DEMOGRAPHIC ADAPTATION TO SOCIOECONOMIC CHANGES IN THE USSR SUCCESOR STATES

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The current research piece is based on the invited paper to the IUSSP XXIIIrd General Population Conference, Beijing, October 11-17, 1997, and it has been presented at the informal session number 11: *Demographic Adaptations to Economic Change in Eastern Europe*. In the paper the analysis of the latest demographic trends in the context of long-term population development is limited to six countries of the former Soviet Union: Belarus, Estonia, Latvia, Lithuania, Russian Federation and Ukraine. Three Baltic and three Slavic countries together cover the most of the territory of the European part of the former Soviet Union. At the end of the Soviet era their demographic trends have differed in many respects, however, concerning the stage of population development the referred countries are closer to each other compared with former Soviet republics in Central Asia, Transcaucasia as well as Moldova.

1. DEPOPULATION: RESULT OF REFORMS OR CONSEQUENCE OF LONG-TERM DEVELOPMENT?

In the beginning of the 1990s there was a principal change in the balance of births and deaths, all the countries under study entered into the period of population decrease one after another. Natural increase turned negative in 1991 in Estonia, Latvia and Ukraine, in 1992 in Russia, in 1993 in Belarus and in 1994 in Lithuania. In the Baltic countries negative natural increase was accompanied by the negative net migration, observed since 1990. According to official statistics by 1995 the number of population has decreased about 5% in Latvia and Estonia, approximately 1% in Ukraine and Lithuania and 0.3-0.4% in Russia and Belarus. Despite the migration statistics could prove deficient and some short-term migration flows could change in the near future, the established negative natural population growth will ensure the continuous depopulation in these countries for a coming decade at least.

Mass media has linked the new trend in population growth unambiguously to the political, social and economic transition and/or disintegration of the Soviet empire and the societal system in general. The population growth rate has been oftenly turned from a demographic phenomenon into a political one. The issue of "social price of the reforms" in the form of direct "population loss" does not leave neither TV-screens nor pages of newspapers of all thinkable political preferences. The bigger the country, the deeper the concern seems to be. Also researchers, sociologists and economists more frequently, demographers less frequently, have engaged in counting the numbers of "unborn babies" as well as "premature deaths" as a result of the inappropriate course of the socio-economic and political reforms. Following Alexander Zinovev, some authors have named the current stage of reforms "catastroika" [Ellman 1994]. The general population trends in last five years are hardly called anything else but "population crisis" or even "demographic catastrophe" in the post-Soviet political environment. The sociologists point to the fact that alarmness on demographic trends has developed to an extent not witnessed earlier by the public consciousness, which has been facilitated by rather unprofessional commentaries on the dynamics of population indicators in mass media. People are concerned with low fertility and high mortality as well as issues on various ethnic groups, family and household types etc.

Is there any solid grounds to expect that social and economic reforms can really result in turnover of demographic trends, and particularly, initiating depopulation as a new phenomenon for most of the countries under discussion. In previous periods the depopulation of that magnitude has been experienced only during wars, famine or epidemics. For journalists, policy-makers and many other non-demographers this rather new population situation seems quite naturally linked with the societal transformation, also unique in its kind. Easily understandable for wide audience, the proposed linkage serves as a good instrument for populist policy of various purposes. Symptomatically such kind of linkage is more typical to the three Slavic countries than to the Baltics, Estonia and Latvia in particular. Having experienced severe social transformations earlier in this last century with more intensive and prolonged demographic implications and with change in

demographic trends to a lesser extent in the current societal transition, the causation of demographic turnovers is probably not so commonly underlined in these societies.

The referred linkage of recent depopulation as well as the discontinuity of demographic trends, and the ongoing social and political reforms should rise scepticism. Actually, there is no need to be a demographer to start to look for the cause in the new population situation in the demographic sphere rather than in the socio-economic environment. Furthermore, relevant data are better available and the demographic information has proved to be much more reliable and comparable in time than economic and social indicators, particularly in transition periods. It should be also noted that no principal changes in vital registration have taken place in the countries under consideration making the comparison easier also in space [Anderson, Katus, Silver 1994]. Naturally, for a demographer it is almost habitual to look at the depopulation stage as a specific result of long-term population development which, *inter alia*, should not be linked to whatever current political and social changes. What needs to be analysed and explained is (1) why the population development goes through the principal changes namely in the 1990s, and (2) is there any specific outcome because of the temporal coincidence of this process with societal transformation at the same time.

Already the first glance at the population growth rates force us to admit that the trend towards the reduction of natural increase has been present for at least three decades (Figure 1). Concerning Estonia and Latvia, the actual depopulation of native population was a reality already in 1970s and only direct as well as indirect impact of immigration avoided the decline in total population. Such an effect is demonstrated in Figure 2, presenting the decomposition of population change into three parts for Estonia. In Slavic republics and in Lithuania the population was characterised by continuous increase, however, the natural growth was supported mainly by the relatively young age structure while fertility had fallen slightly under the replacement level on an average for the period; such a situation would not have secured positive population growth in the long run. The Soviet population projections foresaw the inescapability of depopulation in all the countries under discussion with the most probable onset of it at the turn of the 20th and 21st centuries. For Latvia, Estonia and Ukraine the change in population growth was expected earlier than for Lithuania and Belarus; Russian Federation was characterised by large regional differences in the process. In this view, it could be indisputably concluded that the emerging depopulation in all these countries was an expected phenomenon for the demographers. It is also noteworthy that the convergence trend in population growth accelerated in the named countries between the 1970s and 1990s as the timing differences from the demographic transition period gradually started to diminish their importance.

