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#### ECONOMIC COMMITTEE

#### POPULATION TRENDS IN BULGARIA

Note by the German Delegation

#### General demographic trends

According to the last census of December 1975 Bulgaria had a total population of 8,728,720. With an overall increase of 1.4 million people since 1950 the population development within the last 25 years is one of the least dramatic among the group of East European countries, influenced by the typical components of demographic change in Europe: diminishing rates of growth of total population caused by urbanisation, declining birth and fertility rates etc. Nonetheless, it is the aim of Bulgarian population policy to raise the total population to 9 million in 1980 and to 10.5 million in 1990 (an increase over the 1975 census of 3.1 viz. 20.3 per cent).

The following table l(1) indicates the general development from 1950 to 1974 and the main problems:

Table 1

|   | Death                            | Birth                                | Marriage                 | Natural                          |
|---|----------------------------------|--------------------------------------|--------------------------|----------------------------------|
|   | rates                            | rates                                | rates                    | increase                         |
| 1950-1954<br>1955-1959<br>1960-1964<br>1965-1969<br>1970-1974 | 10.0<br>8.7<br>8.2<br>8.9<br>9.7 | 20.7<br>18.2<br>16.4<br>16.0<br>16.1 | 9.4<br>8.8<br>8.3<br>8.4 | 10.7<br>9.5<br>8.2<br>7.1<br>6.4 |

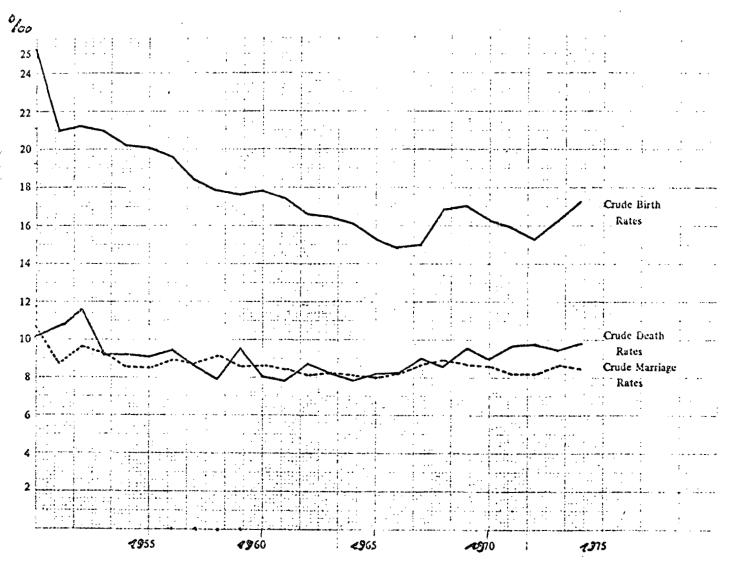
The detailed movement of the main indicators can be seen best from Figure 1 which shows the annual crude birth, marriage and death rates:

<sup>(1)</sup> Average crude annual rates per 1,000 population (Source: Statisticheski godishnik 1974)

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Figure 1: Annual Crude Birth, Death and Marriage Rates per 1000 Population



#### Fertility

There are several major attempts of the Bulgarian government to halt the decline of birth rates: in February 1968 a joint decree of party and government (Rabotnichesko delo of 23.2. 68) introduced special maternity benefits, family allowances for families with more than one child, and income-tax discrimination against single persons and married couples without children. In addition abortions were restricted depending now

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on the approval of commissions of physicians. The total number of abortions (1967: 129.972) fell to 113.755 already in 1968 (Zemedelsko zname of 18.12.69) while marriage and birth rates rose, however, only for two years: the effect of this pronatalist policy faded again. Legal (and probably also illegal<sup>1</sup>) abortions continued to rise. Ratios of legal abortions per 1000 live birth developed as follows<sup>2</sup>:

| 1965 | 1966 | 1967 | 1968 | 5 | б | u i | P |
|------|------|------|------|---|---|-----|---|
| 776  | 819  | 738  | 627  |   |   | 985 |   |

A new campaign was launched in March 1973: Women without or with only one child are now denied the right of abortion, exceptions being admitted only for those in the age of less than 18 or 45 and more. Premia for birth of a first child were raised from 20 to 100 leva, for the second child from 200 to 250 leva. Mothers of third children continue to receive 500 leva. A monthly allowance of 80 leva is granted to students with child in addition to ordinary grants (the average monthly income of workers and employees reached 142 leva in 1974<sup>3)</sup>). The changing success of this policy is visible in annual change and proportions of birth of the second and third children:

Table 2: Annual Change and Proportions of Second and Third Children (Percent)

| Year   | First                                  | children   | Second  | children                       | Third o  | children                       | Annual change  |
|--|--|--|---|--------------------------------|--|--------------------------------|--|
|  | Annual<br>change                       | Proport.<br>in total<br>births                       | Annual<br>change  | Proport.<br>in total<br>births | Annual<br>change   | Proport.<br>in total<br>births | of total births  |
| 1967<br>1968<br>1969<br>1970<br>1971<br>1972 | 8<br>+ 6.2<br>4<br>3<br>- 3.0<br>+ 1.9 | 46.7<br>43.6<br>43.0<br>44.2<br>45.3<br>45.5<br>44.1 | 2<br>+ 19.2<br>+ 2.8<br>- 3.6<br>- 3.2<br>- 1.1<br>+ 10.8 | 38.2<br>38.0                   | - 1.7<br>+ 50.6<br>+ 6.6<br>- 8.0<br>- 10.9<br>- 10.5<br>+ 1.8 | 11.5<br>12.1<br>11.5<br>10.5   | + 1.3<br>+ 13.5<br>+ 1.1<br>- 3.1<br>- 2.4<br>- 3.0<br>+ 6.4 |

Source: Stat.god. 1974, p. 30, 32 and 19.

<sup>1)</sup> which occurred even under a more liberal policy. Cf. Myers (1970), p.98

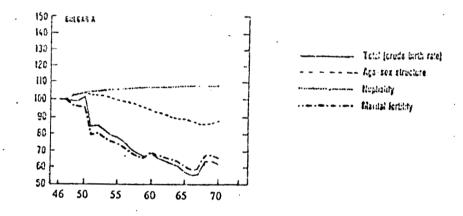
<sup>2)</sup> Source: ECE 1975, p. 127

<sup>3)</sup> Statisticheski ezhegodnik stran chlenov SEV 1975, p. 405

Obviously, the second and third children account for significant change in the annual growth rates of 1968 and 1973. However, the development is extremely instable. Stabilizing policy measures are announced to be expanded in order to secure birth rates which will be sufficient to attain the planned population numbers in 1980 and 1990. Official statements are optimistic.

The detailed analysis of demographic factors influencing the crude birth rate, indicates a more cautious view. The Economic Commission for Europe calculated the impact of changes in sexage-structure, nuptiality and marital fertility on crude birth rates for 1950 - 1971. The following figure 2 gives the development of index numbers (1947 = 100).

#### Figure 2:



Source: ECE (1975), p. 90

Obviously, crude birth rates are dominated by changes in sexage-structures<sup>1)</sup> and marital fertility. Age specific fertility rates show a clear trend towards a higher contribution of women in the age of less than 25 viz. 35. Proportions of the relevant age-groups of mothers in total live births and the age-specific fertility rates are given in the following table:

Proportion of females in total population, of women in childbearing years and age distribution of married women in this group.

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Table 3

| THE EXCENSION SECTIONS OF SECTION SECT | Propor | tion in            | total | Age s                             | pecific F | ertility | Rates |
|--|--------|--------------------|-------|-----------------------------------|-----------|----------|-------|
| Age groups   | _      | births<br>percent) |       | (births per 1000 women given age) |           |          |       |
|  | 1965   | 1970               | 1973  | 1950                              | 1965      | 1970     | 1972  |
| Less than 20   | 15.0   | 13.4               | 12.9  | 54.9                              | 67.4      | 71.5     | 69.3  |
| 20 - 24  | 41.8   | 48.0               | 48.9  | 200.1                             | 175.1     | 189.2    | 181.1 |
| 25 - 29  | 25.3   | 24.5               | 26.1  | 162.2                             | 105.7     | 111.6    | 101.8 |
| 30 - 34  | 12.2   | 9.8                | 8.4   | 99.5                              | 45.7      | 45.0     | 39.3  |

Sources: Stat. god. 1974, p. 37 ECE (1975), pp. 232-

Fertility rates are declining in all age groups, except that of less than 20 years. The 1968 measures influenced the fertility rates particularly of women up to 25<sup>1</sup>) (which will be most inclined to have their first - or second - child anyway). The average age of women at marriage remained constant at roughly 23 years over the whole period 1950 - 1970 <sup>2</sup>). This tendency complies with the general observation: "As fertility declines, the ages above 34 years become increasingly insignificant, the age at which childbearing ceases tends to be below the physiological maximum". <sup>3</sup>)

The proportion of women up to 25 years in the total number of women in fertile age, will be declining further over the next decade as can be derived from the age-structure. The figures for the relevant age groups in 1973 are as follows: (see next page Table 4)

<sup>1)</sup> See Appendix Figure A l ...

