shows the overall shift towards segments IV, V and VI during the 1980s and 1990s. The former Communist countries and most Mediterranean populations are now found in segment IV, with large declines in F(15-29) and equally impressive declines in their overall PTFRs. Only Croatia and Yugoslavia (including Kosovo) do not follow this trend and limit the overall fertility reduction.

The western countries, including the non-European ones, have left segment IV and progressed to segments V and VI, which are both characterized by rising fertility at older ages. In other words, the postponement that had started in the period before 1980 is now leading to at least a partial recuperation at ages above 30. For a first group of such countries in segment V (e.g. Austria, France, Italy, Japan), there are still declines in PTFR of the order of 0.3 to 0.5 children as a result of further fertility reductions, mainly before age 25. For a second group (e.g. FR Germany, Belgium, Switzerland, Canada, UK, Australia or the Netherlands) the decline of PTFRs since 1980 are modest, i.e. less than 0.2 children. The group of countries in segment VI has a net fertility rise. This group contains the US, Finland, Norway and Denmark. In the Nordic countries there are still declines below age 30, but these are now more than compensated by recuperation and rises after age 30. The US is exceptional in the sense that it maintained very high teenage fertility and exhibits no decline in the age group 20-24 either. Any rise above age 30 is then readily translated into a net overall rise in PTFR, which, as we know, reached replacement level around 1990.

Finally, the example of Sweden is equally striking and exceptional. This country had already moved into segment VII by 1990 with fertility rises in both age segments. This corresponded to an impressive period effect affecting all ages or all cohorts irrespective of their stage of family formation (cf. Hoem & Hoem, 1997; Andersson, 1999). By the mid-1990s, however, this anomaly had disappeared, and the Swedish PTFR had declined below its 1980 value. It should be stressed that this rise in Swedish fertility was by no means the consequence of "the end to postponement", but the result of all cohorts, irrespective of age, taking advantage of an extra prolongation of the already very long parental leave. Subsequent cutbacks in social provisions and rising unemployment - a novelty for Sweden - produced a backlash (cf. B. Hoem, 1998).

The story for the 1980s and 1990s can also be told in terms of quantum and tempo effects. The Bongaarts-Feeney model (1998) would have been an appropriate instrument to accomplish this if it were not for the fact that the model requires parity-specific TFRs and parity-specific mean ages at childbearing that are not readily

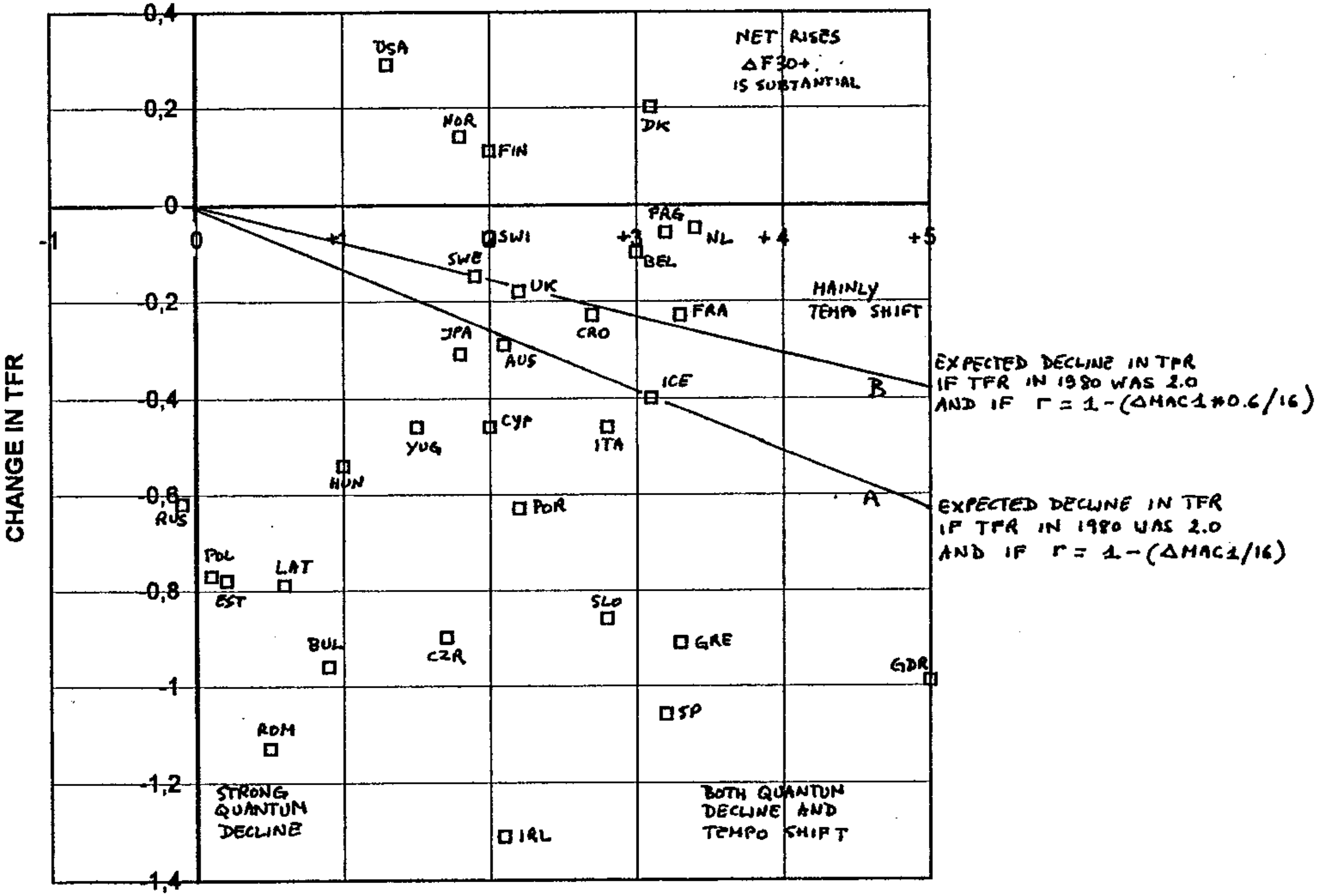
Table 3: changes in period total fertility rates (PTFR) and in mean ages at birth of first child (MAC1), 1980-1996/97