The problems and potential implications of underreplacement fertility and slowing population growth in the Soviet Union were regularly discussed since the 1970-1980s in scientific conferences as well as beyond scholarly community. These activities were supported by the Communist party and governmental leaders to whom pronatalist ideology was a long-established tradition. The totalitarian state regarded quantitative growth of human resources, particularly in labour force as a specific means to escape from economic problems as well as a source of continued expansion of military and geopolitical power of the country. Therefore, all the last congresses of the Soviet Communist Party addressed the issue of "effective population policy" which was expected to improve the demographic

situation. As a result, in the beginning of the 1980s an extensive pronatalist policy was introduced, followed by the strict anti-alcoholic campaign in the middle of the decade.

Those attempts could be evaluated from the nowadays perspective as a source of additional destabilisation of demographic development in most of the countries under observation. First, the 1980s were characterised by the increase in fertility. Together with the impact of beneficial female age structure the number of births increased by 7% in Ukraine, by 11-13% in Russia, Estonia and Belarus, 15% in Lithuania and 19% in Latvia. There have been intensive discussions whether the fertility increase was due to the pronatalist policy measures or the up-going fertility wave just coincided with the introduction of demographic policy, however, the increase of period fertility indices were rather substantial in all the countries. Also, not having its proof of causal linkage, the mortality demonstrated sharp decrease coincidingly at the time of anti-alcoholic campaign, particularly in Russian Federation and other two Slavic states. Just within one year (1986) the number of deaths decreased by 7-9% as compared to the previous year. In such a course of events, the growth trend of population was supported in both ends.

Looking back, there is every reason to confirm that the social policy of the 1980s did not balance the population development but changed the schedule of demographic events at the cohort level. Particularly, the timing of births was brought to younger ages as well as birth intervals were shortened. Also, the decrease of death cases proved to be a rather short-time trend without a notification of real improvement in the population health status. Demographic behaviour did not change principally under the social policy, and theoretically, it could not change within such a short time-interval. As a result, the referred social policy measures of the 1980s increased the advancement of depopulation in the 1990s by intensifying the compensation effect with negative sign in all countries.

It could be concluded that negative population growth of the 1990s in all six countries was a result of long-term population trends, unappreciatedly aggravated by short-sighted policy intervention in the 1980s. In this perspective the problems induced by social and economical transition do not appear as relevant in changing population trends as they are often described. Those commentators who associate "population crisis" exclusively with the economic crisis are deceived by the inability to distinguish between long-term and medium-term population trends. Social and economic transition has, doubtlessly, left its impact on the demographic processes, which will partly be discussed in the following sections, but surely it does not appear as a major cause behind the depopulation. Moreover, whatever the impact of current societal transition, it can be adequately demonstrated only in the long run rather than immediately during the transition itself.

2. FAMILY AND FERTILITY: EASTERN OR WESTERN PATTERN

2.1. Historical Background

In Russian Empire the timing of demographic transition, and particularly fertility decline was largely differentiated. From geographical viewpoint the transition began in the North-West and spread towards South-East of the Empire. In Estonia and North-Western Latvia the parity-specific fertility decline started already in the middle of the 19th century. This

has been up to 40 years earlier than in Lithuania, Ukraine and Belarus. In Russia where the decrease started at the turn of the last century, six sub-regions could be outlined [Katus 1994; Zakharov 1994]. The results of the Princeton Project are pointing at the heterogeneity of the Russian Empire in fertility transition, and each of its specific regions had more common features with other nations and countries outside of the Empire than between themselves [Coale, Anderson, Härm 1979; Coale, Watkins 1986]. Ansley Coale is defining Estonia and Latvia as a part of Scandinavian pattern of fertility transition while the development in Belarus, Lithuania, Ukraine as well as European part of Russia are linked much more to Central Europe [Coale 1994].

Another differentiating feature between the countries under observation is going even deeper to the history, and is probably to a large extent explaining also later differences in the timing of fertility transition. The considered phenomenon is the European marriage pattern [Hajnal 1965]. The Baltic countries appeared to be on the Western side of the Hajnal line with their relatively old age at first marriage and high proportion of never married females in a cohort. This was accompanied with somewhat lower infant and child mortality already before the demographic transition. Russia, Ukraine and partly Belarus were characterised by a universe as well as rather early age at first marriage, i.e. by Eastern pattern. Taking into account the different marriage patterns it is obvious that the completed fertility varied essentially between the Baltic and Slavic countries already before the demographic transition despite the absence of family planning practice in all the countries at that time. Russia experienced the highest fertility, and Estonia the lowest among the six. It is interesting to point out somewhat intermediate position of Lithuania among these countries. Judging upon the course of fertility transition Lithuania's closer connections with the Slavic countries are apparent, however, the spread of the European marriage pattern incorporates Lithuania into the Baltoscandia. Despite the European marriage pattern was developed later in Lithuania, the phenomenon could be clearly determined together with its specific impact on fertility levels. The fertility development in Lithuania turned closer to Estonia and Latvia during the first half of the 20th century [Katus 1994; Stankuniene 1989].