<sup>2)</sup> ECE (1975), p. 70

<sup>3)</sup> ECE (1975), p. 165

<sup>4)</sup> See Appendix Figure A 2. Cf. also Atanasov (1973)

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Table 4

| Age     | Number of<br>Females | Index<br>(Average of age-groups<br>15 - 29 = 100) |
|---------|----------------------|---|
|         |                      |   |
| 0 - 4   | 324 919              | 99.2  |
| 5 - 9   | 302 247              | 92.3  |
| 10 - 14 | 309 414              | 94.5  |
| 15 - 19 | 325 796              | 99.5  |
| 20 - 24 | 338 193              | 103.2   |
| 25 - 29 | 318 487              | 97.3  |

Source: Stat.god. 1974, p. 18

The traditional difference in crude birth rates by urban/ rural residence has been reversed since 1965 from 14.7/15.9 to 18.4/13.4 in 1973 1) which was due to changes in age structure since primarily the young people keep flowing into the towns. Although these urban immigrants probably have retained their rural fertility characteristics, the notoriously restrained housing conditions more and more will become a major limiting factor for fertility. Therefore, the trend of average numbers of births declining with increasing size of places of residence which European countries have in common will depress fertility in Bulgaria, too, as will the rising educational levels and participation of women in non-agricultural employment. 2) Further factors influencing family planning (social status, income, assistance of husbands in homework etc.) are analysed in a sample survey carried out in December 1969. Comprising 16 000 working women in the age of 30 to 49 years it revealed considerable differences between "ideal", "desirable" and actual average numbers of born children (2.26, 2.02 and 1.67 children). 3) It is hardly conceivable how social

Cf. Stat.god. 1974, p. 21

<sup>2)</sup> Cf. ECE (1975), pp. 117-122

<sup>3)</sup> Atanasov (1973). (See also Planovo stopanstvo 1970/6).

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change might be controlled according to demographic plans without considerable time-lags.

The trend of crude birth rates seems to have recovered after 1965:

- (1) 1950 1965 : y = 22.61 .5 x
- (2) 1966 1974 : y = 13.10 + .14 x

where y is the annual crude birth rate and x the number of years observed. However, for an estimate of prospective population growth over the whole period until 1985 the increase of the rate of growth by 14 percent as derived from the linear trend (2) would be certainly unrealistic: A projection of the ECE combines constant general fertility rates with a gross reproduction rate of .978 as "most likely variant". 1)

#### Mortality

More significant is the change of trends in crude death rates which reached a bottom of only 7.9 deaths per 1000 population in 1964. From this time on, the rates increased again (1974: 9.8). All relevant indicators concerning mortality patterns and trends have approached levels which compare favourably with those of other South-East European countries: introduction of antibiotics, improved sanitation and nutrition and the extension of public health care have increased life expectancy for all ages: (See Table 5, next page)

<sup>1)</sup> ECE (1975), p. 165

<sup>2)</sup> Trends were calculated as follows:

<sup>(1)</sup> 1950-1965 : y = 10.39 - .18 x

<sup>(2)</sup> 1966-1975 : y = 5.72 + .17 x

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Table 5: Expectation of Life at Birth and Ages 30 and 65

|         |          | 1900 | 1930 | 1950 | 1960 | 1969-71 |
|---------|----------|------|------|------|------|---------|
| Males   | at birth | 40.0 | 45.9 | 60.7 | 67.8 | 68.6    |
|         | age 30   | 36.7 | 38.4 | 42.6 | 43.0 | 42.4    |
|         | age 65   | 14.8 | 13.5 | 13.4 | 13.5 | 12.9    |
| Females | at birth | 40.3 | 46.6 | 63.8 | 71.4 | 73.9    |
|         | age 30   | 36.0 | 39.9 | 45.0 | 45.6 | 46.1    |
|         | age 65   | 14.6 | 13.9 | 14.5 | 14.7 | 14.8    |

Source: ECE (1975), pp. 218-219

Stat. god. 1974, pp. 58-59

The most dramatic improvement is attained in life expectancy at birth and during the first year. Neonatal infant deaths (caused by the environment of mothers during pregnancy) and post-neonatal deaths (reflecting the child's conditions of life after birth) are below weighted averages of Eastern Europe:

Table 6: Infant mortality, Neonatal and Post-Neonatal rates (deaths in first infant year, during first month and rest of year per 1000 live births)

|                               |            | Infan      | t          | N    | eonat | al         | Pos        | t-Neo      | natal      |
|-------------------------------|------------|------------|------------|------|-------|------------|------------|------------|------------|
|                               | 1950       | 1960       | 1970       | 1950 | 1960  | 1970       |            | 1960       | 1970       |
| Bulgaria<br>Eastern<br>Europe | 96.8<br>98 | 46.3<br>53 | 27.3<br>33 |      |       | 13.3<br>19 | 55.1<br>50 | 26.3<br>30 | 14.3<br>14 |

Source: ECE (1975), pp. 32-33

There are clear differences in infant mortality according to residence as is shown in an article by Bozhikov (1972)<sup>1)</sup>.

