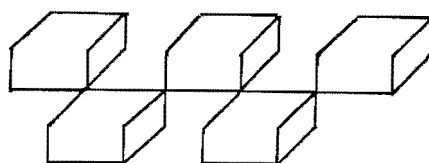WORKING PAPERS

# DEMOGRAPHIC RECRUITMENT IN EUROPE: AN EXPLORATION OF ALTERNATIVE SCENARIOS AND POLICIES

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## 1. Introduction

The subject of this paper is the issue of demographic recruitment via reproduction and/or immigration in the context of preoccupations of an economic, social, political and even moral nature. Consequently, the product is naïvely wide in scope and shallow in the treatment of the subject matter. Furthermore, it is unscientific in the sense that it incorporates imponderabilia and also considers ideological preoccupations. Yet, there is a canvas to be painted and it may not harm to take a more general view than that produced by subject specialists.

I shall start by stereotyping a set of alternatives which not only emerge among the European public and in political forums, but also - be it in different forms - in academic circles. The arguments underscoring these views are subsequently confronted with scraps of empirical evidence. Soon we shall see that <u>all</u> options, irrespective of whether they are pro-natalist or anti-natalist, pro-immigration or contra-immigration, are based on a mixture of unverifiable propositions and fragmentary evidence. Of course, this does not imply that mere beliefs are to be taken as the sole basis for action. Instead, we wish to indicate that "objective" empirical information is and will remain inadequate for charting future avenues, while at the same time being an indispensable cure against a normative overdose.

I propose to discuss the following scenarios and to digest useful elements from them for a conclusion:
      i) the "beneficial demographic bust";
     ii) the multi-ethnic correction;
    iii) the glasnost scenario;
     iv) the yoyo-theory of cyclical fertility adjustment;
      v) the stationary population fixation.
This is followed by a discussion of recent policy research on the issue of the presumed effectiveness of pro-natalist measures in Western Europe. The paper concludes with a set of policy suggestions, given that the demographic and economic future contains of necessity a substantial number of uncertainties.

## 2. The "beneficial demographic bust"

In this script subreplacement fertility and ensuing negative population growth are intrinsically welcomed for Western Europe. This demographic trend is not merely viewed as a part of a cyclical evolution, but as a long term development.

The arguments in favour of the "beneficial demographic bust" stem from a variety of preoccupations. These are of a technological, economic, social and ecological nature. As is often the case with multiple arguments, they are not necessarily mutually consistent.

Let us consider the economic and technological arguments first. One train of thought is pessimistic in nature and goes back to the social trauma of the industrial revolution of the previous century. It fears that demographic growth accerbates the degree of unemployment caused by technological innovation. Its popular ring was clearly heard in Western Europe during the 1975-85 decade since increasing unemployment occurred in tandem with the overhaul of traditional industries in a number of OECD countries. It is readily forgotten during the subsequent phase when new technologies open up new opportunities. In academic circles, the thesis that demographic growth leads to social problems took the form of the "crowding hypothesis" (see R. Easterlin, 1968, for instance). It posits that large cohorts are disadvantaged - quite independently from technological change - and conversely that small cohorts can expect better opportunities over their entire life-span. Hence, there is nothing wrong when net-reproduction rates dip below unity and stay there for a few decades. Furthermore, the ageing effect that it entails has nothing catastrophic about it since increasing social expenditure for the old is offset by decreases in expenditures destined for the young. In Easterlin's (1988) typification: Europeans are making mountains out of molehills (for more elaborate arguments in the same direction, see also R. Holzmann, 1987; and for a much more balanced picture, see C. Gillion, 1988).

Some research is available for judging the validity of the crowding hypothesis. In a recent paper by Bloom and Freeman (1986), reviewing 18 articles, a case is made in favour of it: the labour market entry of large cohorts depressed opportunities both in terms of earnings or employment. All 18 studies reviewed found a negative effect on earnings, and 6 out of the 9 dealing with employment found a negative effect as well (see also M. Riboud, 1987). However, Bloom and Freeman identify a corrective "catching up" effect, thereby confirming earlier results (Welsh, 1979; Tan and Ward, 1985; Dooley, 1985), but contradicting results by Berger (1985). An OECD-study concerning youth unemployment in 10 member-states provided a more mixed picture than the one offered by the largely American survey by Bloom and Freeman. For France, M. Riboud (1987) finds no support for the crowding hypothesis at all. She offers several non-demographic alternative explanations instead.