Different marriage patterns and the earlier beginning of the demographic transition in the Baltic countries facilitated variation among the six countries of the former Russian Empire, reaching its peak at the end of the 19th and the first decades of the 20th century. Later on the differences started to decrease [Vichnevski, Zakharov 1995]. Despite the dissimilar political and economic systems in the Baltic and Slavic countries in 1918-1940, differences in fertility development rather diminished than increased. The impact of general regularities of the demographic transition, thus, proved to be stronger than the diversity in ideological and economic regimes. After the WW II, the Baltic countries were incorporated into the Soviet Union, but particularly the completion of fertility transition in the Slavic countries contributed to the growing convergence of fertility and marriage patterns between the six countries which obtained characteristics of a dominant trend. Likewise the same trend elsewhere in Europe, also the Baltic countries were characterised by gradual disappearance of the European marriage type: the mean age at first marriage experienced a long-term decrease, followed by the same trend in fertility timing. The process is described, additionally to general figures, by Figure 3 presenting the gradual juvenation of first births in Estonia alongside all the female birth cohorts 1924-1973 [Katus, Puur, Sakkeus 1995]. The universal disappearance of the European family pattern

certainly gave its support to the convergence tendencies between the Baltic and Slavic countries. Additionally, the immigration to the Baltic countries, particularly intensive in case of Estonia and Latvia should be also mentioned as a feature favouring the convergence of marriage and fertility developments. By the mid 1960s, the transition to low fertility was completed in all of the referred countries and the development of post-transitional fertility decreased the variations in levels of fertility to the minimum compared to preceding hundred or two hundred years.

2.2. Post-Transitional Fertility and Inadequate Social Policy

By the beginning of the 1980s, differences in fertility level between the concerned countries became minimal with the variance of TFR within the range of 1.85-2.05. The following decade demonstrated general stabilisation of levels, however, with a certain upward trend. Discussed period was characterised by maximum homogeneity among the six countries. On one hand, the growing homogeneity was anticipated as the different timing of fertility transition had become a history and the post-transitional fertility development had continued for at least 20 years in all countries. The convergence tendency because of this reason has united not only the observed six countries but most of the European nations. On another hand, the similarity of fertility development among the six countries has not been based only upon the universal trends in Europe at that time but has additionally been strengthened by the shared deviation from those trends [Zakharov, Ivanova 1996]. Some of the common European developments concerning marriage and fertility, summarised into the conception of the second demographic transition [Cliquet 1991; Lesthaeghe 1992;Van de Kaa 1980], have not occurred in the countries under observation. At the same time other developments of the same character, nevertheless, could be followed also in all or in some of these countries making infeasible a simple explanation about the non-existence of second demographic transition in the former USSR.

The mixture of universal features of post-transitional fertility together with the specific characteristics of the six countries could be shortly summarised as follows. First, relatively early marriage with closely linked reproductive behaviour: female mean age at first marriage was around 22 years , mean age at first birth only slightly higher. This feature has been a result of long-term juvenation of marriage and fertility in the Baltic countries, and stability or ageing (if taking into account a longer period) in the Slavic countries. Nevertheless, in the 1980s the homogeneity between the six countries has been high without the evidence of emerging new ageing trend. *Vice versa,* in the Slavic countries the additional juvenation could be followed pushing the period fertility indices higher compared to the corresponding cohort indicators.

Second, the expected number of children has been rather stable at the level of somewhat higher than 2.0. Actual implementation of individual and family desires has been approximately 90 percent of the level on an average, resulting in relatively high fertility in the European context. On an average the fertility level was only slightly under the replacement level and even higher in some countries during the specific time intervals, particularly at the end of the 1980s. Distribution of females by the number of ever-born children was characterised by growing concentration around two children; the proportion

of women having given birth to one child or four and more was decreasing. The proportion of childless women has remained low at the level of approximately 7-8 percent of the cohort, explained mostly by infertility rather than by voluntary childlessness. At the same time the proportion of women with three children, and particularly the trend of this proportion has varied between the discussed countries.

Third, the completion of family formation has been relatively rapid and taken place early in a woman's life cycle. For example, up to 60 percent of female cohorts completed their fertility by 28 years of age. There has been exceptionally short interval between beginning of marriage and birth of the first child, less than one year on an average. In Slavic countries and in Lithuania it was common to expect the pregnancy immediately after the marriage, and growing proportion of marriages have been initiated by the pregnancy. In Latvia and particularly in Estonia, cohabitation as a form for the first union has reached the levels comparable with the Scandinavian countries and the increasing number of births were occurring outside marriage. For those having marriage earlier than a baby the average protogenetic interval decreased up to 6 months, stressing the key-role of pregnancy as the primary event in new family formation pattern apart from traditional marriage. In all six countries, birth intervals between the first and second as well as the second and the third birth were also relatively short, moving the end of reproductive activities into younger ages of mother. Probably, the extremely young age at completed fertility could partly explain the unusual co-existence of relatively high fertility and very high divorce rate in the countries under observation.

Fourth, the family planning was carried out by rather old-fashioned methods, with a primary means to avoid unwanted birth being an induced abortion. As a result the total abortion rate accounted as high as ca 2.5 and exceeded the fertility rate. Correspondingly, the use of modern contraceptions like pills, IUD and even condoms has been low in the European context. Extremely low use of any means of contraception is characteristic to the first sexual intercourse. On one hand this was a result of poor and partly belated family planning education, on another hand the availability of modern contraceptions was more than deficient. Very high rate of unwanted pregnancies was accompanied by high teenage pregnancy level and corresponding teenage fertility. The contribution of mothers aged 15-19 in total fertility rate was varying from 7 percent in Lithuania up to 12 percent in Russian Federation and Ukraine.

In order to understand the specific nature of post-transitional fertility and marriage development of the specific nature uniting the six countries one should also consider the pronatalist family policies introduced in early 1980s in the former Soviet Union. The impact of this policy becomes even more important when interpreting the sharp fertility decrease in the 1990s. The family policy from 1981 was based on privileges for mothers with small children and for families with three or more children. In opinion of the authors, the most important measure of these policies was the partly paid maternity leave: one year initially, extended to three years later, and particularly the dwelling policy. Those as well as other means maintained the juvenation trend of marriage and first birth. Accordingly, the cohort marriage and fertility schedules were pushed towards accelerated family formation. The female mean age at first birth, mean age at first marriage, protogenetic and intergenetic intervals reached very low levels, particularly in the Slavic countries. The

probability of second births galloped up which, nevertheless, was not the indicator of change in the desired completed fertility but just a result of compressed timing of births.