Total infant mortality in 1973 is reduced further to 26.2,

<sup>1)</sup> See Appendix, Figure A 3

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the urban rate (23.0) being far below the rural (31.7). While neonatal mortality is practically equal (14.4 viz. 14.3), the post-neonatal death rates (urban 8.5, rural 17.4) account for the overall difference. (1) General death rates differ, too, between urban and rural residence:

|           | Total | Urban | Rural |
|-----------|-------|-------|-------|
| 1960 - 64 | 8.2   | 6.3   | 9.5   |
| 1965 - 69 | 8.9   | 6.8   | 10.5  |
| 1970 - 73 | 9.5   | 7.2   | 12.3  |

The difference is due to higher proportions of the older generation on the countryside. Trends, however, are going up irrespective of residence.

Causes of death have changed considerably over the period of 1963-1971/72 (see Appendix, Table A 2). Diseases of the circulatory system, respiratory diseases and neoplasms are now dominating - a trend which corresponds with developments in other European countries. Exceptionally high is the rate of accidents, poisoning and violence. Prospects for further rising longevity are not too good, particularly not for males. General mortality rates will decline again, mainly due to reduced infant mortality.

#### Migration

Migration plays an insignificant role. Only during recent years emigration of comparatively large numbers are reported:

(See Table 7, next page)

Calculated from Stat. god. 1974, pp. 28 and 45 - 47

<sup>2)</sup> For age-specific distribution of causes of death see Figure A 4 (Appendix)

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Table 7: Emigrants by Nationality

|  | Turks                              | Armenians                         | Others  | Total  |
|--|------------------------------------|-----------------------------------|---|--|
| 1965<br>1966<br>1967<br>1968<br>1969<br>1970<br>1971 | 2.529<br>11.010<br>9.540<br>10.465 | 32<br>41<br>73<br>326<br>161<br>6 | 10<br>100 (?)<br>11<br>4<br>3<br>15<br>54<br>90 | 42<br>141 (?)<br>85<br>330<br>2.693<br>11.031<br>9.594<br>10.555 |
| 1973   | 5.283                              | 1                                 | 12  | 5.296  |

Source: Stat.god. 1974, p. 63

It is realistic to assume that the repatriation of Turks will be finished soon. Both, national demographic policy and the political regime itself exclude emigration of Bulgarian citizens at a larger scale.

#### Growth of Total Population

A projection of total population is mainly based on estimated crude birth and death rates while migrations are
neglected as a major factor influencing demographic trends.
Our own estimate, confronted with data from other recent
sources is not based on the linear trends calculated above
but takes into account the changing age structure, further
effects of a continued pronatalist policy and a continuous
reduction of (rural) post-neonatal death rates.

Table 8: Projections of Future Population Growth

|   | (ear |      |        | cates<br>opulation |     |        |          | Tot   | al popu<br>(1000 |                     |
|---|------|------|--------|--------------------|-----|--------|----------|-------|------------------|---------------------|
|   | rear | ECE  | Spasov | Author's           | ECE | Spasov | Author's | ECE   | Spasov           | Author's            |
| ] | L975 | 16.0 | 15.7   | 16.1               | 6.0 | 6.3    | 6.2      | 8.786 | 8.780            | 8.729 <sup>x)</sup> |
| ) | 1980 | 15.4 | 16.0   | 15.5               | 4.9 | 6.0    | 5.0      | 9.026 | 9.046            | 8.972               |
|   | 1985 | 14.6 | 15.5   | 15.0               | 3.7 | 5.3    | 4.2      | 9.215 | 9.297            | 9.173               |

Sources: ECE (1975) p. 169 ("most likely variant") for 1970-1975, 1975-1980 and 1980-1985, and p. 176

Spasov 1974, p. 7

x) Census

<sup>1)</sup> The agreed number of altogether 30.000 over 11 years beginning in 1969 is already exceeded (WDSOE September 1969)

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Our detailed projection of rates of natural increase (per 1000) and total population is shown in Table 8.

Table 8

|       |          | Natural<br>Increase | Total<br>Population |
|-------|----------|---------------------|---------------------|
|       |          |                     |                     |
| 1975  | (Census) | 6.2                 | . 8.729             |
| 1976  |          | 6.0                 | 6.781               |
| 1977  |          | 5.8                 | 8.831               |
| 1.978 |          | 5.5                 | 8.880               |
| 1979  |          | 5.3                 | 8.927               |
| 1980  |          | 5.0                 | 8.972               |
| 1981  | `        | 4.8                 | 9.015               |
| 1982  |          | 4.6                 | 9.057               |
| 1983  |          | 4.4                 | 9.097               |
| 1984  |          | 4.2                 | 9.135               |
| 1985  |          | 4.2                 | 9.173               |
| ğ     |          |                     |                     |

The age structure will be slightly improved until 1980 with a rising proportion of population aged 15-59, but afterwards deteriorating again:

Table 9

| ·                  |   | _  | ulation                   | in Worki            | ng Age                  |                      | Detries                                | Proportion                          |
|--------------------|---|--|---------------------------|---------------------|-------------------------|----------------------|--|-------------------------------------|
| Year               | Total<br>Population   | EC   | e <sup>xxx)</sup>         | Auth                | or's                    | Estimat.<br>Partici- | Estimat.<br>Labour,                    | of Labour<br>Force in               |
|                    | (1000)  | 1000   | Percent                   | 1000                | Percent                 | pation<br>Rate       | Force 2)<br>(1000)                     | Total Popu-<br>lation<br>(percent ) |
| y)                 | THE RESERVE THE PERSON OF THE | A STATE OF THE PARTY OF THE PAR | Charles Commission of the |                     |                         |                      | ************************************** |                                     |
| 1970 <sup>x)</sup> | 8.490 <sup>x)</sup>   | -  | _                         | 4.938 <sup>x)</sup> | 58 <sup><b>x</b>)</sup> | 77 <sup>XX</sup> )   | 3.740                                  | 44.0                                |
|                    |   |  |                           |                     | . 30                    | "                    | 3.740                                  | 44.0                                |
| 1975               | 8.729   | 5.427  | 62                        | 5.430               | 62                      | 77                   | 4.100                                  | 44.0                                |
| 1975<br>1980       | 8.729<br>8.972  | 5.427<br>5.630   | 62<br>63                  |                     |                         |                      |  | , , , ,                             |

Sources: x) Stat.god. 1974, p.18 xx) UN (1974), p.53 xxx) ECE (1975), p. 181

<sup>1)</sup> Economically active population as percentage of working age population

<sup>2)</sup> Economically active population inside and outside the working age to be reduced due to extended education

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The participation rate of working persons outside the able-bodied age is expected to remain constant at the 1970 level, as well as the number of nonworking pensioners, invalids and students in working age. Considering the trend of pension legislation this may well be an optimistic assumption. On the other hand participation rates of women seem to leave some reserve over the next decade im comparison to other CMEA countries which again depend on the response of women in age group 15-29 to a continued pronatalist policy of the state. Participation rates by individual age groups and by sex are estimated in a very thorough study by Timar (1973); the results are compiled in the following table:

Table 10: Labour Force Participation Rates by Age-Groups and by Sex (Percent)

| Ago Croup | 1    | 1 9 8 5 |            |        |  |
|-----------|------|---------|------------|--------|--|
| Age Group | Male | Female  | Male       | Female |  |
| 15 - 19   | 58   | 54      | 59         | 52     |  |
| 20 - 24   | 88   | 67      | 88         | 67     |  |
| 25 - 44   | 98   | 76      | 98         | 77     |  |
| 45 - 54   | 95   | 67      | 95         | 69     |  |
| 55 - 64   | 75   | 45      | <b>7</b> 5 | 38     |  |

Source: Calculated from Timar (1973), pp. 381-387

...

The estimated participation rates of the age group 15-19 probably will have to be reduced due to extended education.

The dependency ratio<sup>1)</sup> varies considerably over the period since 1970. These variations are believed to continue:

|                     | 1970 <sup>2)</sup> | 1973 <sup>2)</sup> | 1 9 | 7 5 | 1  | 980 | 1985 |          |  |
|---------------------|--------------------|--------------------|-----|-----|----|-----|------|----------|--|
|                     |                    | 2                  |     |     | ,  | i . | ì    | Author's |  |
| Dependency<br>ratio | 72.4               | 70.5               |     | 63  | 61 |     | 65   | 61       |  |

<sup>1)</sup> Population aged less than 15 and 60 and over per 100 population aged 15-59

<sup>2)</sup> Stat.god. 1974m p. 18

<sup>3)</sup> ECE (1975) p. 190

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It is difficult to assess possible effects of the new pension regulations of July 1975<sup>1)</sup> which include cooperative farmers in the general pension legislation and, before all, allow old-age working pensioners to receive (below average) wages without reduction of pensions. While the pensioners' willingness to go on working will be relatively small this legislative act rather indicates the government's view on restraints for future economic growth from labour resources.

The structure of the economically active population by main sectors will be undergoing continued change. Our projection of the development until 1985 is based on Timar<sup>2)</sup>:

Table 11: Proportion of Labour Force Employed (Percent)

| Sector                       | 1960  | 1965  | 1970  | 1974  | 1980 <sup>x)</sup> | 1985 <sup>x</sup> |
|------------------------------|-------|-------|-------|-------|--------------------|-------------------|
| Agriculture                  | 55.5  | 45.3  | 35.7  | 30.1  | 25                 | 18                |
| Industry and<br>Construction | 27.1  | 33.3  | 38.8  | 40.8  | 43                 | 45                |
| Transport                    | 4.1   | 5.1   | 6.0   | 6.2   | 7                  | 7                 |
| Others                       | 13.3  | 16.3  | 19.5  | 22.9  | 25                 | 30                |
|                              | 100.0 | 100.0 | 100.0 | 100.0 | 100.0              | 100.0             |