Such mixed results point in the direction of major confounding factors. One of these could be the nature of promotion systems, as suggested in a theoretical paper by W.B. Arthur (1983). In a seniority based system, a crowding effect is most likely, especially for the cohort that follows the crest of the demographic wave (blocking effect). By contrast, in a meritocratic system allowance is made for "leap-frogging" by members of younger cohorts over their predecessors. Leap-frogging is

induced by the technological vintage effect, and it is predicated, not only on personal abilities, but also on the general institutional adaptation of the education system, including' on-the-job training. We should add, however, that intra-cohort and education-related differentials are highly likely to occur. Catching up is selective. Riboud's argumentation goes in the same direction as she sees a direct link between the steepness of the earnings profile and the prevalence of on-the-job training. In short, in a setting that is responsive to rapid technological change, differential socialization and adaptability are key factors with important institutional roots. Unfortunately the precise measurement of such overriding effects proved difficult since most "crowding studies" do not disaggregate by sector, type of employment or along the lines of promotion systems. Furthermore, much of the literature on crowding pays inadequate attention to the continued growth of female employment during the 1975-85 decade, i.e. occurring in tandem with the arrival on the labour market of the first baby-boom members. The decline in youth unemployment after 1985 is matched by the arrival of the rest of the demographic wave, which is equally unsupportive of a straight demographic crowding effect. If confounding factors matter as much as they did during the 1970s and 1980s, then, mutatis mutandis, one should not expect much of a "de-crowding" effect for the 1990s. Admittedly, the confounding factors in the near future may be of a different nature compared to those operating before, but there is little guarantee that the baby bust cohorts are in for some cohort-size related bonanza. This point is strongly argued by S. Nickell (1988) on the basis of a model that studies the hysteresis effects in price and wage settings arising from short run capacity constraints on the price side and insider power on the wage side. Data for 14 OECD-countries show that there is no systematic cross-national effect of the growth rate of the working age population on the rate of unemployment. His conclusion is that any attempt to mitigate the problem of unemployment by reducing the supply of labour would constitute a mistaken policy. Quite simply, we have nothing to gain (but a lot to lose) from sending women back home and from advocating further anti-natalism and from turning away immigrants with suitable qualifications. Here, we reach a crucial point: there are three ways of recruting a labour force and at first sight they are interchangable. It is very easy to reject one (on ideological grounds for instance) by pointing at the interchangability with and the advantages of the other two. But, such three-way musical chairs is of little help for more precise policy formulation. We shall therefore return to the degree of interchangability when discussing the other scenarios.

At this point we should conclude that changes in cohort size of the orders of magnitude witnessed in post-war Western Europe do not seem to have affected their respective opportunities to any significant degree. Too many non-demographic factors have mitigated a straight crowding. Negative population growth and further reductions in cohort size brought by steady sub-replacement fertility fall considerably short of guaranteeing better opportunities for the baby bust cohorts. Furthermore, if there has been a pervasive technological revolution in the last decade, its effect has mainly been noted in the form of sectorial shifts and labour displacement (see R. Lindley, 1987, for details), which permitted the growth of the female labour force as much as it caused frictional unemployment. One lesson we should retain, however, is that the quality of the labour force is of crucial importance in environments characterized by

technological evolution, which simply means that no mistakes can be afforded with respect to the socialization of the new labour vintages.

The other main argument in favour of continued low fertility (if not for an outright demographic implosion) stems from ecological considerations. This argument has, for very visible reasons, gained widespread popular support. But crucial distinctions should be made which are not always present in ecological "global" thinking. Linking the rise of environmental problems in Europe to population growth is like blaming rising per capita income for ecological degradation in the Sahel. Hence, for as long as the pollution/consumption link in Europe is not altered, negative demographic growth is merely a palliative. Furthermore, additional ageing caused by continued subreplacement fertility drains a larger share of public expenditure, and unless economic growth is accelerated, it may reduce the share of the expenditure needed to clean up the mess and to switch to environmentally less damaging technology. We can also not exclude that an ageing population could be more polluting as a result of reduced behavioural flexibility. More non-parents may imply less direct preoccupation with the fate of the next generation and more "après nous le déluge". Admittedly, this argument is one of these intractable mentality projections, but at least it draws a modicum of support from recent sociological values studies which show that there is a systematic positive association between dimensions of individualism (as opposed to public responsability) and weakened attachment to parenthood (see for instance Veevers, 1980; Felling et al., 1983; Harding et al., 1986; Lesthaeghe and Meekers, 1986; Halman et al., 1987; Lesthaeghe and Surkyn, 1988; Callens, 1989).

Last but not least, the demographic implosion scenario opens Pandora's box: it does not offer any suggestion concerning an optimal population size beyond which no further reductions are required. Even if such a point could ever be identified, the proponents of the demographic bust must sooner or later adopt pronatalist policies to bring fertility back to replacement level and to ensure subsequent zero population growth for the desired smaller European population.