The fertility schedule in the six analysed countries appeared relatively young in European context already before the beginning of the mentioned family policy. This policy seems to have had its impact in avoiding the onset of ageing tendencies in marriage and fertility common to Europe at that time. In some countries like Estonia rather weak fertility ageing could be traced for the native-born population, however, totally wiped out in total population by the definite juvenation trend among the population of immigrant background. It is obvious that timing shifts similar to those witnessed in the 1980s have their limits; compensatory decline in number of births and decrease in all period marriage and fertility indicators are naturally to be expected in some time later. Specifically, end of the 1980s and beginning of the 1990s happened to be the period of that kind. Incidentally, it coincided with the start of societal transition having additional effect on the ageing tendencies in marriage and fertility. It could be concluded that the Soviet family policy in the 1980s had an inappropriate timing, and if having the real impact on population development, it has only strengthened the demographic waves.

2.3. Fertility Crisis or Second Demographic Transition

Sharp fertility decline in the Eastern Europe reaching lower levels than the average in the Western countries is often considered as a crisis, linked to the spread of poverty, hopelessness etc, accompanying societal transitions. It is usually thought that if there had been no economical crisis and social change, there would have also not been principal shifts in fertility. Furthermore, if the economic crisis will be taken under control and/or more reasonable social policy will be implemented, fertility would likely return to its former level.

Discussion on this matter started with debates on the exceptionally low fertility level achieved in the Eastern provinces of Germany. First, the explanation of the situation was carried by common crisis approach. However, it is proved by today that even in the case the Eastern provinces of Germany it is primarily not fertility crisis but a deep structural transformation in the pattern of reproductive behaviour [Conrad, Lehner, Werner 1996]. As low total fertility rate as equal to 0.8 does not mean cohort total fertility to be less than 1.0. Eastern Germany demonstrates really an exceptionally abrupt transition to the modern Western fertility pattern characterised by late marriage, postponement of child-bearing and extended intergenetic intervals. Very rapid fertility ageing, incomparable with similar tendencies in Western countries considered to be a part of the second demographic transition, led period indicators to drop to extremely low levels. The fertility is expected to increase in these German provinces in the nearest future or has already started according to the data of 1995, and probably will approach the levels characteristic to the Western part of the country (TFR 1.3-1.4). Nevertheless, one can be quite sure that pattern of fertility timing in the Eastern Germany will not be like the one witnessed before the societal transition.

The process similar to Eastern provinces of Germany is going on in a more moderate form elsewhere in Eastern Europe, including our six countries under consideration (Figure 4). It

would be reasonable to discard the crisis approach to fertility and marriage changes and study more deeply the impact of the timing transition for the current and future development. Transformation of the fertility schedule in the Western countries started with the decrease in fertility intensity in younger ages, followed by the increase in the middle and older age groups. According to the recent data the same process could be observed in the referred countries. Also, accompanying the growing availability of modern contraceptives, the number of abortions is decreasing, particularly in young age groups despite the continuous juvenation of sexual behaviour. Pre-marital sexual relations, including stable cohabitation do not lead to unplanned pregnancies to such an extent as earlier. The difference between two social groups seems to become more evident: (1) modern family planners able, *inter alia*, to adjust their demographic behaviour to societal changes, and (2) followers of traditional stereotypes in which sexual, matrimonial and reproductive behaviour are hardly separable. In the second group the simple practice of fertility limitation seems to prevail while the individually optimised timing pattern of pregnancies without the necessary decline in the completed fertility is dominant among the first group. In other words, when talking about fertility crisis, only the crisis in the previous timing pattern is of real sense.

3. LONG-TERM MORTALITY CRISIS AND SPECIFITY IN THE 1990s

3.1. Historical Background

The mortality map of Russian Empire represented a rather heterogeneous picture. Nevertheless, gradient of mortality demonstrates quite clear increase from North-West to South-East as the mortality transition appeared in high correlation with similar changes in fertility. The Baltic states, particularly Estonia and Latvia, were more advanced in terms of mortality decline than the Slavic countries, among the latter Russia and even its European part could be regarded as an outlier. Characteristic to early phases of mortality transition, major differences in life expectancy at birth stem from more than twofold variation in infant and child mortality. The reasons behind such significant differences, observed even between adjacent territories are not yet sufficiently studied, however, it is known that they have deep historical roots and are in some way linked to ethnocultural, religious and economic traditions regulating everyday life.

In the period between two World Wars, the differences in mortality between the Baltic and Slavic countries remained and were perhaps even aggravated as the Soviet republics suffered from the catastrophic results of the experiment "building socialism in a single country". Civil war, war-communism policy, repressions and genocide in urban and rural areas, famine in the beginning of the 1920s and mid-1930s, massive imprisonment and concentration camps led not only to the stoppage of decrease but to the increase in adult mortality, outweighing modest progress in the attempts to reduce child mortality and improve general sanitary situation. WW II added to the suffering and brought along two more years of hunger in the Slavic states, 1942 and 1946. As a result, several generations in the Soviet Union suffered from chronic malnutrition and underwent socialisation under extreme poverty and orphanage. Although escaping the sufferings of the 1920s and 1930s, Baltic states lived through the Soviet and Nazi occupation, forced collectivisation, mass

deportations which put an end to the natural course of mortality development in this region as well.

