

MIGRATION AND SETTLEMENT IN HUNGARY

Klara Bies
Kalman Tekse

Hungarian Demographic Research Institute
Budapest

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Austria

International Institute for Applied Systems Analysis

Preface

To promote international scientific cooperation and to disseminate research results, the Migration and Settlement Task of the Human Settlements and Services Area at IIASA initiated a comparative analysis of patterns of interregional migration and spatial population growth in National Member Organization Countries. To carry out the study, a network of national scholars was established, an integrated methodology for multiregional demographic analysis was developed and a package of computer programs to implement this methodology was written. The contributors were invited to prepare reports on migration and settlement in their respective countries. An outline was provided and computer analysis was done by IIASA. The results of the various case studies will be discussed at a Conference to be held at IIASA in September, 1978.

This is the report on migration and settlement in Hungary. Dr. Klara Bies and Dr. Kalman Tekse of the Hungarian Demographic Research Institute in Budapest analyse recent changes in settlement patterns and study in detail the population dynamics of the system of six economic planning regions.

Frans Willekens
Leader
Migration and
Settlement Task

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1. INTRODUCTION

1.1. Present patterns of internal migration, urbanization and the settlement conditions of the population in Hungary have been shaped by historical events dating back almost four centuries. The 150 years of Turkish occupation and the nearly permanent state of war during that period forced people to concentrate into larger and safer population centres in the occupied parts of the country. Subsequent wars of independence and lastly the considerable territorial changes of the country which followed World War I, have also had considerable impact. The cyclical pattern of industrialization prior to, and the feudalistic features of the society that survived for as long as World War II had influenced urbanization from opposing directions: while accelerating the processes of urbanization, they also brought large disparities into the settlement system and population distribution.

After World War II, resolute socio-economic policies of the country, including policies related to the settlement system, as well as implementation of socialist socio-economic development plans, made great efforts to remedy the situation and to develop a reasonable system of settlements with an appropriate geographical distribution of the population. The fast industrialization, together with the development of large scale farming, was accompanied by accelerated urbanization as well as by high geographical and social mobility of the people /M. Koloszár - 1975/. Even so, patterns of urbanization and the structure of the human settlement system are much more difficult, and take more than two or three decades, to alter. The point

is strongly supported by the simple fact that, although between 1950 and 1974 the proportion of national income generated by agriculture dropped from 42% to 16% and the proportion of active wage-earners employed in the agricultural and related industries declined from 52% to 23%, the proportion of rural population changed much more slowly and declined from 60 only to 50%.

During the century prior to World War II, the tempo of urbanization had been relatively slow, except for the last decade of the nineteenth century that witnessed a brief, though virulent upsurge of industrialization /see Table 1/. The slow urbanization suffered a set-back both during World War II and the subsequent short period of intensive external migration /including both transfers of large population groups across national boundaries as well as emigration/ that took the biggest toll in the urban centres and from their population. Internal migration processes and urbanization accelerated considerably during the 1950s and 60s, when deep-rooted - even if in numerical terms not so sizeable - changes in the human settlement conditions occurred.

The balance of migration by type of settlements clearly parallels these trends. The migration gain of Budapest during the nineteen fifties and sixties is below the level observed in the last decades of the past century as well as between the two world wars. Nevertheless, the migration gain of provincial towns as well as the loss of villages reached their peak during these very last two decades. Remarkable in these new trends is the migration gain and the actual population growth of the provincial towns surpassing those for Budapest.

It should be also noted, that the balance of migration for the whole of the country in the nineteen fifties showed a gross deficit of 160 thousand people due to emigration, while in the sixties no external migration had influenced the regional distribution of the population.

The volume of migratory movements can be characterized by the annual number of people that changed residence /excluding those who moved only within municipal boundaries/. Since 1960 this number has varied between 250 and 340 thousand, while temporary changes of residence affected even more people: between 450 and 630 thousand annually. Already these figures indicate a definite decline in the intensity of migration in accordance with recent development concepts for the settlement system and for regional development of industry. Accordingly, while in 1960 there were 34 permanent and 63 temporary migrants per thousand population, these rates decreased respectively to 26 and 51 by 1970, and 24 and 43 by 1974.

- 1.2. Recent trends and current patterns of migration are greatly influenced by the present patterns of urbanization and settlement system. These, in spite of recent impressive progress, reflect a number of inherent problems, and regional as well as urban and rural disparities. The main features of the settlement system of Hungary and some of the associated problems can be summarized as follows /see: K. Tekse - 1977/:

- a/ The level of urbanization is relatively low: in 1974 still about one half of the country's population lived in rural areas.

b/ Budapest, the capital of the country, outstrips the rest of the towns in its dimension, size and concentration of economic activity. At the end of 1974, about 40% of the urban population was concentrated in the capital. The primacy of Budapest /measured either by the 4-city or the 11-city primacy index/ had always been marked, but it rose sharply during the fifties as shown in Table 2. The concentration of economic activity, including industry nearly parallels this trend.

c/ The outstanding primacy of Budapest stems partly from the lack of a network of big cities apart from the capital. The five most important cities in Hungary following the capital /called county towns/ had an average population of only 165,000 at the end of 1974.

d/ Although the urban system has considerably widened during the last two decades, leading to a more regular distribution of urban centres, their development cannot be considered even. The population growth of these middle-sized towns differs from region to region /their growth was particularly slow on the Great Hungarian Plain/. Up to 1970, medium- and small-sized towns were nearly completely absent in large areas of Southern Trans-Danubia as well as on the Hungarian Plain. Since then the situation has improved only moderately with the reclassification of a few larger, more industrialized villages into towns. Lastly, in many of the towns the general level of development of the technical infrastructure is still very low /G. Kőszegfalvi - 1976/. /For example, there is less than 10 % mains water supply in as many as one third of all the towns./

e/ The gradual decrease of rural population /see Table 3/ did not improve the pattern of the rural set-

tlement system where large disparities still exist. In the South Western part of the country, villages of small size have developed with an average population of only 700. In contrast, there are large villages /of over 5,000 inhabitants/ on the Hungarian Plain which are situated at long distances from each other.

f/ Another characteristic feature of the system in the existence of a considerable number of detached farmhouses scattered around large villages and agricultural towns on the Hungarian Plain. In 1970, over 8 % of the total population of the country lived on detached farms but the proportion surpassed even 25 % in some counties /E. Szabady - 1974/. Currently, efforts are being made to establish small-sized trade and cultural centers near the center of population gravity of these farms in economically more viable areas where the maintenance of the system is cost effective.

Compared to the situation of towns, problems of infrastructure are even more serious in the villages. As a result, sizeable differences remain in the living conditions of the urban and rural population and even of the population of different towns.

- 1.3. During the past two decades, efforts have been made to remedy the situation. The centres of regional economic activity were gradually shifted, first of all by changing the regional distribution of industry. The share of Budapest in the volume of national industrial production was decreased by strengthening the existing industrial centers in the provinces and by developing new industrial centers. Together with fast industrialization, the tertiary sector has developed faster in the provinces.

The changing regional patterns of industrialization created new demands for labour force in some urban areas, while fast mechanization of agriculture generated a welcome additional reservoir of labour surplus in the agriculture by the early sixties. As a result, the rural-to-urban migration accelerated somewhat during the first half of the 1960s. However, the labour supplies from agriculture soon became nearly exhausted and the rural-to-urban movement of people gradually slowed down /see Tables 4 and 5/. The direction of the main streams of migration has also been modified, shifting the main thrust from Budapest toward the middle and smaller sized provincial towns and toward the newly emerging industrial centers /L.Bene - 1975/.

- 1.4. Partly as a result of changing patterns of urbanization, numerous signs of some emerging urbanization tendencies became visible during the recent past. These tendencies, long familiar in the European scene, represent some new phenomena in the evolution of the human settlement system in Hungary. Their most important features are as follows:

- a/ Emerging agglomerations are in the process of development not only around Budapest, but also around the middlesized county towns in the provinces /A.Faluvégi - 1972/. It is expected that their evolution and consolidation will be instrumental in assuring the gradual continuation of urbanization in the country.

- b/ Processes of new suburbanization were set into force around the capital with the improved means of mass transportation and fast-spreading use of private transport facilities.

c/ The micro-structure of the human settlement system in the provinces is being gradually strengthened and consolidated with well-established areas of attraction around the central towns.

d/ Commuting in general, but around Budapest and the county towns in particular assumes increasing proportions. In the early seventies a new phenomenon of commuting between villages has also emerged with the development of even larger farming units that in some places cover the area of several villages. Some of its demographic, psychological, social and economic consequences are becoming apparent in the individuals, families and communities affected.

2. CURRENT PATTERNS OF SPATIAL POPULATION GROWTH

- 2.1. National population growth. The growth of Hungary's population has never been unbroken since historical times, and the growth rate has been steadily declining since the turn of the century. The trend of the growth rate broke markedly on several occasions with repeated waves of emigration and sometimes sudden, sustained decline of fertility in the interwar and postwar periods /E.Szabady - 1974/. As a result, Hungary's population barely surpassed 10.6 millions at the beginning of 1977, showing a mere 1.4 million increase since 1949. Even by European standards, the population growth rate was among the lowest during the 60s, showing only an annual average of 3.5 ‰. During the early 70s the situation remained essentially unchanged with 3.6 ‰ average annual rate of increase between 1970 and 1974 /see also: Fig.1/. It was only after 1973 that the population growth of the country has somewhat accelerated as a result of moderately pro-natalist population policy measures that led to a modest increase

in fertility. Even so, the average annual rate of population growth has reached only 5.5 ‰ in recent years.

2.2 Regional divisions of Hungary. For the analysis of spatial patterns of population growth a variety of administrative subdivisions of the country could be utilized. Most of the analysis in the present chapter is based on the division of Hungary into counties and county towns. Accordingly, the country is divided into 19 counties, 5 county towns and Budapest, the capital of the country. Fig.2. illustrates the set up. The current system is in force since January 1950, when the counties were defined and their boundaries were fixed. /It should be noted, however, that the current administrative subdivision of the country is based essentially on a historical administrative division that dates back to the time of the establishment of the Hungarian State at the beginning of the present millenium./ Since 1950 only minor changes occurred in the area of the counties involving insignificant boundary modifications. The most important new development was the designation of a new county town of Győr in 1970. Of course, counties are further subdivided into a number of rural and urban districts that are not considered in the present study.

The regional subdivision of the country provides the basis for further aggregation of data. In 1971 Hungary was subdivided into six regions /more precisely into economic planning regions/, comprising several counties and one county town each, except the Central Region that incorporates only the capital and the surrounding county of Pest. The regions were intended to group together counties of similar economic conditions, including simi-

larities in natural resources, the level of industrialization that all together form a distinct economic unit within the country. Elaborations of national socio-economic plans are based on these regions at least as a first step. The regional subdivision of the country is also shown on Fig.2. and Annex I. gives a list of counties and countytowns according to their regional location.

Regional patterns of population growth can be meaningfully analysed only in relation to the system of human settlements. The system is based on a total of 3188 settlements as of 1st January 1974. Of these settlements 83 were designated as towns /urban areas/ and the remaining are villages. Within the urban system, besides the capital, 5 county towns are distinguished and the remaining 77 are usually called provincial towns. Towns are settlement units legally so designated according to their size, population growth, level of infrastructure and the role what the unit plays in the system of neighbouring settlements. Table 6 illustrates the evolution of the settlement system since 1949. Hungarian population and vital statistics is readily available for these categories of settlements.

The governmental concept of development of human settlement system mentioned already in the introduction introduced a new classification of settlements beyond the single urban/rural classification. The classification is based on the role in the regional division of labour, on the socio-economic function on the importance in organization, management and services of the individual settlements, as well as their population size and the type of its area of attraction. Accordingly, national, higher level, medium level and lower level centres and other settlement units are distinguished /further sub-

divisions are not considered here/. Table 6. shows the evolution of the settlement system according to these categories, and Fig.2. illustrates their regional distribution. Regular statistics so far do not follow this classification, although in principle appropriate disaggregation of data is possible, for which a recent publication of the Central Statistical Office /1976/ is a fine example.

- 2.3. Regional fertility trends. The most important single cause of slow national population growth is the continuing low level of fertility. But beyond national trends considerable regional differences in fertility trends and patterns are factors of importance behind multiregional population growth.

Since 1960 the level of fertility has barely been enough to sustain simple reproduction of the population. In fact, the total fertility rate continued to be below 2 with the exception of only one or two years. The fertility level reached its lowest during the first half of the nineteen sixties with its minimum of 1.7 total fertility rate in 1962. By the late sixties the fertility has gradually bottomed out even if its increase was only short-lived /A. Klinger: 1969-71/. By 1972 its general level was again near to 1.9 as measured by the total fertility rate. Beginning with 1974 a new wave of higher fertility started as a result of population policy measures introduced in 1973. Even this wave reached its peak already in the following year and since 1975 it follows a gradually declining course. This trend implies a negative reproduction of the population. The gross reproduction rate had never reached the unity before 1974, while the net reproduction rate was consistently between 0.8 and 0.95 /Table 7/.

The current higher reproduction of the population is not expected to continue long even on a year-to-year basis. It is feared that the higher level current fertility will not be fully materialized in the completed fertility of generations.

The fertility trends of the past 15 years showed remarkable urban/rural and other regional differences, although these differences are gradually diminishing /see: Table 8/. The fertility of the urban population has been consistently lower than that of the rural population, but its level in Budapest is particularly very low. While in 1960 the total fertility rate was 2.0 for Hungary as a whole, it was a bare 1.2 in Budapest and 1.9 in other urban areas. Therefore, the bulk of reproduction was provided by the rural population with a total fertility rate of 2.4. Up to 1970 the situation has barely changed except for a significant increase of fertility in Budapest. The upsurge of fertility beginning in 1974 has affected both the urban and rural population, although there is perhaps a slightly faster growth in the provincial towns /Table 9/. As a result, the total fertility rate reached a formidable 2.6 at least for the rural population.

Even wider regional differences can be observed in both the level and trends of fertility. Counties in the North-Eastern part of Hungary have always formed a region of high fertility /the boundaries of which, of course, cut across the so called planning regions used in major parts of the present analysis/. In 1960 when the national fertility was already low, counties of Borsod, Hajdu-Bihar and Szabolcs had a total fertility rate of over 2.5. On the other end of the scale, counties in the South-Eastern

part of the country /Békés, and Csongrád/ had a fertility below the national average. Only Heves and Pest counties in Central Hungary match this low fertility. The rest of the counties had a near average fertility, except perhaps Baranya in Southern Trans-Danubia with a relatively higher share of national minorities /Fig.3/.

During the 14 years period after 1960 the regional pattern of fertility changed relatively little except for the general increase of fertility which affected the population of every county. Generally speaking, counties of lower fertility in 1960 demonstrated a higher fertility increase during the period. /see Figures 3 and 4/. Thus, counties of Békés and Csongrád in the South-East, as well as counties Heves and Pest in addition to Szolnok in Central Hungary had a fertility increase of 5 % or over above the national increase. On the contrary, counties of formerly high fertility were slow to follow the national trend as it is shown on Fig.4. As a result, the regional differences in the level of fertility have diminished somewhat with the general increase of fertility observed in the early seventies.

These fertility trends are well confirmed by statistics on birth order dynamics. During the period of low fertility in the sixties the proportion of first order births have gradually increased from 44 %, to over 49 %, while third and higher order births dropped from nearly 27 % to 17 %. The increase of fertility after 1973 led to a /even if possibly only a short term/ reversal caused primarily by a sudden increase in the second and third births /see: Table 10/.

This trend was most remarkable in the urban population, particularly in Budapest. In the later as high as 65 % of all births were of first order already in 1965, and in 1970 a mere 8 % of all births were of third and higher order. The proportion of second order births, however, jumped well over the national average in 1974. On the other hand, the proportion of first order births has never increased over 45 % in the rural population, and even third and higher order births have constituted at least 19 % of all live-births. One can only speculate about the future course of these trends even for the seventies. According to the opinion of many the downward trend in the level of fertility that started already in 1976 will continue at least until the end of this decade with all its characteristic features in fertility patterns.

- 2.4. Regional mortality patterns. Hungary has always been a country of relatively high mortality as far as the European continent is considered /A. Klinger: 1969-71/. In the early seventies Hungary was only the 22nd among the 26 European countries for which estimates of life expectancy is available. In 1974 a new born baby boy could expect to live only 66.5 years and a girl 72.4 years at the time of their birth. These expectations are just slightly higher than similar values fourteen years before, in 1960. During this period the increase was a mere 1.3 years for males and 2.8 years for females, and at least for the males even this increase was almost entirely due to the decline in infant mortality that occurred.

This slow improvement in mortality conditions was relatively steady among the females, but there were painful reversals among the males. In fact, the male life expectancy of 67

years in 1964 has gradually declined until the early 70s, and could not be matched again ever since /see: Table 11./. This is due largely to the dramatic increase of male mortality in the ages of late adulthood /particularly in the 45-54 year age-groups/. Some cyclical trends in the general level of mortality have also been introduced by periodic influenza epidemics that occur every 2 or 3 years causing considerable winter or early spring mortality peaks /E.Szabady - 1974/. One of the natural results of these trends is the gradual widening of difference between female and male life expectancies, which grew from 4.4 years in 1959/60 to 5.9 years in 1974.

The group of heart diseases is the biggest singular killer among the causes of death. The expectation of life at birth in 1969 /70 could be increased by 5.3 years for males and 6.0 years for females if this cause-group could be eliminated /see: Table 12/. Cancer /of all sites/ is the second most important cause of death in Hungary that shortens the life of people by about 2.4 years. All violent causes of death is another major contributor to high mortality, primarily among the males. 2.2 years could be added to the expectation of life at birth of males if this group could be eliminated. Accidents explain only slightly more than half of these deaths /of which motor vehicle accidents are not particularly frequent/. A remarkable feature of accident mortality is the heavy weight of suicides among them, in which Hungary leads the international statistics.

There are surprisingly small urban/rural differences /if not regional differences/ in mortality. In 1959/60 the expectation of life at birth of urban males exceeded only by 0.6 years that of their rural counterparts.

The difference is 1.1 years for females.

Even the regional pattern of mortality demonstrates a great deal of homogeneity. In 1959/60 the expectation of life at birth by counties was within a range of 2.5 years for males and 3 years for females, although the regional patterns are not identical for the two sexes /see Fig.5/. Counties of Szolnok and Csongrád on the left bank of Lower-Tisza river form a region of lowest mortality, where life-expectancy exceeded 66 years for males and 70 years for females. Only the county of Vas in Western Hungary could match this statistics in 1959/60. In some other counties, like Veszprém or Hajdu-Bihar lower female mortality was accompanied by near to average male mortality. Counties in Southern Hungary form a continues region of high male mortality ranging from Somogy to Bács-Kiskun. Out of these counties, however, only Somogy belongs to the area of high female mortality, while other counties of similar mortality are scattered around other parts of the country as far away from each other as Komárom and Szabolcs /E.Pallós - 1971/.

Similar to patterns of fertility change, improvements in mortality during the 60s were the fastest in areas of previously lower mortality as it can be seen from the comparison of Fig.5 with Fig.6. As a result, the homogeneity of counties from the point of view of mortality /particularly for females/ had further increased /source: E.Pallós - 1978/.