3. The multi-ethnic correction

If demographic decline and concommittant ageing are unattractive, one can easily make use of immigration to fill the vacancies left by subreplacement fertility. Since LDC population growth will continue well into the 20th century (for the latest details, see P. Demeny, 1989), the immigration valve should be opened and Europe should follow other societies on the road to multi-ethnicity. After all, the distinguished sociologist Talcott Parsons considered such societies as the species that stands at the apex of societal evolution (1966) since it must develop sophisticated mechanisms of social integration and cohesion. Also economists commonly hold the view that such migration is beneficial for both sending and receiving countries. The former benefit from remittances and the latter from an injection of manpower.

A few caveats bring us closer to the mark. It is by now quite clear that the Parsonian vision of the US and the USSR as the only two sophisticated multi-ethnic social systems is overly idealistic. In the USSR we are witnessing a loosening of the building stones all over the territory, whereas the US news about the integration of the black community

is not exactly in line with the optimistic expectations (integration of the black community through "embourgeoisement") as formulated in the 1960s. Western Europe, on the other hand, has always lagged behind the typical immigration countries with respect to its valuation of other cultures as a result of its colonial past and its homogeneous cultural make up at home. It is currently struggling with the social integration of its NCWP, Maghreb and Turkish minorities into the urban fabric. As a result, the political willingness to start a similar experiment all over again is virtually nihil, even with respect to relatively wealthy and skilled immigrants who are accustomed to function in an advanced capitalist economy, such as the Hong Kong Chinese. One can easily argue that all this amounts to a misguided policy, but the political answer is almost invariably that the integration of the first wave has to be accomplished before a new wave can be absorbed. This amounts to a stop-and-go model of immigration, which, as we shall see, produces more demographic waves than it dampens.

The demographic caveat is of an entirely non-political nature. It corrects with mathematical precision the commonly held views that (i) an age-selective immigration policy can adjust any domestic age-structure irregularities, and (ii) can be used as an effective counter for ageing (Le Bras, 1971; Keyfitz, 1971; Pollard, 1973; Espenshade et al., 1982; Mitra, 1983; Espenshade, 1986; Blanchet, 1988). The hearth of the matter is that immigrants age as well while remaining in their adoptive country. Furthermore, they bring their realized and prospective fertility with them, and generally adopt fertility limitation (if not immediately, then with the next generation). Any population that reduces its fertility is subject to an ageing process, and the sum of two ageing populations is still an ageing population. Also the continuous influx of a large number of young immigrants, does little to correct this (it corrects for declining population size), since each flow grows older and restricts fertility in its turn. An example for the EC-12 illustrates this point (see Lesthaeghe et al., 1988, for details). If there is no immigration into the EC-12 from 1985 onward and under conditions of continued subreplacement fertility for Europeans (TFR = 1.65), the ratio of adult females (20-59) over elderly (60+) declines from 2.35 in 1985 to 1.49 in 2030. If the EC-12 experiences a constant inflow of young women set at a record high of 400,000 p.a., the adult/elderly ratio still falls from 2.35 to 1.90 in 2030 if immigrants and offspring reduce fertility to replacement level and to 1.88 if they dip below that level in 2010. In 2060, these ratios are 1.79 and 1.70 respectively.

The corrective for ageing is of course much more effective if immigrant fertility stays well above replacement level, but the outcome is a "displacement" scenario in which one population simply takes over from the other, without any guarantee for a multi-ethnic blending to occur. In fact, the long-term persistence of large fertility differentials between the two groups (Europeans and offspring versus immigrants and offspring) would precisely be indicative of a lack of cultural and behavioural convergence.

If the present adult/elderly ratio is to be fixed and migration adjusted accordingly, an exploding cycle of immigration and emigration (deportation?) waves results. Examples of such scenarios have been worked out by D. Blanchet (1988) for France. Blanchet furthermore shows that immigration outweighs emigration, since huge new waves are required to correct for the ageing of their predecessors. Under such circumstances,

the total population on the French territory would expand to 120 million in 2080. Hardly a feasible outcome.

The demographic caveat, as formulated thus far, deals with the recruitment of the population as a whole. If recruitment of the labour force is at issue, one can indeed envisage a highly age and skills selective immigration policy. But this implies a deportation or retraining system if particular segments of the labour force are saturated, and a systematic deportation at the age of retirement without accompanying social security benefits. In other words, a narrowly focussed labour force related policy deviates substantially from the "multi-ethnic" scenario and reduces to nothing else but a blunt guest-workers approach.