The first two post-war decades were characterised by advances in the improvement of living conditions and public health on the territory of the previous USSR. Massive use of antibiotics and extension of the network of medical services brought along substantial achievements in lengthening human life span. By the mid-1960s mortality indicators in the republics of the European part of the Soviet Union converged between themselves as well as with the levels observed in developed countries. While the difference in life expectancy between the Baltic and Slavic countries accounted for 10 years or more before the WW II, in the 1960s the variation had already become insignificant: about 0.5 years for both males and females. The Baltic countries had clearly lost their previous advantage from earlier mortality transition [Krumins 1993; Krumins, Zvidrins 1992]. Compared to Western countries, life expectancy in the referred countries lagged behind by a couple of years for men and even less for women. Moreover, the life expectancy in Belarus, approximately 69 years for men and 76 years for women, exceeded the corresponding measure in USA, Canada, Great Britain, Italy, France and Japan in respective period [Schahotko 1996]. However, such a position in mortality levels among nations of post-transitional mortality proved to be short-lived for the countries under observation. Progress in dealing with exogenous causes of death was not followed by the decrease in mortality from chronic diseases, particularly cardiovascular.

The following development from the 1960s onwards can be described as mortality stagnation or even slowly emerging crisis; regarding Estonia this process has been described in earlier publications [Katus, Puur 1992], and for Russia has also been well documented [Shkolnikov, Meslé, Vallin 1996; Meslé et al 1996]. Throughout the 1970s, the male mortality increased, and the female mortality stagnated at the best around achieved levels. Stagnation or even a slight increase in infant and elderly mortality was accompanied by substantial juvenation of the age pattern of cardiovascular deaths and mortality increase from violent causes. On the background of such trends the gradually emerging gap in life expectancy compared with West-European countries was not a surprise. Within the group Russian Federation continued to play the role of an outlier, Latvia, Estonia and Ukraine were in the middle and the situation in Lithuania and Belarus was better compared others. In 1980 the difference between the minimal and maximal life expectancy accounted for 4 years for males and 2.5 years for females at an average of 64 and 74 years accordingly.

There is no exhaustive explanation to the discussed stagnation phenomenon untypical for the post-transitional mortality in other countries. One can agree with those researchers notifying that the socialist system did not allow for the increase in the value of individual and public health. Evidence for that could be found not only in the former USSR but also in other European countries East from the iron curtain. Despite mortality crisis in these countries did not become apparent in such a broad scale, it could be clearly followed [Monnier, Rychtarikova 1991]. Looking back it is quite obvious that the low-effective political and economic system could not reorganise public health in accordance with the demands of the new mortality pattern or supply possibilities for individuals to promote personal health. But on another hand, decline in living standards and/or food consumption was not witnessed, *vice versa*, there was a certain progress, health care system, although

slowly but still improved, the basic medical services were accessible, environmental conditions deteriorated but locally. On this background, it proves not easy to identify the specific reasons for mortality regression during several decades accounting even for decline in life expectancy, particularly in active working age (see also discussion [Bobadilla, Costello, Mitchell 1997]). Leaving this general question aside, followingly, some attempts of the Soviet regime to improve the population health situation are discussed.

3.2. Antialcoholic Campaign as a Response of Totalitarian System

By the beginning of the 1980s, in spite of restrictions in data availability, wide public circles became aware of the threatening trends in mortality. Ministry of Health sought for a solution, suggesting a programme of compulsory dispensarisation. For enforcing the effect, a special law on dispensary examination, implementation of a special health passport for adults and children etc were proposed. Soviet authorities launched the campaigns "against non-labour income", "for labour discipline" and "for making life conditions healthy", which were accompanied by the increased control over work absenteeism, administrative detaining of persons having no fixed place of residence and/or work etc. Narcological service and a system of compulsory treatment of alcoholism and related psychiatric diseases were established. At the same time, more attention was paid to the pricing of alcohol with the aim of changing the patterns of production and consumption towards less strong drinks. It is difficult to state whether because of the referred measures or some other reasons, however, life expectancy resumed the slow increase in the beginning of the 1980s. The appeared quite similar for males and females ranging from 0.2 to 0.7 years across the countries concerned.

Only a couple of months after Gorbatschov came to power, the most forceful anti-alcoholic campaign of the post-war period was launched. This experiment, in spite of all negative aspects, revealed the potential to reduce excess mortality [Moskalevicz et al 1997]. Just in two years the male life expectancy at birth increased, the growth ranging from 1.7 years in Belarus to 2.9 years in Russian Federation, the female life expectancy grew by 0.6 and 1.3 years correspondingly. The higher the initial mortality level, the steeper was the improvement. Mortality dropped in virtually all age groups, but particularly in working ages; the decrease occurred not only because of reduction in the number of violent deaths but also from cardiovascular and respiratory diseases with the exception of cancer [Andreev et al 1993]. Growing crisis of state budget and sugar deficit resulting from massive home production of alcohol forced the authorities to put brakes on the anti-alcohol campaign. Nevertheless, almost up to 1990 the USSR government kept alcohol production and trade down to the limits set by the 1985 law. In 1991 the production of alcohol exceeded planned tasks for the first time, nevertheless, it was still wholly controlled by the state and substantially lower than in the first half of the 1980s. Also, queues in liqueur shops were retained in the country, and even the special talons for vodka issued. Alcohol deficit came to an end with the disappearance of the USSR.

It is interesting to note that the gradual weakening of anti-alcoholic policy was accompanied by mortality increase with rather matching time schedule. Furthermore, the growth proceeded from the same causes of death and in the same age groups from which it

had earlier decreased. Already in 1992, in all analysed countries the average life expectancy had decreased to the levels experienced before the anti-alcoholic campaign. At least two lessons could be learned from this unique social experiment. Firstly, in all countries the high mortality levels appear in a way or another related to drinking habits and their consequences. Correspondingly, changes in alcohol consumption served for a real reserve in the increase of life expectancy. On the other hand, however, even the lowest levels of mortality achieved during the anti-alcoholic campaign pointed to the fact that the problem of excess mortality in concerned countries compared to other European nations remains unsolved if only single factors are considered. Secondly, the current cause-specific mortality statistics do not reveal the picture of underlying causes of death with sufficient accuracy. For example, it proves very difficult to explain such abrupt fluctuations in specific deaths causes without any logical linkage with the levels and structure of alcohol consumption. Thus, there is a solid ground to proceed from the analysis of separate causes to the consideration of their combinations.