Source: Statisticheski ezhegodnik stran chlenov SEV 1975, p. 393 x) Estimated

Considering the fact that the Bulgarian employment structure underwent the most rapid change among the 25 most industrialized countries from 1950-1967 in East and West (average annual change of employment being in agriculture -3.9, in industry and construction +6.4 and in services +5.3 percent)<sup>2)</sup>

<sup>1)</sup> Cf. Darzhaven vestnik No. 53, 11 July 1975

<sup>2)</sup> Timar (1973), p. 400

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the expected development seems fairly plausible. The projected swift rise in services is indicated by plans of regional re-orientation in the location of production and settlements and generally by continued urbanization. The decreasing proportion of people employed in material production (which is planned to be 76 percent in 1990) complies fairly well with our estimate. 1)

Qualification and professional training of labour force have attracted increased attention of social planners over the last years.<sup>2)</sup> The slow-down in growth of population in working age and reduced possibilities of reallocation of labour to non-agricultural sectors will continue to support efforts in education and professional training. Numbers of specialists with higher and secondary education have developed rapidly since 1960:

Table 12: Specialists with higher and secondary education

|   |            |            | CERTIFICATION AND ADDRESS OF | ACCOMPANY NOT THE PARTY OF THE |
|---|------------|------------|------------------------------|--------------------------------|
|   | 1960       | 1964       | 1970                         | 1973                           |
| Total Number of Specialists<br>(1000)<br>Index (1960 = 100) | 257<br>100 | 349<br>136 | 521<br>203                   | 625<br>243                     |
| of which with:  |            |            |                              |                                |
| higher education (1000)                                     | 93         | 118        | 163                          | 190                            |
| Index (1960 = 100)  | 100        | 126        | 175                          | 204                            |
| secondary education (1000)                                  | 165        | 231        | <b>3</b> 58                  | 434                            |
| Index (1960 = 100)  | 100        | 140        | 217                          | 263                            |

Source: Stat. god. 1974, p. 86

These index figures compare fairly well with an estimated growth of total labour force over the same period by 43 percent.

<sup>1)</sup> BTA of 10.8.1973

Cf. Kacarov (1970)

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Efforts to raise educational levels are continued. The output of graduates from secondary schools stagnates since 1973; output of university-graduates is growning steadily:

Table 13: Output (in 1000) of Graduates from Secondary Schools (1) and Universities (2)

| Year | (1)  | (2)  | Ratio of<br>(1) : (2) |
|------|------|------|-----------------------|
| 1960 | 12.5 | 5.8  | 2.2                   |
| 1965 | 32.8 | 9.1  | 3.6                   |
| 1970 | 33.4 | 13.1 | 2.5                   |
| 1971 | 34.5 | 13.6 | 2.5                   |
| 1972 | 37.2 | 13.9 | 2.7                   |
| 1973 | 39.8 | 15.0 | 2.6                   |
| 1974 | 39.5 | 15.5 | 2.6                   |

Source: Stat.ez. stran chlenov SEV 1975, pp. 417-419

The resulting impact on the overall educational level is hard to assess; the development of the ratio of secondary to university graduates seems to correspond with demands from an industrializing economy but is still very far from the ratio in a fully industrialized country like the GDR (1.5).

#### Summary

General demographic trends indicate a slowing down of population growth and a slight deterioration of the age-structure. This development, however, is far from dramatic; it coincides with overall trends in Eastern Europe as analysed in a study by the ECE. For economic growth this may become a bottleneck at a slightly increasing scale. Past spectacular growth rates of the Bulgarian economy, therefore, seem hardly attainable whatever pronatalist or educational policy may be pursued.

<sup>1)</sup> e.g. the increase of national income by 80 percent over the years 1960-1973 (Stat.god. 1974, p. 106)

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Table A 1 : Total Population

| Year | Total Population<br>at the End of Year | Proportion of<br>Urban Population<br>(percent) |
|------|--|--|
| 1950 | 7.273.100                              | 27.5   |
| 51   | 7.243.200                              | 28.5   |
| 52   | 7.306.700                              | 29.1   |
| 53   | 7.385.600                              | 30.4   |
| 54   | 7.461.000                              | · 31.2   |
| 1955 | 7.537.800                              | 32.1   |
| 56   | 7.613.709 <sup>x)</sup>                | 33.6   |
| 57   | 7.688.800                              | 34.4   |
| 58   | 7.766.300                              | 35.2   |
| 59   | 7.829.200                              | 36.2   |
| 1960 | 7.905.500                              | 38.0   |
| 61   | 7.980.700                              | 38.8   |
| 62   | 8.045.200                              | 39.8   |
| 63   | 8.111.100                              | 40.8   |
| 64   | 8.177.500                              | 45.3   |
| 1965 | 8.227.866 <sup>x)</sup>                | 46.5   |
| 66   | 8.285.300                              | 47.5   |
| 67   | 8.335.100                              | 48.5   |
| 68   | 8.404.100                              | 49.5   |
| 69   | 8.464.300                              | 51.7   |
| 1970 | 8.514.900                              | 53.0   |
| 71   | 8.557.900                              | 54.7   |
| 72   | 8.594.500                              | 55.7   |
| 73   | 8.647.400                              | 56.9   |
| 74   | 8.706.000                              | 57.5 <sup>xx)</sup>                            |
| 1975 | 8.729.720 <sup>x</sup>                 | 58.0   |