In a nutshell: the multi-ethnic society also experiences ageing if it is truly multi-ethnic, or it degenerates either into a take-over model with sustained fertility differentials, or a guest-worker system along the lines of the South African model of the 1950s and 60s. This, however, does not imply that the migration valve should remain shut. Immigration can fill a recruitment gap if the latter is not too large. The problem with the EC-12 (in contrast to the US) is that its current fertility level is too low and produces a gap which is simply beyond the means of a realistic immigration corrective. At total fertility rates of 1.80 to 1.90 instead of 1.65, the gap could be closed, but if foreign-born women and/or their daughters reduce their fertility to replacement level, the required annual migration stream eventually amounts to 20 percent of the annual birth stream (with a TFR of 1.60 for Europeans, the figure is 40 percent!). Hence, an immigration policy is only relevant if the ageing criterium is set aside and if it occurs in tandem with a pronatalist policy aimed at bringing domestic fertility closer to replacement level. And even then, immigration streams of 10 to 20 percent of the birth stream may still seem an overdose when considered from todays political angle. Recruitment through international migration is therefore only a very partial substitute for recruitment through fertility.

## 4. The glasnost scenario

In the narrow sense the glasnost scenario pertains to the immigration into the Federal Republic of Germany (FRG) of the 3.5 million ethnic Germans currently living in the Soviet Union, Romania and Poland. A considerable number of East-Germans could be added. In the broader sense, this scenario could also be extended to more Eastern European citizens moving to the West. In the latter sense, such an East-West migration resembles the international migration scenario as outlined in the previous section, except for the fact that cultural adjustments would pose less of a problem and that a sustained flow of Eastern Europeans would be politically more attractive, at least to Western European governments. Reactions in Eastern Europe are likely to be less enthusiastic, even if remittances would flow back.

The glasnost scenario in the narrow sense differs more profoundly from scenario 2, and not only because cultural differences are reduced. It differs because the immigration flow of ethnic Germans is a finite one. If exit permits are granted in the Eastern European countries concerned, it is likely that a single wave is produced with a typically young age composition, i.e. adults and accompanying children who are still young enough to start all over in a new environment. Their prospective fertility

contribution is, however, not likely to exceed that of the receiving population by a significant margin. These young immigrants are typically born during the 1960s and they swell the West German baby boom cohorts. If there is no crowding effect, these migrants could do well economically and the wave will at first contribute to the West German GNP. Thereafter it will add to the ageing wave.

The West German government has attempted to estimate the prospective benefits from the glasnost scenario. It is quite clear that the prospective tax revenue surpasses the social costs of integration. The contributions in social security payments during the first decade of the next century would rise by 20 to 30 billion D-mark. Unemployment among the immigrants is high to start with (39% for the 250.000 ethnic Germans entering in 1988), but by 2000, the FRG planning office expects a convergence to the overall German figure of about 8 percent. Apparently also employers are happy with their new employees. Finally the GNP-growth rate could increase to 2.8 or 3.0 percent against the projected 2.5 percent without this labour influx. In short, the glasnost scenario is likely to produce an economic windfall for the FRG and to relieve ethnic tension in non-German Eastern European countries. But, by the same token, it will aggravate the ageing problem after 2020 since the main demographic elements of an immigration corrective, i.e. a sustained flow and higher than replacement fertility for immigrants and offspring, are both absent. This is, of course, not an argument against such a migration movement, but merely a caveat against any simplistic short term presentation of the presumed benefits.

And the older ethnic Germans who decided that they could not start all over again? They will remain where they are with less direct support from the younger generation and they will constitute a smaller, possibly politically more vulnerable but definitely a much older minority in countries with low standards of living. For them, as for the Eastern European populations in general, domestic economic growth in tandem with glasnost seems far more attractive. This raises the question whether Western economic assistance contributing to raising Eastern standards of living would not be a far more feasible and equitable long term possibility than that in which the West simply reaps short run economic benefits from a single immigration wave. Moreover, large westbound migration streams could backfire politically since Eastern European nations may be forced to close their borders again and revert to stringent measures. In short, the glasnost process is a delicate political affair which can be disturbed by large emigration streams.

## 5. The "yoyo-theories" of cyclical fertility adjustment

"Yoyo-theories" are based on the notion that what comes down must also go up. They have a remarkable ring of truth, but the snag is their usual failure to predict the moment of trend reversal. This matters a great deal. A fertility increase in the 1990s would produce a larger youth segment during the two decades that follow, which coincides with a relatively low plateau of the ageing index. By contrast, a fertility rise after 2010 increases the dependency ratio much more since the ageing wave is taking off shortly thereafter.

