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NATIONAL COUNCIL FOR SOVIET AND EAST EUROPEAN RESEARCH

TITLE: LANGUAGE AND ETHNIC IDENTITY CHANGE
IN THE SOVIET UNION

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EXECUTIVE SUMMARY

I. BACKGROUND

The Soviet Union is a multi-national state. It is the homeland for almost 100 ethnic groups ("nationalities"). These ethnic groups are extremely diverse culturally, religiously, and linguistically. Russians, the largest nationality, comprised a bare majority -- 52 percent -- of the Soviet population at the time of the last census in 1979.

The Russians speak a Slavic language and are traditionally Orthodox Christian in religion. About two-thirds of the remainder of the Soviet population is composed of members of nationalities that are traditionally Christian, and about one-third is composed of members of nationalities that by tradition are Moslems. A small number also adhere to other religions, such as Buddhism.

II. PURPOSE AND KEY FINDINGS

A common perception in the West is that the Soviet government has tried in every way possible to assimilate -- to "russify" -- the non-Russian nationalities. That all non-Russian children must study the Russian language in schools is regarded as evidence for this perception.

The increasing knowledge of the Russian language by members of non-Russian ethnic groups is also commonly interpreted as evidence of the success of the government's russification effort.

The purpose of this project is to explain the differences among non-Russian ethnic groups in the Soviet Union in their tendencies to russify linguistically and ethnically.

The project develops new methods and cultivates sources of information that have not been used extensively before in the study of Soviet ethnic change. Specifically, a method of estimating the different rates of ethnic reidentification (assimilation) of Soviet nationalities is presented. In addition, new information about the role of different languages in the Soviet schools is developed. This information helps to explain why Soviet educational policy generally has not actually contributed to the assimilation (ethnic russification) of ethnic minorities.

The conclusions reached on the basis of these new methods and sources differ from conventional Western understandings of Soviet nationalities policy and of ethnic and linguistic change. The most striking of these conclusions are the following.

1. BILINGUAL EDUCATION POLICY. The Soviet Union's policy toward the use of Russian and the non-Russian languages in education can best be described as a bilingual education policy, not as a policy of linguistic russification. The main effect of this policy is bilingualism, not the elimination of the use of the non-Russian languages.

- a) INCREASING SUPPORT FOR MANY OF THE NON-RUSSIAN LANGUAGES. Since 1940, while there has been a decrease in the extent to which the non-Russian languages have served as the primary media of instruction in the schools, there has been an increase in the extent to which these languages have been taught as subjects of study in the schools.
- b) BILINGUAL EDUCATION DOES NOT NECESSARILY ELIMINATE NON-RUSSIAN LANGUAGES. How far in the school curriculum the non-Russian languages are used as the primary media of instruction strongly affects whether non-Russians learn Russian as second language, but has little effect on whether non-Russians abandon their traditional group language and adopt Russian as their native language.

How far in the school curriculum the non-Russian languages are taught as a separate subject of study, however, strongly affects whether non-Russians abandon their traditional group language for the Russian language as native language.

The Soviet policy of increasing the availability of native-language instruction in language and literature for most non-Russian ethnic groups, even while decreasing the use of the non-Russian languages for teaching other subjects, such as math or science, should therefore increase bilingualism in Soviet society without immediately threatening the maintenance of non-Russian languages as native languages.

2. RUSSIANS ARE NOT RAPIDLY ASSIMILATING THE NON-RUSSIAN ETHNIC GROUPS. About 1 percent of the non-Russians who were age 0-38 at the time of the 1959 Soviet census and who survived to the 1970 Soviet census date changed their ethnic self-identification to "Russian."
- a) NONE OF THE MAJOR INDIGENOUS SOVIET NON-RUSSIAN NATIONALITIES APPEARS TO BE ASSIMILATING RAPIDLY. All groups whose official homelands in the Soviet federal system have the status of "union republic" show little net change in ethnic self-identification between censuses.
- b) UKRAINIANS AND BELORUSSIANS ARE NOT BEING RUSSIFIED RAPIDLY. About 1 percent of those age 0-38 in 1959 who belonged to a non-Russian Slavic group changed their ethnic self-identification to Russian by 1970.

The widely held impression that Ukrainians and Belorussians are strongly prone toward ethnic russification is probably attributable to the fact that there are so many non-Russian Slavs. Since there are so many non-Russian Slavs, even if they had a low rate of ethnic russification, a large number of them would change to Russian ethnic self-identification.

Therefore, non-Russian Slavs who changed their ethnic self-identification probably account for over half of the Russian gain through assimilation.

- c) MANY SMALL ETHNIC GROUPS ARE BEING RUSSIFIED RAPIDLY. Among ethnic groups that are similar to the Russians in traditional religion and whose official homelands are in the Russian Republic, rates of russification are usually high. In extreme cases, as much as 30 percent of adolescents changed their ethnic self-identification to Russian between 1959 and 1970.

III. PRIORITY AREAS FOR FUTURE RESEARCH

The current project points to the need for further research on several topics, two of which are especially important.

A. DETERMINING THE ETHNIC MAKEUP OF SOVIET ADMINISTRATIVE UNITS

The smallest administrative unit for which recent Soviet censuses report data on the ethnic composition of the population is the province (for the urban and rural areas as a whole). Soviet censuses do not provide data for small units comparable to the "census tracts" employed in the U.S. Census.

Consequently, from Soviet census data, determination of the extent of ethnic mixing in the USSR is restricted to measurement within large population aggregates.

We think it is possible to make much more refined estimates of ethnic composition than are currently feasible with Soviet census data. These estimates can be valuable for a variety of purposes, including determining the ethnic composition of Soviet border territories.

B. RE-ESTIMATION OF SOVIET POPULATION STATISTICS

There are some significant problems with available data on the Soviet population. Insufficient awareness of these problems has led to questionable conclusions about Soviet population problems and trends.

Four problem areas with Soviet population statistics that require further technical demographic work are identified: mortality, the age composition of the Soviet population, fertility, and population growth.

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1. OVERVIEW

The main purpose of this project is to explain the differences among non-Russian ethnic groups in the Soviet Union in their tendencies to russify linguistically and ethnically. Two primary sets of factors can account for the differing tendencies: (1) social-demographic factors and (2) political factors. The main social-demographic factors are urbanization, education, and inter-ethnic group contact. The main political factor is the degree of official governmental support given to the cultures and languages of the ethnic groups; the prime indicator of such support examined in this project is the availability of schooling in the traditional language of a non-Russian ethnic group.

The project also develops new methods and cultivates sources of information that have not been used extensively before in the study of Soviet ethnic processes. Specifically, the project presents a method of estimating the different rates of ethnic reidentification (assimilation) of Soviet nationalities. In addition, the project develops data about the use of languages in schools that help to explain why this policy may or may not encourage linguistic assimilation.

Some of the conclusions reached on the basis of these new methods and sources do not support the conventional Western understanding of Soviet nationalities policy and ethnic processes. The most striking of the conclusions are listed in outline below. The empirical research supporting these conclusions is summarized in the next section of this report. Three working papers (Anderson and Silver 1981, 1982a, 1982b) provide a fuller analysis and explanation of the technical aspects of the research.

1. BILINGUAL EDUCATION POLICY. The Soviet Union's policy toward the use of the non-Russian and Russian languages in education can best be described as a "bilingual education policy," not as a policy of russification. The main effect of this policy is bilingualism, not the liquidation of the non-Russian languages.
 - a) INCREASING SUPPORT FOR MANY NON-RUSSIAN LANGUAGES. Since 1940, while there has been a decrease in the extent to which the non-Russian languages have served as the primary media of instruction in the schools, there has been an increase in the extent to which these languages have served as subjects of study in the schools.
 - b) BILINGUAL EDUCATION DOES NOT NECESSARILY ELIMINATE NON-RUSSIAN LANGUAGES. How far in the school curriculum the non-Russian languages are used as the primary media of instruction strongly affects whether non-Russians learn Russian as second language.

but has little effect on whether non-Russians abandon their group's traditional language and adopt Russian as native language. How far in the school curriculum the non-Russian languages are used at least as a separate subject of study, however, strongly affects whether non-Russians will abandon their traditional group language for the Russian language as native language.

The Soviet policy of increasing the availability of instruction in the language and literature of most of the non-Russian groups, even while decreasing the use of non-Russian languages for teaching other subjects (math or science) should therefore increase bilingualism in Soviet society without immediately threatening the maintenance of non-Russian languages as native languages.

2. RUSSIANS ARE NOT RAPIDLY ASSIMILATING THE NON-RUSSIANS. About 1 percent of the non-Russians who were age 0-38 at the time of the 1959 Soviet census and who survived to the 1970 Soviet census date changed their ethnic self-identification to "Russian."
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 - b) UKRAINIANS AND BELORUSSIANS ARE NOT BEING RUSSIFIED RAPIDLY. About 1 percent of those age 0-38 in 1959 belonging to a non-Russian Slavic group changed their ethnic self-identification to Russian by 1970.

The widely held impression that Ukrainians and Belorussians are strongly prone toward ethnic russification is probably attributable to the fact that there are so many non-Russian Slavs. Thus, even if non-Russian Slavs have a low rate of ethnic russification, a large number of non-Russian Slavs can become self-identified Russians. Non-Russian Slavs who changed their ethnic self-identification probably account for over half of the Russian gain through assimilation.

- c) MANY SMALL ETHNIC GROUPS ARE BEING RUSSIFIED RAPIDLY. Among ethnic groups that are similar to the Russians in traditional religion and whose official homelands are in the Russian Republic, rates of russification are usually high. In extreme cases, as much as 30 percent of adolescents changed their ethnic self-identification to Russian between 1959 and 1970.

During the past two years, the bulk of the work on this project was conducted at Brown University and at Michigan State University, the home institutions of the principal investigators. During the 1982-1983 academic year, the work is being conducted at the Russian Research Center of Harvard University, where both of the investigators have been appointed Visiting Scholars.

The main research results presented in the next section of this report represent interim products for three of the main segments of the larger project. In each of these segments we have a working paper. Each paper was presented during the past two years at a national professional meeting and will be integrated into the monograph being prepared during the current year. Some important segments of the project have not yet been written up; we summarize other research results in Section III. In addition, as a by-product of the current project, we became aware of several topics that we believe merit attention in the future. We identify a few of these in Section IV.

II. SYNOPSIS OF FINDINGS

We have presented three papers from this project at national professional meetings (Anderson and Silver 1981, 1982a, 1982b). Most of our findings to date are in those papers. In this section, we summarize each paper. Technical details, detailed citations, and full results are provided in those papers.

A. EQUALITY, EFFICIENCY, AND POLITICS IN SOVIET BILINGUAL EDUCATION: 1934-1980

The education policy of the USSR is particularly interesting because of that country's enormous ethnic diversity, the Soviet state's official ideological commitment to the egalitarian treatment of ethnic groups, and the Soviet Union's long and extensive experience with bilingual education. Although the Soviet Union has had longer and more extensive experience with bilingual education than any other country in the world, this experience has been little studied in the West. It is surprising that the large English-language literature devoted to Soviet education, including the special literature that appeared in the immediate post-Sputnik period, has given scant attention to education in languages other than Russian.

One reason Western scholars have paid so little attention to Soviet education in the non-Russian languages is the lack of systematic and comprehensive data on such education. We have developed a new set of data on the trends in schooling in the non-Russian languages. These data allow us to examine factors related to whether or not a given non-Russian language was (a) available as a separate subject of instruction, or (b) used as the primary medium of instruction.

The provision of schooling in a particular language is an important regime policy; whether native-language schooling is provided through the tenth class, the seventh class, the fourth class, or not at all, represents the extent of the regime's commitment to the maintenance of that language. Our data reflect the highest grade level for which native-language schooling was available for each of 101 ethnic groups for every year from 1934 through 1980.

Most Western scholars have tended to view Soviet education as pursuing a single-minded course toward russification of non-Russian children. Although Soviet authorities have endorsed a principle of equality, they have not publicly stated the actual decision-rules that have guided the provision of native-language schooling.

We draw from the Soviet literature three principles that might have guided the provision of native-language schooling: an equality principle, an efficiency principle, and a political principle. We test hypotheses implied by each of the principles. We show that although provision of native-language schooling has always been highly differentiated among ethnic groups, it has also always had a strong egalitarian element. Before World War II, economic efficiency considerations are highly consistent with the differential provision of bilingual schooling; since the War, the pattern is more consistent with a political principle.

Background

In 1979, the Soviet population numbered 262 million, only 52 percent of whom were ethnic Russians. Twenty-two ethnic groups had a population of at least 1 million. Approximately 90 ethnic groups, which, following Soviet practice, we refer to as "nationalities," are officially designated as indigenous to the USSR.