		PTFR 1980	PTFR 1996/97	Change PTFR	MAC1 1980	MAC1 1996/97	Change MAC1
A. Northern Europe							
ICE	Iceland	2.48	2.04	-.40	21.9	25.0	+3.1
NOR	Norway	1.72	1.86	+.14	25.2	27.0	+1.8
DK	Denmark	1.55	1.75	+.20	24.6	27.7	+3.1
FIN	Finland	1.63	1.74	+.11	25.7	27.7	+2.0
SWE	Sweden	1.68	1.53	-.15	25.5	27.4	+1.9
B. Western Europe							
IRL	Ireland	3.23	1.92	-1.31	24.9	27.0	+2.1
UK	United Kingdom	1.89	1.71	-.18	24.5	26.7	+2.2
FRA	France	1.94	1.71	-.23	25.0	28.3	+3.3
BEL	Belgium	1.69	1.59	-.10	24.5	27.5	+3.0
NL	Netherlands	1.60	1.55	-.05	25.6	29.0	+3.4
SWI	Switzerland	1.55	1.48	-.07	26.3	28.3	+2.0
FRG	Germany (W)	1.45	1.39	-.06	25.2	28.4	+3.2
AUS	Austria	1.65	1.36	-.29	24.6	26.7	+2.1
C. Southern Europe							
POR	Portugal	2.19	1.46	-.63	23.6	25.8	+2.2
ITA	Italy	1.68	1.22	-.46	25.1	27.9	+2.8
SP	Spain	2.21	1.15	-1.06	24.6	27.8	+3.2
GRE	Greece	2.33	1.32	-.91	23.3	26.6	+3.3
CYP	Cyprus	2.46	2.00	-.46	23.8	25.8	+2.0
D. Central Europe							
MAC	Macedonia	2.45	1.90	-.55	23.0	na	na
YUG	Yugoslavia	2.26	1.80	-.46	23.2	24.7	+1.5
CRO	Croatia	1.92	1.69	-.23	22.8	25.2	+2.4
POL	Poland	2.28	1.51	-.77	23.0	23.1	+0.1
SLR	Slovak Rep.	2.32	1.47	-.85	22.4	na	na
LIT	Lithuania	2.00	1.39	-.61	na	23.1	na
HUN	Hungary	1.92	1.38	-.54	22.4	23.4	+1.0
SLO	Slovenia	2.11	1.25	-.86	22.8	25.6	+2.8
CZR	Czech Rep.	2.07	1.17	-.90	22.4	24.1	+1.7
LAT	Latvia	1.90	1.11	-.79	22.9	23.5	+0.6
GDR	Germany (E)	1.94	0.95	-.99	22.3	27.3	+5.0
EST	Estonia	2.02	1.24	-.78	23.2	23.4	+0.2
E. Eastern Europe							
MOL	Moldova	2.39	1.60	-.79	na	22.4	na
UKR	Ukraine	1.95	1.40	-.55	na	na	na
BLR	Belarus	2.00	1.39	-.61	na	na	na
ROM	Romania	2.45	1.32	-1.13	22.6	23.1	+0.5
RUS	Russian Fed.	1.90	1.28	-.62	22.9	22.8	-0.1
BUL	Bulgaria	2.05	1.09	-.96	21.9	22.8	+0.9
F. Non-European							
USA	United States	1.77	2.06	+.29	23.5	24.8	+1.3
CND	Canada	1.67	1.64	-.03	na	na	na
AUL	Australia	1.89	1.77	-.12	na	na	na
JPA	Japan	1.75	1.44	-.31	26.8	27.9	+1.8
NZE	New Zealand	2.03	2.04	+.01	na	na	na

Sources: Council of Europe (1998); UN Demographic Yearbooks; communications from J. Bongaarts (USA), H. Kojima (Japan).

FIGURE 4

CHANGES IN TFR AND IN MAC1, PERIOD 1980-1996/97



available for a large number of countries. Instead, we shall try to bring out the gist of the story via a simple plot of changes in the overall PTFR against the changes in the mean age at first birth (MAC1).[6] Figure 4 shows the results.

The first striking feature in Figure 4 is that many Eastern European countries had steep declines in overall PTFR after 1980 with hardly any rise in MAC1. In the Russian Federation, Poland and Estonia the rise in MAC1 was virtually zero, and in Latvia, Bulgaria, Romania and Hungary the increment was less than 1 year over a period of 16 or 17 years. Clearly, a quantum effect accounts for the overall PTFR decline in these populations. As the increments in MAC1 become larger, the tempo shift component of the PTFR-decline increases. To illustrate this we have computed what the overall fertility decline would be if the average annual rate of fertility postponement (i.e. Bongaarts and Feeney's r-parameter) was fairly rapid and equal to the complement of the average annual change in MAC1 over 16 years. This yields line A on Figure 4. Line B shows the outcome for a less pronounced tempo shift and is calculated on the basis of 60 percent of the change in MAC1. Both lines assume a PTFR of 2 children at the onset.[7] As we come close to lines A and B the tempo effects become more pronounced.

Evidently, countries such as Portugal, Slovenia, Greece and Spain combine large tempo and quantum effects. But in most other western countries and in Japan the declines in PTFR since 1980 are typically accounted for by tempo shifts. Finally, in three Scandinavian countries (Norway, Finland and Denmark) there have been net rises in PTFR since 1980 despite increments in MAC1, thanks to large rises in fertility after age 30. The US also had an overall increase in PTFR, but only a more modest rise in MAC1. In fact, the US did not have so much an "end to postponement"-effect that restored replacement fertility, but plainly an overall weak postponement in the 1980s and 1990s to start with. In this respect, the US has been more like Eastern Europe than like the other western countries.

The pictures presented so far are only synoptic cross-sectional analyses of what is essentially unfolding at the cohort level. In the next section we shall adopt this perspective to illustrate this point for a number of countries.

2.3. Postponement and recuperation seen from the cohort perspective

The graphical representation of cohort fertility profiles for all countries cannot be presented here for lack of space, but we shall select several cases that are either highly typical for a group of countries or that are highly idiosyncratic. The reader can

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[6] MAC1 is also to be prefered over the overall mean age at childbearing since the latter can still be declining when all its parity-specific counterparts are rising. This is typically produced by rapid reductions of higher parity fertility (3+), thereby increasing the relative weights of low parities in the computation of the overall mean age at childbearing.

[7] If we had started from a lower PTFR, both lines would have had steeper downward slopes. If the PTFR at the onset were set at 1.75 instead of 2.00, line B would have shifted to the present position of line A, and line A would have dropped off more quickly. In this instance, Japan, Australia and Italy would have been located above this new line A.

readily produce the cohort profiles for a large number of other countries from the long time series of age-specific fertility rates published by the Council of Europe. Also, in what follows we shall identify the cohorts by the year in which they reached the age group 15-19, rather than by their year of birth. All figures with cohort-specific fertility rates by age are produced in the same fashion: we start with the cohort reaching 15-19 in 1960 and follow the level of fertility by age group for all younger cohorts. Period effects then show up by the diagonal location of peaks or troughs. All age-specific fertility rates are expressed per thousand women.

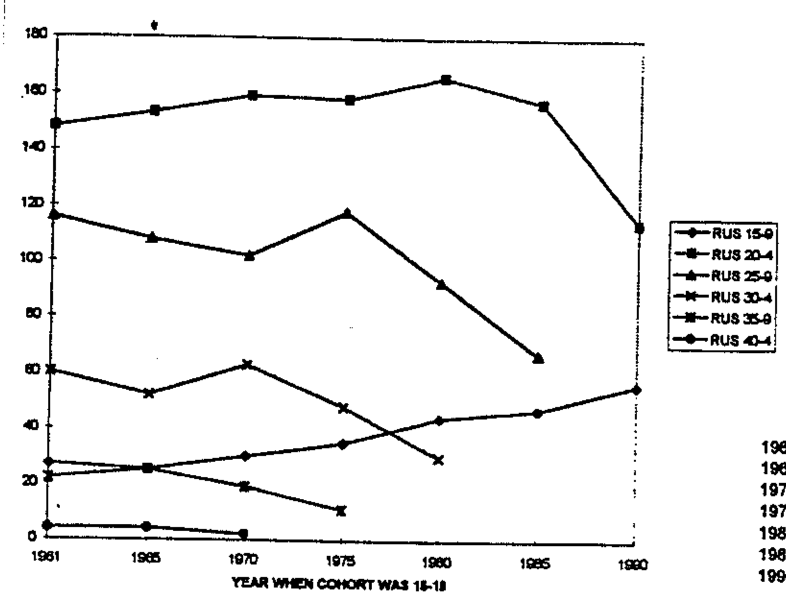
2.3.1. Eastern European cohort profiles: three contrasting cases

The common feature of Eastern European fertility patterns is that they still have their highest fertility in the age group 20-24. This is, of course, connected to their earlier ages at marriage. However, for the younger cohorts these fertility rates have started to fall, and the same has also happened with fertility in the age group 25-29. The timing of this phenomenon is quite different from country to country. In Bulgaria or the Czech Republic, for instance, these declines started with the cohorts reaching adulthood in the mid-1970s, whereas in the Russian Federation or Lithuania they started only with the cohort reaching adulthood in the 1980s. Moreover, older cohorts were still reducing fertility above age 30 as well, and only in a few countries (e.g. Slovenia, Croatia) are there signs of a trend reversal. Hence, many Eastern European countries are now fully moving to the second phase of the fertility transition characterized by postponement, but not many have reached the stage with recuperation at older ages. The younger postponing cohorts have not yet reached the age of 30, and it is too early to assess whether some recuperation will take place.