Infant mortality is a major contributor to high mortality in Hungary. There were 47.6 infant deaths per thousand live-births as recently as 1960. After some improvements

during the early sixties/the infant mortality rate declines to 38.8 ‰ by 1965/ a long period of stagnation followed. It must be noted, however, that the latest 2 or 3 years, /which are out of scope of the present review/ have witnessed some remarkable improvements in infant mortality: its rate dropped to 26 ‰ by 1977.

A remarkable feature of trends in infant mortality is the widening difference between urban and rural areas. During the 1960-74 period the improvements in infant mortality in rural areas nearly paralleled the national trends. Somewhat similar trends could be observed in the mortality of provincial towns, while the situation has hardly changed in Budapest, where the rate was nearly 42 ‰ even in 1974 /see Table 13/. In view of the fact, that infant mortality is a major factor behind general mortality levels and trends in Hungary we can find the lowest level of infant mortality in the counties /Csongrád, Szolnok as well as Hajdu-Bihar along the left bank of Tisza river as well as in county Vas/ where the general level of mortality was found also more favourable. On the other hand, counties of Bács-Kiskun and Szabolcs-Szatmár were outstanding with their very high infant mortality in 1960 /see Fig.7/. The improvements in infant mortality between 1960 and 1974 were nearly uniform with a few noteworthy exceptions. The mortality in the county town of Pécs and county Tolna has actually increased over the period in contrast to the national trend. In addition there were three more counties where the decline was less than 20 ‰, as it is shown on Fig.8. Nearly half of the counties improved their infant mortality by as much as 40 ‰ during the 14 years period, which are situated in the northern half of the country with only one exception.

2.5. Internal migration. Under conditions of slow natural increase of the population all over the country the internal migration of the population is the main factor that govern the regional redistribution of the population. The continuing industrialization of the country, the fast development of large-scale socialist farming, that involved intensive mechanization of agriculture, tend to shift people to new production centres across county and regional boundaries /L.Bene - 1975/. During the 15 year period after 1960 between 700 thousand and 970 thousand people changed their place of residence annually either permanently or only on temporary basis. Although the great majority of these moves are of temporary character only, still permanent change of place of residence affected between one quarter and one third of a million people every year. It is hard to judge the net effect of these moves, say over an intercensal period, as besides a majority of "non-movers" some of the migrants changed their place of residence several times during the period. But we know from census data that all these moves resulted in a net loss of 570 thousand people in rural areas during the 1960-69 intercensal period due entirely to migration /see Table 4/. As the total natural increase of the rural population amounted only less than half of this number, rural-to-urban migration resulted in a more than 5 % actual population decrease in rural areas over the intercensal period.

In spite of the inherent shortcomings of migration statistics based on continuous registration of place of residence, the timeseries available in Hungary from 1955 offer some good possibility to review and analyse migration trends and patterns. Indeed, already a first sight at Fig. 9 clearly indicates a gradual decline in the intensity of migration during the period. In fact, the number of permanent migrants dropped from 34 per thousand population

in 1960 to less than 24 in 1974. There was a nearly 30 % drop also in the intensity of temporary migration during the same period. It was not a smooth decline: though there were significant drops in the trend particularly in 1967 and in 1972 /as far as permanent migration is concerned/. In addition a drastic reduction in the intensity of the temporary migration occurred in the period from 1963 to 1964. The reduction affected both urban and rural population but particularly that of Budapest. The intensity of immigration has declines by nearly 60 % in the fifteen-year period and the out-migration also dropped to a level below 40 % of the 1960 figure. As far as the direction of migration is concerned, this decline affected nearly all main migration streams /see: Table 14/. The most sizable decline occurred in the migration between villages, in the urban-to-rural migration as well as in the flow to people towards Budapest. The intensity of migration towards provincial towns /if not its actual volume/ has also declined on the other hand the migration of people from rural areas to provincial towns has remained relatively unaffected. These figures indicate that during the period of great efforts to decentralize industry and faster development of infrastructure in the provincial towns, the capital is not so an attractive target any more. On the other hand, the ageing of the rural, agricultural population, the faster growth of family income in the agriculture and the reduction of distance between rural and urban areas /with the improved road system and private and public transport facilities/ substantially reduced the push-factors from rural areas.

Going into more details into the regional patterns of migration /and leaving aside the capital and county towns

at this point/, nearly all counties show a sustained migration loss during the 15 years period. Only the counties of Fejér and Komárom in the region of Northern Trans.Danubia and county Pest around the capital show consistent migration gain. The first two counties locate fast-growing industries and large-scale mining industries. While the county of Pest accommodates a steadily growing belt of villages forming part of the Budapest agglomeration that show more and more visible sign of suburbanization. In the later part of the period considered the county of Heves on the North, Somogy and Veszprém along the shores of the Balaton resort lake joined the group of counties with moderate net migration gain /see Table 15./.

On a more aggregated level, all regions of the country except for the Central and the North-Trans-Danubian regions suffered migration loss /see: Table 16; and for more details in 1974: Tables 17/a and 17/b/. But only the Central region benefits significantly from migration. It is important to note, that these migration trends led to increasing closedness of the regions against both permanent and temporary migration. The closedness is measured by the proportion of internal migrants that move only within regional boundaries among all migrants that affect the region's population. The closedness of all regions has substantially increased over the 15 years period, particularly that of the Central and the North-Trans-Danubian regions as it is shown on Table 18.

Expressed in a more comprehensive way, these migration flows mean that an average Hungarian can be expected to make over 4 migratory moves during the whole life time, if permanent and temporary moves are jointly considered. Of course, this figure would be considerably higher if residential mobility were too included. Two thirds of these moves involve temporary change of residence and consequently take little

part in the redistribution of the population. The remaining approximately one third are permanent migrations, which on balance generate a steady population redistribution. It is remarkable that already this summary indicator so vividly shows the migration decline that took place in the sixties, as the gross migration expectancy in 1960 was nearly 6.5. Males are expected to make exactly one move more during their life-time than females /but then it is only a temporary move P.Compton - 1971/.

From the above mentioned it follows that the majority of permanent moves occur over short distances. More than half are generated within the same county, and an additional quarter involve moves between neighbouring counties. The friction generated by distance is thus considerable. From the localized nature of most migration activity in Hungary there is only one exception and that is Budapest, that exerts a sufficiently strong attraction for the whole country. On the other hand, temporary migrants are willing to travel for longer distances and in most cases the proportion of temporary moves within the same county does not exceed one third of the total.

A distinctive feature of migrants in Hungary as elsewhere is their age structure. Approximately 60 percent of all permanent migrants are in the 15-39 age-group. This age concentration is even more pronounced among the temporary migrants, nearly three quarter of them are in this age group. Table 19. details the age pattern of both permanent and temporary migration by sex in 1960 and 1974. The age-specific migration schedules in Hungary conform well with patterns observed elsewhere /A.Rogers - 1977/. Some of the prominent features of the Hungarian schedule for permanent migrants can be summarized as follows:

a/ The pattern in the pre-labourforce ages follow well that of the parents as far as permanent migration is concerned. In recent years, however, the intensity of migration might have somewhat been moderated in relation even to the lower migratory frequencies of parents. /The actual figures for this age-group might be also influenced by a definite, if not fully assessed deterioration in the completeness of registration - speaking only about data for the years 1974-76.

b/ The left-scewed unimodal trend in the labour force ages shows higher peaks for females, but wider peaks with a more gradual descent for males.

c/ A complete absense of the so-called retirement peak: instead a definite and sustained ascent appears in the post retirement ages /after 60 years/.

d/ The decline over the past 15 years in the intensity of migration affected primarily the 20-35 years age-groups for both males and females.

As far as the age patterns of temporary migration are concerned, they show a unimodal curve /if we leave aside an insignificant local maximum at the very young /under 5 years/ and very old /over 80 years/ age-groups. The peaks of the schedules are approximately three times higher than those for permanent migrants. It is also noteworthy, that the maximums for males well exceed those for females.

The above discribed patterns define well the average age of migrants which had been 25.6 years for males and just slightly more for females during the last decade or so /Table 2o/. In 1974 the average age of temporary migrants was 26.5 years for males and 24.8 years for females.

The average age of temporary migrants underwent a sizable decline since 1960: it dropped by 3 years for males, and even more for females.

The motives and reasons behind individual moves are of great concern for demographers, planners and policy makers as well. The behavioural aspects can approximately be assessed from regular migration statistics on the basis of information on the reason for move given by the migrants at the time of notification of their new address. Of the individual reasons for migrating, the economic motives of change of employment and residing closer to the current place of work are most significant and accounted for nearly 30 % of all permanent and 60 % of all temporary changes of residence in 1974. A highly significant reason for moving is that of being a dependant which comprised 37 % of permanent movers in 1974 /Table 21/.

The social motives of marriage, education and medical treatment are prominent among both temporary and permanent migrants although, of course, the pattern varies by type of migration /see Table 19/. The comparative significance of individual reasons for migrating permanently varies little with the types of settlements, but the patterns show measurable territorial differences for temporary migration.

A most thorough analysis of factors that generate migration took place in the late sixties based on migration data prior to 1965 /P.Compton - 1971/. It focussed attention on the spatial variations of the socio-economic characteristics of the places involved in the migration process. The study found that housing quality and availability were the most significant variables that generate geographical mobility in Hungary. Population dependancy, living standards and

per capita income are the other major determinants /they explained nearly 87 % of the variations in some types of net migration/. Economic disparities are thus proposed as being the prime determinants of net migration. The same study also revealed, that the pull factors operate more forcefully than the push factors, as far as permanent migration is concerned. In other words, places of origin are less dynamic elements in the process serving mostly only as a reservoir of migrants and socio-economic characteristics of places of destination dominate the migratory flows.

- 2.6. Population redistribution and structural changes. The regional natural increase of the population and the migratory processes reviewed above significantly modified the distribution of the population in the country and introduced major modifications in the regional age structure.

Actual population increase between 1960 and 1974 was recorded only in the Northern regions of Hungary, while in the two Southern regions, as well as in the region of North-Plain actual population decrease occurred. The population growth was the fastest in the Central Region, where the average annual rate of population growth was about three times higher than the national average. It is followed by the region of Northern Trans-Danubia with approximately twice the national growth rate. Lastly Northern Hungary showed a population growth rate just below the national level. On the other hand, large population decrease occurred in the two regions of the Hungarian Plain, the average annual rate of which exceeded 2 ‰ /see: Table 16/.

These divergent processes generated a regional population redistribution that affected primarily the population of the Central Region on one hand, and the populations of the

regions on the Hungarian Plain, on the other. Indeed, the share of the Central Region in the country's population has increased over the fourteen-years period from 25.6 % in 1960 to 28.4 % in 1974. The population decline of the Hungarian Plain nearly completely compensated these gain as the share of these two regions has declined from 31.3 % to 28.7 %. The proportion of the population in the remaining three regions remained essentially unchanged, although the weight of the two Trans-Danubian regions has somewhat declined.

These redistribution trends are well reflected in the changes of urban/rural composition of the population. In parallel with the population decline of the less urbanized regions, the proportion of rural population has declined by nearly 7 percentage points from the 1960 level of 57.4 % of the corresponding increase in the urban share, nearly three-quarter occurred in the population of provincial towns. The tempo of these changes already discussed in the Introduction /see: Table 3./.

During even such a short period of time as from 1960 to 1974 the population of whole Hungary aged considerably. The proportion of children under 15 years of age has declined by 5.4 percentage points while the proportion of old aged people 60 years and over has increased by 4.4 percentage points. This ageing process occurred in every region without exception, most noticeably in the Central and South-Plain Regions. These are the two regions where the proportion of children under 15 years did not reach 20 %, and the proportion of old aged exceeded 19 % in 1974. Here the ageing process was the fastest. Only the ageing of the population in the North-Plain Region is comparable. In case of the regions of the Hungarian Plain it is definitely the result of sustained outmigration of people in the labour force ages. Its effect was slightly moderated, but apparently not eliminated

by the relatively higher fertility observed in the North-Plain Region. The increase in the proportion of people 15-39 years of age in the Central and North-Trans-Danubian Regions is the result of the continuing migration gain in the labour-force ages /see: Table 22/.

Similar effects can be observed in the age-structure of the urban and rural population. Here primarily the population of villages, besides the population of Budapest, aged the fastest, as it is shown on Table 23. In case of villages the outmigration of people in the labour force ages took its toll, first of all in the 15-39 age-group. The age structure of the population of Budapest was modified by the joint effects of low fertility and moderate migration gain. The ageing process in the population of provincial towns was somewhat moderated by the continuous and sizeable net migration gain.

3. MULTIREGIONAL POPULATION ANALYSIS

- 3.1. Study methodology. The regional distribution and redistribution of the population and the components that govern redistribution are intimately interrelated as it was suggested in the previous chapter. Population and vital statistics of a country, even if it is as refined as the rutin statistics of Hungary, can hardly follow these complex interrelationships. As a result, much of the available information, and consequently most parts of the previous analysis could not penetrate deeply enough into the core of problems and asses precisely the role of individual factors behind regional population changes. Needless to emphasize the importance of identifying accurately these factors, and measuring their importance in regulating the processes of regional population redistribution.

Methods of multiregional mathematical demography that were proposed and elaborated by A.Rogers and his associates over the past decade or so provide an excellent tool to analyse and understand the complex dynamics of multiregional or spatial population systems. /For a most recent review of literature, see: A.Rogers - 1978/. The techniques permit us to measure and assess the importance of the fertility, mortality and migration components in regional population dynamics, taking into full account the regional or spatial system of the country, and its impact on the various components of population changes.

What makes these methods most useful is the elaboration of detailed computer programmes to utilize them for spatial demographic analysis. In recent years a team of the International Institute for Applied Systems Analysis /IIASA/ headed by Professor Andrei Rogers has developed a large package of computer programmes that provide a ready tool for the utilization of these methods. This include computation of multiregional life tables, projection of multiregional population systems and analysis of stable multiregional population / see: Willekens, F. and Rogers, A.- 1976 and 1977/. The programmes were extensively tested by IIASA and put at the disposal of scientists in the associated countries and elsewhere.

The multiregional population analysis of Hungary that follows is based on the numerical results of this computer analysis kindly provided by IIASA^{x/}. They offer an excellent basis for the analysis of the current patterns of regional population dynamics in Hungary, and that in an internationally

^{x/} The valuable work of the IIASA team, particularly of Prof.A.Rogers and F.Willekens, so usefull to analyse and understand patterns of regional population dynamics in Hungary is highly appreciated.

comparable base. In fact, this analysis forms part of an international comparative migration and settlement study conducted by IIASA.

As far as the applied methodology is concerned, instead of repeating its description here, we refer to the publications of A. Rogers and his associates listed under the references. The analysis that follows will focus on the findings.

- 3.2. Data used in the study. The present study is based entirely on data produced by regular Hungarian population and vital statistics. In recent years this statistics is based on the concept of "resident" population, composed of people with permanent residence in a given locality, who do not have temporary residence elsewhere. It includes also people with temporary residence in the considered locality. The concept was first introduced at the 1970 census and it assumes increasingly dominant role. All data in this study /if not stated otherwise/ is based on statistics of resident population.

Vital statistics used in the analysis, however, is produced according to the permanent place of residence of mothers in case of birth and of the deceased in case of death. This may cause some theoretical discrepancies between the base data when computing rates and other derived measures.

Continuous migration statistics of Hungary, which started in 1955 is based on the system of compulsory notification of place of residence. Since 1975 the system is operated

by the municipalities where every permanent or temporary change of residence should be reported using special forms, one for the place of origin /exit form/ and one for the place of destination /entry form/.

By definition, a permanent migrant is a person who gives up his dwelling and designate another residence as his permanent one in some other settlement. A person can only have one permanent residence at any given time. In case of permanent migration, the place of origin is the previous place of permanent residence, while destination is the new permanent residence.

A temporary migrant is a person who, while retaining his permanent dwelling, changes residence and destignated dwelling in an other settlement as a temporary residence. A person can only have one permanent and one temporary residence at any time. A temporary return migrant is defined as migrant who gives up his temporary residence and returns to his permanent dwelling. A move from one temporary residence to an other, however, is always related to the migrant's permanent dwelling, which may tend to exaggerate the number of temporary return migrations. Since 1975 the notification system covers the entire population of Hungary i.e. all age-groups. Prior to this it covered only the adult population /variously defined at different time-periods/ and their children that moved along. The registration forms cover a number of personal characteristics including occupation, place of work and the reason to move. Detailed cross-classifications on the statistics of migrants are produced and published annually /see: Central Statistical Office/.

Tabulations of migrants by place of origin and place of destination are also included although not disaggregated by age and sex for reason of economy. For this particular study migrants were also cross-classified by sex and 5-year age-groups in addition to the direction of migration. Appropriate data for the migrants between regions were aggregated from data for counties and county towns. Data on permanent and temporary migrants were grouped together according to the requirement of the study. Both sexes are also jointly considered. The origin-destination migration flows by age have been estimated from the total flow matrix and the age structure on arrivals and departures, using the entropy-RAS method. However, the observed migration flows by age have now become available and will be used as a basis for a following version of this paper. The data are given in Appendix II.

- 3.3. The multiregional life table of Hungary. A major tool of multiregional demographic analysis is the multiregional life table, that provides an excellent synthetic measure of mortality and migration in a multiregional population system. As it was proposed by A. Rogers /1975/ such a life-table describes the mortality and migration experiences of a multiregional population system through the calculation of the life history of a hypothetical cohort born in a certain region that is subjected to constant in time age-specific mortality schedule as well as to constant age and destination-specific schedule of internal migration. They represent a multiple-radix increment-decrement life table that in turn is again a simple generalization of the concept of multiple decrement life-tables /see Rogers A. 1978, p.17/ The parameters of a multiregional life table describe the life experience of an average person born in a region but not only from the point of view of mortality, but also of migration by indicating in which particular region parts of his life or her life is expected to be spent. In this way it gives a spatial meaning to one of

the most basic demographic indicators i.e., to life-table parameters.

Table 24 summarizes the results from the 1974 cross-sectional data. It indicates the total life expectancy of a member of a hypothetical cohort born in a given region /in the last total column/ which is broken down into regions where that life is expected to be spent. Not surprisingly, people born in the Central Region can expect the shortest life at their birth, totaling a mere 68.4 years. People of North-Trans-Danubian origin are the most privileged with a life expectancy of nearly 70 years. /All these prepositions are of course relative, as life expectancies of regional populations are remarkably concentrated within a range of a trifle 1.3 years./

No matter in which region a person was born, he can expect only less than half of his/her life time to be spent in the region of birth. From this point of view of the region of origin, people born in the Central and North-Trans-Danubian region will spend the highest share of their life expectancy in the native region. This is in full conformity with their strong attraction exerted not only on the immigrants, but also on their native people. On the other end of the scale one can find the region of the North-Plain which can keep its native born people only for slightly more than one third of their expected life-time.

Viewing the same result from the point of view of the region of residence, it is the Central Region that benefits most. A sizable proportion of life will be spent in this region of an average Hungarian independently of his/her region of birth. For example, a person born in Northern Hungary /including the Northern Plain region/

can expect at least one quarter of their life expectancies to be spent in this region. But this proportion is as high as 20 percent for an average person born elsewhere /Table 25/.

We can, of course, compare the levels of migration between any two of the regions. As it is suggested by Table 25, the Central Region exerts the strongest attraction on the population of other regions. Its attraction is the weakest on the population of North-Danubia which is itself a major benefactor from internal migration. This region exerts the second strongest attraction. Besides the region of Southern Trans-Danubia the remaining three regions on the Hungarian Plain and in Northern Hungary are the real losers from the migratory processes.