The Soviet state structure is federal in form, with the primary geographical divisions representing the official territories of particular nationalities, as is reflected in the territorial names. Over 50 ethnic groups are recognized as the titular nationalities of administrative-territorial units in the federal state structure. There are 15 soviet socialist republics (SSR's), also called union republics, that are the official homelands of such nationalities as the Russians, Ukrainians, Uzbeks, Armenians, and Latvians. Below the level of union republic there are 20 autonomous soviet socialist republics (ASSR's), also called autonomous republics. Autonomous republics are all located within the boundaries of union republics. Sixteen are located within the Russian Republic (RSFSR). At the next lower level, there are 8 autonomous provinces (avtonomnye oblasti or AO's), six of which are in the RSFSR. There are 10 autonomous districts (avtonomnye okrugi) or AD's, until recently called "national districts" (natsional'nye okrugi or NO's), all of which are located in the RSFSR. There are additional territorial divisions within union republics that are not the primary homelands of particular nationalities. They do not concern us here.

Almost every one of the 90 indigenous ethnic groups has its own traditional non-Russian language. The languages of the Soviet nationalities are extremely diverse, coming from five main genetic language-families (Indo-European, Uralic, Altaic, Caucasian, and Paleoasiatic) and numerous subgroups within those families.

Soviet scholars have long cited the development of schools in the traditional languages of non-Russian nationalities as evidence of the regime's commitment to the equality of nationalities. Soviet authorities claim that this equality is promoted both by the equal rights accorded to the "national" languages (languages of the non-Russian nationalities) and by the resulting increased literacy and other skills among the non-Russian peoples. The levelling of differences in educational opportunities is supposed to reduce the degree of economic inequality among nationalities.

In addition, language is usually cited by Soviet theorists on nationality relations as the best example of what is meant by "national form" in the slogan describing non-Russian cultures as "socialist in essence and national in form."

Official Soviet policy has long balanced a concern for extending the role of the Russian language with a reluctance to stir up nationalist resentments. Both for this reason and as a mechanism of mobilizing support by non-Russians for the new regime, from the early-1920's to the mid-1930's the Party pursued a policy of "indigenization" (korenizatsia) of local administrative affairs that included promotion of the use of the local languages.

Since the late 1930's, the role of the Russian language has expanded in governmental affairs, in the mass media, and in schools in most non-Russian territories, especially in the territories of the smaller nationalities. There has been a gradual "russianization" of many of the non-Russian areas -- i.e., spreading Russian culture, language, and people throughout these territories.

Recently, there has been a massive effort to increase the quantity and to improve the quality of Russian language instruction among non-Russians (Feshbach 1981; Solchanyk 1982; Kreindler 1982). The long-term goal, some Western scholars maintain, has been the elimination of the use of the non-Russian languages; in this view, these accelerated efforts to promote the learning of the Russian language represent the inevitable culmination of a series of steps taken over many years toward the russification of the non-Russian nationalities. These studies assume, or at least give the impression, that whenever there is an increase in the study of the Russian language there is necessarily a commensurate decrease in the study of the group's traditional non-Russian language.

The key problem with this line of reasoning is that it ignores the fact that Soviet nationalities policy has always displayed some tendencies that run counter to a policy of russification. Soviet nationalities policy is not the same as Soviet theories about nationalities. Although according to current official doctrine, ethnic distinctions will eventually be obliterated, and a single lingua franca will be adopted by all nationalities, actual Soviet policy has not involved a head-long rush to eliminate the use of the traditional languages of the non-Russian groups.

We proceed as follows. First, we describe the establishment of non-Russian schools in the 1920's and 1930's. Then we discuss the three principles that Soviet authorities might have employed in deciding how much native-language schooling to provide for different nationalities. After that we discuss the available information for the systematic study of native-language schooling and describe the new data set that we have constructed. Finally, we use that data set to test the relative strength of alternative hypotheses about the provision of native-language schooling.

Establishment of the "National Schools"

After the 1917 Revolution, the Soviet government embarked on a massive program to provide native-language schooling. The 1920's and early 1930's were a period of extensive experimentation in education and of great activity in creation and standardization of written forms for many languages.

A special section of the Commissariat of Enlightenment responsible for developing schools using the non-Russian languages was established by decree of the Council of People's Commissars on October 31, 1918. It is clear that in the 1920's and 1930's non-Russian ("national") schools flourished in the larger and medium-sized republics and provinces.

We know that by the middle of the 1930's, native-language schools were operating in all regions of the country, and in 1934 textbooks were printed in 104 languages. But there are many important things about the non-Russian schools in the first two decades after the Revolution that we do not know. No Soviet source reports what languages were used in every region of the country. No source gives a catalogue of the grade (class) levels in which schooling was conducted in every language. Information on matriculation rates by language for different nationalities is also scanty.

We also know that by the late 1950's there was a hierarchy of educational opportunities in the native language for members of different nationalities in the RSFSR. According to Sovetkin (1958: 24), the number of years of native-language schooling available to the different nationalities in 1958 was essentially established by the 1931/2 school year and was an outcome of the process of indigenization.

The Minister of Education of the RSFSR published an article concerning non-Russian schooling in 1972 which, when contrasted with the reported situation in 1958, shows the deteriorating status of the languages of nationalities indigenous to the RSFSR (Danilov 1972). However, no compilation based on published official sources can provide an exhaustive summary of the languages used in the RSFSR for years other than 1940, 1958, and 1972, or for schools outside the RSFSR for any date (Silver 1974a).

Decision Rules in the Allocation of Native-Language Schools

Between 1931 and 1936, the Communist Party made several major decisions that centralized Party control over educational administration, defined the structure of school curricula, and assured "stability of textbooks." After these steps were taken, it is likely that policies about the use of non-Russian languages in schools were almost completely centrally determined. In a decree of the Council of People's Commissars and the Central Committee of the Communist Party on March 13, 1938, "On the Obligatory Study of Russian Language in Schools in the National Republics and Provinces," the Russian language was made a mandatory subject in all non-Russian schools.

The actual administrative rules employed to determine whether native-language schools were to be set up and at what grade levels in the curriculum a given language might be used have seldom been discussed publicly by Soviet officials. In 1918, a rule was introduced by the Council of People's Commissars calling for the establishment of native-language schools for "national minorities" whenever there were at least 25 pupils at a given grade level who spoke that language.

Although this rule may explain the liberal development of the national schools in the 1920's, the operative administrative rules employed in more recent years are less clear. In fact, a rarely cited portion of the March 13, 1938, decree making study of the Russian language mandatory in schools, states that:

the native language is the basis of instruction in schools of the national republics and provinces, that exceptions from this rule, occurring in some autonomous republics of the RSFSR, can have only a temporary character, that the tendency to convert the Russian language from a subject of study to a language of instruction while at the same time infringing on the native language, is harmful and incorrect (Sovetkin 1958: 15).

Yet we know that by 1958 a hierarchy existed in the roles of the non-Russian languages in schools and that such a hierarchy supposedly was established by 1931/2.

Neither official pronouncements nor official published data provide the actual decision rules employed in establishing non-Russian schooling. Based on writings by Soviet scholars, however, we propose three decision-rules or principles that might describe the actual policy on native-language schooling at various dates.

THE EQUALITY PRINCIPLE. The dominant theme in official Soviet doctrine concerning the non-Russian languages has been that each nationality is free to use its traditional language. Article 121 of the 1936 Constitution of the USSR guaranteed citizens the right to instruction in schools in their native language. Article 36 of the 1977 Constitution does not explicitly guarantee citizens the right to education in their native language but assures citizens "the opportunity to use the mother tongue and languages of other peoples of the USSR." We call the basic official doctrinal principle regarding the treatment of languages the "equality principle."

Strictly speaking, the equality principle has not been followed, since Russian clearly holds the preeminent position among languages of peoples of the USSR. Russian has been described in numerous official speeches, documents, and scholarly writings as unique among Soviet languages. It has been designated the "inter-nationality language of discourse" (mezhnatsional'nyi iazyk obshcheniia) of the peoples of the USSR.

This does not mean that there has been no egalitarian element in Soviet language policy, however. Many Western scholars characterize the 1920's

and 1930's, in particular, as a period of egalitarian idealism in policies toward the non-Russian languages (cf. Carrere d'Encausse 1980; Kreindler 1982).

Instead of applying an absolute equality standard, we define a modified egalitarian standard along two dimensions: (a) the greater the number of nationalities that are provided with some form of native-language instruction, the more egalitarian is school-language policy; and (b) the greater the number of school years (the higher the class level) in which the non-Russian languages are used either as the primary media of instruction or as a separate subject of instruction, the more egalitarian the policy.

THE EFFICIENCY PRINCIPLE. A second principle that might explain use of the non-Russian languages in schools is the principle of economic efficiency. Arguments consistent with the efficiency principle are frequently offered by Soviet scholars to explain why the Russian language is the preferred lingua franca of Soviet nationalities and why the smaller nationalities often have limited opportunities for native-language schooling.

The efficiency argument has two aspects. From the perspective of the child or the child's parents, it is an inefficient investment of personal resources to study in a language that has limited utility in the job market or that cannot offer a full range of cultural opportunities. From the perspective of the state, it may be inefficient to expend substantial resources to develop the capacity to teach in languages that are used by only a small number of people and thus can play only a limited role in the modern economy, in science and technology, and in disseminating the cultural achievements of the society as a whole.

On the basis of the Soviet literature, we propose two efficiency hypotheses. First, the larger the population size of a group, the greater the likelihood that their traditional language will be used either (both) as the medium of instruction or as a separate subject of study in schools, and the higher the class level in which the language will be used. Second, native-language schooling will be more likely to be provided if the group is compactly settled than if it is not.

THE POLITICAL PRINCIPLE. A third possible explanation for the varying treatment of the non-Russian languages may be termed the "political principle." In its broadest application, this principle would determine opportunities for native-language schooling according to the roles assigned to the nationalities by the country's top political leaders. Armstrong (1968), for example, has constructed a model of Soviet nationalities policy that assigns specific "roles" to ethnic groups based on the groups' potential utility in realizing the goals of the top Communist Party leaders.

An illustration of the working of the political principle is the experience of the nationalities that were deported from their official homelands during World War II for their alleged collaboration with the Nazi invaders. All of these nationalities lost native-language schooling from the date of their deportation in 1943-44. For most, native-language

schooling was restored after their official political "rehabilitation" in the late 1950's.

Another special group is the Jews. They had extensive Yiddish-language cultural facilities in the Soviet Union in the 1920's, and there were native-language schools in Yiddish, Tat, and Bukharan Jewish until the late 1930's. Jews have not been provided native-language schools since World War II.

A more systematic and stable political factor could also affect the treatment of the non-Russian languages. The establishment of the USSR as a federal system may be viewed as a pragmatic concession by the Bolshevik Party to the non-Russian nationalities as part of an effort to consolidate control in the non-Russian regions. It may also reflect a real commitment to the long-term maintenance of ethnic distinctions.

The true motivation or explanation for the development and maintenance of a federal system was the subject of an extended scholarly debate in the USSR during the 1960's. Whatever the initial reasons for the organization of the USSR into a federal system, however, formal recognition of a nationality's territoriality probably reflected some willingness to make concessions in the cultural sphere, especially the possibility of using the group's traditional language in schools, mass media, and governmental affairs.

We therefore hypothesize that: (a) the higher the formal political status accorded a nationality in the federal structure, the more likely the nationality is to receive some native-language schooling; and (b) the higher the formal status of the group, the higher the grade level in which that group's traditional language can be used either as the primary medium of instruction in the schools or as a separate subject of study.

Determining the Status of Non-Russian Schooling

Although Soviet sources sometimes present figures on which languages are used in schools in particular regions, including, on occasion, enrollment figures by language of instruction, they seldom report such figures by grade level, and only rarely are any figures published on the enrollment of children of particular nationalities in schools with particular languages of instruction. However, we have two other sources of systematic information about native-language schooling: (a) curricula (educational plans), and (b) information on school textbook publication.

SCHOOL CURRICULUM PLANS. For some years and regions, we have curriculum plans that list the number of hours in the school program mandated for particular subjects of study. These reports outline the different curricula for the non-Russian (national) and Russian schools, and they reveal the recent increase in the number of hours mandated for Russian-language study in the non-Russian schools.

Although these model curricula are useful, they have limitations. We do not have model curricula for all years or for all groups. Additionally, we know that the plans outlined in these model curricula have not been followed in practice for some groups to whom the plans ostensibly apply.

These published curricula reveal, however, that, at least in recent years, in the non-Russian republics and provinces there have been three main types of general educational schools at the primary and secondary levels.¹ These are:

(1) Russian schools where Russian is the primary medium of instruction and where the local languages are not studied. We call these Russian schools type 1.

(2) Russian schools where Russian is the primary medium of instruction but where the language of a non-Russian nationality is studied as a separate subject. These are officially called "Russian schools where the language of a republic, autonomous province or autonomous region nationality is studied as a separate subject according to parents' wishes." (Sometimes they are also referred to as "national schools with Russian as the language of instruction.") We call these Russian schools type 2.

(3) Non-Russian ("national") schools where one or more non-Russian language serves as the principal medium of instruction for almost all subjects (except Russian language and foreign languages) and where Russian language and literature are studied only as separate subjects. We call these type 3 schools.

Western scholars often assume that there is only one kind of "Russian school" in the Soviet Union.² They assume that in "Russian schools" the entire curriculum is conducted in the Russian language and that members of non-Russian nationalities in Russian schools study alongside Russian children. These model curricula show that there is more than one kind of "Russian school" and that some native-language schooling is available in the type 2 Russian schools.