This general account can be documented with the cohort fertility profiles for the Russian Federation, Bulgaria and Slovenia. The data for Russia in Figure 5 clearly show that each new cohort reached higher levels of fertility at ages 20-24, but that the last one (i.e. reaching adulthood around 1990) exhibits a major break with this trend. Two other features draw attention in the Russian Federation. Firstly, each successive cohort has exhibited higher levels of teenage fertility, with a rate for the last cohort double that of the cohort reaching adulthood in the early 1960s. Secondly, there is a period peak in fertility in the mid-1980s exhibited by most cohorts. This corresponds to the policy formulated in 1981 granting the equivalent to 30 to 60 percent of the average salary at each new birth, access to very favorable loan conditions and to a maternity leave of up to one year with partial salary (only 20%) and even longer without remuneration. The effect was typically only temporary and produced above replacement PTFRs for the next seven years (1983-1989) (cf. Avdeev and Monnier, 1994). During the 1990s these cohorts had reached their desired family size, and from then onward the postponement effect among young cohorts starts driving down the PTFR to record low levels. It should also be pointed out that the Russian parity distribution has a very small variance: few women remain childless and few progress beyond two children (Barkalov, 1999). This means that the older cohorts, who have essentially realized their one and two children families before 1990, have contributed decreasing fertility in the ages above 30 since that date.

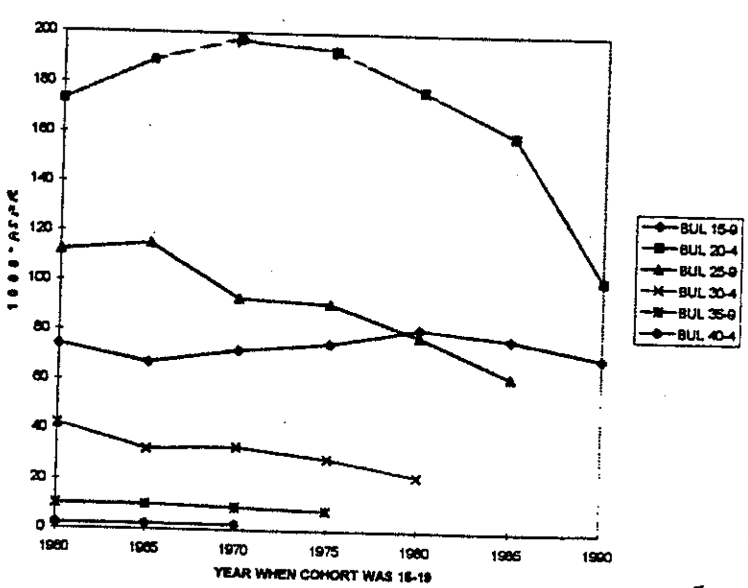
FIGURES 5,6,7

	RUS 15-9	RUS 20-4	RUS 25-9	RUS 30-4	RUS 35-9	RUS 40-4
1961	27	148	116	60	22	4
1965	25	153	108	52	25	4
1970	30	159	102	63	19	2
1975	35	158	118	48	11	
1980	44	166	93	30		
1985	47	157	67			
1990	56	114				



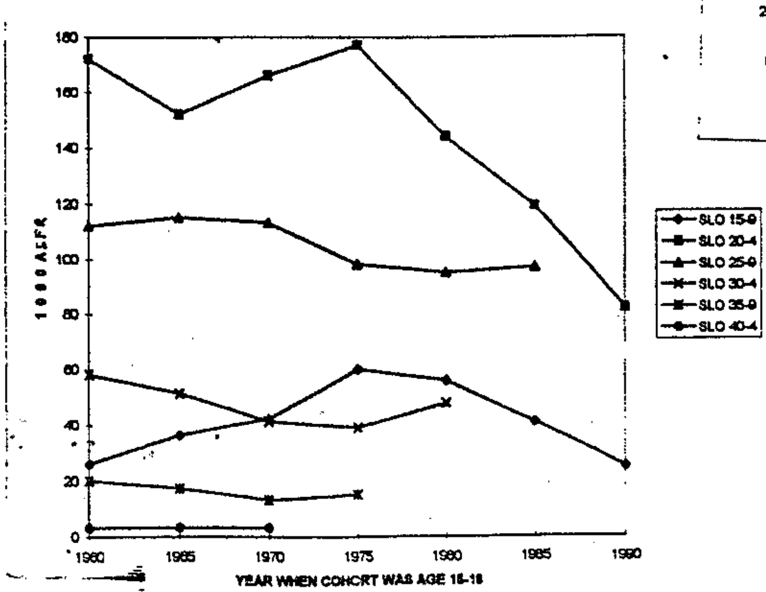
COHORT AGE SPECIFIC FERTILITY RATES : RUSSIAN FEDERATION

	BUL 15-9	BUL 20-4	BUL 25-9	BUL 30-4	BUL 35-9	BUL 40-4
1960	74	173	112	42	10	2
1965	67	189	115	32	10	2
1970	72	198	93	33	9	2
1975	75	193	91	29	8	
1980	81	177	78	22		
1985	77	159	62			
1990	70	101				



COHORT AGE SPECIFIC FERTILITY RATES : BULGARIA

	SLO 15-9	SLO 20-4	SLO 25-9	SLO 30-4	SLO 35-9	SLO 40-4
1960	28	172	112	58	20	3
1965	36	152	115	51	17	3
1970	42	166	113	41	13	3
1975	60	177	98	39	15	
1980	56	144	95	48		
1985	41	119	97			
1990	25	82				