One of the more refined indicators of this multiregional life expectancy matrix is the survivorship function that specifies the survivors of an initial cohort born in a given region and subjected to the given mortality schedule according to the region of residence at any given age. Fig.12. illustrates the survivorship function of people according their region of birth which remain in the same region throughout of their entire life time.

3.4. Multiregional population projections.

3.4.1. The regional fertility mortality and interregional migration data used in the previous analysis can be consolidated constructing a generalized Leslie model, which is essentially based on a generalized multiregional transition matrix /See: Rogers,A.-1975/. This matrix can be interpreted as a projection matrix and if it is applied

on the matrix of the sex- age- regions-specific initial population of the country, we can arrive at a population at the end of the period, say, 5 years later. Such an operation can be conducted consecutively projecting the initial population through time. It must be emphasized, however, that elements of this matrix remain constant in time what involves the assumption of constant age-specific fertility and mortality schedules and constant in time age- and destination-specific migration schedules for the populations of each regions considered.

As it was shown by A.Rogers /1975/ the age composition of the population of the regions as well as the share of regions in the total population of the country that emerge will be increasingly independent from the initial age structure and regional distributions. In other words, the regional population tends to forget its initial age structure and distribution by regions if sufficient time elapses under the influence of constant regimes of fertility, mortality and migration. Some time after the initial point the age structure of the regional population and the regional distribution of the country's population will not change when the transition matrix is applied. Such a population structure is called stable regional population by the theory. An essential assumption of the model is, that the country's population closed against external migration, which is the case in Hungary.

Regional population projections and regional stable populations were also calculated as a central feature of the IIASA research concept. The main objective of the regional projections is to highlight the long-run demographic and regional implications of the current demographic patterns. The regional growth rates and the age-

and regional-distributions of the stable population are important parameters of these implications.

3.4.2. Multiregional population growth. Table 26 summarizes the results of multiregional population projections for Hungary by regions starting from 1974 to 2024. It shows regional rates of natural increase, internal migration and population growth. As it can be seen, time variations in each series are gradually dumped by gradual smoothing out of the regional age distributions. As a result, the regional population growth-rates will be in a 0.5 % vicinity of the national growth rate already in 2024. There is also a high degree of stabilization in the regional vital rates. Needless to say, that smoothing out of regional age distributions is rapidly reflected in the time trend of the mean age of the regional populations. Between 2014 and 2024 the mean age would change less than 0.2 years in the population of every region.

The same process of strong stabilization appears in the regional distribution of the population. In the last decade of the considered projection period the proportion of the regional populations in the national total will change less than 0.7 percentage point in all, but the North-Trans-Danubian region. It is remarkable that the regional population distribution that emerges will be so close to the initial distribution observed in 1974. Only the share of the Central and particularly the North-Trans-Danubian regions will increase sizeably, and the South-Plain region will suffer most. As Table 27 testifies, the regional population distribution in 2024 will be remarkable close to the stable distribution.

The projected annual regional rates of growth exceed unity

for each region throughout the projection period /except once for the region of South-Plain/. This means that the population of regions will steadily grow until they reach stability. But as it can be seen from the Table they are far from the stable state even in the year 2024.

The five year growth ratio of the stable population that eventually will develop is 1.0152. It is calculated as the dominant characteristic root of the transition matrix. It gives a spatial intrinsic growth rate equal to 3.014 %0 which is a value rather distant from the national growth rate projected for the year 2024. One may conclude that the path of individual regions towards the year stability is rather close to each other, but by no means a fast one.

3.4.3. Regional stable population. The stable regional population that emerged from the multiregional projection exercise will have a steady but slow rate of growth of 3 %0 in each region. Its regional distribution has already been also described. The regional stable age distributions are illustrated on Fig.13, in relation to the age distribution of the initial regional populations.

The regional stable age distributions reflect a characteristic shape of a growing stable population in each, region except the Central Region. Accordingly the proportion of the population by 5-year age-groups is steadily declining by age. A significant drop in the proportions between the two first age-groups is the result of still prevailing high infant mortality in the regions. There is also a steep decline in the early labour force ages in the stable population's age distribution of the two Northern regions, that can be associated with the patterns of outmigration from there.

The stable age distribution of the population in the Central Region differs significantly from the rest. At the first sight it appears to be the age distribution of a declining stable population with its characteristic mushroom shape. In fact, the proportion of people in the stable population between 20 and 35 years of age well exceed the proportion in the younger age-groups. But we already know that the region will have a dynamically growing stable population. Therefore, this peculiarity reflects essentially the result of continuing migration gain that the region is assumed to experience along with a sustained natural decrease.

3.5. Regional fertility and migration patterns

3.5.1 The application of generalized Leslie-model allows us to probe deeper into the regional patterns of fertility, mortality and migration when all three components are jointly considered using the concept of multiregional life-table the fertility and migration patterns in both stationary /life-table/ and stable populations can be analysed. For each population gross and net rates of reproduction and migraproduction are calculated. The analysis that follows will essentially be based on the matrixes of net reproduction rates /NRR/ and the net migraproduction /NMR/. A summary of age-patterns of the three considered components of population changes, namely the mean age of child bearing, death and migration are given in advance in Table 29. They are calculated from cross-sectional data as observed in 1974. Data will be utilized in the section that follows.

3.5.2 Regional population reproduction. The complex interaction between regional fertility, mortality and interregional

migration flows directly determine the regional patterns of population reproduction. The results are summarized in the NRR matrix given in Table 30. The total row in the matrix shows net reproduction rate of cohorts born in a given region. In 1974 the net reproduction in most of the regions were on the level of between 1.09 to 1.1, reflecting the result of the just increased national fertility. The Southern Plain region is unexpectedly stayed behind with a net reproduction rate of 1.08, and the net reproduction is far the lowest in the Central Region. For comparison an additional row is added to the table, that shows the gross reproduction rates for the initial population of the regions. As expected, these rates are higher than the net rates for all but one region. The Central Region, however, is an exception as the net reproduction rate there is also a function of regional fertility differentials projected back into the region by the emigrants born in the region that assume the higher fertility schedules of the place of their new residence.

Elements of the matrix show where the net reproduction of a cohort born in a given region will actually occur. The regional allocation of spatial net reproduction is given on Table 31. It shows for example, that of the 1.04 net reproduction rate of a cohort born in the Central Region, only about 40 % will occur in the same region. Another 18 % will happen in the region of Northern Plain, but only about 8 % in Southern-Trans-Danubia. The remaining 35 % or so will be approximately equally shared by the other three regions. Only a generation born in the North-Trans-Danubian region is expected to provide more than half of its reproduction in the region of birth while this proportion is less than 40 % in the region of the Northern Plain. Between 17 and 28 % of the

reproduction of cohorts born in any region will be materialized in the Central Region as it is suggested by the first row. From this point of view only the North-Trans-Danubian region plays a more noteworthy role.

3.5.3 Regional migraproduction. Similarly to the net reproduction matrix of the regional population, the generalized Leslie model allows the calculation of net migraproduction matrix that shows the total number of migrations /transitions/ that a person born in any given region is expected to make during his life time from the same or any other region, see: Table 32, calculated for Hungary. The total row represents the total number of moves what an average person of a locally born cohort is expected to make during his entire life time when inter-regional migration experiences and regional mortality patterns are jointly affect the person. As it can be seen, people born in the two Northern regions of Hungary, as well as in the Central Region are the most mobile with over 2.1 average number of transitions throughout their entire life time. The matrix elements visualize, how these moves are distributed among the regions. The allocation matrix is given in Table 33. As it can be expected, most part of the moves, at least 44 %, will be made out from the initial region of the cohort and another large part from the Central Region. Indeed, between 24 and 30 % of all moves of an average Hungarian will be directed out of the Central Region no matter in which region /outside of the Central Region/ that person was born. The region of Northern Plain is also a prominent area from where out-migration flows originate. In general, the three northern regions of the country /including the Central region/ appear to be a primary source of intensive interregional migratory flows.

Probabilities of outmigration from the initial region to the regions of destination by age well describe the population on the move. As permanent and temporary migrants are jointly considered, the peaks in the early labour force ages are steep. This is particularly so for the outmigration from the two Northern regions. The probability of out-migration from the Central Region overwhelmingly dominates the picture in case of all regions except perhaps the South-Trans-Danubian and, of course, the Central regions, as it is shown on Figs. 14/a and 14/b. The mean age of outmigrants varies between 24.3 and 26 years for all regions in case the Central Region is not involved in the migration. When, however, the Central Region appears either as the place of origin or as the place of destination, the mean age is in the neighbourhood of 27.2 to 28.4 years, except for the outmigrants from the Central to the North Plain Region when it is "only" 26.7 years.

Table 1.

Tempo of urbanization^{1/} during intercensal
periods Hungary^{2/}: 1870-1976

Intercensal period	Change in the percent urban
De facto population	
1870-1880	0.67
1881-1890	0.55
1891-1900	1.20
1901-1910	0.69
1911-1920	0.30
1921-1930	0.27
1931-1940	0.51
1941-1948	-0.54
1949-1959	0.73
1960-1969	0.83
Resident population	
1960-1969	1.11
1970-1974	0.92
(1970-1976)	0.94)

^{1/} Measured as the annual average rate of exponential change in the proportion of urban population.

^{2/} Data prior to 1920 refer to the present area of the country.

Table 2.

Concentration of population in Budapest as measured
by the primacy index^{1/} - Hungary^{2/}: 1910-1977

Year	Index	
	4 cities ^{/a/}	11 cities ^{/b/}
De facto population		
1910	2.88	2.28
1920	3.14	2.80
1930	3.03	2.70
1941	3.33	2.84
1949	2.97	2.77
1960	4.65	2.10
1970	4.10	1.86
Resident population		
1960	4.53	2.02
1970	4.05	1.80
1974	3.77	1.66
1977	3.66	1.61

^{1/} The index relates the de facto population of Budapest to the total de facto population of the:
/a/ three next largest cities
/b/ ten next largest cities of the country.

^{2/} All data refers to the present area of the country, except for 1910, which refers to the territory at the time of the 1910 population census.

Table 3 Urban and rural population by type of settlements^{1/}
Hungary: 1960, 1970, 1974 and 1977

Type of settlements	N ^o of units	Resident population /thousands/						1977 as percent of 1960
		1960	1970	1970 as percent of 1960	1974	1974 as percent of 1960	1977	
Budapest	1	1.783	2.001	112.2	2.047	114.8	2.082	116.8
Other towns	82	2.462	2.914	118.3	3.121	126.8	3.320	134.8
of which County towns	5	598	746	124.7	808	135.1	856	143.1
Rest of towns	77	1.864	2.168	116.3	2.313	124.1	2.464	132.2
Villages	3.100	5.716	5.407	94.6	5.280	92.4	5.223	91.4
Hungary	3.183	9.961	10.322	103.6	10.448	104.9	10.625	106.7

^{1/} According to the administrative division of the county as of 1 January 1974.

Table 4.

Components of intercensal population change^{1/}
by type of settlements - Hungary: 1960-1969

Type of settlements	Actual Natural			Actual Natural		
	Population increase		Net number of migrants	Population increase		Net migration
	Number			as percentage of populati		
Budapest	+218	- 18	+236	+12.2	-1.0	+13.2
Other towns	+447	+109	+338	+19.2	+4.7	+14.5
of which: County towns	+127	+ 22	+105	+26.0	+4.5	+21.5
Rest of towns	+320	+ 87	+233	+17.4	+4.8	+12.6
Villages	-304	+270	-574	- 5.4	+4.5	- 9.8

^{1/} Resident population

Table 5.

Permanent and temporary in-out-and net migration for urban and rural areas in Hungary: Average annual number of migrants during 1960-1964, 1965-1969 and 1970-1974 periods

		Thousands					
Area	Period	Permanent Migration			Temporary Migration ^{1/}		
		In	Out	Net	In	Out	Net
Budapest	1960-1964	42.9	22.7	+20.2	135.6	126.8	+ 8.8
	1965-1969	31.0	20.3	+10.7	125.5	118.1	+ 7.4
	1970-1974	23.1	16.0	+ 7.1	107.6	102.9	+ 4.7
Other towns	1960-1964	85.0	58.7	+26.3	165.8	157.2	+ 8.6
	1965-1969	83.6	57.5	+26.1	158.4	154.8	+ 3.6
	1970-1974	82.5	53.7	+28.8	150.1	143.0	+ 7.1
Rural areas	1960-1964	203.0	249.5	-46.5	296.3	313.7	-17.4
	1965-1969	188.3	225.1	-36.8	278.4	289.4	-11.0
	1970-1974	152.9	188.8	-35.9	220.7	232.5	-11.8

^{1/} Including return migration

Table 6.

Number of settlement units by type

Hungary: 1949, 1960, 1970, 1974

Type of settlements	Year			
	1949 ^{1/}	1960	1970	1974
Budapest	1	1	1	1
Other towns	53	62	75	82
of wich Country towns	3	4	5	5
Rest of towns	50	58	70	77
Villages	3143	3210	3135	3105
Hungary	3197	3273	3211	3188

^{1/} According to the administrative division of the country
as of 20 June 1951

Table 7.

Selected fertility measures
Hungary: 1960-1974

Year	General ^{1/} fertility rate	Total fertility rate	reproduction rate	
			Gross	Net
1960	59.7	2.039	0.975	0.907
1961	56.6	1.936	0.938	0.880
1962	52.5	1.795	0.868	0.808
1963	53.4	1.823	0.880	0.819
1964	53.2	1.811	0.872	0.829
1965	53.2	1.812	0.875	0.831
1966	54.5	1.882	0.907	0.863
1967	57.7	2.010	0.970	0.923
1968	58.7	2.060	0.997	0.952
1969	58.1	2.042	0.984	0.939
1970	56.6	1.997	0.953	0.912
1971	55.9	1.945	0.931	0.890
1972	56.9	1.929	0.931	0.894
1973	58.2	1.948	0.943	0.905
1974	69.6	2.304	1.117	1.072

^{1/}
Per 1000 female population 15 to 49 years of age

Table 8.

Selected fertility measures by type of settlements

Hungary: 1960, 1965m 1970 and 1974

Type of settlements	Year	General fertility rate	Total fertility rate
Budapest	1960	33.3	1.235
	1965	34.6	1.182
	1970	43.4	1.512
	1974	56.1	1.797
Other towns	1960	55.3	1.856
	1965	50.5	1.644
	1970	55.1	1.835
	1974	69.2	2.178
Villages	1960	70.2	2.352
	1965	61.5	2.153
	1970	63.0	2.314
	1974	75.5	2.641
Hungary	1960	59.7	2.039
	1965	53.2	1.812
	1970	56.6	1.997
	1974	69.6	2.304

Table 9.

Total fertility rate by settlements in relation
to the national total, Hungary: 1960, 1965, 1970
and 1974

Type of settlements	1960	1965	1970	1974
Budapest	60.6	65.2	75.7	78.0
Other towns	91.0	90.7	91.9	94.5
Villages	115.4	118.8	115.9	114.6
Hungary	100.0	100.0	100.0	100.0

Table 10.

Percentage distribution of live-births according to live-birth
order by type of settlements:
Hungary: 1960, 1965, 1970 and 1974

Type of settlements	Year	Birth order				
		All orders	1st	2nd	3rd	4th and over
Budapest	1960	100.0	58.5	27.5	8.2	5.8
	1965	100.0	65.1	24.8	5.9	4.2
	1970	100.0	60.4	30.8	5.4	2.9
	1974	100.0	52.6	37.6	7.2	2.6
Other towns	1960	100.0	47.2	29.6	11.5	11.7
	1965	100.0	52.9	30.1	8.5	8.5
	1970	100.0	51.3	34.7	7.7	6.3
	1974	100.0	45.0	40.5	9.5	5.0
Villages	1960	100.0	40.7	29.6	13.8	15.9
	1965	100.0	43.8	30.9	11.6	13.7
	1970	100.0	45.1	34.0	10.4	10.5
	1974	100.0	41.7	37.1	12.2	9.0
Hungary	1960	100.0	44.0	29.3	12.7	14.0

Type of settlements	Year	Birth order				
		All orders	1st	2nd	3rd	4th and over
	1965	100.0	48.8	29.9	10.1	11.2
	1970	100.0	49.3	33.7	8.9	8.1
	1974	100.0	44.5	38.3	10.5	6.7

Table 11.

Expectation of life at birth by sex and counties

Hungary: 1959/1960, 1969/1970

Region	Years			
	Males		Females	
	1959/1960	1969/1970	1959/1960	1969/1970
Baranya	64,39	65,33	69,60	70,68
Bács	64,03	65,04	68,84	71,55
Békés	65,42	66,60	69,56	72,46
Borsod-A-Z.	64,59	65,99	68,92	72,23
Csongrád	66,19	66,54	70,64	72,15
Fejér	66,15	66,51	68,88	71,46
Győr-S.	65,95	67,06	69,61	72,37
Hajdu-B.	66,14	66,36	69,96	71,99
Heves	63,75	67,48	69,42	72,06
Komárom	65,48	66,44	67,67	71,03
Nógrád	64,74	67,77	69,19	72,54
Pest	64,90	65,56	69,84	72,15
Somogy	64,13	66,17	67,55	70,77
Szabolcs-Sz.	64,64	65,37	67,85	71,71
Szolnok	66,26	67,39	70,66	72,28
Tolna	64,69	65,66	69,30	71,48
Vas	66,06	68,08	70,20	71,74
Veszprém	65,22	67,44	70,12	72,14
Zala	64,99	66,62	69,06	71,87
Hungary	65,18	66,51	69,57	72,11

Table 12.

Expectation of life at birth by sex if certain cause-groups
of death are excluded
Hungary 1969/1970

Cause Groups	ICD No. /8th revision/ e ₀	Both sexes		Males		Females	
		$\frac{1/\text{Difference}^2/}{e_0}$ Absolute %					
All causes present	-	69.4	-	66.5	-	72.1	-
Infections diseases	A1 -A44	69.8	0.4	67.0	0.5	72.5	0.4
Cancer	A45-A60	71.8	2.4	68.9	2.4	74.6	2.5
Vascular lesions	A85	70.8	1.4	67.8	1.3	73.8	1.7
Heart diseases	A80-A84 A86-A88	75.1	5.7	71.8	5.3	78.1	6.0
Respiratory diseases	A89-A96	70.2	0.8	67.5	1.0	72.9	0.8
Accidents, total	AE138-146	70.2	0.8	67.8	1.3	72.6	0.5
Motor vehicle accidents	AE138	69.7	0.3	67.0	0.5	72.3	0.2
All violent causes of death	AE138-150	70.9	1.5	68.7	2.2	73.0	0.9

1/ Years, 2/ Between values of e₀ when all causes are present and when a given cause group is excluded. Death rate: 13.79 ‰

Table 13.