3.3. New Social Realities and Old Health Problems

During 1992-1993 the mortality increase progressed in all the countries under observation. The most negative situation was generally revealed in 1994, except in Ukraine and Belarus where it appeared one year later. From historical perspective, the current mortality levels are similar to those recorded in the 1950s or even earlier for specific male age groups. On one hand this could be regarded as an evidence of a new crisis introduced by the societal transition, on another hand, the referred increase could be just a strengthening of some long-term determinants. There is no common answer given yet to this question and on this background, followingly, some of the authors' speculations on the issue are presented. The discussion is aimed rather to raise questions than trying to give answers as the long-term mortality stagnation followed recently by the rapid upsurge is really a unique phenomenon and need for new theories to approach with.

Mortality development in all concerned countries looks so similar, nearly identical, that provides a ground to assume some universal underlying determination (Figure 6). In such a case the hypothesis of the key role of economic factors would became more than doubtful as the levels of economic development, speed and structural characteristics of the reforms have differed considerably across countries. The fact that life expectancy in Russia and Latvia decreased below the level of the early 1980s by 6-7 percent and in other countries by 4-5 percent is rather an indication of some kind of differences in the corresponding base levels of mortality. Put in another way, the lower the level of mortality the greater stability has demonstrated during the societal transition.

Analysis of the mortality curve reveals a rather peculiar response of age-specific mortality to social changes. Those age groups which could have experienced the greatest losses after to fall of the socialist equalisation, namely children and elderly, appeared to be least affected by the mortality negative trends. Usually infant mortality reacts to social change quite abruptly, however, no such increase has been documented. Quite opposite, in some of those countries like Estonia the infant mortality has even decreased. Furthermore, this has happened despite unfavourable changes in the age and social composition of mothers: sharp rise in the proportion of non-marital births, relative increase of motherhood among

teenagers as well as other social groups less familiar with modern family planning. The increase of mortality among elderly has proved to be much lower compared with younger adult age-groups, particularly for males.

Analysis of cohort mortality reveals that the highest mortality increase during 1992-1994 has been concentrated among those cohorts which were mostly affected by mortality decrease in the period of anti-alcohol campaign. Additionally, those generations which did not experience abrupt decline in mortality escaped also its abrupt increase later. Conformity of relative and absolute decline and increase in mortality by one-year cohorts in Russia appears extremely high: if the mortality level fixed in 1980-1981 would have remained unchanged during the whole period of 1980-1995, then the number of survivors would have been exactly the same as observed, i.e. considering the increase and the following decrease in life expectancy [Blum, Avdeev, Zakharov 1994].

Cause-specific analysis of mortality demonstrates the increase in mortality from a number of infectious diseases which gives a ground to assume the growing contribution of marginal groups to total mortality. This conclusion is affirmed by mortality data on the higher education population which remained stable or even decreased in the 1990s [Shkolnikov 1997]. Fluctuations in life expectancy during the last ten years have resulted from adverse developments in several cause groups, increase in violent causes was accompanied by juvenation of mortality from cardio-vascular diseases. By 1995 decline in mortality has started in four countries out of six, during 1996 and 1997 this decline continued with relatively high speed in Russia at least. The return to mortality levels and pattern dictated by the long-term development has became a reality without any major interventions by governmental institutions [Katus, Puur 1997]. In most of the countries there has been no significant improvements in living standards and activities in public health in 1995-1996, quite oppositely some international experts have underlined further deterioration of the situation. In other words, the assumption of a direct causal link between societal transition and mortality development are to be put under further doubt.

The developments discussed above are giving ground to conclude that the major role in mortality increase in 1992-1994 was played by the same features which caused the decrease in 1985-1987 [Leon et al 1997]. Particularly the Russian demographers are stressing the changes in alcohol consumption and the adaptation of population to these changes as the dominant factor [Avdeev et al 1997; Shapiro 1995]. Pointing at the leading role of alcohol in the last years, though, it is likely not the only reason behind the excess mortality in Eastern Europe. The mortality increase in all concerned countries during current societal transition should be considered in the context of long-term mortality stagnation rather than the recent short-term but relatively rapid changes. In the recent transition only the levels have been affected while the long-term stagnation had affected the whole pattern of mortality. Under such circumstances, the underlying determinants of current health crises could hardly be found "inside" the transition period. Naturally, through specific death causes there has been a direct impact of certain social distresses but the general explanation of the existing mortality pattern should be sought from broader long-term social context.

Such a understanding is also consistent with basic features of post-transitional mortality, according to which deaths due to endogenous causes result from gradual accumulation of

the impact of social environment, not the immediate influence of some extreme conditions. These accumulation mechanisms are particularly relevant for cardiovascular diseases and cancer accounting for more than three fourths of all deaths under modern mortality regime. From another perspective, these mechanisms draw attention to the particular importance of cohort effects. The cohorts under interest have been subjected to specific societal environment, briefly the soviet regime. Population cohorts have been influenced by this environment with varying intensity and duration and accumulated its influences to the different extent. In short, this influence has preserved the causal structure of modern mortality but enforced the earlier realisation of endogenous death causes. If this hypothesis holds true, it is realistic to expect that the mortality stagnation can be fully overcome only in 50-60 years, whatever the speed of societal normalisation and extension of economic opportunities.