They also show that enrolling non-Russian children in "Russian schools" does not necessarily imply integration of non-Russian children in the same schools that Russian children typically attend, because non-Russian children will often be in type 2 Russian schools rather than in type 1 Russian schools. Separation of ethnic groups in schools, along with the continued teaching of the non-Russian group's traditional language (in the type 2

¹ In addition to the three main types of school described here, there are schools with more than one non-Russian primary medium of instruction. These are especially common in new urban settlements and in other regions with an ethnically diverse population.

² Kreindler (1982) notes that there are type 2 Russian schools in the Tatar ASSR, but she does not comment on their more general existence.

Russian school), should help to assure both literacy in the group's traditional language and continued use of that language in everyday affairs, even if the number of hours per week in the curriculum devoted to the group's language is small.

TEXTBOOK PUBLICATION DATA. We use data on textbook publication by language to construct a data set reflecting the status of different languages in schools over time. The details of the procedures and assumptions in developing this new data set are explained in Anderson and Silver (1982b).

Knizhnaia letopis' (Chronicle of Books) and Ezhegodnik knigi (Book Annual of the USSR) report data on virtually all books, including school textbooks, published in the Soviet Union by year. The All-Union Book Chamber (Vsesoiuznaia knizhnaia palata) publishes both of these serials, the first appearing weekly and the second yearly. The first year in which the All-Union Book Chamber began to compile and to report information on books published outside the Russian Republic was 1934.

Before 1934, even for the RSFSR, the Book Chamber (then called the Central Book Chamber of the RSFSR) did not identify books according to the language in which they were written. Thus, the first year for which we can construct a summary of the languages used in school textbooks is 1934.

We depict the status of native-language schooling opportunities for the years 1934 to 1980, inclusive. Relying on both Knizhnaia letopis' and Ezhegodnik knigi, we extracted information for every year between 1934 and 1980 on the languages in which school textbooks were published for mathematics, natural science, language, and literature.

We assume that the printing of school textbooks in math or science in a given non-Russian language is a good indicator that the language is used as the primary medium of instruction in at least some schools. If math or science are taught in a given non-Russian language, it is reasonable to infer that most other subjects are also taught in that language. Accordingly, for each year between 1934 and 1980, we code for each non-Russian language the highest class level for which any textbook in math or natural science was reported published.

If only one or two subjects are taught in a group's traditional language, they are likely to include a course on the group's language or literature. Thus we assume that the printing of school textbooks in language or literature in a given language indicates that the language was used at least as a subject of study in at least some schools. Therefore, for 1934-1980 we also coded the highest class level for which any textbook in language or literature was reported published in each non-Russian language. Since the language may well have been used in more areas of the curriculum than simply language or literature courses, this measure should indicate the minimum usage to which the language is put in schools.

The textbook data allow us to assess changes in the maximum class levels in the school curriculum in which the different languages are employed as subjects of study or as the primary media of instruction. These maxima

by themselves are important indicators of the statuses of different languages. Furthermore, when non-Russian languages continue to be taught as subjects of study but are no longer employed as the primary media of instruction, this indicates the elimination of the type 3 national schools in favor of the type 2 Russian schools.

Trends in Native-Language Schooling

We proposed three alternative decision-rules for determination of the extent of native-language schooling provided to different nationalities. We now examine the extent to which the pattern of provision of native-language schooling is consistent with each of these principles.

EGALITARIAN HYPOTHESIS. The stronger the influence of an "equality principle," the less variation we should find in native-language schooling among different nationalities, and the higher the average class levels at which such schooling should be available.

The Soviet Union has provided at least some native-language schooling to the vast majority of nationalities. Eighty-three of the 101 nationalities included in the data set had schooling where the group's traditional language was used at least as a subject of study at the level of class 1 or beyond during at least one year between 1934 and 1980. Thirteen of the 18 nationalities that did not have any native-language schooling during this period were classified in the 1926 Soviet census as not having a literary language. All of them have small populations and reside in either the Soviet Far North or the Caucasus.

Twenty-one nationalities that officially lacked a literary language in 1926 received some native-language schooling between 1934 and 1980. Five nationalities that were classified in the 1926 census as having literary languages did not, according to our data, receive native-language schooling in the USSR between 1934 and 1980: Albanians, Rumanians, Slovaks, Khalkha-Mongols, and Karaims. Of these, only the Karaims are indigenous to the USSR.

The presence of "non-indigenous" (foreign) nationalities in the data set presents an analytic problem because, in light of practice in most countries, it is not reasonable to expect the Soviet government to provide native-language schooling for many foreign groups. Thus we concentrate in the remainder of the analysis on the nationalities that are "indigenous" to the USSR. It is for these groups, more than for foreign groups, that the logic of Soviet language policy should be examined. If we exclude the 20 foreign nationalities from the analysis, there are 81 indigenous groups.

Based on our data on publication of math-science or language-literature textbooks, of those 81 indigenous nationalities, 67 (83 percent) had schooling in which their group's traditional language was used at least as a subject through at least the first class for at least one year between

1934 and 1980. Judging by our data on publication of math or science textbooks, these same 67 nationalities also had schooling at some time in which their group's traditional language was the primary medium of instruction.

Although impressive by almost any standard, these figures give a superficial picture because they answer only a simple question: Between 1934 and 1980, how many nationalities ever had schooling in which their group's traditional language was used as the medium of instruction or as a subject of study at any class level? It is also important to know how the availability of native-language schooling has changed over time, and whether, on average, the class levels for which native-language schooling has been provided have followed any trend.

To answer these additional questions, we broke the 47-year time series into nine intervals: 1934-1940, 1941-1945, 1946-1950, 1951-1955, 1956-1960, 1961-1965, 1966-1970, 1971-1975, and 1976-1980. For each of these intervals, and also for the entire 1934-1980 period, we calculated the number of indigenous nationalities that had schools in which their group's traditional language was used in math or science textbooks (abbreviated as M), which we interpret as indicating that the group's non-Russian language was used as the primary medium of instruction in schools. We also calculated the number of nationalities that had schools where the group's traditional language was used in language or literature textbooks (abbreviated as L), and the number that had schools where their group's traditional language was used in either math-science or language-literature (abbreviated as H -- Higher of M or L). We use "H" as the indicator of whether the language was used at least as a subject of study in schools.

The results of these calculations are given in Table 1. In Table 1, for the entire 1934-1980 period, and also for each sub-period, a nationality is considered to have native-language schooling only if there was a textbook in the group's traditional language for class I or higher; preschool texts alone do not qualify a group for inclusion.

The figures in Table 1 show that within the 1934-1980 time-span, the heyday of the existence of non-Russian schools was before World War II. During the 1934-1940 period, 64 nationalities had schools in which math-science was taught in the group's traditional language, and 65 had schools where language-literature was taught in the group's traditional language.

The number of nationalities with schools where their language was used to teach math-science (M) declined substantially since 1934. After a plateau of about 50 such languages between 1946 and 1965, the number dropped in each succeeding period to a low of 35 such languages in 1976-1980, just over half of the pre-War number.

The pattern of use of the non-Russian languages as subjects of study is very different. Since 1945, in every period about 53 nationalities have had schools where their group's language was used at least as a subject of study (H) -- about 82 percent of the pre-War number.

TABLE 1

Number of Indigenous Non-Russian Nationalities that had Native-Language
Schooling (N=81)

Type of Schooling:	Number with Group's Language Used To Teach Math-Science (M)	Number with Group's Language Used to Teach Lang.-Literature (L)	Number with Group's Language Used for EITHER Math-Science or Lang.-Literature (H)
Period:			
1934-1940	64	65	65
1941-1945	49	44	51
1946-1950	50	51	52
1951-1955	50	49	51
1956-1960	52	55	55
1961-1965	47	52	52
1966-1970	39	49	49
1971-1975	36	53	53
1976-1980	35	53	53
Ever 1934-1980	67	67	67

NOTES: Estonians, Latvians, Lithuanians, and Tuvinians are included at all dates even though their basic territories were annexed to the USSR during World War II.

Table 1 indicates the dying out of the "national schools" by the disappearance of schools where the non-Russian language serves as the primary medium of instruction. We conclude that increasingly over time, the type 3 schools ("national schools") described earlier have been replaced by type 2 Russian schools.

We also want to know the highest class level for which native-language schooling was available. In Table 2, we examine this for those groups that had native-language schooling at some time, i.e., the 67 groups from the last row of Table 1. For each period, for all indigenous groups that ever had some native-language schooling, we computed an average of the highest grade in which science or math textbooks were published (M). We also computed an average of the highest grade in which either math-science or language-literature textbooks were published (H). In Table 2 and in the succeeding tables, preschool texts are coded as .5 years to take some account of the difference between preschool native-language schooling and no native-language schooling.

Table 2 shows that among those indigenous nationalities that ever had schooling in their group's traditional language, the average maximum class level in which the group's language was available as the primary medium of instruction (M) declined from a high point of 5.48 years in the 1934-1940 period to a low point of 3.21 in 1976-1980. A substantial drop in the average occurred during World War II, probably mostly due to the serious disruptions in both the production of textbooks and the operation of Soviet schools during those years. After the War, the level rebounded, although it never regained the pre-War level. The average declined steadily in each period after 1951-1955.

We derive a different picture of the trend in the availability of native-language schooling from the extent to which the non-Russian languages have been available at least as a subject of study (H). The figures in the right-most column of Table 2 reveal that the average maximum class level in which the groups' language was available at least as a subject of study has increased since World War II. By 1956-1960, the level exceeded that in 1934-1940 (6.21 years vs. 5.94 years), and by 1976-1980 it reached 6.93 years.

To summarize, at the same time that availability of some instruction in the non-Russian languages (H) has increased, there has been substantial erosion in the use of the non-Russian languages as the primary media of instruction in the schools (M). This suggests that the non-Russian languages are increasingly being reduced to use as a subject of study in Russian-language schools -- the type 2 Russian-language schools that we described earlier. But there is substantial inter-group variation in the extent to which this is taking place.

Obviously, an equality principle cannot explain this differential treatment. We therefore turn to examining the evidence for the operation of the efficiency principle and the political principle.

THE EFFICIENCY HYPOTHESIS. There are two aspects of the efficiency principle. One indicator of the efficiency of providing native-language schooling to a given nationality is that nationality's population size. In addition, the more concentrated the settlement of a nationality, the more efficient it is to provide schools in that group's traditional language. Although our current data do not allow us to test the effects of residential concentration at the level of cities and rural districts, whe-

TABLE 2

Mean Highest Grade of Native-Language Schooling among Indigenous Nationalities that Ever Had Such Schooling (N=67)

Type of Schooling:	(M)	(L)	(H)
	Group's Language Used in Math-Sci.	Group's Language Used in Lang.-Lit.	Group's Language Used in EITHER Math-Sci. or Lang.-Literature
Period:	Mean	Mean	Mean
1934-1940	5.48	5.38	5.94
1941-1945	4.10	4.10	4.66
1946-1950	4.74	5.14	5.50
1951-1955	4.92	5.29	5.48
1956-1960	4.57	6.18	6.21
1961-1965	4.26	6.35	6.36
1966-1970	3.63	6.22	6.23
1971-1975	3.43	6.85	6.85
1976-1980	3.21	6.93	6.93

NOTES: Estonians, Latvians, Lithuanians, and Tuvinians are excluded from calculations for 1934-1940 but included for other periods.

Only groups with native-language schooling at class 1 or higher are included; groups with only preschool native-language schooling are not included.

re the implementation of central policies on native-language schooling takes place, we attempt to measure the effects of geographic concentration on the availability of native-language schooling. As an indicator of geographic concentration, for nationalities with titular areas, we use the number of members of each nationality that resided in that nationality's titular area (republic, province, or district) in 1959.

Thus, if the "efficiency principle" were the basis for deciding which nationalities were provided with native-language schooling, the larger the group's population size, and the larger the number of members of the given nationality that reside in the group's titular area, the higher the class level for which schooling in that group's traditional language will be available.

We found that the population size of a group was strongly positively related to the extent to which each kind of native-language schooling was available in every period. However, the strength of the relationship decreased over time. This was true whether population size was measured in 1926 or in 1959.

We also found that the size of the population of a group within the group's titular area was important. The relationship between the population of a group in its titular area and the math-science variable (M) remained strong in all periods, but the relationship with the math-science or language-literature variable (H) weakened over time. For the maintenance of schools where the group's traditional language is the primary medium of instruction, having a large population residing in the titular area is more important than is having a large population overall. Total population size is somewhat more important in determining whether the group's traditional language was available for study at least as a separate subject.

This pattern for groups with titular areas is consistent with efficiency considerations. Providing a curriculum allowing for the study of a given non-Russian language in one subject (i.e., language-literature) is relatively inexpensive, but maintaining an entire curriculum in a given non-Russian language is only reasonable when a large number of pupils from the same non-Russian nationality reside in close proximity to each other.

THE POLITICAL HYPOTHESIS. The essence of the "political principle" is that the differential provision of cultural opportunities among nationalities is determined by the extent to which groups are viewed favorably by the central political authorities. Groups such as the deported nationalities suffered not only the dismantling of their autonomous republics and provinces and deportation to Central Asia and the Eastern zones of the Russian Republic, but they lost all native-language cultural facilities during their period of deportation.