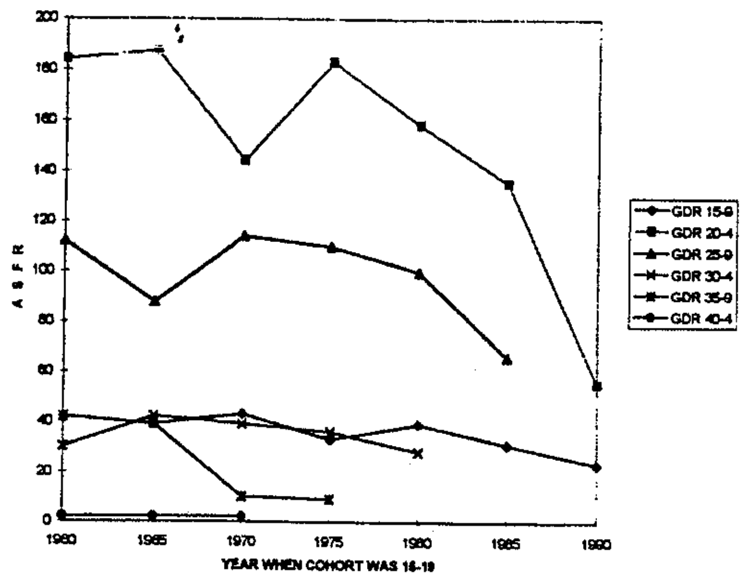


COHORT AGE SPECIFIC FERTILITY RATES : SLOVENIA

FIGURES 8,9,10,11

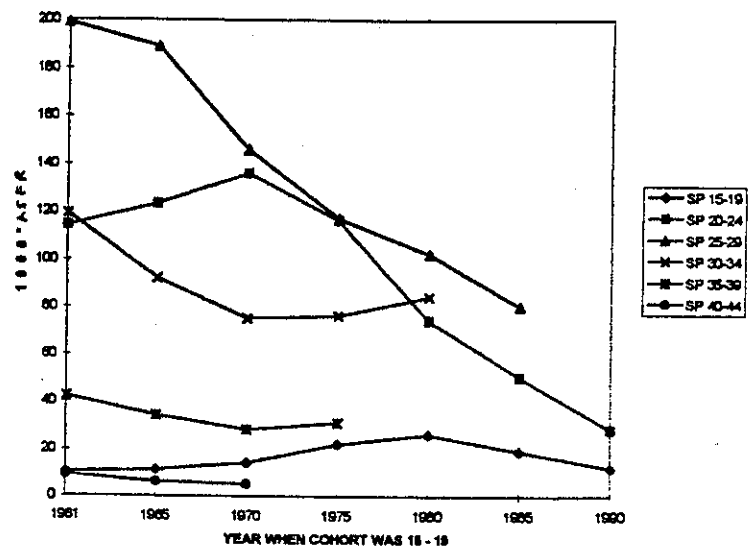
	GDR 15-9	GDR 20-4	GDR 25-9	GDR 30-4	GDR 35-9	GDR 40-4
1960	42	184	112	30	42	2
1965	39	187	88	42	39	2
1970	43	144	114	39	10	2
1975	33	183	110	36	9	
1980	39	158	100	28		
1985	31	135	66			
1990	23	55				

COHORT AGE SPECIFIC FERTILITY RATES : GERMANY (ex GDR)



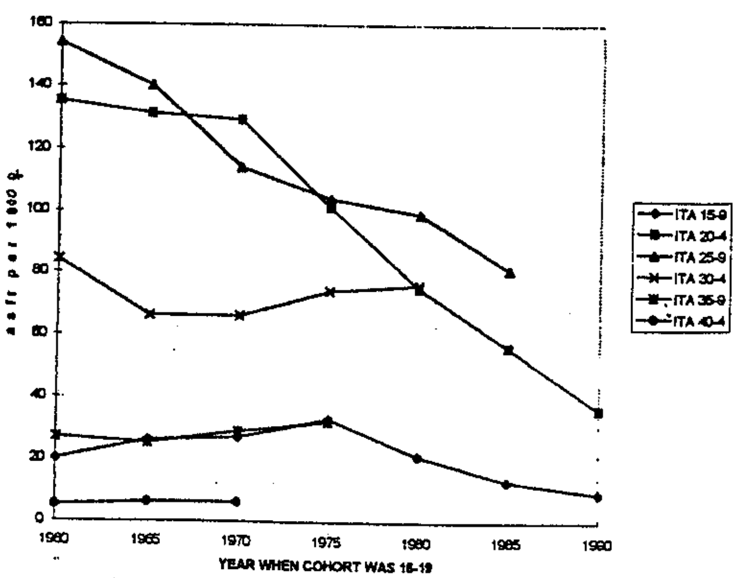
	SP 15-19	SP 20-24	SP 25-29	SP 30-34	SP 35-39	SP 40-44
1961	10	114	199	119	42	9
1965	11	123	189	92	34	6
1970	14	136	146	75	28	5
1975	22	116	117	76	31	
1980	26	74	102	84		
1985	19	50	80			
1990	12	28				

COHORT AGE SPECIFIC FERTILITY RATES : SPAIN



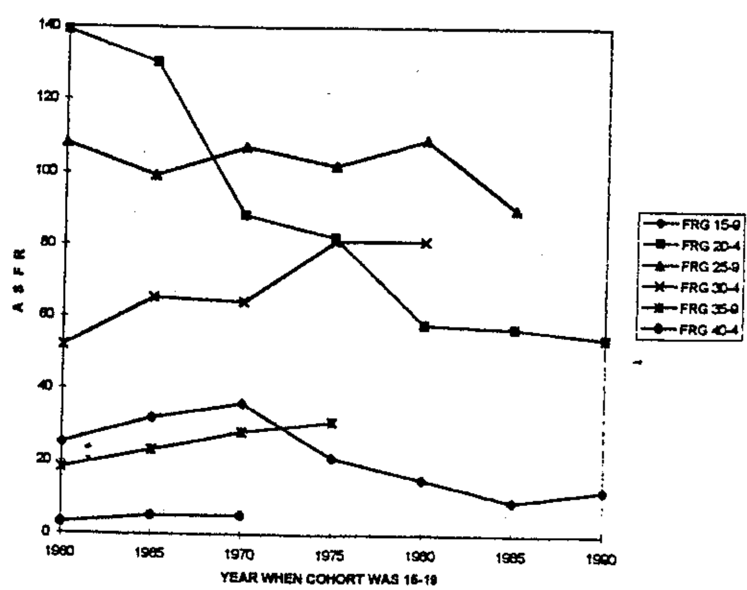
	ITA 15-9	ITA 20-4	ITA 25-9	ITA 30-4	ITA 35-9	ITA 40-4
1960	20	135	154	84	27	5
1965	26	131	140	66	25	6
1970	27	129	114	66	29	6
1975	33	101	104	74	32	
1980	21	75	99	76		
1985	13	56	81			
1990	9	36				

COHORT AGE SPECIFIC FERTILITY RATES : ITALY



	FRG 15-9	FRG 20-4	FRG 25-9	FRG 30-4	FRG 35-9	FRG 40-4
1960	25	139	108	52	18	3
1965	32	130	99	65	23	5
1970	36	88	107	64	28	5
1975	21	82	102	81	31	
1980	15	58	109	81		
1985	9	57	90			
1990	12	54				

COHORT AGE SPECIFIC FERTILITY RATES / GERMANY (ex FRG)



The Bulgarian cohort profiles on Figure 6 show that declining fertility at younger ages started much earlier than in the Russian Federation. The turning point is marked by the cohort reaching adulthood in 1975, which is 10 years earlier than in Russia. However, despite this early development, there has been no recuperation at older ages by the initiators of lower fertility prior to age 30. Equally noteworthy for Bulgaria is the high teenage fertility level (around 80), and after an initial rise, there is only a very modest reduction exhibited by the two most recent cohorts.

The Slovenian pattern of Figure 7 shows the same early pattern of declining fertility in the age group 20-24 as in Bulgaria, but the level at ages 25-29 is more stable and the starters of the decline below age 25 now show modest signs of recuperation after age 30. As indicated before, this feature is still exceptional for Eastern Europe. Also the reduction in teenage fertility in Slovenia is more pronounced. Perhaps not surprisingly, Slovenia and Croatia are producing a fertility pattern that approaches that of western countries: fertility is becoming higher at ages 25-29 than in the age group 20-24 and it is rising after age 30.

2.3.2. Record low: former East Germany

The cohort age-specific fertility rates for the "Neue Länder" or the ex-GDR are shown in Figure 8. As is well known, the PTFR for this area was barely 0.95 in 1996, which is not even half the level required for replacement. This extremely low level is produced by the very steeply declining fertility of the cohort that reached adulthood in 1990. At ages 20-24, this cohort has less than half the fertility level of its immediate predecessors reaching adulthood five years earlier. And the latter cohort has also much lower fertility at ages 25-29 than the cohort reaching this age group five years before. We may of course be witnessing a major period effect associated with the first years of German unification rather than a firm trend, especially since large period effects have occurred earlier in the GDRs demographic history. As figure 8 illustrates, there had been such a strong period dip exhibited by the older cohorts during the years 1972-1975. This dip was the unintended effect of an abortion liberalization in 1972, but this was corrected in 1976 by a set of pronatalist measures involving a prolongation of maternity leave and a more substantial paid leave of up to one year for working mothers with at least two children (cf. Büttner & Lutz, 1990). From 1997 onward, fertility in the GDR followed a more normal course until the steep drop at the start of the 1990s (cf. Conrad et al., 1996). At present, the PTFR is rising again from an overall low of 0.77 in 1993, and it could be exceeding unity again before 2000.