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Table 1 Rate of Natural Increase

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1960	17.8	6.1	6.7	14.7	15.8	13.6
1961	16.9	5.9	6.6	14.3	14.5	12.5
1962	14.9	5.2	5.2	12.2	12.5	11.2
1963	13.7	4.8	5.0	11.7	11.2	10.6
1964	12.7	5.4	5.3	11.6	9.7	9.5
1965	11.1	4.1	3.8	10.2	8.1	7.7
1966	10.9	3.7	3.8	10.1	7.7	8.1
1967	9.8	3.8	3.4	9.6	6.5	7.1
1968	9.4	4.2	3.2	9.2	6.0	6.9
1969	8.5	4.2	2.9	8.7	5.7	6.1
1970	8.6	4.7	3.3	8.7	5.9	6.4
1971	8.9	5.1	3.7	9.1	6.4	6.5
1972	8.3	4.5	3.2	7.9	6.3	6.3
1973	7.7	4.0	2.4	7.0	5.9	5.6
1974	7.9	4.3	2.7	6.8	6.4	5.7
1975	7.1	3.3	2.0	6.2	5.9	5.1
1976	6.9	3.1	1.7	6.1	5.9	5.0
1977	6.8	3.3	1.4	5.7	5.6	4.2
1978	6.8	2.7	1.2	5.3	5.6	4.0
1979	6.3	2.6	1.0	5.0	5.0	3.6
1980	6.1	2.8	1.3	4.6	4.9	3.5
1981	6.6	3.1	1.5	4.9	5.1	3.3
1982	6.7	3.5	2.5	5.2	5.9	3.5
1983	7.7	4.0	3.2	6.1	6.4	4.5
1984	6.5	3.4	2.9	5.3	5.3	3.6
1985	5.9	2.8	2.2	5.4	5.3	2.9
1986	7.4	4.0	4.1	6.6	6.8	4.4
1987	6.2	4.4	3.8	6.2	6.7	3.4
1988	6.0	4.2	3.4	5.2	5.3	2.8
1989	4.9	3.7	2.4	4.8	3.9	1.7
1990	3.2	1.8	1.2	4.6	2.2	0.6
1991	1.7	-0.3	-0.1	4.0	0.7	-0.8
1992	1.1	-1.4	-1.5	3.2	-1.5	-1.9
1993	-1.2	-4.0	-4.9	0.2	-5.1	-3.5
1994	-1.9	-5.3	-6.9	-0.1	-6.1	-4.7
1995	-3.2	-4.9	-6.9	-1.1	-5.7	-5.8

Table 2 Rate of Net Migration

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1980	1.5	4.3	1.0	0.8	0.5	0.2
1981	1.1	4.2	2.3	1.4	0.6	0.1
1982	0.1	3.6	3.0	2.6	0.9	-0.4
1983	-0.5	3.1	3.1	2.3	1.2	-0.3
1984	-0.3	3.1	3.3	3.1	1.6	-0.1
1985	0.0	4.3	4.7	3.7	1.9	0.4
1986	-1.6	4.0	5.3	3.9	2.0	0.2
1987	-1.4	2.8	7.2	4.5	1.8	1.0
1988	0.2	0.6	6.0	5.8	1.7	1.4
1989	1.1	0.1	0.5	4.3	0.6	0.9
1990	-3.1	-2.6	-3.3	3.0	1.1	1.5
1991	0.3	-5.1	-4.1	-1.4	0.3	2.9
1992	5.2	-21.9	-17.8	-5.9	1.2	5.5
1993	3.1	-9.1	-10.8	-3.5	2.9	1.0
1994	-0.3	-5.1	-7.4	-0.7	5.5	-2.8
1995	0.0	-5.5	-4.2	-0.5	3.4	-1.8

Table 3 Total Fertility Rate

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1980	2.03	2.02	1.86	2.03	1.89	1.95
1981	2.02	2.07	1.88	1.98	1.91	1.93
1982	2.05	2.08	1.97	1.99	2.04	1.98
1983	2.11	2.16	2.07	2.04	2.11	2.08
1984	2.11	2.17	2.09	2.09	2.06	2.09
1985	2.09	2.12	2.08	2.10	2.05	2.06
1986	2.09	2.17	2.12	2.14	2.15	2.08
1987	2.03	2.26	2.15	2.16	2.22	2.05
1988	2.04	2.26	2.11	2.09	2.12	2.02
1989	2.03	2.21	2.05	1.99	2.01	1.92
1990	1.91	2.04	2.02	2.03	1.89	1.85
1991	1.80	1.78	1.86	2.01	1.73	1.81
1992	1.75	1.69	1.73	1.90	1.55	1.72
1993	1.60	1.45	1.51	1.67	1.39	1.55
1994	1.50	1.37	1.39	1.54	1.40	1.46
1995	1.39	1.32	1.25	1.49	1.34	1.40

Table 4 Mean Age at Childbearing

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1980	26.1	25.7	25.3	26.8	25.7	25.4
1981	26.2	25.8	25.3	26.9	25.7	
1982	26.0	25.9	25.4	27.0	25.8	25.4
1983	26.1	26.0	25.5	27.1	25.9	25.5
1984	26.1	25.8	25.6	27.0	25.8	25.4
1985	26.0	25.8	25.5	26.8	25.8	25.4
1986	26.1	25.9	25.7	26.7	26.0	25.5
1987	25.9	25.9	25.8	26.7	26.0	25.4
1988	25.9	25.9	26.0	26.0	25.8	25.3
1989	25.5	25.8	25.8	25.9	25.5	25.1
1990	25.2	25.6	25.4	25.9	25.2	25.0
1991	25.0	25.3	25.3	25.6	25.0	24.7
1992	24.9	25.3	25.2	25.6	24.9	24.6
1993	24.9	25.3	25.1	25.7	24.7	24.5
1994	24.9	25.4	25.5	25.5	24.6	24.5
1995	24.9	25.6	25.5	25.6	24.9	24.4