The formal status of nationalities in the federal state structure of the Soviet Union represents another aspect of the political principle. To examine the extent to which the provision of native-language schooling has varied with the territorial status of the nationality, we classify all of the indigenous nationalities according to their current status: (1) union republic (SSR) nationalities; (2) autonomous republic (ASSR) nationalities; (3) autonomous oblast' (AO) nationalities; (4) autonomous district (avtonomnyi okrug -- here abbreviated AD) nationalities; and (5) other indigenous nationalities (here abbreviated as IND).

The graphs in Figures 1 and 2 show for each period the average highest school year in which textbooks in the nationality's traditional language were published either in math-science or language-literature (H), or in math-science (M), for nationalities grouped by their formal political status.

Figures 1 and 2 show that the extent to which schooling has been available in a group's traditional language follows distinctive paths related to the group's formal political status, and the status groupings always remain in the expected rank order. The highest school year in which the group's traditional language is used is always lower on average for the autonomous republic (ASSR) nationalities than for the SSR nationalities. The corresponding figures for the autonomous oblast (AO) nationalities are lower on average than those of the ASSR's during each period. And the figures for the autonomous district (AD) nationalities are lower on average than those of the AO groups, but higher than those for the groups that have no official territory (the remaining indigenous groups -- IND).

Figure 1 depicts the average highest class levels in which the non-Russian languages were used in school at least as a separate subject (H). Figure 1 demonstrates the steady increase since World War II in the class levels in which the languages of all groupings of AO status and higher were used in schools. After lagging behind the SSR nationalities by over three class levels in the 1934-1940 period, the ASSR nationalities improved their position to such an extent that it nearly matched that of the SSR nationalities in the 1976-1980 period. The AO nationalities followed a similar upward trajectory over time, but lag behind the ASSR nationalities. In contrast, after a decline in the status of their languages between 1934-1940 and 1941-1945, both the AD and IND groups have experienced little change.

The trends in the use of the non-Russian languages as media of instruction are very different from the trends in use as a separate subject. Figure 2 shows that all groupings except the SSR nationalities have experienced steady reductions over time in the highest school year in which the groups' traditional languages were used as the primary media of instruction. This generalization is only slightly modified by observation of the brief recovery following World War II for the non-SSR groupings.

For each of the two indicators of native-language schooling, the five political status groupings break into two classes. The composition of the two classes differs between the two indicators, according to where the ASSR- and AO-level nationalities are located. While experiencing steady increases in the class levels in which their languages are used at least as a separate subject (H), the ASSR and AO nationalities have experienced steady decreases in the class levels in which their languages are used as the primary media of instruction (M).

We infer that native-language education for the ASSR- and AO-level nationalities is increasingly taking place not in the "national schools" but instead in the "Russian schools with the (non-Russian) native language as a separate subject." In contrast, for the AD- and IND-level nationalities, schooling in their groups' traditional languages is disappearing

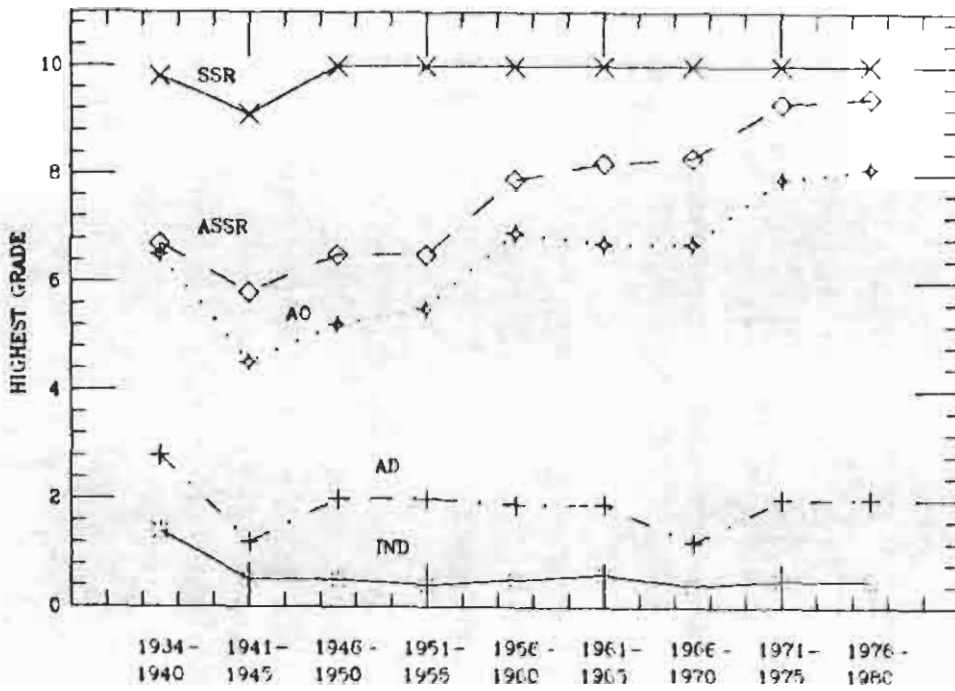


Figure 1: Highest Average Grade Level of Lang-Lit or Math-Science Textbooks Published by Political Status

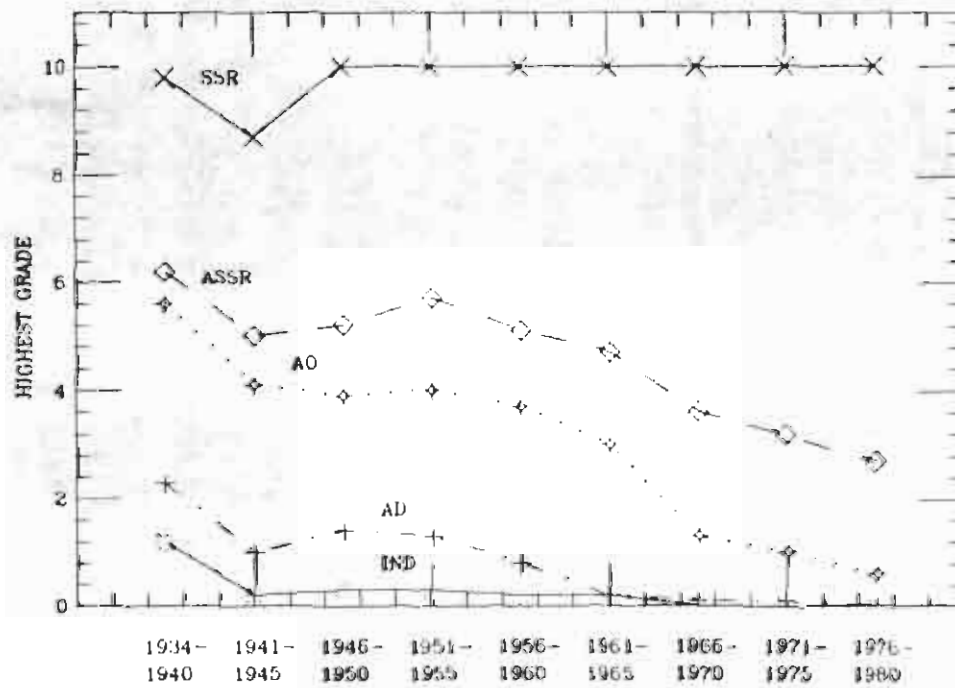


Figure 2: Highest Average Grade Level of Math-Science Textbooks Published by Political Status

completely; children in these nationalities are increasingly attending only what we have called type 1 Russian schools.

These patterns show how complex and varied the changes in native-language schooling policies have been. The upward trends in Figure 1 run counter to the common supposition in the West that the non-Russian languages are disappearing from use in the educational system. The downward trends in Figure 2, however, are consistent with the Western supposition of increasing russianization of the bulk of the school curriculum for members of non-SSR nationalities. Thus it is inappropriate to suppose that any single pattern of change applies to all Soviet ethnic groups.

The Relative Importance of Efficiency and Political Factors

We found that a nationality's formal political status is related to the extent to which it has been provided schools in its traditional language. At the same time, the differential availability of native-language schools is consistent with both the political principle and the efficiency principle. Since the explanatory power of the efficiency principle has tended to diminish over time, other factors must account for the inter-group variation in the availability of native-language schooling.

We found that for both the 1934-1940 and 1941-1945 periods, population size is a more powerful predictor of school-language policy than is formal political status. Just the opposite is true for all periods after World War II. Between 1934 and 1945, the differentials in the availability of schooling in the non-Russian languages were highly consistent with both the economic efficiency principle and the political principle, but the efficiency factor predominated. After World War II, the efficiency and the political factors can each account for a substantial amount of the variation in policy, but the political factor predominated.

Over time, then, the policy of providing schooling in the non-Russian languages has become decreasingly related to considerations of economic efficiency and increasingly related to the hierarchical organization of the Soviet federal state. Differences in formal constitutional status appear to be associated with real policy differences, independently of the size of the population of the nationalities.

This does not necessarily mean that population size had only a temporary effect on the availability of schooling in the non-Russian languages. On the contrary, we found that population size is related to school-language policy in the post-War era in three ways. First, population size affects recent school-language policy through its relation with the political status of the nationalities. Second, to the extent that school-language policy during 1934-1940 was determined more by group population size than by group political status, population has a persistent indirect effect on later native-language schooling opportunities. Third a nationality's population affects school-language policy even in the post-War years is through its geographic concentration in combination with its size, i.e., through the combined effects of the two aspects of economic efficiency.

Implications

This study's newly generated data have permitted us to explore aspects of Soviet educational policy about which scholars previously lacked systematic information. Now we characterize the evolution of Soviet policy toward use of the non-Russian languages in the schools, and we illustrate how the patterns of change and the decision-rules that led to them were manifested in particular historical periods.

The best way to characterize the Soviet Union's policy toward the use of the non-Russian and Russian languages in education with a simple phrase is that it is a "bilingual education policy." Although there have been many changes in the use of the non-Russian languages in the schools, in all periods the traditional languages of the non-Russian nationalities have played a substantial role in the curriculum, even as the role of the Russian language has expanded.

Since World War II, the number of languages used as the primary medium of instruction in schools has decreased, and also there has been a substantial reduction in the highest class levels in which the non-Russian languages have been used in this capacity. But the non-Russian languages still have an important place in the curriculum. The number of nationalities able to study their traditional language as a separate subject in at least some schools was not much lower in 1976-1980 than in 1934-1940 and has not changed since 1941-1945. More importantly, on average, the highest class level in which the non-Russian languages are taught as subjects of study has increased since 1934-1940.

We regard Soviet school-language policy as one of bilingual education rather than of linguistic russification because for the great majority of the non-Russian population this policy seems to be aimed more at assuring bilingualism than at eradicating the non-Russian languages. We regard use of a language in the curriculum even as a subject of study as an important source of support for the language.

In this respect, we take issue with the implicit argument of many other Western scholars, who seem to regard the use of languages as the primary media of instruction as the only meaningful support for the non-Russian languages, and who seem to regard the use of non-Russian languages as subjects of study as comparatively inconsequential. Our attention to use of the languages as subjects of study is grounded in part on empirical analyses that reveal that availability of the languages as subjects of study is often sufficient to assure native-language maintenance (Anderson and Silver 1982a).

The data on use of the non-Russian languages in schools are not consistent with the patterns of policy shift suggested by others. Whatever changes may have occurred in the official theoretical formulae on Soviet nationalities policy, our evidence on school-language policy supports neither the depiction of official policy as shifting back and forth between a centrist (pro-Russian) and a peripheralist (pro-non-Russian) emphasis (Lewis 1972), nor the depiction of official policy as moving inexorably in a russificationist direction (Kreindler 1982), nor the description of the policy as absolutely egalitarian (Isaev 1978).

If the policy had shifted between a centralist and peripheralist emphasis, we would not have found a monotonic decrease over time in the number of nationalities whose traditional languages were used as media of instruction. Nor would we have found a monotonic increase in the average class levels in which the non-Russian languages served as subjects of study.

If the policy had moved inexorably toward greater russification, we would not have found nearly complete stability over time in the number of languages that are employed as subjects of study, and we would not have found that these languages are used at increasingly higher levels of the school curriculum. Nor would one find that in many of the union republics, such as Uzbekistan, the roles of the local languages have substantially increased over time (Fierman 1982).

If the policy were completely egalitarian, Soviet authorities would not have extolled the virtues of the Russian language to such an extent, and there would not be the high degree of asymmetry in the emphasis given to the non-Russian and the Russian languages in the school curricula in recent years (e.g., Solchanyk 1982; Kreindler 1982). Although a great many non-Russian nationalities have been provided with instruction in their traditional languages, these nationalities have not been treated identically. In all periods since at least 1934, school-language policy has differentiated among the non-Russian nationalities either on the basis of their population size, their geographic concentration, or their political status.

Based on our data analyses, we identify three main periods in the evolution of Soviet policy toward the use of the non-Russian languages in the schools: (1) 1917-1938; (2) 1938-1959; (3) 1959-1980. The first period begins with the October Revolution and ends roughly with the 1938 decree that made Russian a mandatory subject of study in school. The second period begins with the decree on Russian-language instruction and ends with the adoption of the 1959 education law. The third period runs from the 1959 education law to the present.