Infant mortality rate by type of settlements
Hungary: 1960, 1965, 1970 and 1974

Year	Type of settlements			Hungary
	Budapest	Other towns	Villages	
1960	46.1	45.5	48.5	47.6
1965	44.1	37.3	38.3	38.8
1970	41.8	34.0	35.2	35.9
1974	41.8	31.9	33.4	34.3

Table 14. Number of migrants and crude migration rates^{1/} by main directions and type of migration
Hungary: 1960 and 1974

Destination	O r i g i n												T o t a l		T o t a l					
	P e r m a n e n t			O t h e r t o w n s			V i l l a g e s			B u d a p e s t							O t h e r t o w n s		V i l l a g e s	
	B u d a p e s t		O t h e r t o w n s		V i l l a g e s		T o t a l		B u d a p e s t		O t h e r t o w n s		V i l l a g e s		T o t a l		O t h e r t o w n s		V i l l a g e s	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
	1960																			
Budapest	-	-	10,7	4,3	37,1	6,4	47,7	26,7	-	-	32,0	13,0	122,7	21,5	154,8	86,8				
Other towns	6,1	3,4	15,0	6,1	63,1	11,0	84,2	34,2	30,8	17,3	36,0	14,6	106,8	18,7	173,6	70,5				
Villages	16,0	9,0	31,9	13,0	158,4	27,7	206,3	36,1	108,1	60,6	82,9	33,7	111,2	19,5	302,1	52,9				
Total out-migration	22,1	12,4	57,6	23,3	258,6	45,2	338,2	33,9	138,9	77,9	150,9	61,3	340,7	59,6	630,5	63,3				
	1974																			
Budapest	-	-	6,9	2,2	15,1	2,9	22,0	10,7	-	-	26,7	8,6	72,5	13,7	99,2	48,4				
Other towns	5,1	2,5	16,7	5,3	61,4	11,6	83,3	26,7	26,3	12,9	41,2	13,2	82,3	15,5	149,8	48,0				
Villages	10,0	4,9	27,6	8,8	104,1	19,7	141,7	26,8	74,9	36,5	79,5	25,5	61,2	11,6	215,6	40,8				
Total out-migration	15,1	7,4	51,2	16,4	180,6	34,2	247,0	23,6	101,2	49,4	147,4	47,2	216,0	40,9	464,6	44,5				

1/ Number of migrants per population of the place of origin

Table 15. Population growth and its components by counties and county towns during the 1960 to 1974 period
Hungary

Regions/County	Population in 1960 ^{1/}	Population change during 1960 to 1974 period						Population in 1975 ^{1/}
		Total		Natural increase		Migration gain/loss		
		No.	% ^{2/}	No.	% ^{2/}	No.	% ^{2/}	
<u>I. Central</u>	2550761	439354	17,2	39453	1,5	399901	15,7	2990115
Budapest	1783167	272479	15,3	-21639	-1,2	294118	16,5	2055646
Pest	767594	166875	21,7	61092	7,9	105783	13,8	934469
<u>II. North-Hungary</u>	1304831	59296	4,5	111370	8,5	-52074	-4,0	1364127
Miskolc	140821	55228	39,2	15787	11,2	39441	28,0	196049
Borsod-A-Z.	586423	5455	0,9	66337	11,3	-60882	-10,4	591878
Heves	344211	-2218	-0,6	13095	3,8	-15313	-4,4	341993
Nógrád	233376	831	0,3	16151	6,9	-15320	-6,6	234207
<u>III. North-Plain</u>	1613926	-62846	-3,9	160322	9,9	-223168	-13,8	1551080
Debrecen	131613	50713	38,5	11829	9,0	38884	29,5	182326
Hajdu-B.	401577	-45065	-11,2	41592	10,4	-86657	-21,6	356512
Szabolcs-Sz.	616926	-46160	-7,5	81979	13,3	-128139	-20,8	570766
Szolnok	463810	-22334	-4,8	24922	5,4	-47256	-10,2	441476
<u>IV. South-Plain</u>	1500609	-45109	-3,0	41654	2,8	-86763	-5,8	1455500
Szeged	119316	47904	40,1	2833	2,3	45071	37,8	167220
Bács-K.	593131	-25261	-4,2	21709	3,7	-46970	-7,9	567870
Békés	474286	-41288	-8,7	13162	2,8	-54450	-11,5	432998
Csongrád	313876	-26464	-8,4	3950	1,3	-30414	-9,7	287412
<u>V. North-Trans-Danubian</u>	1673616	165874	9,9	137973	8,2	27901	1,7	1839490
Győr	86101	30009	34,8	3293	3,8	26716	31,0	116110
Fejér	351219	55289	15,7	36336	10,3	18953	5,4	406508
Győr-S.	303946	-1312	-0,4	26196	8,6	-27508	-9,0	302634
Komárom	265830	46547	17,5	27097	10,2	19450	7,3	312377
Vas	284617	-5334	-1,9	12265	4,3	-17599	-6,2	279283
Veszprém	381903	40675	10,7	32786	8,6	7889	2,1	422578
<u>VI. South-Trans-Danubian</u>	1317301	-8657	-0,7	48579	3,7	-57236	-4,4	1308644
Pécs	120451	41161	34,2	8074	6,7	33087	27,5	161612
Baranya	285884	-15036	-5,3	15262	5,3	-30298	-10,6	270848
Somogy	368258	-6175	-1,7	4638	1,2	-10813	-2,9	362083
Tolna	267147	-14640	-5,5	10046	3,7	-24686	-9,2	252507
Zala	275561	-13967	-5,1	10559	3,8	-24526	-8,9	261594
Hungary	9961044	547912	5,5	539351	5,4	8561	0,1	10508956

1/ Beginning-of-year resident population.

2/ of the 1960 population.

Table 16.

Percentage distribution of the resident population and
population growth by regions
Hungary: 1960 and 1974

Region	Percentage		Average annual rate of population growth /%/
	1960	1974	
I. Central	25.6	28.4	10.82
II. North-Hungary	13.1	13.0	2.85
III. North-Plain	16.2	14.8	-3.18
IV. South-Plain	15.1	13.9	-2.39
V. North-T.Danubian	16.8	17.4	6.14
VI. South-T.Danubian	13.2	12.5	-0.74
Hungary	100.0	100.0	3.41

Table 17/a Number of permanent migrants and crude migration rates^{1/} between regions^{2/}
Hungary, 1974

Region of destination	Region of origin												Thousands	
	Central		North-Hungary		North-Plain		South-Plain		North-Trans-Danubian		South-Trans-Danubian		Hungary	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Central	23,2	7,7	4,6	3,3	7,7	4,9	4,7	3,2	5,5	3,0	3,2	2,4	49,0	4,6
North-Hungary	2,4	0,8	27,8	20,4	3,4	2,1	0,8	0,5	1,0	0,5	0,5	0,3	35,8	3,4
North-Plain	3,5	1,1	2,5	1,8	26,9	17,3	1,8	1,2	1,1	0,6	0,7	0,5	36,5	3,4
South-Plain	3,0	1,0	0,8	0,5	2,1	1,3	25,1	17,2	1,1	0,6	1,4	1,0	33,6	3,2
North-Trans-Danubian	3,8	1,2	1,2	0,8	1,9	1,2	1,7	1,1	36,5	19,9	3,5	2,6	48,6	4,6
South-Trans-Danubian	2,2	0,7	0,6	0,4	0,8	0,5	1,6	1,1	2,7	1,4	35,6	27,2	43,5	4,1
Hungary	38,1	12,7	37,5	27,5	42,8	27,6	35,8	24,6	47,8	26,0	44,9	34,3	246,9	23,5

1/ Number of migrants per 1000 /middle-year/ population of the place of origin

2/ See: Annex 1.

Table 17/b Number of temporary migrants and crude migration rates^{1/} between regions^{2/}
Hungary, 1974

Region of destination	R e g i o n o f o r i g i n												Thousands	
	Central		North-Hungary		North-Plain		South-Plain		North-Trans-Danubian		South-Trans-Danubian		Hungary	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Central	36,9	12,3	20,8	15,2	38,6	24,9	14,7	10,1	16,8	9,1	10,8	8,2	138,7	13,2
North-Hungary	20,5	6,8	30,4	22,3	6,0	3,8	1,7	1,1	2,4	1,3	1,0	0,7	62,0	5,9
North-Plain	38,4	12,8	6,4	4,7	28,2	18,2	3,7	2,5	3,4	1,8	1,1	0,8	81,2	7,7
South-Plain	15,0	5,0	1,8	1,3	3,8	2,4	30,5	20,9	3,1	1,6	2,5	1,9	56,7	5,4
North-Trans-Danubian	16,8	5,6	2,7	1,9	3,4	2,1	3,1	2,1	4,2	2,2	6,3	4,8	74,3	7,0
South-Trans-Danubian	11,0	3,6	1,0	0,7	1,1	0,7	2,4	1,6	6,5	3,5	29,7	22,7	51,7	4,9
Hungary	138,7	46,5	63,0	46,2	81,1	52,4	56,2	38,6	74,1	40,4	51,6	39,5	464,6	44,3

1/ Number of migrants per 1000 /middle-year/ population of the place of origin

2/ See: Annex I.

Table 18.

Proportion of internal migrants^{1/} among all migrants that
affect the region's population^{2/} by type of migration
and regions
Hungary, 1960 and 1974

Region	1960		1974	
	Permanent	Temporary	Permanent	Temporary
migration				
Central	0.271	0.105	0.364	0.154
North-Hungary	0.534	0.273	0.609	0.321
North-Plain	0.441	0.130	0.513	0.210
South-Plain	0.510	0.170	0.567	0.370
North-Trans-Danubian	0.511	0.270	0.608	0.397
South-Trans-Danubian	0.613	0.312	0.673	0.404

^{1/} Movers only within regional boundaries

^{2/} i.e. all in- and out-migrants as well as migrants within regional boundaries. Movers within municipal boundaries are excluded.

Table 19.

Age-specific migration rates^{1/} by sex and type of migration
Hungary: 1960

Age-groups /Years/	Permanent migration			Temporary migration		
	Both sexes	Males	Females	Both sexes	Males	Females
0-4	48.6	48.4	48.8	22.4	22.3	22.5
5-9	32.1	32.1	32.2	16.3	16.1	16.6
10-14	22.0	22.2	21.8	13.5	13.4	13.6
15-19	52.0	39.7	65.0	173.7	221.1	125.9
20-24	83.8	70.8	96.1	197.0	265.1	132.5
25-29	62.9	71.1	55.1	109.4	168.4	52.7
30-34	38.0	42.7	33.5	74.2	117.0	33.5
35-39	25.8	29.0	22.9	58.9	95.3	25.8
40-44	21.1	24.2	18.4	50.4	80.5	23.9
45-49	15.3	17.2	13.7	40.0	63.2	19.4
50-54	13.8	14.5	13.1	35.8	53.9	19.4
55-59	13.2	12.5	13.8	31.8	42.8	21.8
60 and over	16.0	14.7	17.0	23.4	23.6	23.3
All ages	33.9	33.8	33.9	63.1	87.9	40.1

^{1/} Migrants per 1000 /middle-year/ population of the same age-group and sex

Age-specific migration rates^{1/} by sex and type of migration
Hungary: 1974

Age-groups /Years/	Permanent migration			Temporary migration		
	Both sexes	Males	Females	Both sexes	Males	Females
0- 4	43.5	42.9	44.1	23.2	23.2	23.1
5- 9	25.5	25.0	26.0	10.7	10.3	11.2
10-14	16.4	15.8	17.0	25.8	29.3	22.0
15-19	29.4	20.0	39.3	149.3	159.8	138.1
20-24	56.2	47.2	65.6	140.7	150.9	130.0
25-29	46.0	52.3	39.6	74.9	97.9	51.5
30-34	26.8	31.0	22.5	39.7	56.2	23.2
35-39	16.9	19.0	15.0	26.8	40.0	14.4
40-44	12.7	14.2	11.2	22.2	32.7	12.1
45-49	9.2	10.6	7.9	18.1	27.0	9.7
50-54	7.7	8.1	7.4	16.5	24.8	9.2
55-59	7.5	6.9	8.0	14.5	20.1	9.7
60 and over	10.5	9.7	11.1	9.8	10.8	9.0
All ages	23.6	23.5	23.6	44.3	54.0	35.2

^{1/} Migrants per 1000 /middle-year/ population of the same age-group and sex

Table 20.

Selected migration indicators by sex and type of migration
Hungary: 1960 and 1974

Indicators	Permanent		Temporary	
	migration			
	1960	1974	1960	1974
Total number of migrants				
Both sexes	338 206	246 940	630 448	464 558
Males	162 796	119 416	423 159	274 413
Females	175 410	127 524	207 289	190 145
Crude migration rates per 1000 population				
Both sexes	33.8	23.6	63.0	44.4
Males	33.8	23.5	87.9	54.0
Females	33.9	23.6	40.1	35.2
Standardized migration ^{1/} rates				
Both sexes	33.8	23.5	63.0	41.9
Males	33.8	23.5	87.9	50.5
Females	33.9	23.7	40.1	33.7
Decline of the level of migration ^{1/}				
Both sexes	69.5		66.5	
Males	69.5		57.5	
Females	69.9		84.0	
Average gross number of migration expected at birth				
Both sexes	2.22	1.54	4.23	2.86
Males	2.19	1.51	5.91	3.40
Females	2.26	1.57	2.65	2.36

^{1/} Base; age-composition of the population as of January 1960

Indicators	Permanent		Temporary	
	migration			
	1960	1974	1960	1974
Average age of migrants				
Males	25.64	25.65	29.38	26.49
Females	25.95	25.91	28.79	24.76
Median age of migrants				
Males	24.6	24.7	26.0	23.3
Females	23.1	23.0	23.5	21.6
Modal age of migrants				
Males	25.6	24.6	20.7	19.9
Females	22.1	22.4	19.9	19.9

Table 23.

Percentage distribution of the resident population by broad age-groups and by type of settlements, Both sexes. Hungary - 1960 and 1974

Age-groups /Years/	Type of settlements			
	Budapest	Other towns	Villages	Hungary
	1960			
0-14	19.7	24.7	27.4	25.4
15-39	36.7	38.9	36.0	36.8
40-59	28.5	23.3	23.0	24.0
60-x	15.1	13.1	13.6	13.8
All ages	100.0	100.0	100.0	100.0
	1974			
0-14	14.0	20.1	22.1	19.9
15-39	39.1	41.7	34.2	37.4
40-59	26.5	22.9	24.6	24.5
60-x	20.4	15.3	19.1	18.2
All ages	100.0	100.0	100.0	100.0

Table 24.Expectation of life at birth by region of residence
and region of birth, Both sexes: Hungary-1974

Region of birth	Region of Residence						Years
							Total
	1	2	3	4	5	6	
1. Central	32.7	6.9	8.9	6.4	8.2	5.2	68.4
2. North-Hungary	17.4	28.5	7.9	4.9	6.6	3.8	69.1
3. North-Plain	19.5	7.2	25.2	6.0	7.1	4.1	69.1
4. South-Plain	15.1	4.6	6.3	31.3	6.9	4.9	69.1
5. North-Trans- Danubian	14.0	4.3	5.3	4.8	34.8	6.5	69.7
6. South-Trans Danubian	13.3	3.8	4.7	5.2	10.0	31.9	68.9

Table 25.

Migration levels by region of residence and region of birth;

Both sexes: Hungary-1974

Region of birth	Region of Residence						Total
	1	2	3	4	5	6	
1. Central	0.4784	0.1014	0.1306	0.0941	0.1195	0.0760	1.0000
2. North-Hungary	0.2518	0.4133	0.1142	0.0704	0.0957	0.0546	1.0000
3. North-Plain	0.2825	0.1028	0.3649	0.0870	0.1034	0.0594	1.0000
4. South-Plain	0.2185	0.0663	0.0908	0.4535	0.0997	0.0711	1.0000
5. North-Trans Danubian	0.2013	0.0620	0.0763	0.0682	0.4992	0.0929	1.0000
6. South-Trans Danubian	0.1933	0.0551	0.0679	0.0757	0.1452	0.4628	1.0000

Table 26. Simulation of multiregional population growth - in Hungary by regions -
Summary indicators; 1974-2024

Regions	Year	Population			Rates of natural increase			Internal migration rates			Growth rates
		Number	Distribution	Mean age	Birth	Death	Growth	out-	in-	net-	
Central	1974	2968	28,41	37,60	16,4	12,6	3,8	39,3	43,0	3,7	7,5
	1984	3157	28,85	37,40	14,2	13,9	0,3	35,0	38,6	-3,6	3,9
	1994	3240	29,07	37,70	13,2	14,1	-0,9	35,6	38,6	3,0	2,1
	2004	3331	29,16	37,66	14,7	13,9	0,8	36,5	39,3	2,8	3,6
	2014	3428	29,24	37,64	13,9	14,3	-0,4	35,6	38,3	2,7	2,3
	2024	3507	29,28	37,59	14,2	14,4	-0,2	36,4	39,1	2,7	2,5
North-Hungary	1974	1358	13,00	35,28	17,9	11,4	6,5	31,2	29,3	-1,9	4,6
	1984	1404	12,83	35,69	16,1	12,6	3,5	28,9	27,1	-1,8	1,7
	1994	1418	12,72	36,29	15,3	13,1	2,2	29,0	27,7	-1,3	0,8
	2004	1441	12,61	36,29	16,8	13,4	3,4	29,8	28,7	-1,1	2,3
	2014	1466	12,51	36,11	16,0	13,8	2,2	29,2	28,3	-0,9	1,3
	2024	1490	12,44	35,93	16,6	13,7	2,9	29,9	29,1	-0,8	2,1
North-Plain	1974	1544	14,77	34,52	20,2	11,4	8,8	44,6	40,6	-4,0	4,8
	1984	1600	14,62	34,61	18,1	12,3	5,8	40,8	36,9	-3,9	1,9
	1994	1622	14,55	35,07	17,3	12,5	4,8	41,5	37,9	-3,6	1,2
	2004	1659	14,52	35,06	18,9	12,5	6,4	42,4	39,1	-3,3	3,1
	2014	1700	14,50	34,97	18,0	12,9	5,1	41,4	38,1	-3,3	1,8
	2024	1735	14,48	34,88	18,5	12,9	5,6	42,4	39,1	-3,3	2,3
South-Plain	1974	1451	13,89	37,11	17,1	13,0	4,1	25,1	23,9	-1,2	2,9
	1984	1480	13,52	36,91	15,4	14,2	1,1	23,2	22,4	-0,8	0,3
	1994	1479	13,27	37,01	14,7	14,2	0,5	23,7	23,3	-0,4	0,1
	2004	1498	13,12	36,75	16,4	13,7	2,7	24,4	24,2	-0,2	2,5
	2014	1527	13,02	36,56	15,5	14,0	1,5	23,9	23,8	-0,1	1,4
	2024	1554	12,97	36,42	16,0	13,9	2,1	24,4	24,4	0,0	2,1
North-Trans-Danubian	1974	1824	17,46	34,84	18,9	10,9	8,0	23,9	24,4	0,5	8,6
	1984	1960	17,91	34,85	16,9	11,9	5,0	21,9	21,8	-0,1	4,9
	1994	2034	18,25	35,37	15,7	12,1	3,6	22,0	21,5	-0,5	3,1
	2004	2115	18,51	35,44	17,5	12,2	5,2	22,6	21,8	-0,8	4,4
	2014	2193	18,71	35,44	16,4	12,7	3,7	22,0	21,1	-0,9	2,8
	2024	2256	18,83	35,43	16,9	12,8	4,1	22,5	21,4	-1,1	3,0
South-Trans-Danubian	1974	1304	12,48	36,45	17,4	12,6	4,8	23,9	22,9	-1,0	3,8
	1984	1343	12,27	36,37	15,8	13,6	2,2	22,5	21,6	-0,9	1,3
	1994	1354	12,14	36,66	14,9	13,6	1,3	22,5	22,0	-0,5	0,8
	2004	1380	12,08	36,53	16,6	13,7	2,9	23,2	22,9	-0,3	2,6
	2014	1409	12,02	36,35	15,7	13,9	1,8	22,8	22,6	-0,2	1,6
	2024	1438	12,00	36,23	16,3	13,8	2,5	23,3	23,1	-0,2	2,3
Hungary - Total	1974	10448	100,00	36,15	17,2	12,0	5,8	32,4	-	-	5,8
	1984	10943	100,00	36,12	15,9	13,2	2,7	29,6	-	-	2,7
	1994	11146	100,00	36,49	14,9	13,3	1,6	30,0	-	-	1,6
	2004	11424	100,00	36,44	16,5	13,3	3,2	30,7	-	-	3,2
	2014	11724	100,00	36,35	15,6	13,6	2,0	30,0	-	-	2,0
	2024	11979	100,00	36,27	16,1	13,6	2,5	30,7	-	-	2,5

Table 27.