2.3.3. More cases with PTFRs below 1.5 children: Spain, Italy and West Germany (ex FRG)

The PTFR fell below 1.5 in the mid-1970s in West Germany, in 1985 in Italy and in 1988 in Spain, and in all three countries it continued its decline to even lower levels until the mid-1990s. Spain and Italy, furthermore, contain regions with PTFR-levels below 1.0 as well. The cohort fertility patterns for the two Mediterranean countries are shown in Figures 9 and 10. The striking feature in both countries is the uninterrupted decline of fertility at ages 20-24 and 25-29 exhibited by all cohorts since the one that reached adulthood in 1975. In both Spain and Italy, the fertility rate at ages 20-24 for the cohort reaching adulthood in 1985 is only one quarter that of its predecessors who were 15-19 in 1970, and at ages 25-29 fertility was reduced by about 50 percent when comparing the same cohorts. This massive postponement effect has not been matched by any sizeable recuperation after age 30, and unless this pattern changes in the very near future, cohort total fertility rates (CTFRs) are bound to follow this steep downward trend. In other words, even if there is an end to postponement - which is likely given that fertility below 30 can hardly decline much below the current levels - not much of a fertility rise is to be expected in the absence of such weak recuperation. A number of reasons have been advanced to account for the rapid fall of fertility before age 30 in Italy and Spain:

* large increases in female participation in advanced education;

* high youth unemployment levels and rapidly increasing real estate prices and rents that prevented young adults setting up independent households and fostered very late home leaving instead;

* very low levels of premarital cohabitation causing parenthood to be postponed until after a marriage;

* high material consumption aspirations that can also be supported by prolonged staying in the parental home;

* a need for prolonged freedom, especially but not solely for women, before marriage imposes the more traditional gender roles.

However, in view of this multiplicity of reasons given for postponement, the literature is remarkably silent on the reasons for the minimal recuperation after age 30 so far.

The West German pattern of low fertility is, as indicated, of longer standing than the Mediterranean one, but it too was caused by a steep drop in fertility at ages 20-24 as shown in Figure 11. However, fertility at ages 25-29 was more stable until very recently when a new drop was recorded for the cohort reaching adulthood in 1985. After the lowest point reached by the PTFR in 1985 (1.28), the West German overall period fertility indicator had a modest rise again to about 1.4 thanks to some recuperation after age 30. However, if fertility at ages 25-29 continues to fall, more recuperation at later ages will be needed to maintain the PTFR at a level, which is still below 1.5 children. A restoration to higher levels, of say 1.6 or 1.7, would not only require the end of postponement but also a more sizeable recuperation effect as well. If this is not occurring, the inevitable convergence of CTFRs to the low PTFRs witnessed since 1975 will take place.

To sum up, there has been no shortage of reasons to explain postponement, but as these three cases illustrate, recuperation is the key issue, and the demographic literature has been remarkably silent on accounting for the lack of it.

2.3.1.4. The Low Countries: holding the middle ground but quite dissimilar

Belgium and the Netherlands have had PTFRs between 1.5 and 1.6 ever since the early 1980s, and these values have not diverged more than 0.1 children since 1975. Yet, they have very different patterns: the Netherlands have the latest fertility schedule of the west, and the mean age at first childbearing has reached 29 years, whereas Belgium has, at least for a western country, an earlier pattern of starting procreation despite later home leaving. The Dutch pattern implies a long period of independence for young adults characterized by single living or premarital cohabitation without children. This long "interim-period" is in fact state subsidized by the Dutch system of high scholarships, low tuition and free transportation for students. In Belgium, there is a distinct Flemish and Walloon pattern, despite the uniform policy context, with the Flemish typically leaving home only after completion of studies and moving into marriage with postponed parenthood, and the Walloons moving in larger numbers into premarital cohabitation and parenthood before marriage.[8]

The differences between the two Low Countries also show up in the cohort fertility profiles in Figures 12 and 13. In the Netherlands, all fertility rates before age 30 have continued to decline starting with the cohort reaching adulthood in the early 1960s, and fertility at ages 20-24 is now lower than at age 35-39. In Belgium, by contrast, the fertility rate of the age group 25-29 has remained remarkably constant till now, and fertility at ages 20-24 is still a multiple of that at ages 35-39. The reason for the strikingly parallel evolution of the PTFRs in both countries is that the Dutch have had a large amount of recuperation of fertility between ages 30 and 40 which neutralized the marked postponement effect, whereas the Belgians have had less postponement but also less recuperation.

To sum up, Dutch children born recently have, on average, the oldest parents of all industrialized nations, whereas Belgium has maintained its typical position close to the average of the European Union.

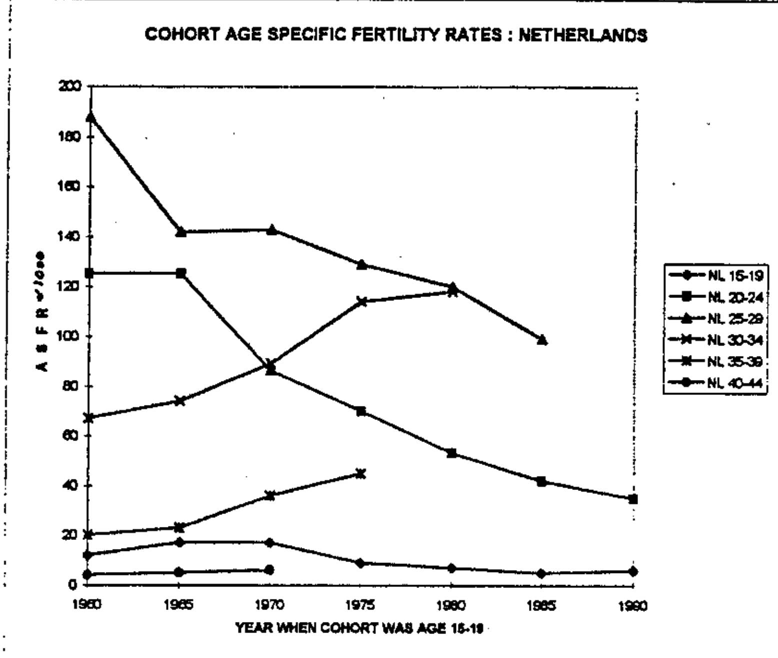
2.3.5. Another pair with identical PTFRs since 1970: France and the UK

Two countries with almost diametrically opposed family policies have been identical twins with respect to their overall fertility level for the last thirty years: in 1970, the PTFR was 2.47 in France and 2.45 in the UK, and in 1997 these values were identical at 1.71 in the two countries. The largest difference during the intermediate years was barely 0.12 children (in 1975). The cohort patterns presented in Figures 14 and 15 also show similar evolutions: an uninterrupted postponement effect starting with the cohort reaching adulthood in the mid-1960s, and an increasing recuperation effect after age 30 starting with the same cohort and sustained by later cohorts. This recuperation effect has been responsible for the relatively high PTFRs of these two countries within the European Union. The only major difference between them is the evolution of teenage fertility: in the UK teenage fertility has remained high by

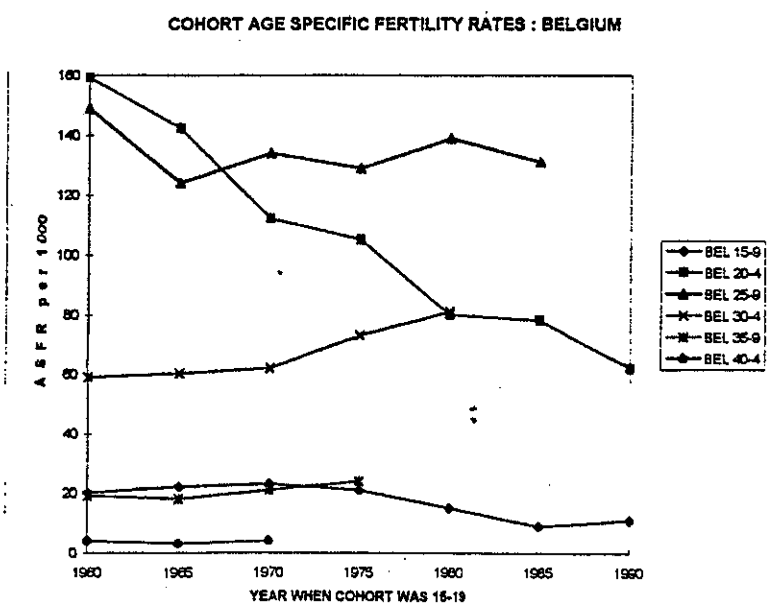
[8] For a detailed geography of the within Belgium contrasts, see Mérenne et al. (1997), especially maps 3.3 through 7.12. Also note that the Fertility and Family Survey (FFS) results for Belgium report on the Flemish pattern only and are not representative for the country as a whole.