This periodization is linked with important changes in the legal framework for the use of languages in schools. The actual consequences of these legal changes were sometimes delayed by half a decade or more. World War II interrupted the full implementation of the 1938 decree, and the 1959 reforms were introduced gradually in the 1960's (Silver 1974a).

Consistent with the interpretation of several Western scholars, we characterize the first period between 1917 and 1938 as an egalitarian period during which an enormous effort was made to construct new alphabets, open non-Russian schools, and limit the role of the Russian language in the non-Russian areas. The model "national school" was one in which all subjects were taught in the traditional (native) language of the non-Russian pupils.

A commonly used measure of the success of Soviet nationalities policy during this period was the extent to which the schools were "indigenized." The Russian language may have been studied but was usually not a mandatory

subject. Nonetheless, there was an important measure of pragmatism in the development of native-language schools even in this "egalitarian" period, as is reflected by the strong relationship between the size of the population of a nationality and how far in the curriculum children could attend schools where their own nationality's traditional language was the primary medium of instruction.

The second period was one of differentiated bilingual education. During this period Russian became a mandatory subject of study in the non-Russian schools, but the model non-Russian school remained one in which the non-Russian language was the primary medium of instruction. It became acceptable for non-Russians to attend Russian-language schools. As educational attainment increased and as greater numbers of non-Russians started to attend secondary schools, the earlier differentiation of native-language schooling opportunities was more or less frozen into established policy. About 50 languages of indigenous non-Russian nationalities were used as media of instruction.

In the second period, the highest grade level for which a given non-Russian language could serve as the primary medium of instruction remained quite stable, but was tied less to the ethnic group's population size than to the formal status of the nationality in the federal system. If they were to complete their secondary education, most children who belonged to non-union republic nationalities had to attend schools where Russian was the primary language of instruction.

The third period was one of highly differentiated bilingual schooling. It dates from the 1959 education law, which nominally changed the study of the Russian language by non-Russians from an obligatory to a voluntary act and gave parents the right to choose the language of instruction for their children. In this period, the model non-Russian schools divided into two main types: (a) the traditional national schools, where the non-Russian groups' languages served as the primary media of instruction and where Russian was studied as a separate subject; and (b) the national schools with Russian as the main language of instruction, but where the non-Russian groups' languages might be studied as separate subjects.

There was a sharp decrease in the 1960's and 1970's in the number of languages that served as the primary media of instruction as well as in the highest class level in which the non-Russian languages might serve in that capacity. To preserve their groups' traditional languages as the primary media of instruction, groups had to have a large population and to be concentrated geographically. Formal status in the federal system became more closely linked to the use of the non-Russian languages as media of instruction.

During the third period, the established Soviet scholarly classification of Soviet languages even defined the social functions of languages by explicit reference to the territorial status of the corresponding nationalities. For example, using a formula shared by others associated with Iu. D. Desheriev, who for the past 20 years has been the dean of Soviet language planning and sociolinguistics, Isaev (1970) classified Soviet languages into five groups: (1) Russian, the language of inter-nationali-

ty discourse of the peoples of the Soviet Union; (2) the "national literary languages of the union republics"; (3) the "literary languages of the autonomous republics and provinces"; (4) the "written languages" fulfilling highly limited functions in the national (autonomous) districts and among some of the small ethnic groups in Siberia and elsewhere; and (5) the "scriptless languages."

Isaev (1970: 26) writes: "In this grouping of languages, the preferred indicator for classification is the form of statehood, of autonomy." It is probably not accidental, therefore, that the rank-ordering we have found in the opportunities to use the non-Russian languages in schools is so closely linked to the formal status of the groups in the federal hierarchy.

Our characterization of the role of the non-Russian languages in the schools does not fit a conventional Western periodization of Soviet history based on major changes in the top leadership of the Communist Party; it corresponds closely to the periodization of language policy by Iu. D. Desheriev (Desheriev and Protchenko 1968: 119-123).

The policy shifts noted here have occurred in the context of rapidly increasing educational attainments within every nationality. It appears that for the ASSR- and AO-level nationalities, additional schooling in the group's traditional language as a separate subject has been added to keep pace with the rising educational levels of those groups. We would argue that the continual increases in the provision of instruction in the groups' languages provide support for the maintenance of the languages of the ASSR- and AO-level nationalities and are likely to retard the shift of group members to Russian or some other SSR-level group's language as native language.

We know from recent census reports that the Russian language has become increasingly widespread as both the native language and a second language among the ASSR- and AO-level nationalities. But the role of official language policy in inducing the spread of Russian should not be exaggerated. Nor does it make sense first to expect Soviet school-language policy to lead non-Russians to adopt Russian as native language and then to label that policy as unsuccessful if few non-Russians abandon their group's traditional language as native language.

B. CHANGES IN LINGUISTIC IDENTIFICATION IN THE USSR 1959-1979

The distribution of non-Russians in the Soviet Union by first language and by second language changed between 1959 and 1979. We examine socio-demographic and political factors that are related to acquisition of Russian as first and second language. We focus on the relation of the availability of the two kinds of native-language schooling to the extent to which non-Russians come to have the Russian language as first language or as first or second language. In this way the effects of school-language policy on reported linguistic behavior can be ascertained.

Patterns of Language Change

Table 3 shows the distribution of all non-Russians by first and second language over time. At all recent dates, the vast majority of non-Russians have claimed the traditional language of their group as native language. Even in 1979, over 85 percent of non-Russians did so. At the same time, among those non-Russians who did not claim the traditional language of their group as native language, Russian is the most often cited native language, with over 13 percent of non-Russians claiming Russian as first language in 1979. Less than 2 percent of non-Russians claimed some other language (than the traditional language of their group or Russian) as first language at any of the three recent census dates.

Similarly, Russian is the most commonly mentioned second language among non-Russians, with almost half (49.1 percent) of all non-Russians claiming Russian as second language in 1979. Less than 3 percent of all non-Russians claimed a language other than Russian or the language of their group as second language in 1970 or 1979. Thus for most non-Russians, discussion of linguistic change focuses on shift between the traditional language of the group and Russian.

Use of Russian as both first language and as second language has increased. The bulk of the increase in reported Russian knowledge is in Russian as second language.

In this analysis, we restrict the comparisons of language change over time to ethnic groups (or segments of ethnic groups) for whom language data are reported for the same union republics at all three post-World War II census dates: 1959, 1970, 1979. Data for many groups were reported in all three censuses for more than one union republic. For example, language behavior of Ukrainians was reported for all 15 union republics. In all, the language behavior of 61 different non-Russian ethnic groups is indicated by 141 different cases for which data were reported at all three census dates.

Thus the units of analysis (our cases) are the 141 non-Russian ethnic "groupings" by union republic that were listed in the 1959, 1970, and 1979 Soviet censuses. For example, Ukrainians listed in the Ukrainian Soviet Socialist Republic and Ukrainians listed in the Belorussian Soviet Socialist Republic would constitute two of the 141 cases.

TABLE 3

Distribution of All Non-Russians According to Language Identification

	1959	1970	1979
Distribution by First Language			
Lang. of Group as First Lang.	87.6%	87.0%	85.6%
Russian as First Lang.	10.8	11.5	13.0
Another Lang. as First Lang.	1.6	1.4	1.4
Total	100.0%	100.0%	100.0%

Distribution by Second Language			
Lang. of Group as Second Lang.		3.4	3.9
Russian as Second Lang.		37.1	49.1
Another Lang. as Second Lang.		2.2	2.2
No Second Lang.		57.3	44.8
Total		100.0%	100.0%

Distribution by First and Second Language			
First Lang.: Lang. of the Group Second Lang.: None or non-Russian		50.6%	37.2%
First Lang.: Lang. of the Group Second Lang.: Russian		36.4	48.4
First Lang.: Russian Second Lang.: Lang. of the Group		2.7	3.2
First Lang.: Russian Second Lang.: None or not the Lang. of the Group		8.8	9.8
First Lang.: Neither Lang. of the Group nor Russian		1.4	1.4
Total		100.0%	100.0%

Cross-sectional analysis of all groupings for which data were available at any given census data would include some additional groupings. We chose to use the largest available consistent set of groupings (141) in order to study change over time. In this part of the analysis, change is the primary concern, rather than a complete description at any one date.

Table 4 shows the mean proportion with Russian as first language in the 1959, 1970, and 1979 Soviet censuses and the mean proportion with Russian as first or second language in the 1970 and 1979 censuses among the ethnic groupings. Recall that the ethnic groupings are those ethnic groups by union republic for which data were reported in all three post-World War II censuses. The ethnic groupings are classified by whether the primary traditional religion of the group was Islamic and by location of the grouping -- in the USSR as a whole, in the Russian Republic, in a union republic whose titular group was non-Moslem aside from the RSFSR, or in a union republic whose titular group was traditionally Moslem. The numbers, then, are the means for the groupings qualifying in the given category.

In virtually every classification by religion and location, the mean level across groupings of Russian as first language and Russian as first or second language increased over time. It is also clear that the level of knowledge of Russian and of claiming Russian as first language differed greatly between groups -- with non-Moslem groups having higher proportions knowing Russian well and higher proportions claiming Russian as first language.

Also the linguistic identification of group members differed according to their location in the USSR. Non-Moslems living in Moslem union republics had especially high levels of linguistic russification.

TABLE 4

Russian as First and as First or Second Language for Groups by Union Republic Listed in All Three Post-War Censuses

	All	RSFSR	Other NonMoslem Republic	Moslem Republic
Mean Number Per Thousand of Groupings With Russian as 1st Language				
1979				
NonMoslem Group N	358 (81)	303 (24)	346 (43)	490 (14)
Moslem Group N	75 (60)	59 (15)	143 (7)	69 (38)
1970				
NonMoslem Group	303	267	285	418
Moslem Group	54	46	83	52
1959				
NonMoslem Group	289	239	272	428
Moslem Group	44	41	68	41

Mean Number Per Thousand of Groupings With Russian as 1st or 2nd Language				
1979				
NonMoslem Group	813	879	745	907
Moslem Group	586	797	535	513
1970				
NonMoslem Group	743	822	662	855
Moslem Group	457	711	352	377

Explanatory Variables

Based on theoretical considerations and earlier research on ethnic and linguistic change in the Soviet Union (e.g., Anderson 1978; Silver 1974b, 1978), we consider a combination of social, demographic, and policy variables. The socio-demographic variables are: proportion urban and contact with Russians.

In general, we expect groups to be more likely to become linguistically russified the more urbanized they are and the greater the degree of contact with Russians. Urban residents are more likely to appreciate the advantages of knowing Russian well as an aid in social mobility, while rural residents typically have lower mobility aspirations. Also, even rural residents in highly urban territories may have a greater appreciation of the value of knowing Russian than ruralites in a less urbanized area.

In general, we expect groups to have a higher degree of linguistic russification, the greater the amount of contact between group members and Russians. Contact with Russians represents not only a measure of the extent of opportunities to use the Russian language but also the probable degree of competition between Russians and group members for jobs and other social and cultural advantages. In addition, interethnic group contact is more likely to occur in urban than rural places, because urban places tend to be more ethnically heterogeneous than rural places.

Based on earlier research using the 1959 and 1970 Soviet censuses, we expect not only that proportion urban and extent of interethnic contact will separately affect levels of linguistic russification, but that there will be non-additive effects of proportion urban and contact. Each will have a greater effect, the higher the level of the other.

Proportion urban is operationalized simply as the proportion of the group in the area that lives in an urban area. Ideally, we would like to examine trends in language identification for urban and rural populations separately, rather than using "proportion urban" as a measure of the effects of urban life. Such data would allow us to distinguish between the individual and the ecological hypotheses about urbanization. However, published 1979 Soviet census statistics do not report language data for urban and rural areas separately.

Contact with Russians is operationalized as the number of Russians in the union republic divided by the sum of the number of Russians and the number of members of the group in the union republic. Thus it is a measure of the balance between numbers of group members and of Russians. This contact variable gives similar results to contact as operationalized by the proportion of the population of the area who identify themselves as ethnically Russian, which was used as a measure of contact with Russians in earlier work (Silver 1974b, 1978), but it performs somewhat better than that variable.

In addition, we expect a cultural variable -- traditional religion of the group -- to have not only an independent effect on linguistic russification but also to have substantial non-additive effects in combination

with the proportion urban and contact variables. Previous research based on the 1959 and 1970 Soviet census data has shown that Moslem ethnic groups are especially resistant to shifting to Russian as first language, even when their socio-demographic situations would seem to be conducive to this change in the long run (Silver 1974b, 1978).

A variety of explanations have been proposed for Moslem resistance to linguistic russification. These may be characterized most usefully, perhaps, by the existence of a strong "Moslem ethnic ideology" that regards abandonment of the traditional language of the group for Russian as akin to rejection of the community of believers.

The independent variables did not all change in the same manner over time. The proportion urban has increased over time. For non-Moslem groups, the level of contact has tended to increase, while for Moslem groups, the level of contact has tended to decrease. The level of contact of Moslems has tended to decrease because of high rates of population growth of Moslems in Moslem republics and little tendency on the part of Moslems to move out of their home areas.