The sociological version of the "yoyo theory" is based on observed trends in value research, which documents the patterning of shifts towards

individualism and its various domains which are all related to fertility
and nuptiality. Such domains are: religiosity and public morality, values
transmitted during the socialization phase, political values and trust in
institutions, strength of family commitments etc. (see for instance R.
Inglehart, 1977, 1985; D. Alwin, 1989; Lesthaeghe and Surkyn, 1988). So
far there has been a long term trend with deeper historical roots that
drives successive generations towards the claiming of greater individual
discretion at the detriment of respect for institutionalized forms of
public morality. This not only amounts to a sharper calculus of private
advantage along individualized scripts, but especially to a greater request
for legitimization of such action. The trends with respect to these
dimensions follow a strong cohort patterning, but there is a noticeable
period-cohort interaction effect in the sense that the postwar cohorts
(born 1945-1960) have progressed much faster than their predecessors.
Hence, the characteristics associated with the period of socialization
(i.e. at ages 5-20) have not been neutral. Of course, the trend may change
in favour of a more stable and more "traditional" meaning-giving
(ideational) system, which in its turn could lead to a fertility increase.
D. van de Kaa (1988), for instance, feels that such a turnaround is
imminent and that only pessimistic demographers fail to recognize this
possibility. However, this author offers no clues as to the more precise
timing of the trend reversal. On the pro-side, it should be recognized
that the cohorts socialized during the 1970s, i.e. in a period with reduced
economic opportunities, have progressed less on the various domain-specific
scales used in values research than those socialized during the "golden
sixties". However, they have not yet exhibited a reversal of trend, and it
is simply too early to conclude that such slower cohort progression is
either the prelude of a return of traditionalism or only a temporary
interruption of a firmly established shift toward individualism. The
expansion of higher education for instance, favours the latter possibility.

The other theory that predicts an imminent fertility rise for the
late 1980s and 1990s is Easterlin's (1961, 1968, 1976, 1980). At least,
Easterlin's work departs from the "yoyo-theory" in the sense that it offers
a well specified mechanism usable for the prediction of a trend reversal.
In a nutshell, Easterlin firstly recognizes an association between
fertility and the male intergenerational income ratio: socialization during
periods of reduced economic opportunities but career development during
more prosperous times can be captured through the ratio of the sons'
incomes relative to that of their fathers at a similar life cycle phase,
and this relative income ratio is positively related to fertility.
Secondly, the relative income ratio is a function of relative cohort size
(cf. the crowding hypothesis). As small cohorts are entering the labour
force in the coming decade, better opportunities are envisaged for them and
a fertility rise should be in the making. Hence, there is not much to
worry about.

But, there are firm counter-indications. First and foremost,
research on the female side of the problem (see for instance J. Blake as
early as 1968) points in the direction of huge opportunity costs of
childbearing associated with expanding female education and labour force
participation. Nothing seems to indicate that these costs are currently
being reduced. On the contrary, poverty and income distribution studies
indicate that the dual income households - even if part-time work is
involved - have weathered the economic recession of the 1975-85 decade far

better than single income households. B. Cantillon (1989) for instance calculated for Belgium that real household income would have declined by 12 percent in that decade if the labour force participation pattern <u>within</u> households would have remained constant at the 1975 figures. Not only was such a decline prevented, but also a small increase was observed as a consequence of the growth of dual-income households, which now constitute the modal category of households with partners in the reproductive age range in most EC-12 countries. As there is still room for greater and longer female labour force participation, even when the share of part-time work is expanding, I would not expect that the three-child family will become attractive enough to compensate for childlessness (still increasing) and one-child families. Period total fertility may of course increase as a result of catching up, provided that the rates at younger ages are stabilized, but the birth stream for the 1990s is not likely to be affected very much since higher fertility rates at the mean age of maternity are to be combined with a decreasing size of the female populations at risk. Of course, also the nature of the fertility - female labour force participation relationship may alter (see for instance J. Ermish, 1989, for the observation that the negative effect on fertility diminishes as duration in the labour force increases, or the claim made by Swedish authors such as S. Gustavsson (1988) and E. Bernhardt (1988) that the recent Swedish rise in period total fertility is consistent with the large share of part-timers among working women in combination with the Swedish welfare policies for working mothers.

Secondly, research on the Easterlin hypothesis that solely concentrates on the male side of the problem, has come up with highly mixed results. R.E. Wright's work (1989) performed on 16 Western European countries and studying the link between relative cohort size and period total fertility by means of the Granger causality test, shows a plethora of outcomes that are inconsistent with Easterlin and with the American baby boom experience. Wright notes that the conclusion of Butz and Ward (1979) for the US, which points to the role played by growing female wages and employment in shaping the baby bust, has greater chances of being applicable in the European setting than the Easterlin formulation (for support see Ermish, 1979, 1981, but for a criticism of Butz and Ward, see J. McDonald, 1983, and Krämer and Neusser, 1984).

In short, the sociological, economic and demographic evidence gathered so far does not preclude a fertility rise for the 1990s, but it does not offer any firm ground for expecting it either.

## 6. The stationary population fixation

At current life expectancies of 75 to 80 years the stationary population model still has a number of attractive features, especially when compared to stable populations with negative growth rates. Of course, such a stationary model can never be achieved in reality, and the argument that it will take a century to obtain such a model, as formulated by Keilman (1989), is entirely beside the point. Like all models, also the demographic ones are merely heuristic devices and solely provide points of reference. Hence, it is the degree of deviation from the model that should be taken as the yardstick, and not the mathematical probability of ever realizing it in the pure form.