FIGURES 12 AND 13

	NL 15-19	NL 20-24	NL 25-29	NL 30-34	NL 35-39	NL 40-44
1960	12	125	188	67	20	4
1965	17	125	142	74	23	5
1970	17	86	143	89	36	6
1975	9	70	129	114	45	
1980	7	53	120	118		
1985	5	42	99			
1990	6	35				



	BEL 15-9	BEL 20-4	BEL 25-9	BEL 30-4	BEL 35-9	BEL 40-4
1960	20	159	149	59	19	4
1965	22	142	124	60	18	3
1970	23	112	134	62	21	4
1975	21	105	129	73	24	
1980	15	80	139	81		
1985	9	78	131			
1990	11	62				



European standards (currently 30 births per 1000 women), whereas in France it has fallen well below 10. Fertility in the next age group has also fallen more steeply in France starting with the cohort reaching adulthood in 1985, but this has been compensated by slightly higher French fertility after age 25. The postponement effect has not yet come to an end as indicated by more recent drops of fertility at ages 25-29, and for these two countries too the question is whether sufficient recuperation increments will be added by cohorts now reaching age 30 to prevent PTFRs declining below the 1.70 level.

2.3.6. The Scandinavian experience

As indicated before, Sweden had a remarkable PTFR increase in the late 1980s that brought fertility back to replacement level in 1990 (PTFR=2.14). After 1993 a swift decline occurred again to the level of 1.53 in 1997. Denmark on the other hand had a sustained but slower PTFR rise from 1.45 in 1985 to 1.81 in 1995, but here too the rise seems to lose momentum thereafter. In neither case has there been an end to postponement: fertility prior age 25 shows a steady decline for each successive cohort (Figures 16 and 17). However, fertility at ages 25-29 has remained stable, and there has been a firm recuperation effect at older ages and even after age 35. It is this recuperation that brought back the Danish PTFR to the 1.80 level in the mid-1990s. The same applies to Finland and Norway as well. In fact in these three countries the fertility rates for ages 30-34 and 35-39 almost doubled by 1997 compared to what they were in the late 1970s.

In Sweden, the pattern has been strongly distorted by the period effect associated with the extra prolongation of paid (75%) parental leave: the bulge is clearly visible in Figure 16 for all cohorts at the same time. Now that many Swedish couples have had two closely spaced births by merging two periods of parental leave of 65 weeks each (Gautier, 1996) into one very long leave of about two and a half years, many have also completed their desired family size a little earlier. In this way, fertility for the later 1990s is equally distorted but in the opposite direction. The youngest cohort, reaching adulthood after 1990, may continue the overall postponement trend, so that Swedish fertility may remain depressed for somewhat longer.

On the whole, Scandinavian fertility has been able to rise to the top of European levels mainly as a result of little loss at ages 25-29 so far and because of a strong recuperation effect at ages 30-34 and 35-39.

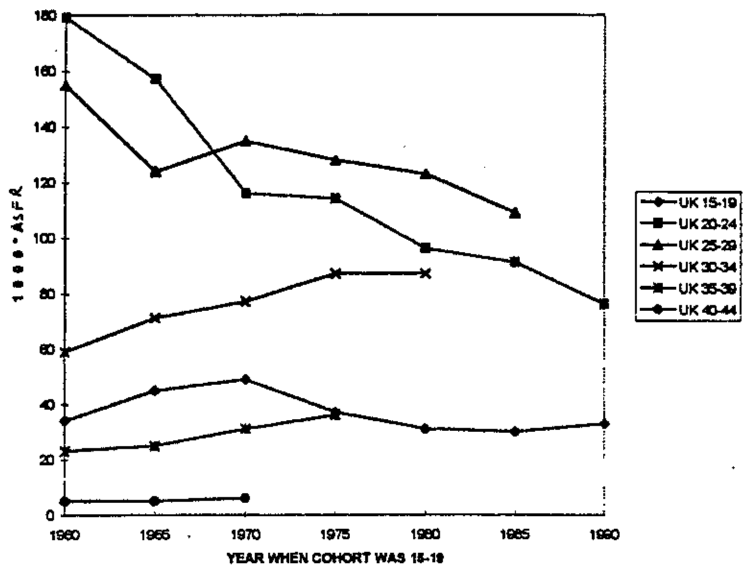
2.3.7. Two classics and one anomaly: Australia, Japan and the US

The cohort patterns of fertility for Australia and Japan are shown in Figures 18 and 19. These two countries exhibit the classic western pattern of declining fertility at ages 20-24 and 25-29 and a recuperation effect after age 30. Australia, however, has still maintained high teenage fertility, whereas Japan has one of the lowest levels in the world. Fertility at ages 20-24 in Japan has dropped more considerably and, starting with the cohort reaching adulthood in 1980, fertility at ages 25-29 has also resumed a steeper downward trend. The consequence is that the Australian PTFR is

FIGURES 14 AND 15

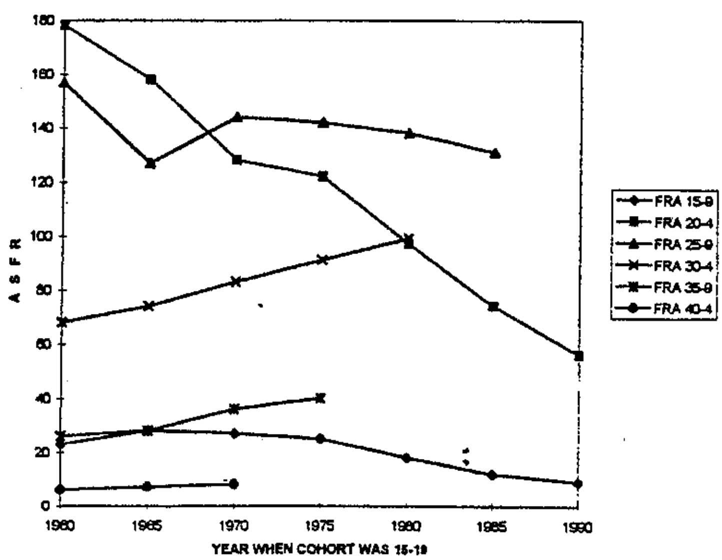
	UK 15-19	UK 20-24	UK 25-29	UK 30-34	UK 35-39	UK 40-44
1960	34	179	155	59	23	5
1965	45	157	124	71	25	5
1970	49	116	135	77	31	6
1975	37	114	128	87	36	
1980	31	96	123	87		
1985	30	91	109			
1990	33	76				