If a high proportion urban and a high level of contact with Russians contribute to linguistic russification, then the change over time in proportion urban should by itself increase linguistic russification. A possible reason for the high levels of linguistic russification of non-Moslems in Moslem republics is the high proportion urban of non-Moslems in Moslem republics.

For non-union republic-level groups, Moslem groups had more years of language or literature schooling available in their group's language than non-Moslems at every date. Also, the increase in number of years of language or literature schooling in the group's language was greater for Moslem than non-Moslem groups.

The greater availability of bilingual schooling in which the group's language was available at least as a separate subject of instruction was not due to Moslem groups not knowing Russian as well as non-Moslem groups, since the difference between Moslem and non-Moslem groups in the number of years in which the group's language was available as the primary medium of instruction was negligible -- a difference of .14 years in 1958-60 and a difference of .04 years in 1978-80.

Data on First and Second Language

The 1959, 1970, and 1979 censuses each asked every respondent's native language (*rodnoi iazyk*), with parents answering for young children. This question seemingly elicited the language to which the person felt most attracted or knew best -- it did not necessarily mean the language he or she first learned. The person's native language did not have to match his or her self-identified ethnicity. We use the terms "native language" and "first language" interchangeably to refer to the responses recorded to the Soviet census question on "native language".

The 1970 and 1979 censuses (but not the 1959 census) also asked whether a person "freely commanded" any other language of the peoples of the USSR (at most one other language was recorded). Thus a person could cite Russian, Estonian, Tatar, or Koryak, for example, as second language, since Russians, Estonians, Tatars, and Koryaks are considered "peoples of the USSR," but a person could not cite German or Korean as second language, since Germans and Koreans are considered foreign peoples. German, Korean, Russian, English, or any other language could be reported as first language, however.

Analysis and Interpretation

We analyze the overall relation between the social, demographic, and policy variables and linguistic identification through multiple regression. The main focus of attention is on explaining linguistic identification in 1979. For this purpose, we use the values of the contact and proportion urban variables for 1970. We use the values of the school-language policy variables for 1959. We pick 1959 rather than 1970 or 1979 for the school-language policy variables because those people reported in the 1979 census results would have received their education at some earlier time, and policy as of 1959 probably is a good indicator of school-language policy at the time the average non-Russian in 1979 was in school.

The results showed that in order for a group to have a high proportion of its members claiming Russian as first language in 1979, it is necessary that the group have both high degree of contact with Russians and a high proportion living in urban places. Furthermore, urban residence and contact with Russians are more effective if the group is traditionally non-Moslem than if the group is traditionally Moslem.

For a group to have a high proportion who know Russian well, i.e., have Russian as first or second language in 1979, a high degree of contact with Russians was sufficient by itself. Furthermore, non-Moslem groups tended to have a higher proportion knowing Russian well than Moslem groups.

Even with the religion, contact, and proportion urban variables taken into account, a school-language policy variable was important for the proportion who claimed Russian as first language and for the proportion who knew Russian well. But a different school-language variable was important for each language variable. For Russian as first language, the language-literature school-language policy variable was more important; for Russian as first or second language, the math-science school-language policy variable was more important.

Implications

The differing effects of the two policy variables are suggestive. Recall that we interpret the math-science school-language policy variable as an indicator of whether the group's traditional language was available as the primary medium of instruction, and the language-literature school-language policy variable as an indicator of whether the group's traditional language could be studied at least as a separate subject.

The results suggest that when native language schools -- schools with the native language as the primary medium of instruction -- are eliminated, people tend to learn Russian well, but as long as the language or literature of the group can be studied at least as a separate subject in the group's language, group members do not tend to change to Russian as first language. This interpretation is consistent with earlier arguments we have made (Anderson 1978; Silver 1978) that learning of Russian as second language is essentially a pragmatic decision conditioned by opportunities and incentives to learn Russian well, while a change to Russian as first language indicates a more fundamental shift of ethnic attachment.

We have shown (Anderson and Silver 1982b) that while the Soviet government has phased out schools with a non-Russian language as the medium of instruction for groups below the level of union republic status, the groups have an increased availability of study of the non-Russian languages at least as separate subjects. This Soviet policy of increasing the availability of language or literature classes in non-Russian languages, while decreasing the number of years that mathematics or science can be studied in a non-Russian language should result in a great increase in the proportion of non-Russians who know Russian well but should not cause a commensurate decline in the number of non-Russians claiming their group's traditional language as native language.

C. ESTIMATING RUSSIFICATION OF ETHNIC IDENTITY AMONG NON-RUSSIANS IN THE USSR

We describe and evaluate a method of estimating ethnic reidentification in the USSR. The method establishes relative differences in the propensity to reidentify ethnically among 26 Soviet nationalities. We show that these differences are not artifacts of the assumptions required to develop the estimates, and that many ethnic groups clearly experienced substantial reidentification between 1959 and 1970. Finally, we assess the implications of the Russian gain in population through ethnic reidentification.

Between the Soviet censuses of 1970 and 1979, the population of some ethnic groups declined, and the growth rate of other ethnic groups either lagged well behind or greatly exceeded the population growth rate of the country as a whole. Four main demographic processes contribute to differentials in the rate of growth of Soviet ethnic groups: fertility, mortality, emigration, and assimilation. A fifth source of intergroup variation is differential completeness of enumeration, which is not a demographic process but rather a problem of measurement.

Both Western and Soviet scholars have typically attributed the bulk of variation in growth rates among ethnic groups to fertility differentials. This is reasonable since official Soviet statistics show that regional fertility rates vary more than regional mortality rates, and regions are readily identifiable as the basic territories of ethnic groups.

Except for Jews, Germans, and Armenians, emigration from the Soviet Union cannot account for much of the variation among Soviet ethnic groups in population growth. In the past, some Asian groups, such as Uighurs and Kazakhs, have shifted back and forth across the Soviet border into China or Afghanistan, but this movement has become very limited in recent years.

The role of assimilation in accounting for the differential growth rates of Soviet ethnic groups has been largely unexplored by both Soviet and Western scholars. However, possible assimilation of members of some ethnic groups has often been commented upon. The assimilation of small groups, such as Karelians and Mordvinians, and of non-Russian Slavic groups, such as Ukrainians and Belorussians, has most often been suggested.

The new method elaborates substantially on the approach taken by Anderson (1978). In brief, the method works as follows. Standard demographic techniques for estimating the proportion of a cohort surviving from one census to another are applied, in order to establish a baseline of the number of members of an ethnic group who would be expected to be alive at the second census date. The expected number of survivors to the second census date for each age cohort of a given ethnic group is compared to the reported number of cohort members at the second census date to determine the net number who have changed their ethnic self-identification, that is, have ethnically reidentified between censuses. In this analysis, we are concerned with change between the 1959 Soviet census and the 1970 Soviet census.

Measurement of the extent of ethnic reidentification for Soviet ethnic groups is complicated by three main factors. First, we lack mortality data for ethnic groups. Second, peculiarities in the categories used in Soviet census reports, especially for the reporting of age data, along with a non-standard eleven-year gap between the 1959 and 1970 censuses, necessitate numerous adjustments to reported census figures before the estimated proportion surviving by age cohort can be applied to the 1959 population. Third, age distributions were not published for all Soviet ethnic groups for 1959 and 1970.

Despite these complicating factors, we show that plausible estimates of the rates of ethnic reidentification can be made. We also show that the wide differences among ethnic groups in the rate of ethnic reidentification are unlikely to be primarily artifacts of the complicating factors. Thus there is good reason to treat the estimated differences in rates of ethnic reidentification as real and in some cases substantial, although subject to some measurement error.

Definitions and Selection of Cases

We use the term ethnic reidentification as synonymous with assimilation. This is in keeping with recent practice of leading Soviet ethnographers and ethnic demographers, who define assimilation as the process "...of inclusion of small groups (or of separate individuals) of one people in the body of another -- usually a larger or more developed community" (Bromlei and Kozlov 1977: 19). In current Soviet usage, assimilation is viewed as one of a set of processes of ethnic unification characterizing Soviet society.

Most Soviet citizens acquire an internal passport at age sixteen which lists, among other things, a person's nationality. Kozlov (1975), a leading Soviet ethnic demographer, has speculated that the listing of nationality on the internal passport strongly inhibits subsequent change in ethnic identification. He sees the choice of passport nationality as clearly "fixing" ethnic affiliation. His view suggests not only that younger people, who have not yet chosen their passport nationality, would be more likely to reidentify ethnically, but that there should be virtually no ethnic reidentification after a person's passport nationality is chosen.

We define a measure of reidentification based on the 1959 and 1970 censuses as follows:

ETHNIC REIDENTIFICATION: The difference between the actual number of people claiming to be members of a given ethnic group in 1970 and the number who would be expected to claim to be members of that ethnic group in 1970 if all those who were members of that ethnic group in 1959 and who survived to 1970 maintained their original ethnic identification.

The estimated difference between the actual and expected number of survivors of an ethnic group between census dates is a net number; it does

not reflect the gross amount of shifting in ethnic identities. Also, without individual-level time series data, it is impossible to measure the gross amount of ethnic reidentification that occurs between census dates. Nevertheless, the net proportions changing their ethnic identification indicate the attractiveness of particular ethnic self-designations. Ethnic reidentification affects the long-term survival or disappearance of an ethnic group through the net shift rather than the total (gross) amount of reidentification.

The net estimates of ethnic reidentification show the overall loss or gain in members of an ethnic group by cohort, but in the case of net loss, the destination ethnic group is not stated. We think that in most cases the destination ethnic group is Russians. This is supported by our evidence of a net gain by Russians.

Members of some groups are probably shifting to ethnic identifications other than Russian. For instance, Bashkirs, are probably becoming Tatars, Poles may be becoming Ukrainians or Belorussians, and Ossetians may be becoming Georgians. In the non-Russian republics, the titular non-Russian nationality may also assimilate members of other nationalities located in the republic. Assimilation of Lezghians by Azerbaidzhanis and of Uighurs by Uzbeks and Kazakhs are examples.

In these special cases, data on native language choice in 1959 would suggest a tendency toward assimilation by the designated non-Russian ethnic group, not only by Russians. For such groups, caution must be exercised in interpreting results. However, the main destination ethnic group for ethnic reidentifiers is the Russians.

We focus on estimates by age cohort for several reasons. Since the population distribution by age at each census date is given, the proportion of a given age cohort surviving between censuses cannot be affected by fertility. Furthermore, by focusing on the proportion surviving by age cohort rather than the entire population of an ethnic group, we can compare the extent of reidentification of the same age cohort across ethnic groups, and we can compare the extent of reidentification of different age cohorts within the same ethnic group.

The number and choice of ethnic groups for which age data were published in 1959 and 1970 limits the groups for which estimates can be made. We make cohort estimates of change in ethnic identity between 1959 and 1970 for 26 Soviet ethnic groups.

CASES FOR ANALYSIS

The 26 qualifying nationalities represent a diverse set of political and cultural backgrounds as well as probable assimilation rates. Table 5 lists for each of the 26 groups, the political status of their official territory, their population in 1959 in thousands, their predominant traditional religion, and the family to which their traditional language belongs.

TABLE 5

Characteristics of Twenty-Six Soviet Nationalities Included in the Analysis

Ethnic Group	Population 1959 in Thousands	Predominant Traditional Religion	Language Family
Level of Official Territory			
SSR			
Belorussians	7,913	Orthodox Christian	Slavic
Moldavians	2,214	Orthodox Christian	Romance
Russians	114,114	Orthodox Christian	Slavic
Ukrainians	37,253	Orthodox Christian	Slavic
Estonians	989	Lutheran	Finnic
Latvians	1,400	Lutheran	Baltic
Lithuanians	2,326	Roman Catholic	Baltic
Armenians	2,787	Armenian Christian	Distinctive Indo-European
Georgians	2,692	Orthodox Christian	Caucasian
Azerbaidzhanis	2,940	Moslem	Turkic
Kazakhs	3,622	Moslem	Turkic
Kirghiz	969	Moslem	Turkic
Tadzhiks	1,397	Moslem	Iranic
Turkmenians	1,002	Moslem	Turkic
Uzbeks	6,015	Moslem	Turkic
ASSR			
Buriats	253	Buddhist	Mongolian
Chuvash	1,470	Orthodox Christian	Turkic
Karelians	167	Orthodox Christian	Finnic
Komi	287	Orthodox Christian	Finnic
Mari	504	Orthodox Christian	Finnic
Mordvinians	1,285	Orthodox Christian	Finnic
Tuvinians	100	Buddhist	Turkic
Udmurts	625	Orthodox Christian	Finnic
Yakuts	233	Orthodox Christian	Turkic
Bashkirs	989	Moslem	Turkic
Tatars	4,765	Moslem	Turkic

The formal political status of an ethnic group's official territory is related to the extent of availability of cultural facilities in the group's traditional language (Anderson and Silver 1982). Hence one might expect formal political status to be related to a group's tendency to assimilate.

AGE GROUPS FOR ANALYSIS

Estimates are presented for all cohorts age 38 or younger in 1959 (11 to 49 in 1970). The estimates for older age groups would be more sensitive to any errors in the mortality assumptions than would the estimates for the younger age groups, because of the higher mortality rates of older age groups.