Observed and projected regional shares /SHA_i/t// in the total population
of Hungary

Base year: 1974

Year	Region						Total
	Central	North-Hungary	North-Plain	South-Plain	North-T-Danubian	South-T-Danubian	
1974	0.2841	0.1300	0.1477	0.1389	0.1746	0.1248	1.0000
1979	0.2864	0.1291	0.1470	0.1370	0.1769	0.1236	1.0000
1984	0.2885	0.1283	0.1462	0.1352	0.1791	0.1227	1.0000
1989	0.2898	0.1277	0.1458	0.1338	0.1809	0.1220	1.0000
1994	0.2907	0.1272	0.1455	0.1327	0.1825	0.1214	1.0000
1999	0.2912	0.1267	0.1453	0.1319	0.1838	0.1211	1.0000
2004	0.2916	0.1261	0.1452	0.1312	0.1851	0.1208	1.0000
2009	0.2920	0.1255	0.1451	0.1307	0.1862	0.1205	1.0000
2014	0.2924	0.1251	0.1450	0.1302	0.1871	0.1202	1.0000
2019	0.2927	0.1247	0.1449	0.1299	0.1877	0.1201	1.0000
2024	0.2928	0.1244	0.1448	0.1297	0.1883	0.1200	1.0000
Stability	0.2924	0.1233	0.1444	0.1287	0.1911	0.1200	1.0000

Table 28 Projected annual regional rates of growth $r_i/t//$ -total population of Hungary

Year	Region	Central	North-Hungary	North-Plain	South-Plain	North-T-Danubian	South-T-Danubian	Total
1979		1.035750	1.020446	1.021823	1.012884	1.041339	1.017947	1.027282
1984		1.026804	1.013217	1.014428	1.006720	1.031970	1.011776	1.019537
1989		1.015433	1.005966	1.007719	1.000208	1.021077	1.044682	1.010724
1994		1.010739	1.003683	1.005868	0.999337	1.016365	1.003365	1.007721
1999		1.013167	1.006950	1.009893	1.004633	1.018709	1.008187	1.011174
2004		1.014821	1.009232	1.012768	1.008385	1.020650	1.011280	1.013609
2009		1.016867	1.010793	1.014660	1.011364	1.021058	1.012578	1.015316
2014		1.012068	1.006848	1.010038	1.007563	1.015551	1.008674	1.010769
2019		1.011209	1.007155	1.009604	1.007858	1.014062	1.009069	1.010309
2024		1.011644	1.008875	1.010893	1.009582	1.014399	1.010774	1.011335
Stability					1.015183			

Table 29.

Mean age of the population, childbearing, deaths and outmigrants by region
of residence: Hungary - 1974.

Initial region of cohort	Population x/	Births	Deaths	Outmigration to region			6.		
				1.	2.	3.		4.	5.
1. Central	37,60	25,39	65,97	-	27,54	26,67	28,26	27,60	28,33
2. N. Hungary	35,28	24,79	65,24	27,90	-	24,31	25,70	25,22	25,78
3. N. Plain	34,52	24,94	65,38	27,22	24,63	-	25,62	24,80	25,55
4. S. Plain	37,11	24,88	66,90	28,10	25,23	25,06	-	25,33	25,85
5. N.T. Danubian	34,84	24,90	65,76	28,01	25,14	24,58	25,85	-	25,80
6. S.T. Danubian	36,45	24,43	66,31	28,35	25,40	24,89	25,94	25,47	-

x/ Beginning-of-year population.

Table 30.

Spatial net reproduction rates by regions: Hungary - 1974

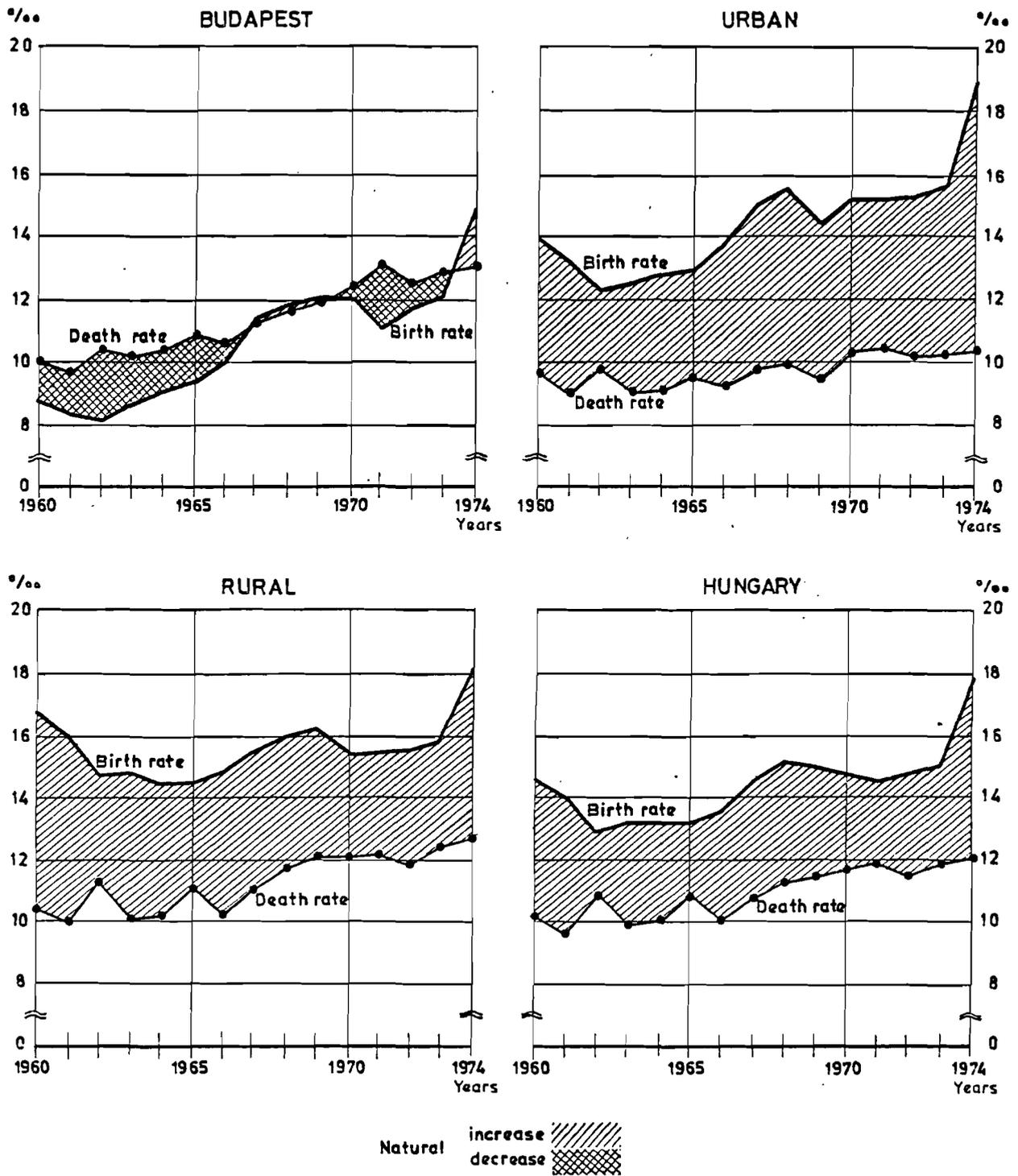
Region of accurrence	Total	Initial region of cohort					
		1.	2.	3.	4.	5.	6.
1. Central	1.578	0.409	0.260	0.311	0.216	0.196	0.185
2. N. Hungary	0.882	0.119	0.457	0.122	0.068	0.063	0.053
3. N. Plain	1.039	0.188	0.155	0.408	0.116	0.093	0.078
4. S. Plain	0.913	0.104	0.070	0.094	0.495	0.070	0.080
5. N.T.Danubian	1.200	0.135	0.101	0.112	0.108	0.572	0.171
6. S.T.Danubian	0.890	0.081	0.051	0.057	0.075	0.104	0.523
Total	-	1.036	1.094	1.104	1.078	1.098	1.090

Table 32.

Spatial net migreproduction rates and by region:
Hungary - 1974

Region of accurrence	Total	Initial region of cohort					
		1.	2.	3.	4.	5.	6.
1. Central	3.916	1.216	0.596	0.706	0.504	0.459	0.434
2. N.Hungary	1.631	0.193	0.929	0.197	0.114	0.107	0.091
3. N. Plain	2.390	0.375	0.311	1.115	0.236	0.191	0.162
4. S. Plain	1.418	0.142	0.098	0.129	0.841	0.097	0.110
5. N.T. Danubian	1.592	0.163	0.125	0.136	0.133	0.829	0.206
6. S.T. Danubian	1.303	0.106	0.070	0.077	0.099	0.136	0.815
Total	-	2.195	2.129	2.360	1.927	1.819	1.818

Fig. 1
 CRUDE LIVE-BIRTH AND DEATH RATES¹⁾ BY TYPE OF SETTLEMENTS
 HUNGARY, 1960 - 1974



¹⁾ Per 1000 population

Fig. 3

TOTAL FERTILITY RATE BY COUNTIES AND COUNTY TOWNS
HUNGARY 1960, 1974

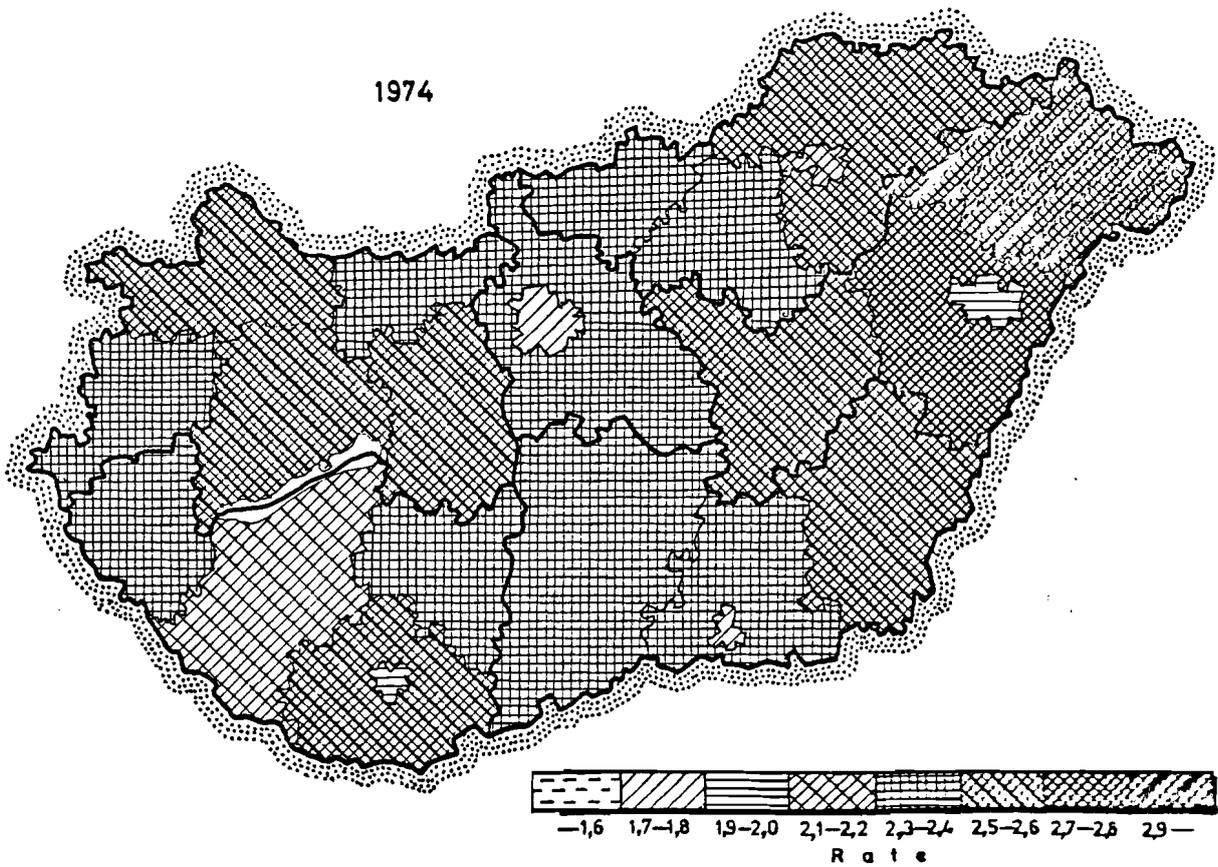
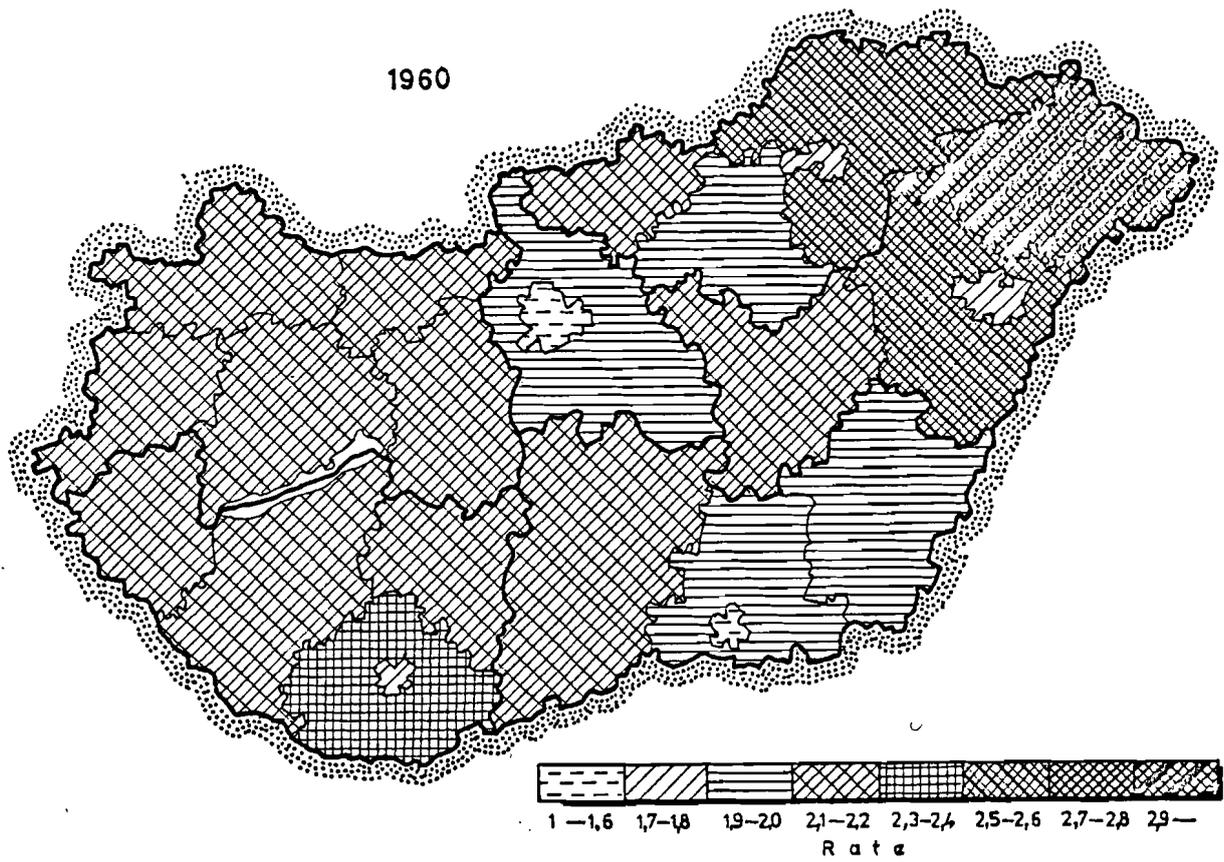