COHORT AGE SPECIFIC FERTILITY RATES : UNITED KINGDOM



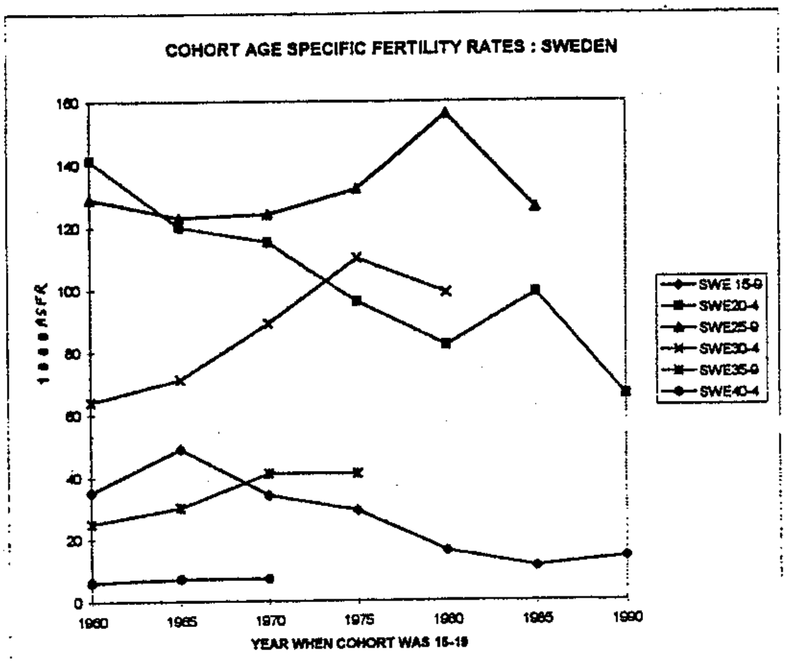
	FRA 15-9	FRA 20-4	FRA 25-9	FRA 30-4	FRA 35-9	FRA 40-4
1960	23	178	157	68	26	6
1965	28	158	127	74	28	7
1970	27	128	144	83	36	8
1975	25	122	142	91	40	
1980	18	97	138	99		
1985	12	74	131			
1990	9	56				

COHORT AGE SPECIFIC FERTILITY RATES : FRANCE

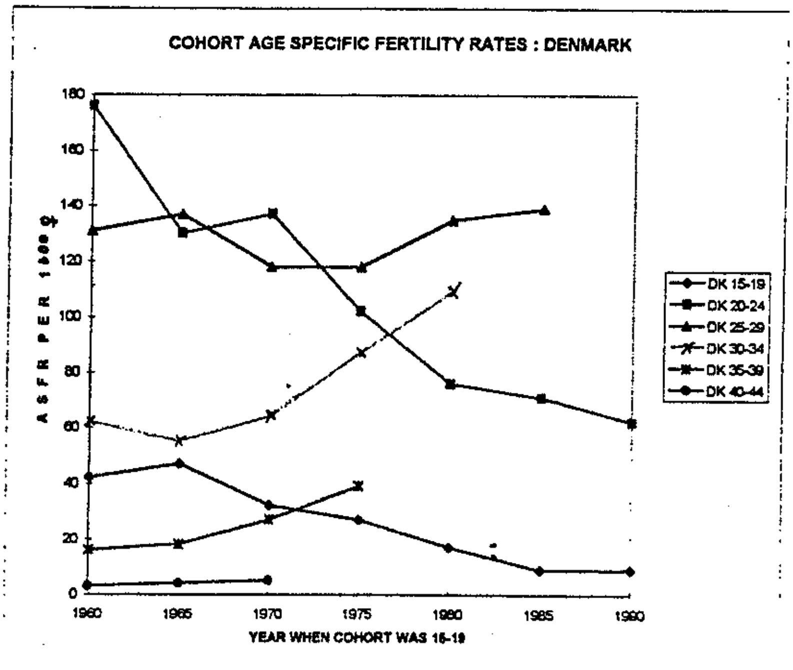


FIGURES 16 AND 17

	SWE 15-9	SWE20-4	SWE25-9	SWE30-4	SWE35-9	SWE40-4
1960	35	141	129	64	25	6
1965	49	120	123	71	30	7
1970	34	115	124	89	41	7
1975	29	96	132	110	41	
1980	16	82	156	99		
1985	11	99	126			
1990	14	66				



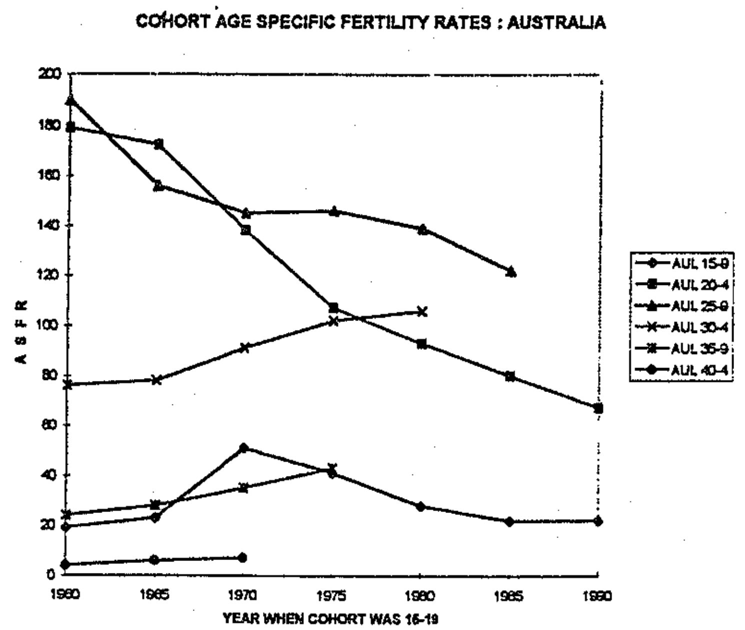
	DK 15-19	DK 20-24	DK 25-29	DK 30-34	DK 35-39	DK 40-44
1960	42	176	131	62	16	3
1965	47	130	137	55	18	4
1970	32	137	118	64	27	5
1975	27	102	118	87	39	
1980	17	76	135	109		
1985	9	71	139			
1990	9	62				