Sources: Statisticheski ezhegodnik 1974

x) Census xx) Estimate

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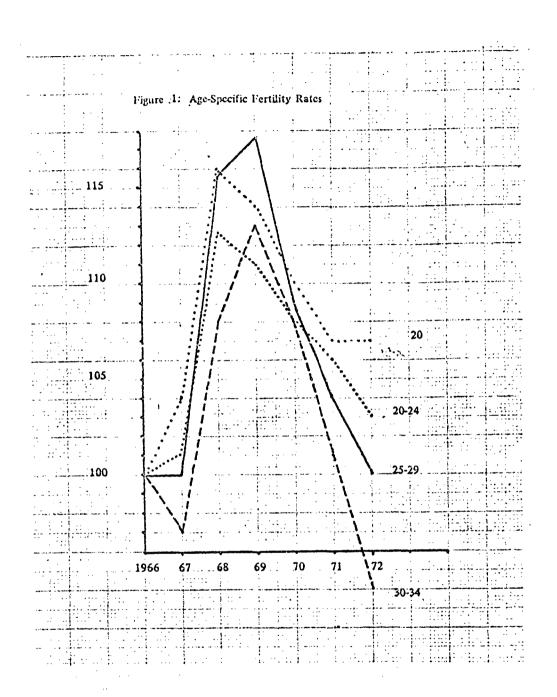
| f-     |                      |                      | THE CHARLES PROPERTY AND PERSONS ASSESSED. |
|--------|----------------------|----------------------|--|
| Year   | Crude Death<br>Rates | Crude Birth<br>Rates | Natural<br>Increase                        |
|        | -                    |                      |  |
| 1950   | 10.2                 | 25.2                 | 15.0                                       |
| 51     | 10.7                 | 21.0                 | 10.4                                       |
| 52     | 11.6                 | 21.2                 | 9.6  |
| 53     | 9.3                  | 20.9                 | 11.6                                       |
| 54     | 9.2                  | 20.2                 | 11.0                                       |
| 1955 · | 9.1                  | 20.1                 | 11.1                                       |
| 56     | 9.4                  | 19.5                 | 10.1                                       |
| 57     | 8.6                  | 18.4                 | 9.8  |
| 58     | 7.9                  | 17.9                 | 10.0                                       |
| 59     | 9.5                  | 17.6                 | 8.1  |
| 1960   | 8.1                  | 17.8                 | 9.7  |
| 61     | 7.9                  | 17.4                 | 9.5  |
| 62     | 8.7                  | 16.7                 | 8.0  |
| 63     | 8.2                  | 16.4                 | 8.2  |
| 64     | 7.9                  | 16.1                 | 8.2  |
| 1965   | 8.2                  | 15.3                 | 7.2  |
| 66     | 8.3                  | 14.9                 | 6.6  |
| 67     | 9.0                  | 15.0                 | 6.0  |
| 68     | 8.6                  | 16.9                 | 8.3  |
| 69     | 9.5                  | 17.0                 | 7.5  |
| 1970   | 9.1                  | 16.3                 | 7.2  |
| 73.    | 9.7                  | 15.9                 | 6.2  |
| 72     | 9.8                  | 15.3                 | 5.5  |
| 73     | 9.5                  | 16.2                 | 6.7  |
| 74     | 9.8                  | 17.2                 | 7.4  |

Source: Stat.god. 1975

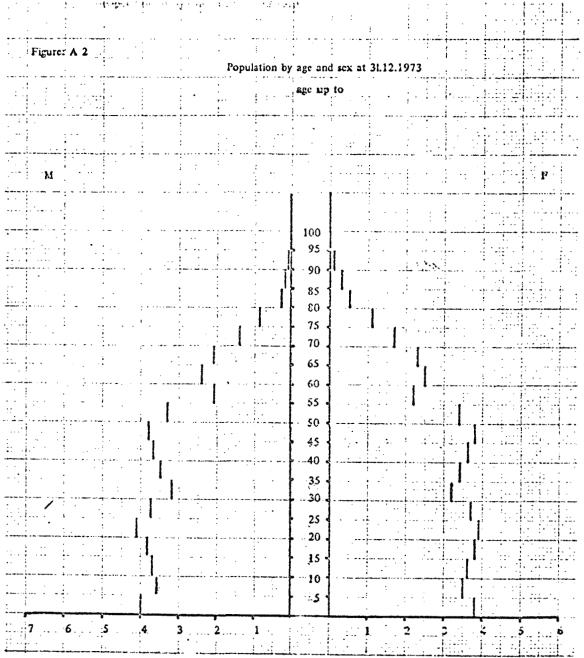
# Change of Death Rates According to Causes and Age Groups in 1971/72 as Compared to 1963 (Index numbers, 1963 = 100)