Table 5 Mean Age at First Marriage, Females

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1980		22.7	22.8	23.0	22.4	
1981		22.9	22.9	23.4	22.4	
1982		23.0	22.9	23.3	22.4	
1983		23.0	22.7	23.3	22.3	
1984		23.0	22.7	23.3	22.3	
1985		22.8	22.7	23.3	22.2	
1986		22.8	22.8	22.8	22.3	
1987		22.8	22.6	22.9	22.3	
1988		22.8	22.7	22.7	22.3	
1989		22.5	22.2	22.4	22.1	
1990		22.5	22.2	22.3	21.9	
1991		22.5	22.2	22.1	21.8	
1992		21.9	22.4	22.0	21.8	
1993		23.4	22.5	22.1	21.8	
1994		23.7	22.5	22.2	21.9	
1995			22.8	22.3	22.0	

Table 6 Non-Marital Births, percent

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1980	6.4	18.3	12.5	4.6	10.8	8.8
1981		18.2	12.9	6.9	11.1	
1982		18.7	13.2	7.3	11.1	
1983		19.5	13.5	7.5	11.0	
1984		20.4	14.3	7.2	11.5	
1985	7.1	20.7	14.4	7.0	12.0	8.3
1986	6.6	22.0	15.0	7.0	13.2	8.9
1987	7.5	22.1	15.5	7.1	12.7	9.3
1988	7.9	23.1	15.5	6.5	13.0	10.4
1989	7.9	25.2	15.9	6.7	13.5	10.8
1990	8.5	27.1	16.9	7.0	14.6	11.2
1991	9.4	31.1	18.4	7.0	16.0	11.9
1992	9.8	34.0	19.6	7.9	17.1	12.1
1993	10.9	38.2	23.0	9.0	18.2	13.0
1994	12.1	40.9	26.4	10.8	19.6	12.8
1995	13.5	44.1	29.9	12.6	21.1	

Table 7 Male Life Expectancy

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1979-80	65.9	64.2	63.6	65.5	61.5	64.6
1980-81	65.9	64.1	63.6	65.4	61.5	64.5
1981-82	65.9	64.3	63.8	65.6	62.0	64.6
1982-83	66.0	64.4	64.0	65.7	62.3	64.8
1983-84	65.6	64.4	63.9	65.5	62.0	64.6
1984-85	65.7	64.6	64.4	65.5	62.3	64.8
1985-86	66.7	65.5	65.5	66.8	63.8	65.9
1986-87	67.3	66.4	66.3	67.9	64.9	66.5
1987	67.2	66.5	66.3	67.8	65.0	66.3
1988	67.0	66.6	66.3	67.7	64.8	66.4
1989	66.8	65.8	65.3	67.0	64.2	66.1
1990	66.3	64.7	64.2	66.6	63.8	65.6
1991	65.5	64.5	63.8	65.3	63.5	64.7
1992	64.9	64.1	62.7	64.9	62.0	63.9
1993	63,8	62.6	60.5	63.3	58.9	63.5
1994	63.5	61.2	59.2	62.8	57.6	62.8
1995	62.9	61.9	60.2	63.6	58.3	61.3
1996					59.6	

Table 8 Female Life Expectancy

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1979-80	75.6	74.2	73.9	75.4	73.0	74.0
1980-81	75.7	74.1	74.2	75.4	73.1	74.0
1981-82	76.0	74.3	74.5	75.6	73.5	74.2
1982-83	75.9	74.6	74.5	75.7	73.6	74.3
1983-84	75.6	74.4	74.2	75.6	73.3	74.2
1984-85	75.4	74.4	74.5	75.4	73.3	74.0
1985-86	75.5	74.9	74.5	75.9	74.0	74.5
1986-87	76.0	75.1	75.0	76.6	74.6	74.9
1987	75.9	75.1	75.0	76.7	74.6	74.9
1988	75.9	75.0	75.1	76.6	74.4	74.8
1989	76.4	75.0	75.2	76.3	74.5	75.2
1990	75.6	75.0	74.6	76.2	74.2	74.9
1991	75.5	75.0	74.5	76.1	74.3	74.3
1992	75.4	74.8	74.4	76.0	73.8	74.0
1993	74.4	74.1	73.2	75.0	71.9	73.4
1994	74.3	73.2	72.6	74.9	71.2	73.2
1995	74.3	74.5	73.0	75.2	71.7	72.6
1996					72.7	

Table 9 Infant Mortality Rate

Year	Belarus	Estonia	Latvia	Lithuania	Russia	Ukraine
1980	16.3	17.1	15.4	14.5	22.1	16.6
1981	16.7	17.1	16.0	16.6	21.5	16.2
1982	15.8	17.2	14.1	15.1	20.4	16.2
1983	15.0	16.3	16.1	14.1	20.1	15.8
1984	15.1	13.6	12.9	13.4	20.9	15.9
1985	14.5	14.0	13.0	14.2	20.7	15.7
1986	13.4	16.0	13.0	11.6	19.3	14.8
1987	13.4	16.1	11.3	12.3	19.4	14.5
1988	13.1	12.5	11.1	11.5	18.9	14.2
1989	11.8	14.7	11.2	10.7	17.8	13.0
1990	11.9	12.3	13.7	10.3	17.4	12.9
1991	12.1	13.1	15.6	14.3	17.8	13.9
1992	12.3	15.1	17.4	16.5	18.0	14.0
1993	12.5	15.8	15.9	15.2	19.9	14.9
1994	13.2	14.5	15.5	14.1	18.6	14.5
1995	13.3	14.8	18.5	12.5	18.1	