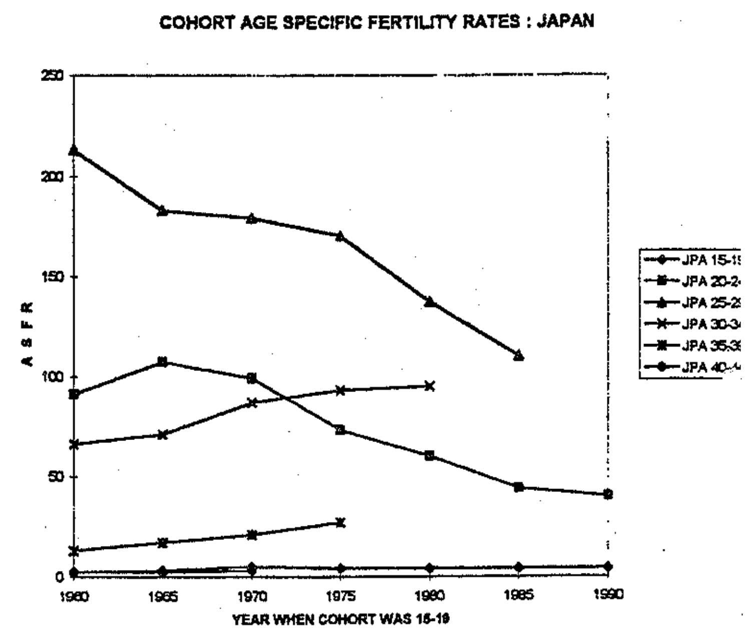


FIGURES 18,19,20

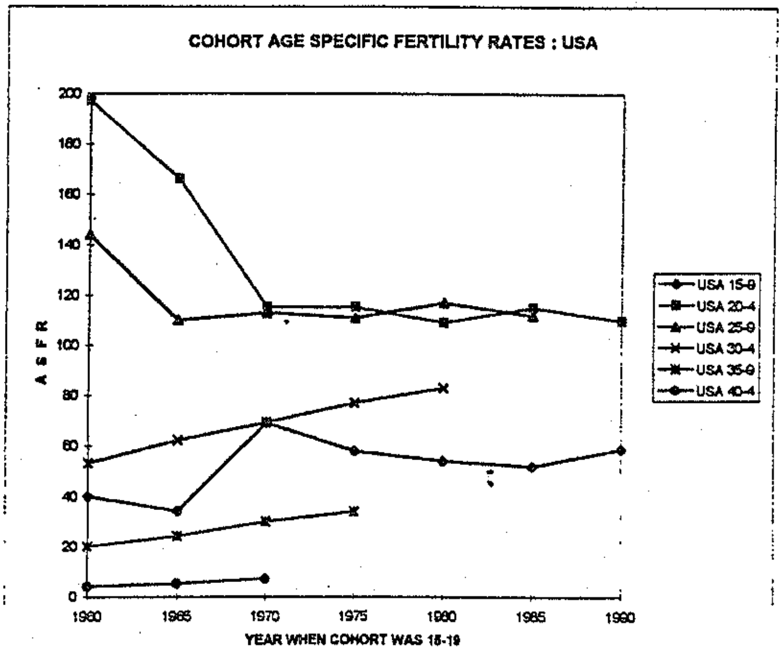
	AUL 15-9	AUL 20-4	AUL 25-9	AUL 30-4	AUL 35-9	AUL 40-4
1960	19	179	190	76	24	4
1965	23	172	156	78	28	6
1970	51	138	145	91	35	7
1975	41	107	146	102	43	
1980	28	93	139	106		
1985	22	80	122			
1990	22	67				

	JPA 15-19	JPA 20-24	JPA 25-29	JPA 30-34	JPA 35-39	JPA 40-44
1960	2	91	213	66	13	2
1965	3	107	183	71	17	2
1970	5	99	179	87	21	3
1975	4	73	170	93	27	
1980	4	60	137	95		
1985	4	44	110			
1990	4	40				





	USA 15-9	USA 20-4	USA 25-9	USA 30-4	USA 35-9	USA 40-4
1960	40	197	144	53	20	4
1965	34	166	110	62	24	5
1970	69	115	113	69	30	7
1975	58	115	111	77	34	
1980	54	109	117	83		
1985	52	115	112			
1990	59	110				



still above 1.70 in the 1990s, whereas the recuperation effect is too weak in Japan to have prevented a new drop below the 1.50 level.

The US by contrast is anomalous in more than one respect (cf. Figure 20). Firstly, teenage fertility has remained very high, and is in fact as high for the cohort reaching adulthood in the early 1990s as it was for the cohort reaching adulthood twenty years earlier. Secondly, there has been no decline in fertility at ages 20-24 and 25-29 ever since the cohorts reaching adulthood in the late 1960s and early 1970s. Thirdly, there have been steady rises in fertility after age 30 and even after age 35. In short, the US has had hardly any postponement of fertility since the 1970s, and rises after age 30 have brought the PTFR back to replacement level in 1990. This overall picture hides very striking fertility patterns by level of education: women who have not completed full secondary education still had peak fertility between ages 18 and 20 in 1985-89, as was also true 20 years earlier, whereas women with full college education exhibit the typical tempo shift to older ages (cf. Rindfuss et al., 1996). Also women with full secondary education but without completed higher education have maintained a very young pattern by western standards, with modal fertility at ages 21-23 in 1985-89, as in 1965-69 (ibidem). Hence, American fertility has not slipped to Western European or Japanese levels mainly because women in the lower and middle education groups have not followed the tempo shift of better educated women to the same degree. In other words, it seems that fertility patterns in the US are more segmented by female education (and presumably also by social class) than in many other western industrialized countries, where women with less education have more strongly imitated the trend set by those with higher education and have contributed more to the overall tempo shift.

2.4. Conclusions with respect to fertility postponement and recuperation

The present analysis shows that the feature of fertility postponement to older ages is indeed a major characteristic of the "second demographic transition". However, countries are currently located at different stages of the process. In many Eastern European countries, the tempo shift has started only recently (e.g. Russia, Poland, Lithuania, Czech Republic, Hungary) and low fertility has been reached mainly as a result of quantum declines rather than as a consequence of overall postponement. In some others, the western pattern is followed more closely (e.g. Slovenia, Croatia) or postponement started to manifest itself earlier (e.g. Bulgaria). As postponement progresses in Eastern Europe, most countries are likely to maintain very low fertility levels (often below 1.5) for at least another decade into the 21st Century.

The western European countries, joined by Japan, have all progressed much further along the postponement trend, but they split into a group with relatively strong recuperation of fertility after age 30 and a group with inadequate recuperation. The Scandinavian countries, but also the UK and France so far, have been able to maintain or to reach PTFRs above 1.70 as a result of stronger recuperation, whereas the Mediterranean countries such as Italy and Spain exhibit very weak recuperation. Insufficient recuperation is also noted for several other Western European countries such as Belgium, Germany (ex FRG) or Switzerland. Recuperation has been more pronounced in the Netherlands, but has been hardly enough to offset the largest postponement effect of all.

The three anomalies are clearly Sweden, the former GDR and the US. In Sweden and the GDR strong period effects have distorted the normal course of the evolution, but the US stands out in the western context by its maintenance of an early fertility pattern, which itself is produced mainly by the lower and middle education strata.

If anything, this analysis has drawn attention to the importance of the recuperation effect, i.e. to fertility at later ages. At present, we have several partial explanations that account for postponement of fertility, but the issue of highly varying degrees of recuperation has hardly been addressed. Why have Danish or Finnish couples, for instance, made up at older ages for fertility foregone at younger ages, whereas Italian or Spanish couples have failed to do so? Undoubtedly some answers lie in the living and working conditions during the later stage of the life cycle, but a comparative study on the determinants of differential fertility recuperation is still missing. [9]

2.5. Teenage fertility, abortion and non-marital fertility

The topics of teenage parenthood, induced abortion and extra-marital fertility warrant further attention since they are associated with other major social problems such as school drop out, early lone motherhood, children in poverty, continued union instability later in life, or the spread of sexually transmitted diseases. The position of industrialized countries with respect to teenage fertility, non-marital births and abortion is shown in Figures 21 and 22 for the years 1996-97

The plot of abortions per 100 live births against the teenage fertility rate (age group 15-19) shows that the majority of western countries have abortion figures of less than 30 per 100 live births. However, with current standards of contraceptive effectiveness, this figure should come down to 15 and even to less than 10 induced abortions per 100 live births. Measured against this standard, an improvement in contraceptive use-effectiveness is still indicated for countries such as Japan, Austria, Denmark, France, Finland, the former GDR, Italy, Norway, Sweden, the UK, Canada, the USA and Australia who still have abortion figures between 20 and 40 per 100 live births. Western countries are, however, far more heterogeneous with respect to the magnitude of teenage fertility, with particularly the "Anglosaxon" nations such as the UK, Canada, New Zealand and the USA scoring abnormally high on this variable.

The story for Eastern European countries is very different: many of them combine high abortion figures with high teenage fertility. Slovenia, Croatia, the Czech Republic and Poland still limit the damage, but virtually all others plotted on Figure 21 have outcomes that are far more problematic. Admittedly, the historical earlier ages at marriage in Eastern Europe partially account for higher fertility prior to age

[9] In this respect one could explore the hypothesis that weak recuperation countries have developped either a high acceptability of childlessness or of one child-families, whereas the strong recuperation cases have a historical pattern favouring progression to a second child. The variance of the cohort parity distributions may then provide further clues.