Fig. 4

RATIO OF INCREASE IN TOTAL FERTILITY BY COUNTIES AND COUNTY TOWNS TO NATIONAL INCREASE BETWEEN 1960 AND 1974
HUNGARY

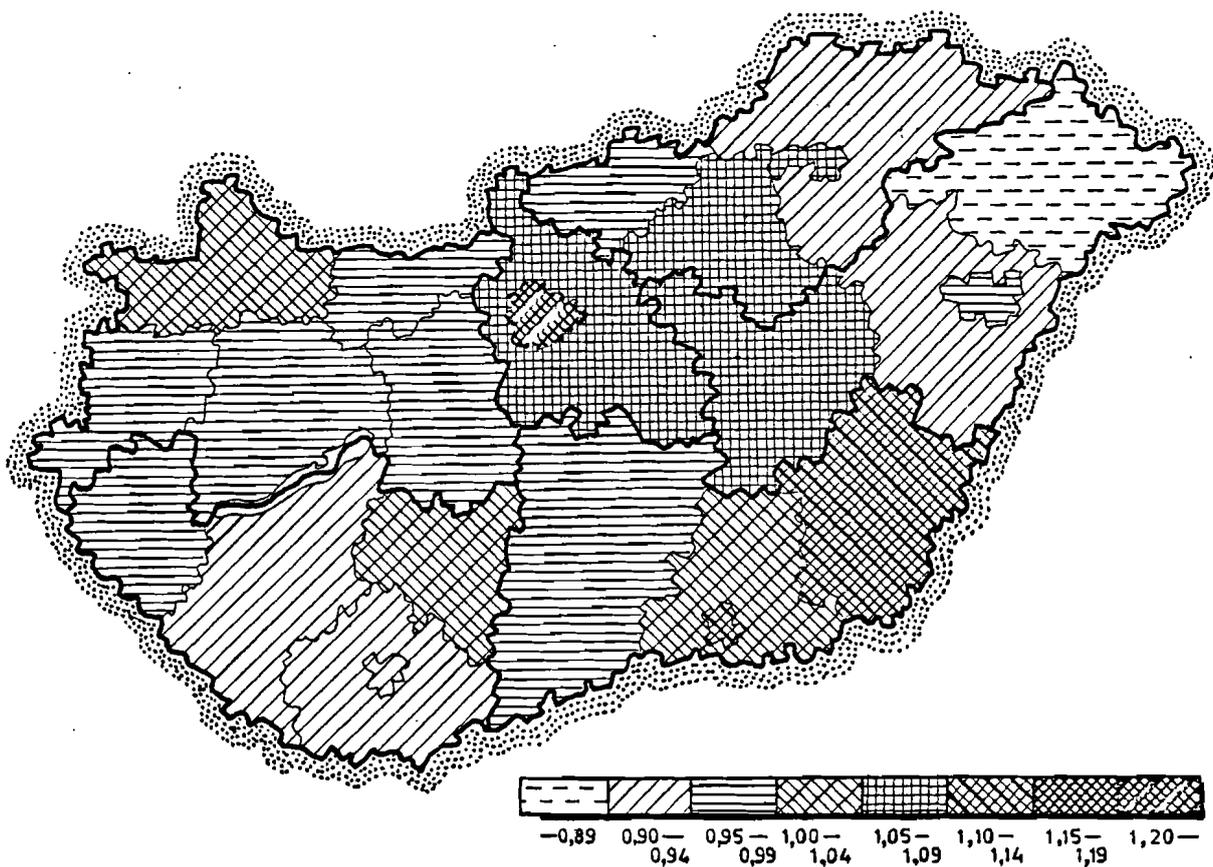


Fig.5

MALE AND FEMALE LIFE EXPECTANCIES BY COUNTIES

HUNGARY 1960

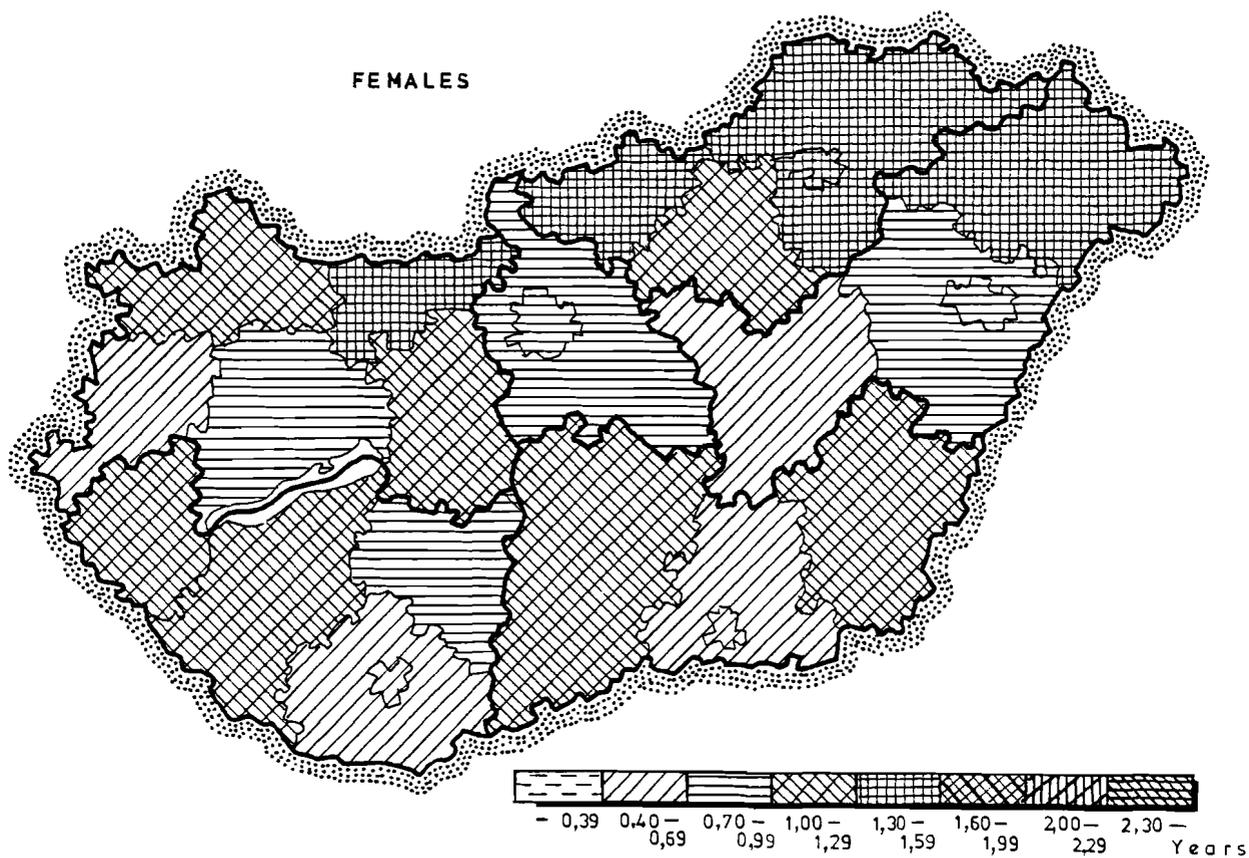
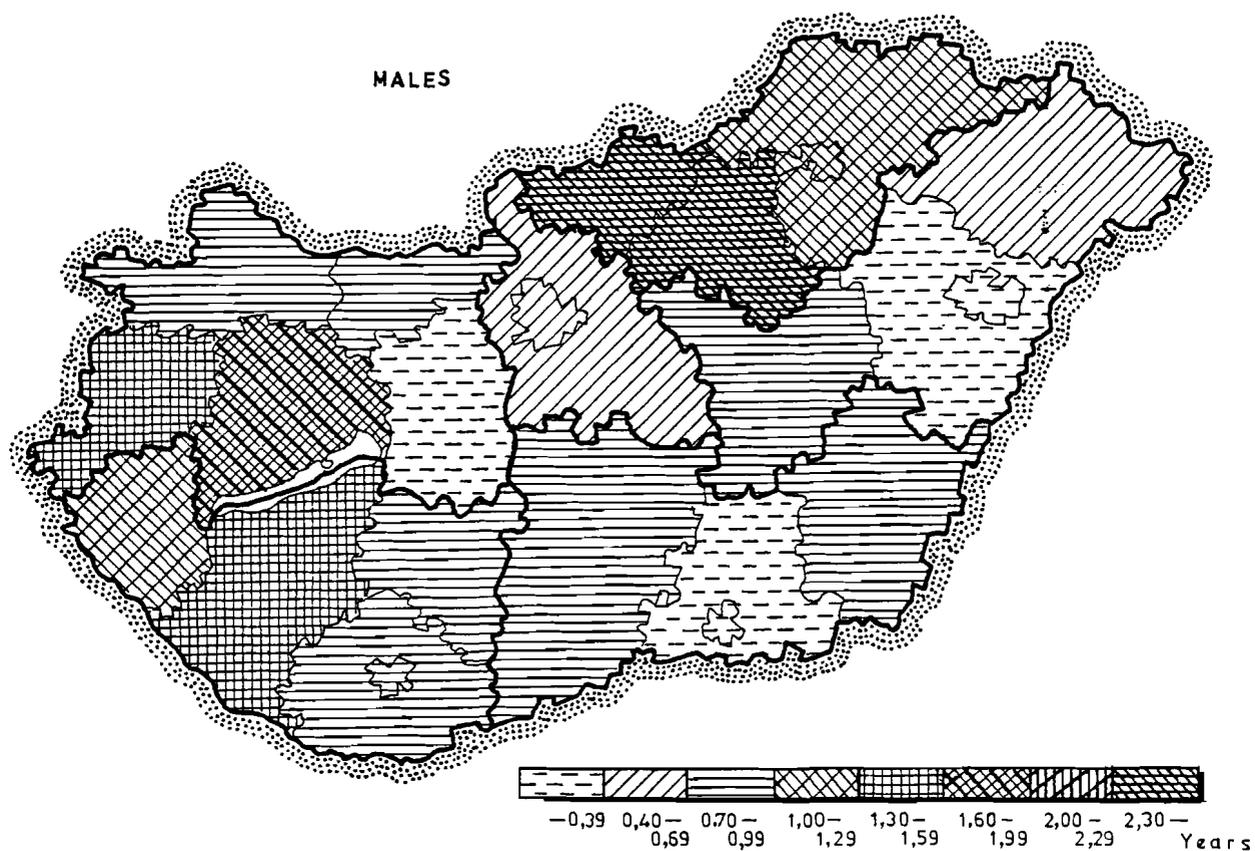


Fig. 6/a

RATIO OF INCREASE IN LIFE-EXPECTANCY BY COUNTIES TO THE NATIONAL INCREASE
BETWEEN 1959/60 AND 1969/70

HUNGARY

MALES

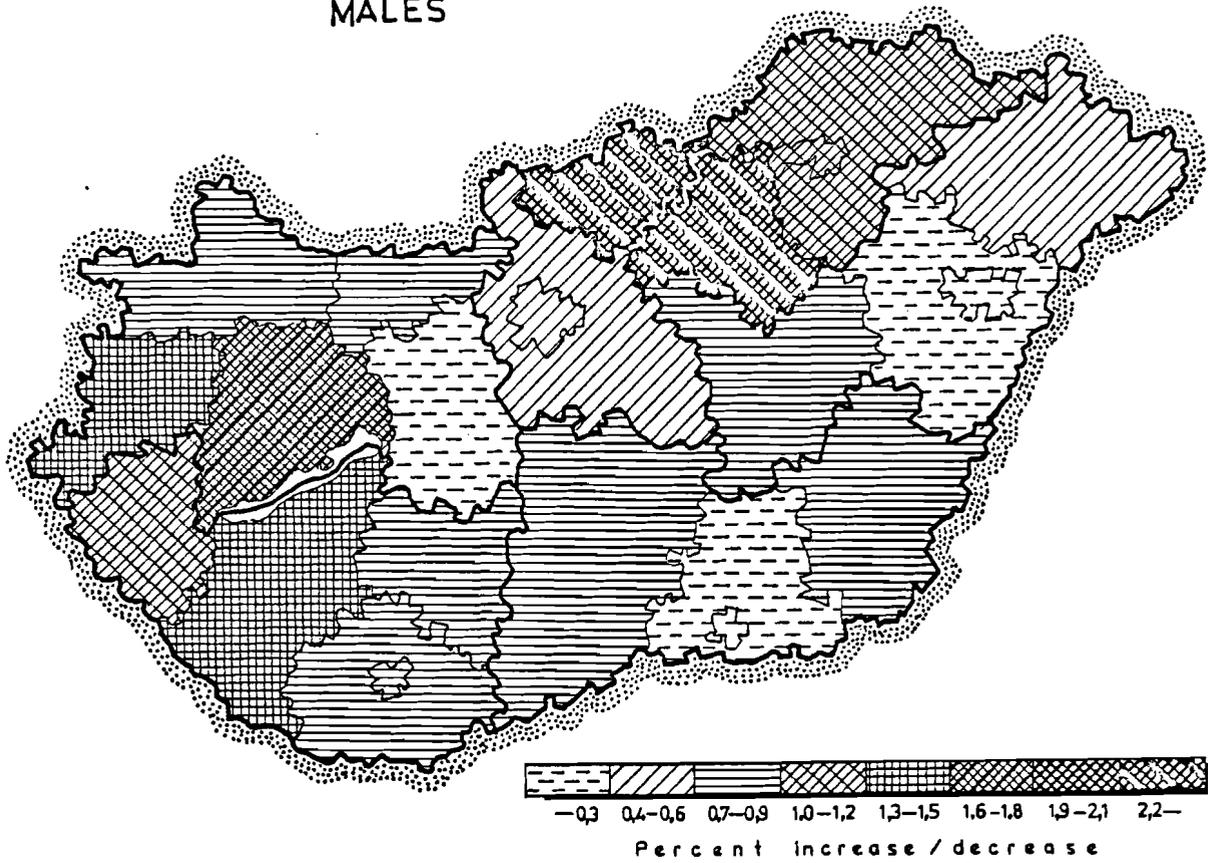


Fig. 6/b
RATIO OF INCREASE IN LIFE-EXPECTANCY BY COUNTIES TO THE NATIONAL INCREASE
BETWEEN 1959/60 AND 1969/70

HUNGARY

FEMALES

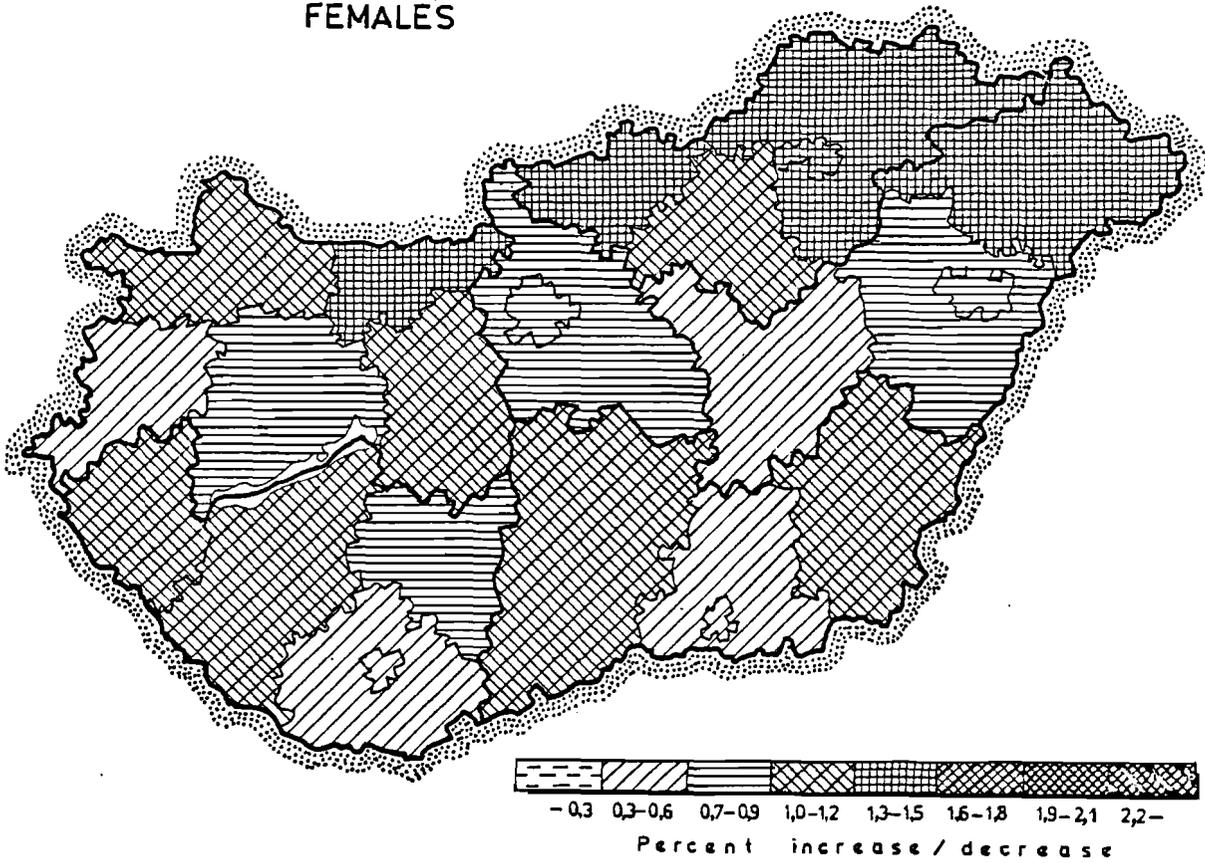
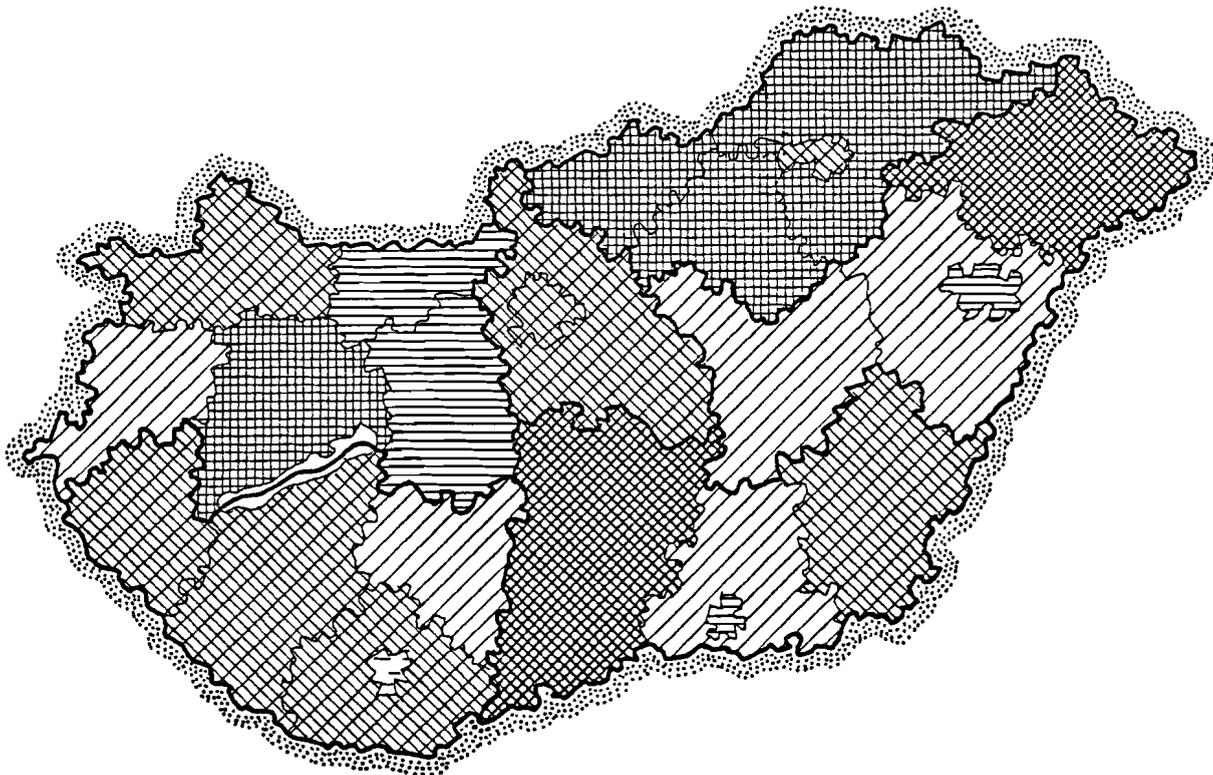


Fig. 7

INFANT MORTALITY RATES BY COUNTIES AND COUNTY TOWNS

HUNGARY 1960



Rate

Fig. 8

RATIO OF DECREASE (INCREASE) IN INFANT MORTALITY BY COUNTIES
AND COUNTY TOWNS TO THE NATIONAL
DECREASE BETWEEN 1960 AND 1974. HUNGARY