Consider a population with an age structure $c(a)$ and a mean age $a$, together with any age-specific characteristic $g(a)$, such as an age profile of productivity, consumption or saving. If the distribution $g(a)$ has the form of an inverted U-curve and a variance smaller than that of $c(a)$, a maximal volume of G is produced when the mean of the age distribution weighted by $g(a)$, i.e. $\bar{a}_g$, equals the mean age of the population itself. Hence, G is maximal in the stable population for which $\bar{a}=\bar{a}_g$ holds (A.J. Coale, 1972). With age profiles of productivity, consumption and saving typical for Western industrialized nations, it turns out that the maxima for all three occur in stable populations that are very close to the stationary model (Lesthaeghe, 1981). Similarly, stationary populations pose no threath to pay-as-you-go pension schemes for as long as there is no rapid increase in life expectancy. Every generation gets exactly the same amount out of the system as it has put in. A stationary population is therefore the basis of any system that functions on the principles of intergenerational solidarity.

Most economists and demographers agree that these are advantages which should not be easily disregarded, and that the problem starts when populations deviate systematically from the stationary path. But, there are two types of reactions. The first one calls for the reestablishment of a safer demographic course and advocates the implementation of pro-natalist policies if fertility drops below replacement level. This position is distinct from the older pro-natalist views formulated before World War II since it uses the stationary path as a point of reference instead of that of an expanding population. This distinction is often overlooked in the public debate which still tends to equate pro-natalism today with either religious fundamentalism or with racist preoccupations and fears for the decline of "national vigour".

The second reaction is characterized by a search for correctives other than demographic ones, and a plethora of such corrective mechanisms have been recognized so far. In the field of old age security for instance, it has been shown that a rise in the age of retirement entirely offsets the demographic ageing effect (e.g. W. Schmähl, 1987). N. Ryder (1984) proposes a simple change of definition: one determines at what age in the life table the average remaining lifetime equals a previously fixed number (say 10 or 15 years), and that age would be considered as the point of entry into old age. In such a system, the ageing index of a population becomes independent from rises in life expectancy, but it obviously still remains a function of population growth rates. Such a change in definition roughly halves the ageing problem given that the contribution to future ageing is about equally split between the effect of the prospective gains in life expectancy (i.e. "squaring off") and the effect of the maintenance of current below-replacement fertility. Unfortunately, the actual evolution, especially among the male labour force, runs contrary to Schmähl's and Ryder's position: ages at retirement are falling in periods of rapid technological change. Employers are eager to make older labour vintages redundant, and European labour unions want to minimize the income loss suffered by those prematurely laid off by the lowering of the legal age at retirement or by relaxing the required number of years spent in the labour force. What is gained in altering the technological vintage mix of the active population is then likely to be partially lost in increased pension transfers.

Also on the side of the active population several scenarios have been worked out. They have in common that they either wish to enlarge the size of the labour force or wish to change its occupational or vintage composition. Ryder (1984) uses the terms metabolism for changes in labour force stock and flows and mutation for alterations in composition. This is again a heuristic distinction since alterations in metabolism often engender mutations and vice versa.

An example of a "metabolism corrective" is the increase in the female labour force. It raises the labour force birth rate, i.e. the number of entrants per 1000 active population. In a second phase, however, the labour force birth rate must fall given the increase of its denominator. In a third phase also the labour force death rate will increase since the stock grows older and women must also retire. As always, the recruitment of a new category constitutes a non-renewable operation.

An interesting application has been made by C. Gillion (1989) who illustrates that the international ageing problem of the years 2015-2035 can be alleviated to a significant extent if Western European nations were to adopt the current Swedish female labour force participation rates. However, Gillion recognizes that the situation differs greatly between countries, and that those that already have high participation rates stand to gain less. But there are two other caveats. Firstly, the Swedish female labour force participation expressed in person-years contributed rather than in mere rates looks less formidable given the substantial contribution of part-time work. If fertility is not to be depressed further, also other countries may opt for more part-time work in the expanding total package, and hence for a less than complete market utilization of human capital. Secondly, rises to female participation rates similar to those of the Swedish benchmark may occur faster and be realized well before the ageing wave of 2015-2035. We have already pointed out that the crisis of 1975-85 has created a need for the dual household income in Western Europe, and Swedish participation rates may not be all that far away. Hence, the rise in the labour force birth rate on the basis of higher female participation could occur too soon (from the perspective of the ageing corrective) and the subsequent hike in the labour force death rate may coincide with the later part of the ageing wave, in which case the pension burden is ultimately aggravated. Hence, such a "metabolism solution" requires a very specific timing and it is not at all clear that some "mistiming" relative to Gillion's scenario with respect to ageing can be avoided.