|            | W H O<br>Classifi-<br>cation<br>Number<br>of 1965 |   | Total | 0 - 1          | 1 - 4 | 5 - 9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69      | 70-79 | 80 + |
|------------|---|---|-------|----------------|-------|-------|-------|-------|-------|-------|-------|------------|-------|------|
|            |   | Total :                                 | 119   | 70             | 58    | 74    | 91    | 95    | 96    | 109   | 105   | 106        | 105   | 125  |
| ומר        | I.  | Infectuous diseases<br>and parasitoses  | 55    | 57             | 26    | 28    | 31    | 23    | 25    | 56    | 62    | <b>5</b> 5 | 84    | 105  |
|            |   | Neo-<br>plasms                          | 106   | . 81           | 92    | 88    | 92    | 105   | 112   | 109   | 94    | 93         | 90    | 87   |
|            |   | Diseases of the cir-<br>culatory system | 134   | 234            | 162   | 37    | 67    | 76    | 113   | 120   | 119   | 116        | 109   | 124  |
|            |   | Respiratory<br>diseases                 | 125   | . <u>`</u> 6́⊙ | 47    | 66    | 90    | 135   | 162   | 133   | 130   | 134        | 137   | 146  |
| İ          |   | Digestive<br>diseases                   | 110   | 91             | 80    | 70    | 94    | 86    | 87    | 104   | . 92  | 103        | 99    | 103  |
| - Transfer |   | Perinatal<br>causes                     | 81    | 84             | -     | _     | -     |       | _     | -     | _     | -          | -     |      |
|            |   | Ill defined<br>causes                   | 126   | 206            | 25    | 53    | 113   | 109   | 56    | 81    | 64    | 62         | 60    | 146  |
|            | XVII.   | Accidents, poisoning and violence       | 116   | 101            | 82    | 88    | 89    | 117   | 117   | 129   | 123   | 120        | 99    | 117  |
|            |   | Others (remaining classes)              | 85    | 74             | 75    | 77    | 98    | 81.   | 81    | 82    | 82    | 80         | 79    | 69   |

Derived from Bogdanov (1975), p. 25



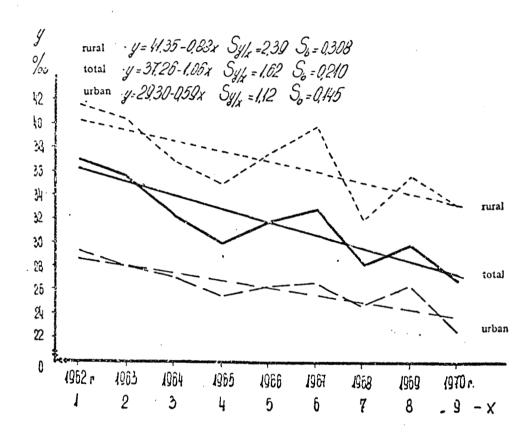
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Figure A 3: Infant Mortality by Residence 1962 - 1972

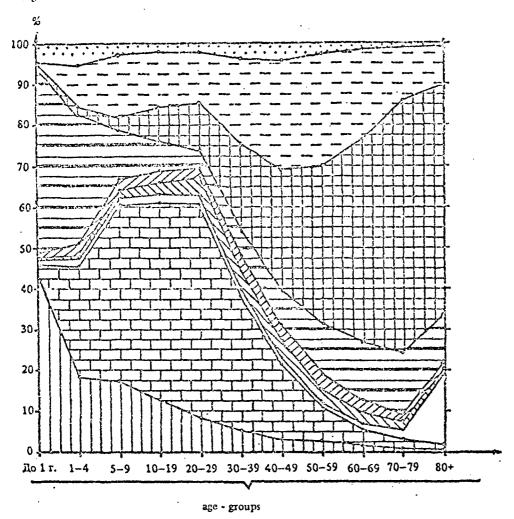


Source: Bozhikov (1972), p.55

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Figure A 4: Causes of Death by Age-Groups (1971/72)



Infectuous diseases and parasitoses Respiratory diseases III defined causes

Neoplasms Digestive diseases Accidents, poisoning and violence

Diseases of the circulatory system Genito; urinary diseases

Source: Bogdanov (1975), p.24

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