When actual mortality rates are high, as they are for older people, any error in the assumed mortality level will have a greater impact on the estimated number of survivors than when the actual mortality rates are low. Also, actual changes in ethnic and linguistic identification are more likely to occur among younger than older people. Thus, real changes in language and ethnic identity among older people would be more difficult to detect, because the fairly small magnitude of the identity change could easily be masked by the large variability in the number of estimated survivors across possible mortality levels.

The estimates in this analysis are based on model life tables and on the observed numbers recorded in the 1959 and 1970 censuses by cohort for the USSR as a whole. By omitting the oldest age cohorts, we reduce the risk that any apparent reidentification might be caused by erroneous mortality assumptions, and we can infer more safely that estimated inter-cohort differences in reidentification are not an artifact of the survival assumption used.

Therefore, for both technical and theoretical reasons, we focus on the younger age cohorts in the 1959 Soviet census. Among these cohorts, persons age 38 or younger in 1959, we expect reidentification to be greatest among those who were adolescents at the first census date, in line with Kozlov's view. We expect rates of ethnic reidentification to decline with age after adolescence. We do not know what level of estimated ethnic reidentification to expect for the youngest cohort, since their ethnic identification at the first census reflects the report by their parents. Furthermore, any apparent change in ethnic identification for the youngest cohort might better be regarded as a crystallization of ethnic identity than as ethnic RE-identification.

Several steps are involved in aligning the 1959 and 1970 age cohorts and in estimating the number who changed to Russian ethnic identification between 1959 and 1970. The technical aspects of the method are explained in detail in our paper (Anderson and Silver 1981).

Results

In this section, we examine the degree of sensitivity of the estimates of the proportions reidentifying ethnically to the survival assumption used. First we examine implied proportions reidentifying for the USSR as a whole under five different survival assumptions that bracket the likely range of Soviet mortality experience. Then, using the same set of five survival assumptions, we examine the impact of the assumption chosen on estimated proportions reidentifying for 25 non-Russian nationalities.

THE SOVIET POPULATION AS A WHOLE

Table 6 shows estimated proportions ethnically reidentifying for the Soviet population as a whole using Coale-Demeny East Model Life Tables at levels 17, 19, 21, and 23, and using the survival proportions implied by the age distribution of the Soviet population as a whole in 1959 and 1970. The estimates for the cohort age 0-38 are obtained through summing the net number estimated to have reidentified, whether positive or negative, across the four constituent age cohorts and then dividing that by the sum of the estimated number surviving in the four age cohorts. Throughout this analysis, the estimates for the age cohort 0-38 in 1959 are obtained by combining the estimates for the four constituent age cohorts.

For the Soviet population as a whole, the reidentification estimates are actually estimates of the proportion experiencing net migration. Thus, since the Soviet population was virtually closed to migration between 1959 and 1970, at an appropriate mortality level these estimated proportions reidentifying should be zero. As expected, the estimated proportions ethnically reidentifying using implied survival from the reported age distributions are within a rounding error of zero.

The estimates using Coale-Demeny Model Life Tables in Table 6 suggest that the various cohorts were on different life tables. Assuming no differential enumeration of age cohorts across censuses, the youngest cohort, those 0-8 in 1959, was between levels 21 and 23, the second cohort was between 19 and 21, the third cohort was between 17 and 19, and the fourth cohort was between 19 and 21. The overall mortality experience of those 0-38 was between 19 and 21.

TWENTY-FIVE NON-RUSSIAN GROUPS

An effective way to examine the sensitivity of the estimates of ethnic reidentification to the survival assumption employed is to examine data for all 25 non-Russian nationalities for which we estimate ethnic reidentification. Figures 3 through 7 depict for each of five age cohorts the range of the estimates of the number per thousand population in 1959 ethnically reidentifying by 1970 for each of the 25 non-Russian nationalities, as well as for the Russians and for the USSR population as a whole under five different survival assumptions: Coale-Demeny East Model Life

TABLE 6

Estimated Proportion Ethnically Reidentifying for the USSR, 1959-1970

	Coale-Demeny East Model Life Tables				USSR Cohort Survival
	Level 17	Level 19	Level 21	Level 23	1959-1970
Expectation of Life at Birth	58.0	62.8	67.6	72.5	
Age in 1959					
0-8	-21.2	-11.2	-3.2	2.2	.7
9-18	-8.6	-.4	7.3	13.6	.0
19-28	-10.8	.4	10.6	19.6	.0
29-38	-14.1	-2.7	10.1	23.2	.0
0-38	-14.1	-3.9	5.8	14.0	.2

Tables at levels 17, 19, 21, and 23, and the survival proportions by cohort for the USSR population as a whole between 1959 and 1970. In each figure, the values for the USSR population as a whole and for the Russians appear in the left-most part of the figure. Proceeding rightward from the Russians, the values for the 25 non-Russian ethnic groups are arranged in descending order of the estimated proportion ethnically reidentifying for the 0-38 cohort, under the USSR survival assumption. Each ethnic group is identified by a three-letter abbreviation. The group associated with each abbreviation is identified in Table 7. Several conclusions are suggested by these figures.

RANGE OF ESTIMATES

For each ethnic group and age cohort, the range between the maximum and minimum proportions estimated to have ethnically reidentified under the varying survival assumptions is generally narrow. It is narrowest for the second age cohort, those age 9-18 in 1959, and widest for the fourth age cohort, those age 29-38 in 1959. This supports our argument that the estimates of reidentification are less sensitive to the mortality assumptions for the younger age groups than for the older ones.

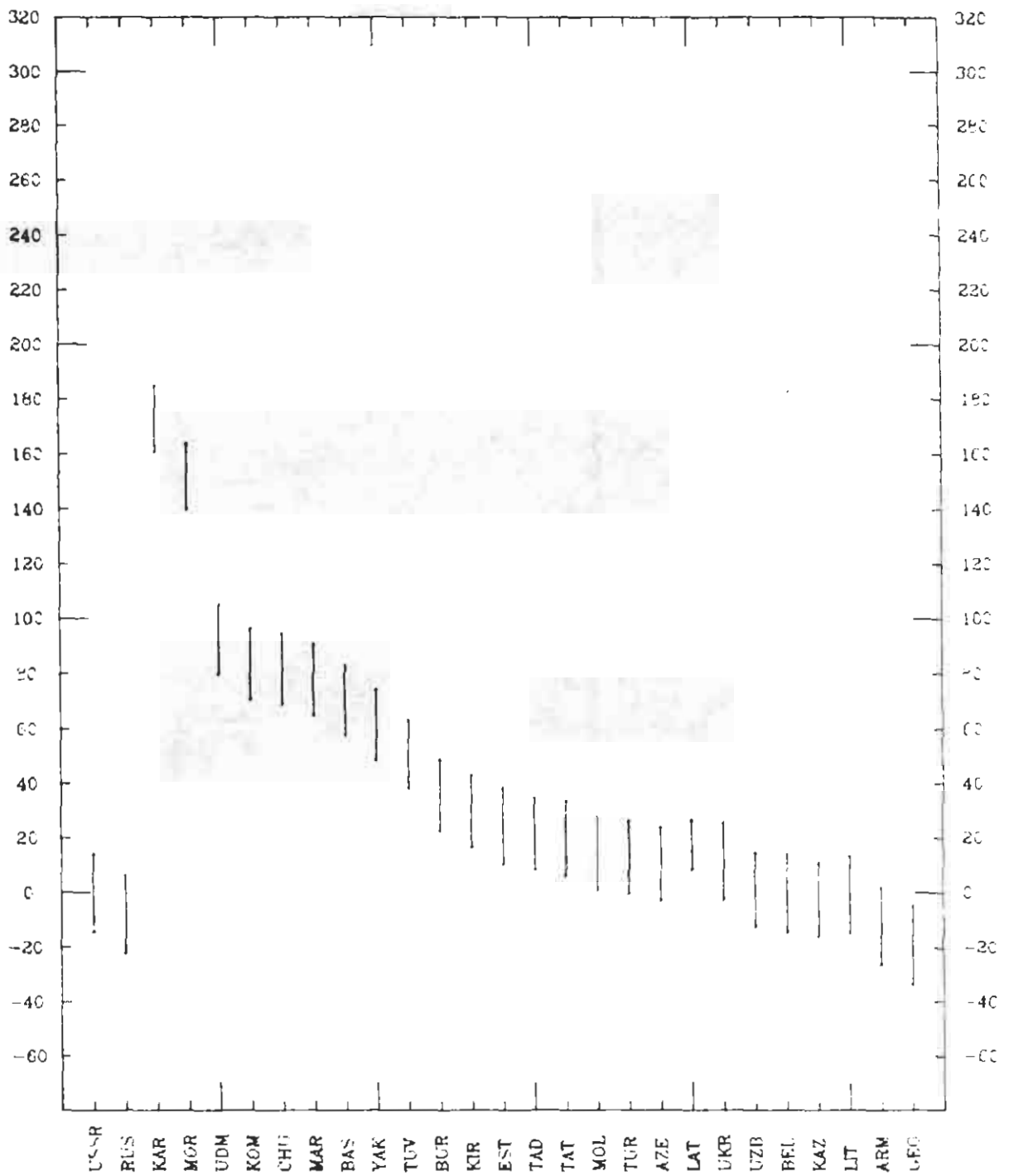


Figure 3: Range of Estimated Number per Thousand Reidentifying by 1970 for Those Age 0-38 in 1959

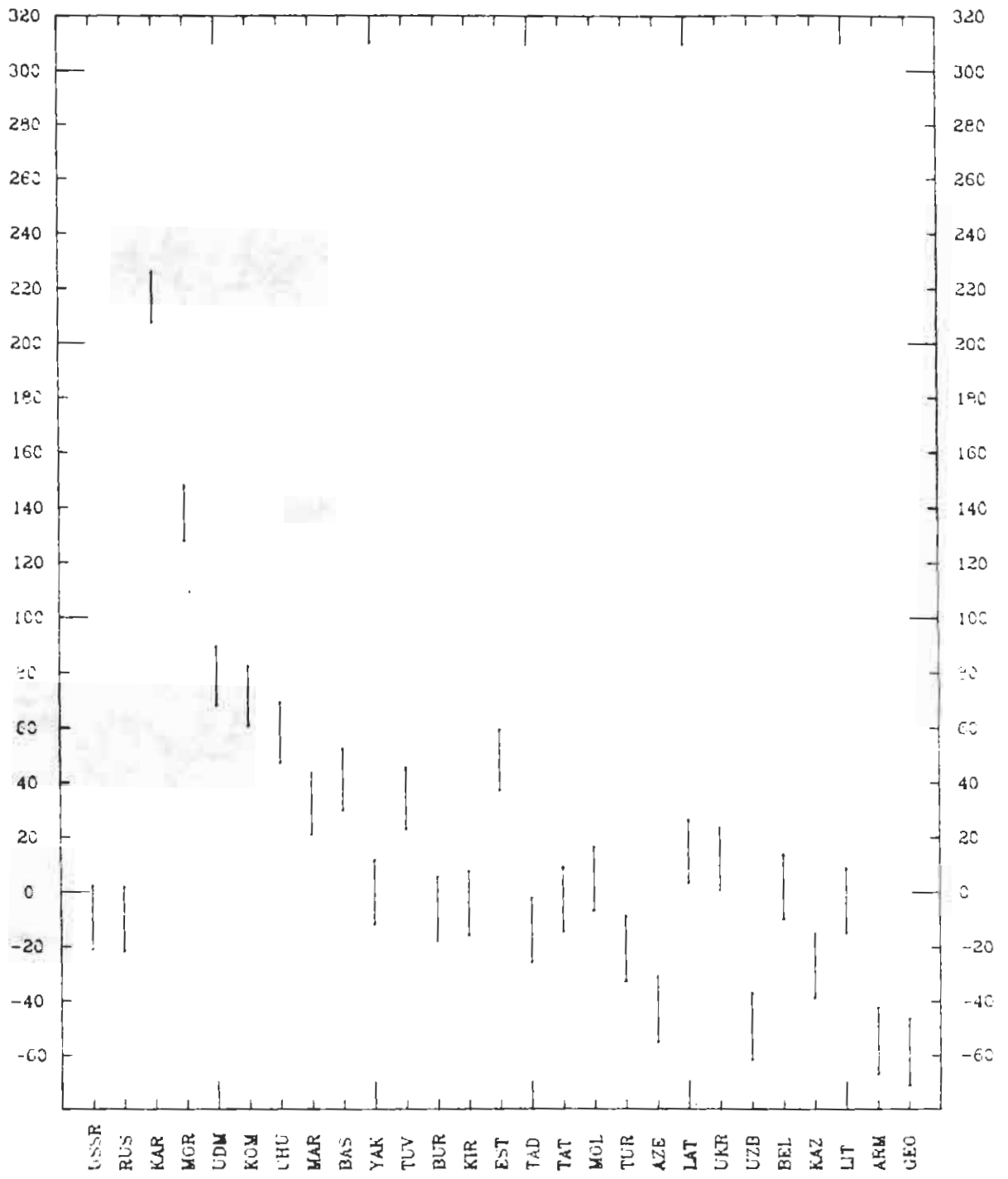


Figure 4: Range of Estimated Number per Thousand Reidentifying by 1970 for Those Age 0-8 in 1959