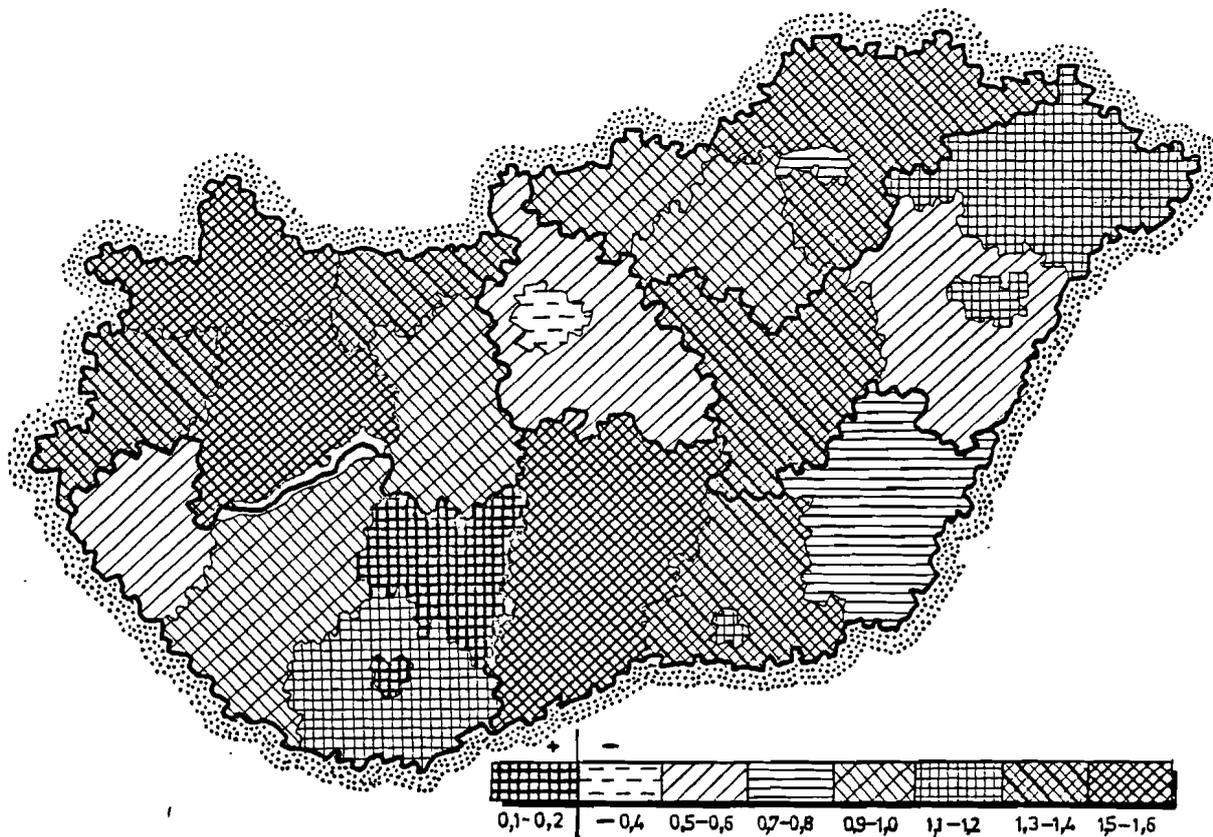
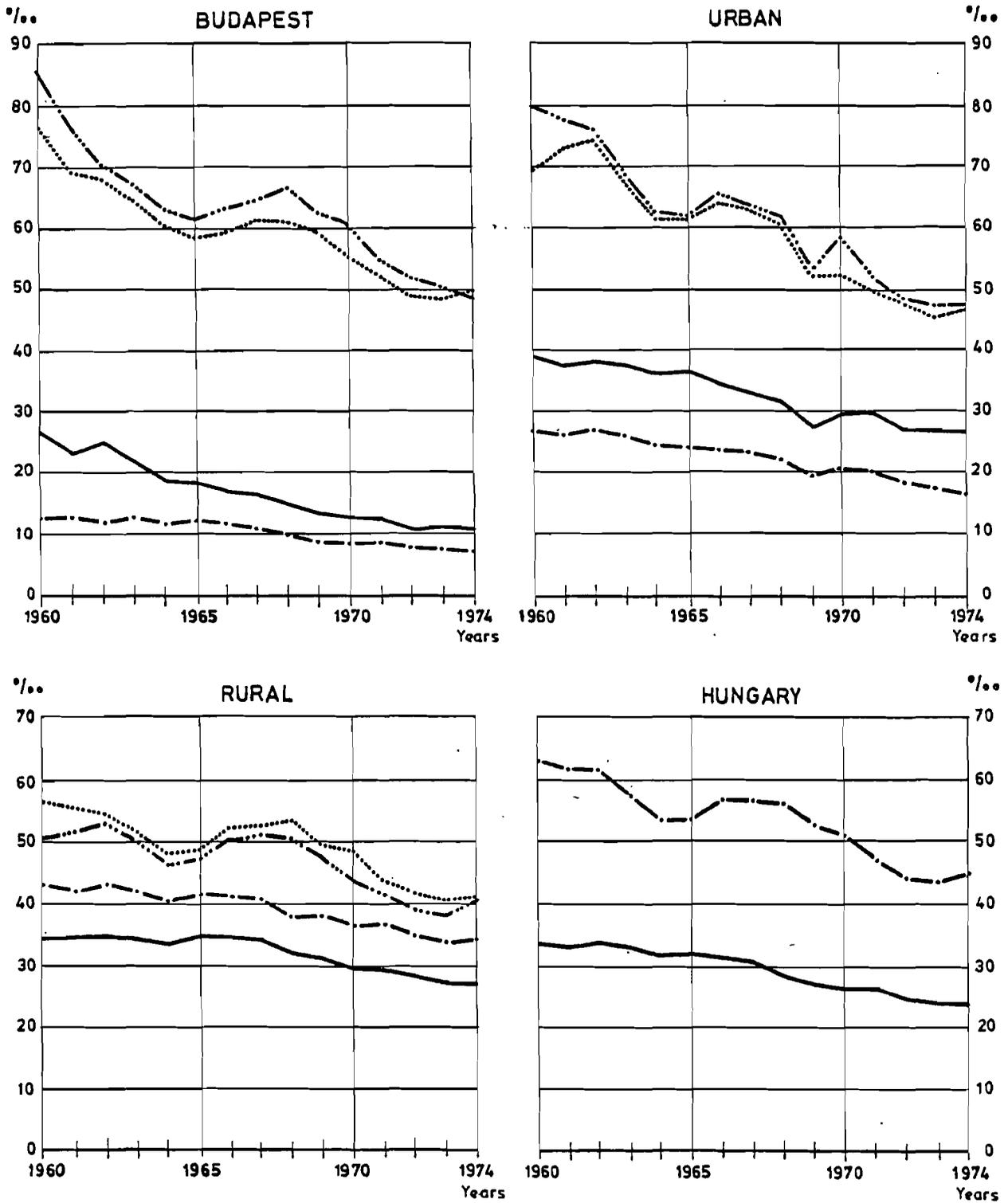


Fig. 9

CRUDE MIGRATION RATES¹ BY TYPE OF MIGRATION ACCORDING TO TYPE OF SETTLEMENTS
HUNGARY, 1960 - 1974



Permanent migration { in-migration —
out-migration - · - · -

Temporary migration { in-migration · · · · ·
out-migration - · - · -

¹ Per 1000 population

Fig. 10
 AVERAGE ANNUAL RATE OF POPULATION GROWTH BY COUNTIES AND COUNTY
 TOWNS DURING THE 1960-1975 PERIOD
 HUNGARY

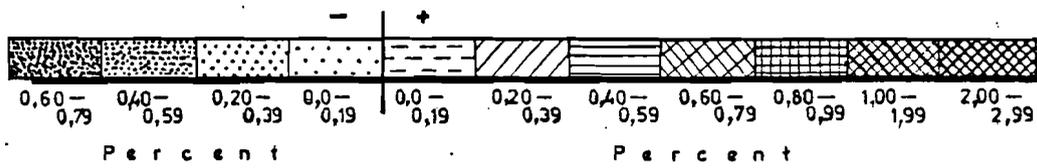
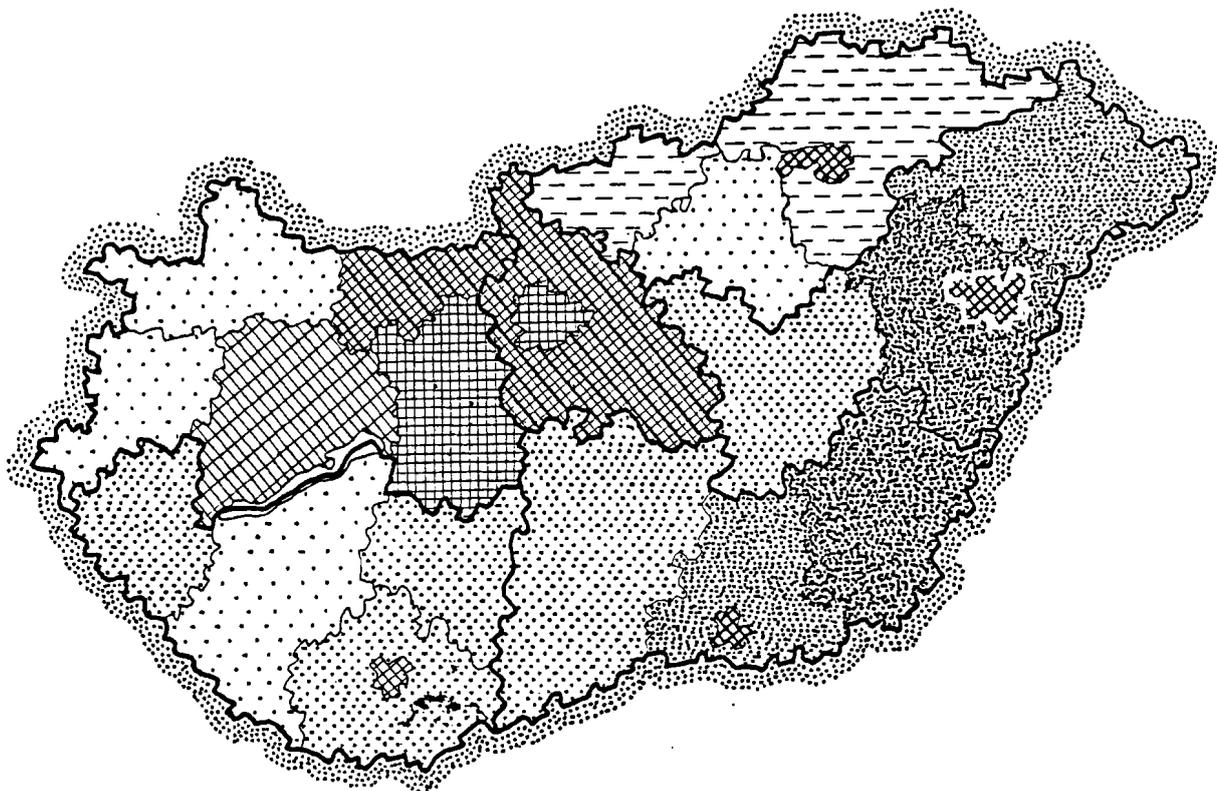


Fig. 11
 SEX AND AGE STRUCTURE OF THE RESIDENT POPULATION BY TYPE OF SETTLEMENTS
 HUNGARY - 1974

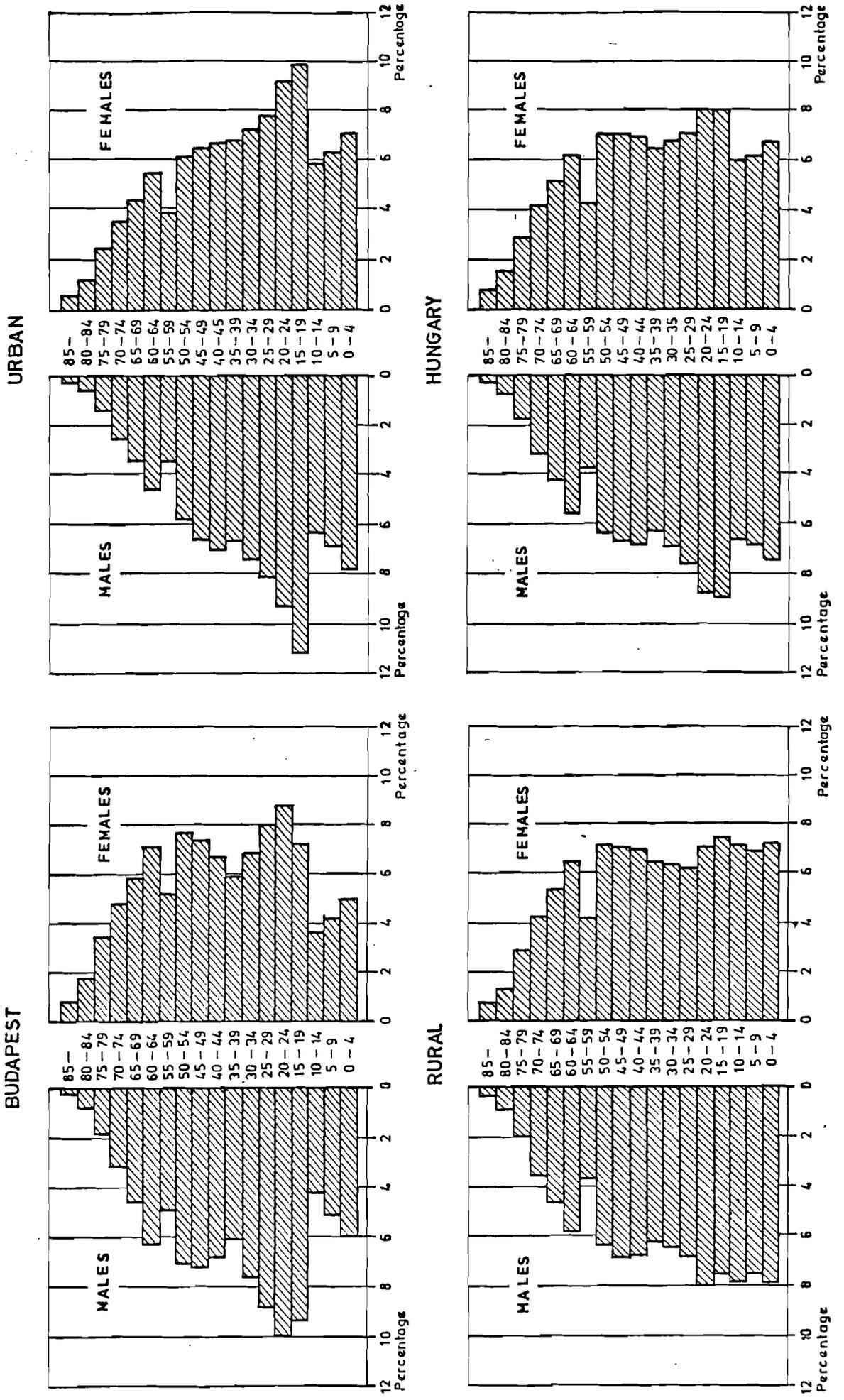
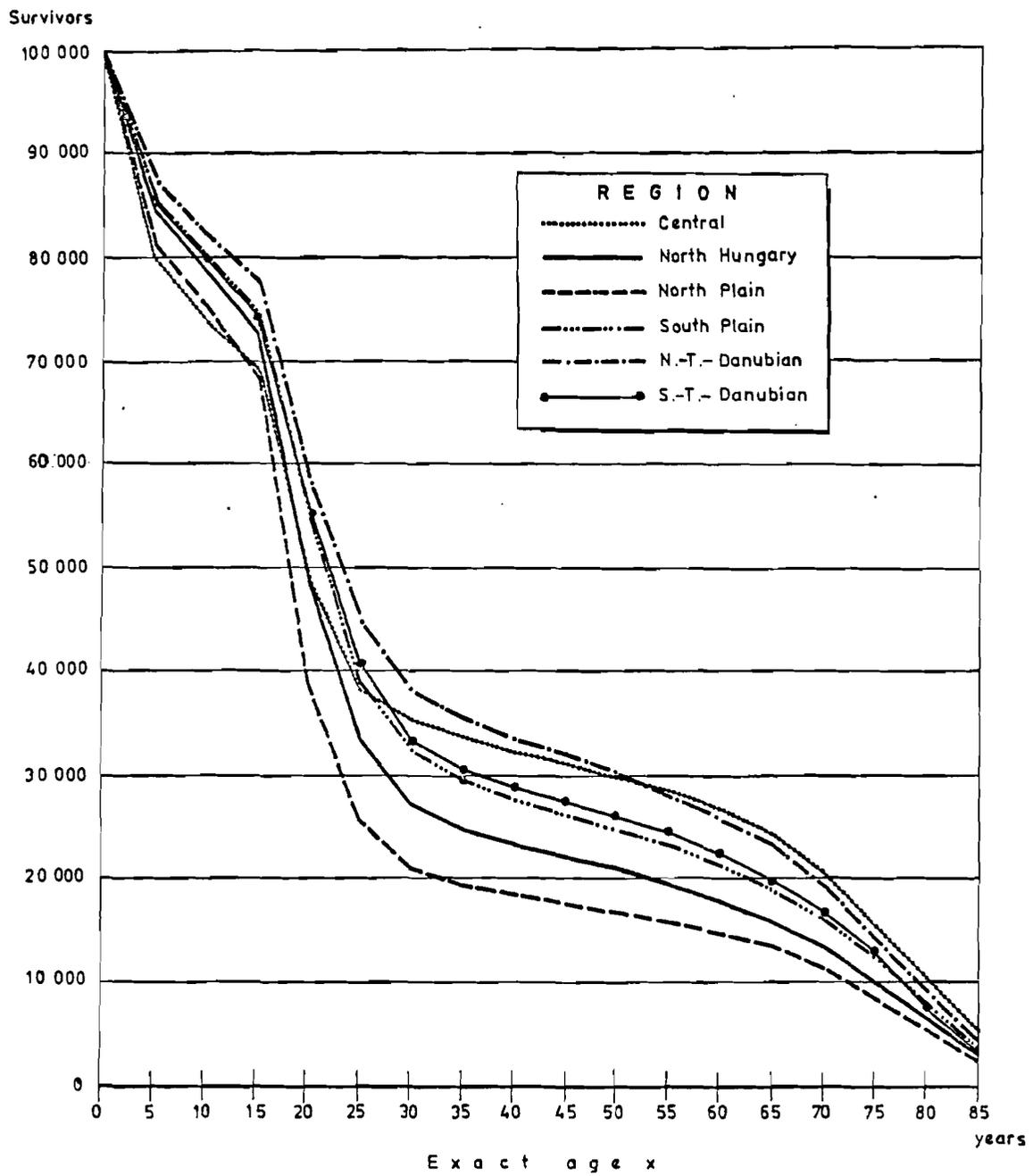


Fig. 12

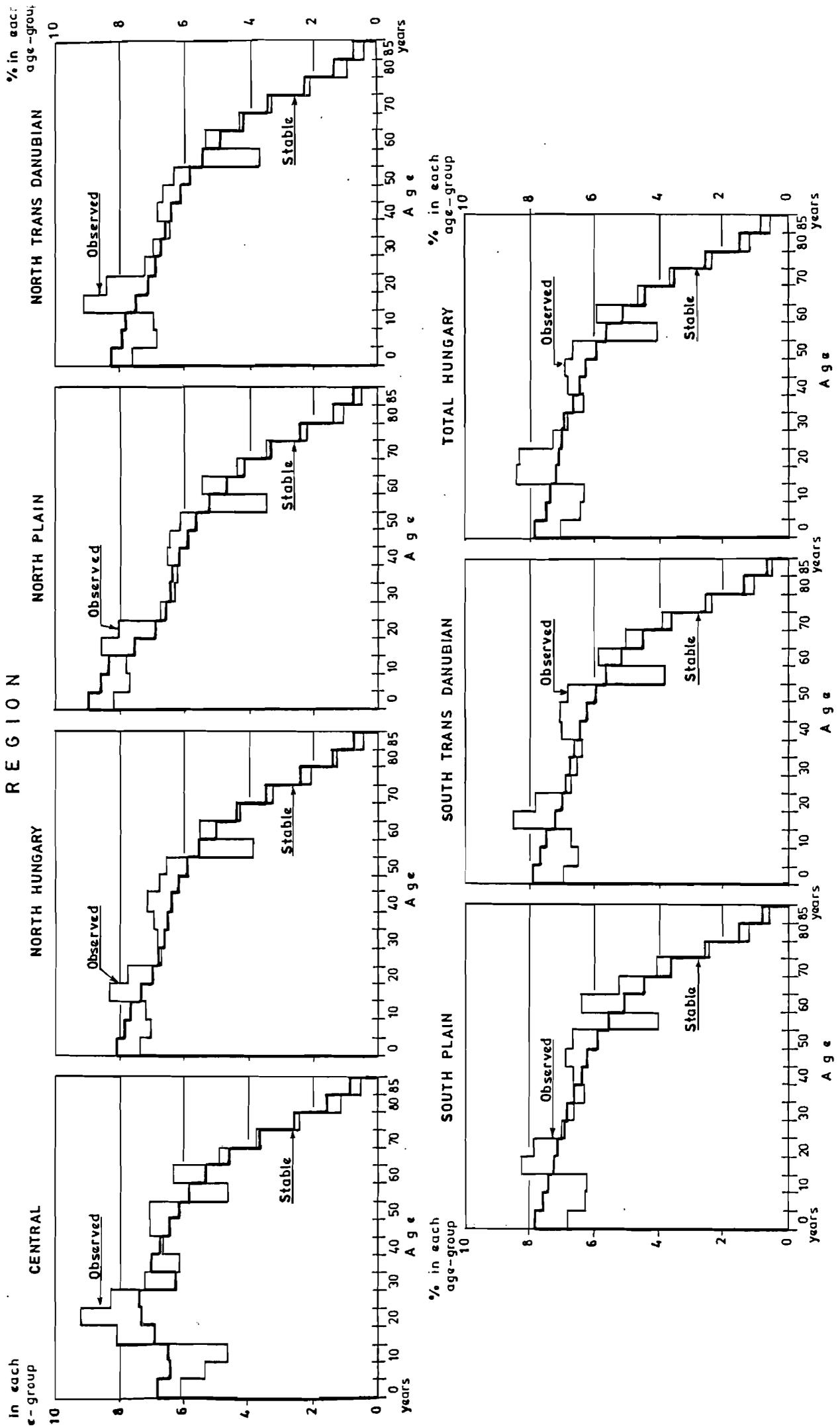
EXPECTED NUMBER OF SURVIVORS* AT EXACT AGE X IN EACH REGION



* i.e. surviving and remaining in the region of birth up to age x

Fig. 13

OBSERVED (IN 1974) AND STABLE REGIONAL AGE DISTRIBUTION OF THE TOTAL POPULATION OF HUNGARY



PROBABILITIES OF OUTMIGRATION BY REGION OF ORIGIN ACCORDING TO REGION OF DESTINATION HUNGARY - 1964.