The "mutation-type of corrective" relates to the labour force composition and hence to issues of productivity and technological labour vintages. As documented by van Imhoff (1988) and van Imhoff and Ritzen (1988), optimal training intensity is an increasing function of the rate of technological progress, and the latter makes investment in education more attractive. Moreover, in a stationary population model the introduction of technological innovations in the production process (including innovations required for ecological reasons) is achieved more easily by a steady birth stream of recently educated vintages. When the share of this influx falls, increased education for adults becomes necessary in order to prevent the gap between "technology in theory" and "technology in practice" from becoming too large (Ryder, 1984; van Imhoff, 1988). In short, the optimal training effort moves in the opposite direction of the growth rate of the population. Also in a dynamic rather than steady-state context, van

Imhoff's simulations produce clear results: both the required optimal training effort and technological time lags <u>continuously increase</u> during the <u>full</u> period of diminishing population growth.    Using Ryder's terminology:   a   slower   metabolism   produces   a   slower   mutation   if   the educational effort spent on the young and adults falls behind the steep optimal path required to offset the loss of demographic efficiency.  Again, the entry of more and better educated female labour vintages alleviates the problem, but there is simply less of a problem to start with if the overall birth stream is a steady rather than a declining one.

Finally,  the  worst  option  possible  is  the  mechanistic  "solution" according to which the growing expenditure for the old can be met by scooping up savings realized in the expenditure destined for the young. Arguments along the lines offered by Easterlin (1988) which look at the overall dependency ratio (0-20 plus 65+/20-64) simply assume the non-existence of technological vintage effects.   Nevertheless, this road is very easily taken in countries, like my own, in which public expenditure is, for understandable reasons, narrowly limited, but where the political ability  to  redefine  priorities  is  lacking.    In  Belgium,  educational expenditure is not only strictly linked to enrollment, but to make matters worse still, it is also indexed at a figure <u>lower</u> than the retail price index as if colleges of technology and universities have shopping baskets made up of sugar and potatoes.   Little wonder that this country has one of the lowest R&D investment figures in the EC.   This may serve as an example that the mutation scenario requires a major effort as well, and that success should not be taken for granted.

## 7. Are pro-natalist policies effective?

Up to this point we have considered an array of solutions other than the return of fertility to levels closer to replacement.   The gist of the argument has been that these alternatives (immigration, female labour force participation, technological adaptation...) have a definite impact but that they should not be credited with surrealistic powers either.   It is almost a custom to consider pro-natalist policies as totally ineffective and to picture the alternatives as more efficient, secure and viable.   The purpose of this essay is to offer a more equilibrated perspective.   To this end, a word  should  be  said  about  the  assessment  of  the  effectiveness  of  pro-natalist policies.

First of all, a comparison based on current national total fertility rates  and  the  aggregated  expenditure  which  can  be  considered  as  pro-natalist reveals an almost total lack of correlation.   France is a leader within the EC-12 as far as such expenditure is concerned, but its fertility is not higher than that of the UK where there is almost a total lack of pro-natalist incentives, and where ad hoc measures are taken both to institute, or more recently, to abolish advantages related to family size. For a cross-national relationship to emerge, controls should be introduced for a host of context specific variables of an economic, demographic and cultural nature.   In such situations one ends up with more variables than observation points.   A better way is to approach the problem through a quasi-experimental model and to look at transient and/or lasting effects of policy measures taken in each of the national contexts.   This sort of exercise is rarely done.   One of the exceptions is, however, well known. K.  Schwarz  (1985)  noted  that  East  and  West  Germany  shared  a  common

reproductive pattern till the beginning of the 1970s. Both had their peak total fertility rates in the mid-1960s and a steep fall thereafter. However, as the East Germans implemented their policy measures, their total period fertility rose from 1.54 in 1975 to 1.94 in 1980. Their measures included a 6-months maternity leave and an extra leave at 50 percent of salary for an extra year and for women with second births. These measures came on top of reductions in interests on state loans for young families and a housing policy that was more advantageous for families with children. At the same time, the West German TFR had continued to hover around 1.40 and even dipped to 1.28 in 1985. In 1986, the East German TFR has also declined to 1.75, but the gap with West Germany remains (1.75 against 1.35). This gap is now in evidence for more than a decade, which is not a negligible result. However, as A. Monnier (1989) has shown, the nature of this gap has entirely altered compared to the situation in the late 1970s. In terms of <u>marital</u> fertility, the DDR has only had a transient increase in the fertility of married couples (from 1975 to 1981), and at present the difference between the two Germany's is entirely due to the much higher figures of births out of wedlock in the East. This rise accompanied the fall in nuptiality. The conclusion then could be again that pro-natalist policy measures have only short-lived effects, if it were not for the fact that the shift from marital to non-marital fertility in East Germany may in itself be a partial response to a second set of policy measures that gave advantages to single parents. These include supplementary benefits for unmarried students and apprentices of either sex who have a child, priority given to single mothers in placing their children in crèches and leaves for child illness of up to 16 weeks per year.