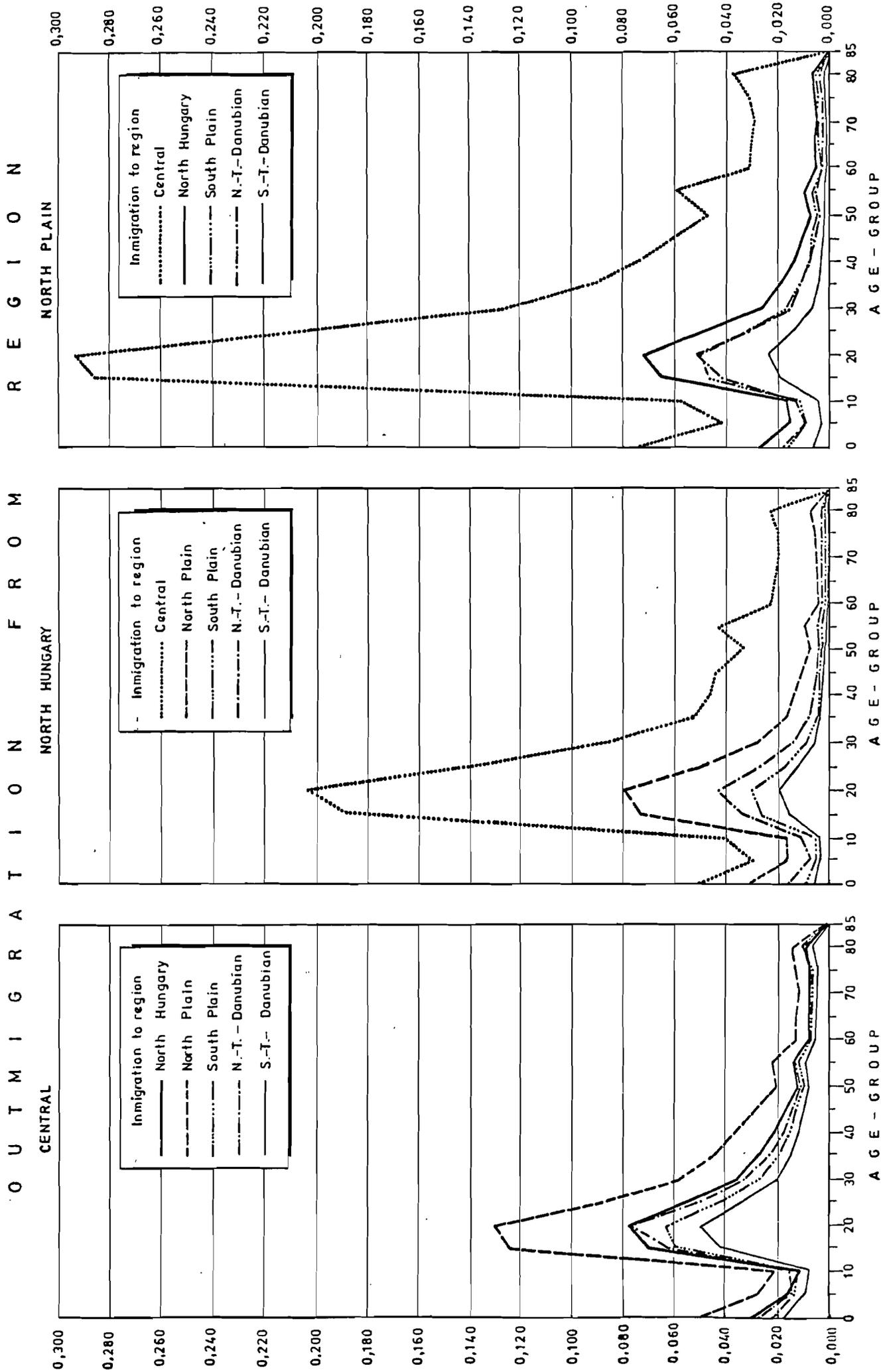
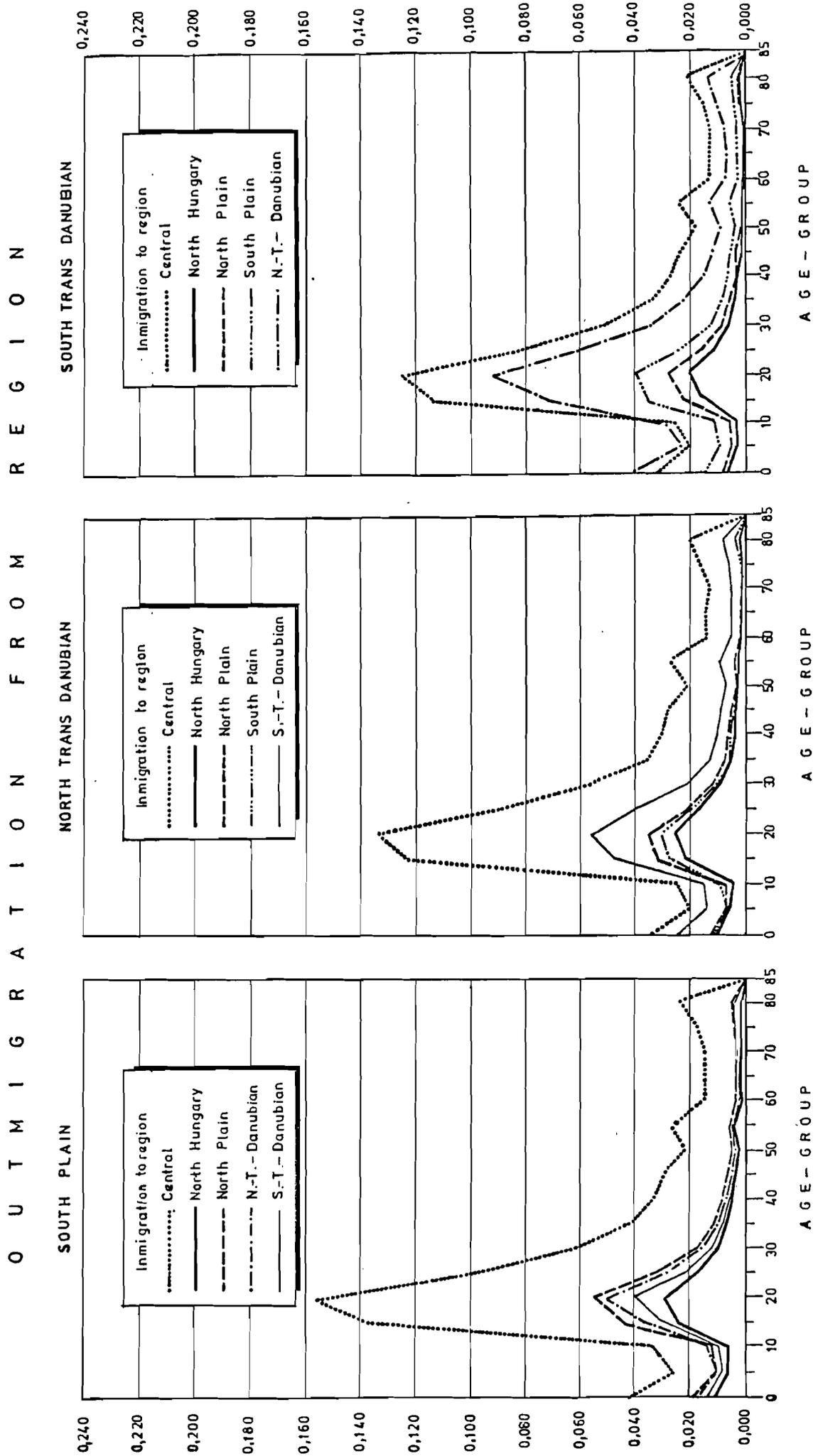


Fig. 14/b

PROBABILITY OF OUTMIGRATION BY REGION OF ORIGIN ACCORDING TO REGION OF DESTINATION
 HUNGARY - 1964.



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Regional division of Hungary since 1971

Regions ^{1/}	Counties and counts towns in the region
I. Central	Budapest, capital Pest
II. Northern Hungary	Miskolc, c.t. Borsod-Abauj-Zemplén Heves Nógrád
III. Northern Plain	Debrecen, c.t. Hajdu-Bihar Szabolcs-Szatmár Szolnok
IV. Southern Plain	Szeged, c.t. Bács-Kiskun Békés Csongrád
V. Northern Trans-Danubian	Győr, c.t. Fejér Győr-Sopron Komárom Vas Veszprém
VI. Southern Trans-Danubian	Pécs, c.t. Baranya Somogy Tolna Zala

^{1/} Economic-planing districts

Permanent and temporary migrants by age according to the region of origin and region

of distribution. Both sexes. Hungary - 1974

a/ Migrants from the Central Region to Region

Age-groups /Years/	Central	North- Hungary	North- Plain	South- Plain	North-T- Danubian	South-T- Danubian	Hungary
0- 4	5 553	826	1 547	874	1 052	648	10 500
5- 9	2 520	334	649	381	451	274	4 609
10-14	1 878	244	416	265	391	225	3 419
15-19	7 932	5 305	11 100	3 543	3 312	2 237	33 429
20-24	12 985	6 329	11 590	4 855	6 138	3 820	45 717
25-29	9 491	3 003	5 456	2 470	3 114	1 999	25 533
30-34	5 434	1 729	2 861	1 332	1 458	981	13 795
35-39	3 025	1 106	1 928	734	838	569	8 200
40-44	2 543	988	1 635	720	696	451	7 033
45-49	2 116	851	1 398	584	599	397	5 945
50-54	1 751	707	1 100	507	577	420	5 062
55-59	992	400	551	325	383	271	2 922
60-64	1 093	473	667	456	484	332	3 505
65-69	934	278	374	287	368	228	2 469
70-74	814	207	265	268	321	187	2 062
75-79	555	104	162	200	212	115	1 348
80-84	356	50	105	108	132	76	827
85-x	196	32	47	65	76	29	445
Total	60 168	22 966	41851	17 974	20 602	13 259	176 820

Permanent and temporary migrants by age according to the region of origin and region
of distribution. Both sexes. Hungary - 1974
b/ Migrants from the North Hungary to Region

Age-groups /Years/	Central	North- Hungary	North- Plain	South- Plain	North-T- Danubian	South-T- Danubian	Hungary
0- 4	807	5 671	580	180	259	93	7 590
5- 9	428	2 882	319	78	131	69	3 907
10-14	702	2 947	251	78	206	46	4 230
15-19	6 505	12 300	1 818	483	738	304	22 148
20-24	6 452	13 186	2 333	698	1 040	411	24 120
25-29	3 022	7 658	1 181	332	519	224	12 936
30-34	1 806	3 783	680	167	267	110	6 813
35-39	1 184	2 292	379	95	179	65	4 194
40-44	1 092	1 802	365	107	184	63	3 613
45-49	906	1 402	275	90	101	43	2 817
50-54	816	1 261	240	89	90	40	2 536
55-59	434	568	104	44	50	23	1 223
60-64	420	665	142	56	52	26	1 361
65-69	323	570	80	37	44	31	1 085
70-74	249	486	76	17	33	18	879
75-79	146	327	46	13	18	10	560
80-84	79	221	25	2	11	9	347
85-x	35	99	8	1	5	4	152
Total	25 406	58 120	8 902	2 567	3 927	1 589	100 511

Permanent and temporary migrants by age according to the region of origin and region
of distribution. Both sexes. Hungary - 1974
c/ Migrants from the North Plain to Region

Age-groups /Years/	Central	North- Hungary	North- Plain	South- Plain	North-T- Danubian	South-T- Danubian	Hungary
0- 4	1 550	685	5 119	446	422	177	8 399
5- 9	789	331	2 449	217	230	89	4 105
10-14	1 309	283	2 929	312	206	62	5 101
15-19	13 673	1 895	13 039	1 428	966	279	31 280
20-24	11 878	2 474	13 651	1 651	1 305	513	31 472
25-29	5 399	1 271	6 693	695	740	251	15 049
30-34	2 886	607	3 032	352	421	140	7 438
35-39	2 080	413	1 871	189	289	91	4 933
40-44	1 777	335	1 374	145	183	52	3 866
45-49	1 459	291	1 051	126	125	55	3 107
50-54	1 152	222	868	94	117	42	2 495
55-59	526	127	442	61	59	25	1 240
60-64	572	108	666	50	80	33	1 509
65-69	465	95	602	54	62	31	1 309
70-74	360	88	538	54	49	24	1 113
75-79	225	57	413	39	38	14	786
80-84	134	40	236	20	12	10	452
85-x	71	14	97	9	12	1	204
Total	46 305	9 336	55 070	5 942	5 316	1 889	123 858

Permanent and temporary migrants by age according to the region of origin and region
of distribution. Both sexes. Hungary - 1974
d/ Migrants from the South-T.Danubian to Region

Age-groups /Years/	Central	North- Hungary	North- Plain	South- Plain	North-T- Danubian	South-T- Danubian	Hungary
0- 4	511	112	152	275	682	6 078	7 810
5- 9	275	68	71	147	350	3 472	4 383
10-14	393	36	61	160	507	3 579	4 736
15-19	2 946	289	304	790	2 099	13 166	19 594
20-24	3 781	382	490	1 016	2 565	13 953	22 187
25-29	1 876	212	242	524	1 215	8 018	12 087
30-34	984	99	126	249	614	4 081	6 153
35-39	578	59	98	155	356	2 548	3 794
40-44	468	73	68	141	305	2 248	3 303
45-49	410	41	39	116	244	1 732	2 582
50-54	395	35	36	81	201	1 529	2 277
55-59	278	18	24	52	138	803	1 313
60-64	330	35	33	62	165	1 031	1 656
65-69	274	26	23	61	146	1 009	1 539
70-74	269	16	22	39	122	921	1 389
75-79	157	13	11	46	90	637	954
80-84	104	4	7	19	46	316	496
85-x	40	4	4	10	22	137	217
Total	14 069	1 522	1 811	3 943	9 867	65 258	96 470

Permanent and temporary migrants by age according to the region of origin and region of distribution. Both sexes. Hungary - 1974
 e/ Migrants from the North-T. Danubian to Region

Age-groups /Years/	Central	North-Hungary	North-Plain	South-Plain	North-T-Danubian	South-T-Danubian	Hungary
0-4	978	222	287	282	7 140	618	9 527
5-9	524	137	163	148	3 235	283	4 490
10-14	684	114	131	117	4 597	293	5 936
15-19	4 620	649	840	860	17 359	2 097	26 425
20-24	5 980	806	1 135	1 090	18 300	2 476	29 787
25-29	3 019	475	672	551	10 153	1 159	16 029
30-34	1 523	258	381	329	5 023	544	8 058
35-39	789	173	250	207	2 723	324	4 466
40-44	829	147	174	160	2 299	309	3 918
45-49	682	92	143	108	1 576	218	2 819
50-54	620	91	104	103	1 466	221	2 605
55-59	376	41	47	61	759	129	1 413
60-64	432	45	60	74	911	149	1 671
65-69	400	29	46	53	892	110	1 530
70-74	350	29	38	47	831	95	1 390
75-79	255	21	22	26	560	68	952
80-84	150	14	13	10	319	32	538
85-x	74	6	10	7	175	12	284
Total	22 285	3 349	4 516	4 233	78 318	9 137	121 828

Permanent and temporary migrants by age according to the region of origin and region
of distribution. Both sexes. Hungary - 1974
f/ Migrants from the South Plain to Region

Age-groups /Years/	Central	North Hungary	North- Plain	South- Plain	North-T- Danubian	South-T- Danubian	Hungary
0- 4	828	183	431	4 421	323	313	6 499
5- 9	463	103	186	2 380	172	152	3 456
10-14	637	68	196	3 033	186	141	4 261
15-19	4 092	415	1 187	12 604	784	679	19 761
20-24	4 947	765	1 676	12 913	1 326	1 111	22 738
25-29	2 440	305	671	6 875	650	547	11 488
30-34	1 391	170	354	3 364	370	270	5 919
35-39	806	109	196	2 070	221	172	3 574
40-44	778	131	160	1 546	149	150	2 914
45-49	625	71	110	1 320	128	102	2 356
50-54	560	66	91	1 148	127	83	2 075
55-59	302	34	46	563	58	59	1 062
60-64	402	51	53	826	91	63	1 486
65-69	378	45	50	849	78	57	1 457
70-74	346	16	51	710	72	47	1 242
75-79	241	21	40	509	49	51	911
80-84	131	12	14	325	29	32	543
85-x	69	3	11	153	11	12	259
Total	19 436	2 568	5 523	55 609	4 824	4 041	92 001