The German "laboratory" is even richer since the West German Länder have the possibility of introducing their own measures on top of the national ones. They have done so to various degrees from about 1975-78 onward (K. Schwarz, 1989), with West Berlin and Baden-Würtemberg taking an early lead and the Saar dropping far behind especially when compared to their earlier French regime. After 15 years of exposure, the marriages contracted in 1970 in Baden-Würtemberg have the highest fertility (1.80 children), whereas the leader for the marriages contracted in 1950, i.e. the Saar has dropped to 8th place among the 11 Länder. Also, West Berlin, which had extremely low fertility (barely 0.96 children after 15 years of exposure for the marriage cohort of 1955) has now switched places with Hamburg as a result of a fertility rise (to 1.15 children or the marriage cohort of 1970 at a duration of 15 years). Among the Länder, West Berlin is the only case where such a reversal has occurred. In short, regional fertility patterns in West Germany are currently subject to a realignment and it is not so easy anymore to argue that this is occurring entirely independently from variations in regional family policies.

Finally, attention should be paid to Sweden, where pronatalism may be a dirty word, but where its practice has a strength second to none. As indicated before, Swedish period fertility has been rising as a result of the stabilization of fertility rates at younger ages and a catching up among older cohorts. Sweden is furthermore the first country where such a change in trend has occurred. Period fertility is expected to be back to replacement level in the very near future. This entire turnaround has occurred in tandem with further increases in female labour force participation. This indicates that pronatalism does not have to have the ring of anti-feminism. Policy measures that are oriented toward relieving

the time pressure on parents may have an effect alongside those aimed at
reducing the opportunity costs of parenthood (such as child-allowances, tax
benefits or pension rights for any working time lost due to parenthood...).

## 8. Post-script: "le pari de Pascal"

Blaise Pascal's wager considers the outcomes for respectively a
skeptic and a believer when faced with God's existence or non-existence.
The skeptic gains nothing if God does not exist, but loses if God does
exist. He has a zero or negative return. The believer loses nothing if
God does not exist, but gains if he does. The believer has a zero or a
positive return. In the face of uncertainty with respect to the corrective
capacities of non-demographic measures, the outcome for the skeptic (the
one who does not take pronatalist measures) and for the believer are
similar to the ones in Pascal's wager. In short, it is better to prepare
for an eventuality than to do nothing, even if the eventuality (negative
effects of ageing and population decline) does not materialize. Moreover,
numerous pronatalist measures alleviate the task of working parents, which
will be growing in number at any rate. From the previous sections, we also
retain the following points:

i) Immigration and the gradual building of a multi-ethnic but
sufficiently integrated society in Europe are beneficial from the
point of view of demographic and labour force recruitment, but it is
a _partial_ solution which only works if domestic fertility can be
brought closer to replacement. The present fertility gap in
countries such as Denmark, the Low Countries, Germany or Italy is
simply beyond the reach of a complete immigration corrective.

ii) The growth of the female labour force is to be expected, but its
timing is crucial for the alleviation of the ageing wave after 2015.
Furthermore, the recruitment of a new group is a _once only_
operation, which will _ultimately aggravate_ the pension burden.

iii) The raising of ages at retirement runs counter to the interest of
technology driven economies. This does not imply that no positive
effects can be gained from utilizing the extra years of good health
and mental fitness (in the service sector for instance).

iv) Investment in the new generations is of paramount importance, and
this task rests on the shoulders of both the community and parents.
Shifts in social expenditure away from education and adult training
should be avoided since provisions for the fast growing numbers of
elderly from 2015 onwards have to be met by the returns from the
current investments in the new cohorts. Consequently, parenthood
should be rewarded financially and supported logistically.

v) At one point even the staunchest defender of a declining population
will have to resort to measures to bring fertility back to
replacement level. He runs the risk of only doing so when the
negative effects of a demographic implosion emerge or when the
expected positive effects (the presumed ecological ones) fail to
materialize. By that time he will simply be too late. The
population growth momentum associated with earlier positive growth
and now fully in operation in LDC's, is also operative after a
period of negative growth.

The bottom line of the story presented here is that the various alternatives to rising fertility are subject to important caveats as well. Their advantages simply emerge in the short run, but with longer time horizons, one quickly realizes their limitations. The currently very low fertility in the EC-12 charts a high risk path. At the present state of knowledge about the social and economic effects of future ageing, it seems unwise to trivialize the demographic issues. It may be prudent to take the position of Pascal's believer instead.

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