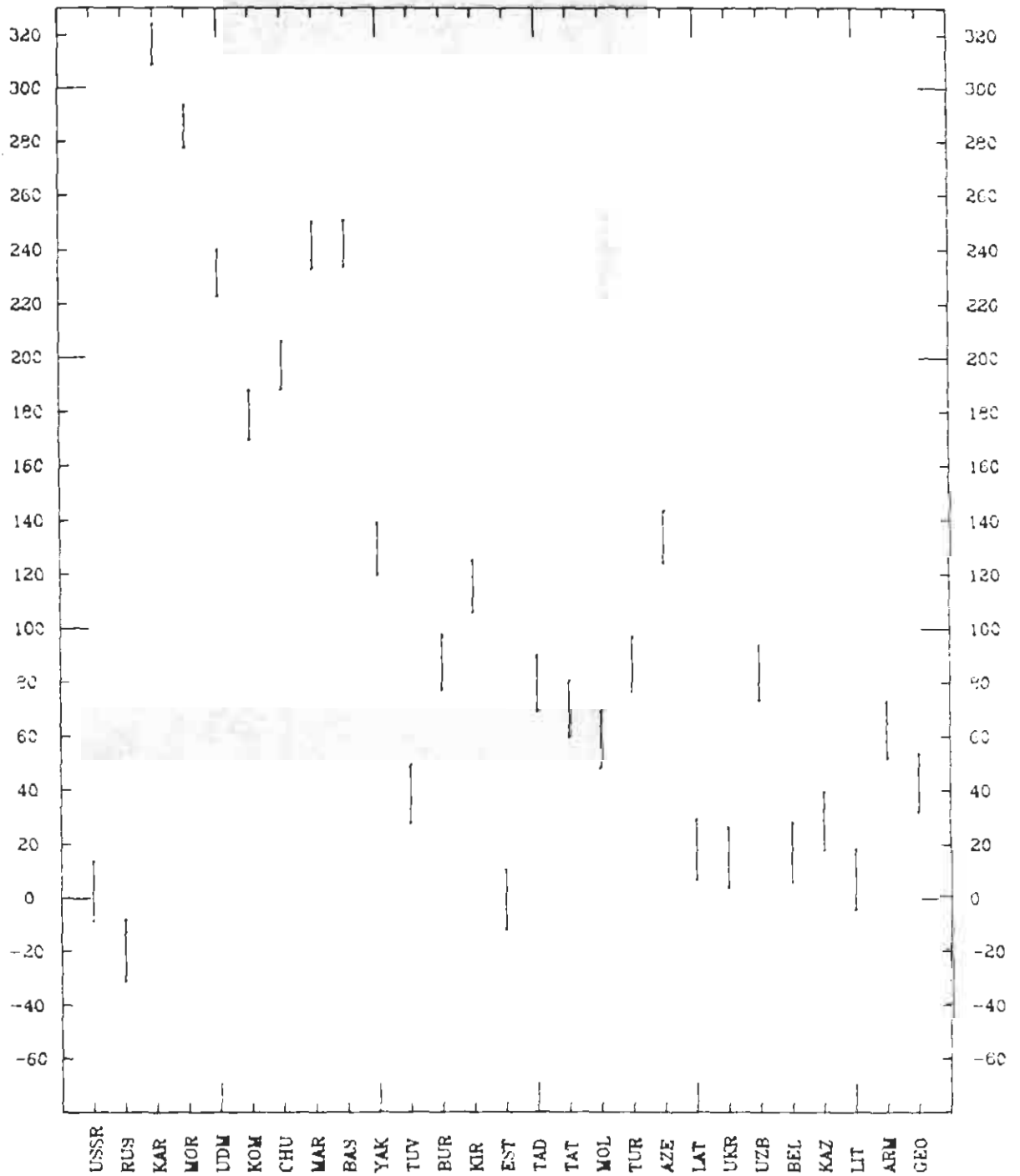


Figure 5: Range of Estimated Number per Thousand Reidentifying by 1970 for Those Age 9-18 in 1959

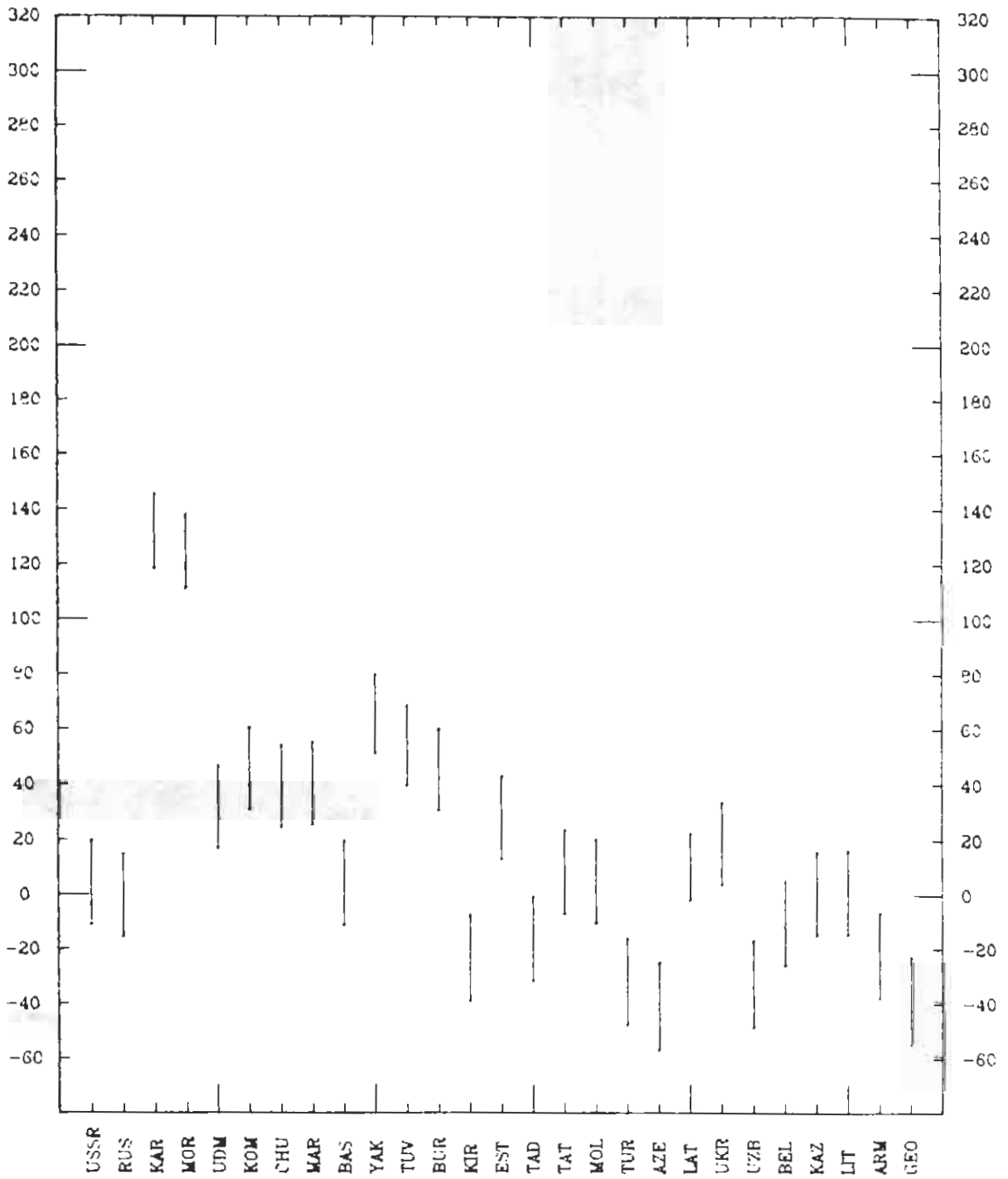


Figure 6: Range of Estimated Number per Thousand Reidentifying by 1970 for Those Age 19-28 in 1959

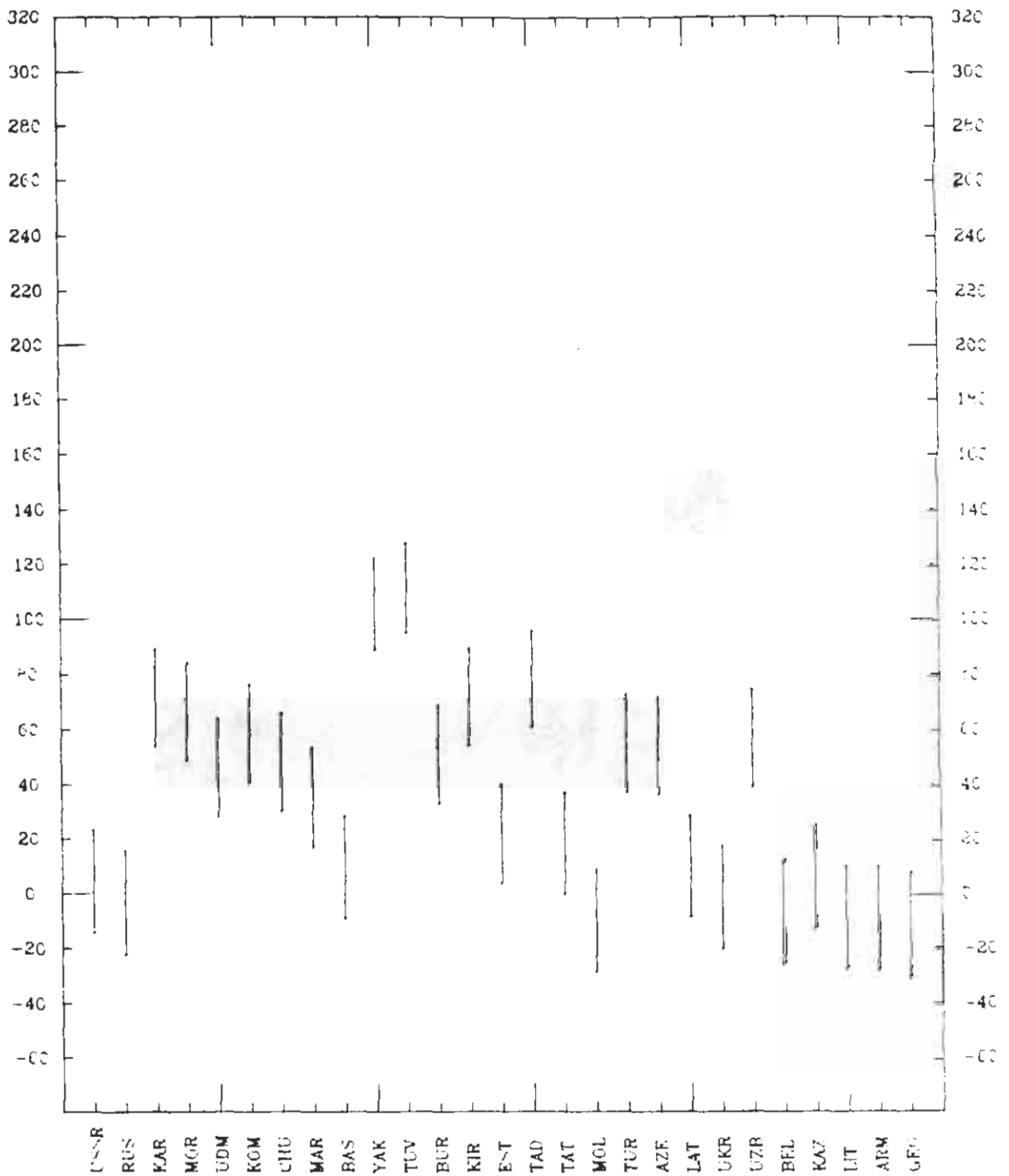


Figure 7: Range of Estimated Number per Thousand Reidentifying by 1970 for Those Age 29-38 in 1959

Thus regardless of the actual mortality experience of individual ethnic groups, within the range of survival assumptions, the ethnic groups show the same relative pattern in the proportions ethnically reidentifying. For many groups, such as the ASSR-level Chuvash, Karelians, Komi, Mari, Mordvinians, and Udmurts, the proportions ethnically reidentifying are quite large, whatever the survival assumption.

STABILITY OF ETHNIC IDENTIFICATION. The estimates in Figures 3 through 7 support our expectation that ethnic reidentification is more likely to occur among younger than among older non-Russians. For all the 25 non-Russian nationalities, except the Ukrainians and the Estonians, the second age cohort has the highest rate of ethnic reidentification. In these two exceptional cases, the third cohort (age 19-28 in 1959) shows the highest reidentification proportion. On average, the third and fourth age cohorts (age 19-28 and 29-38, respectively, in 1959) show positive reidentification proportions, and for Karelians and Mordvinians these proportions are very high.

Therefore, ethnic self-identification is not completely stable after the teenage years. The "subjective" determination of nationality in the Soviet censuses permits substantial assimilation by self-identification to occur even among adults. Kozlov may be correct in believing that the use of nationality on official documents retards change in ethnic self-identification, but the existence of an official nationality does not prevent substantial change from occurring among adults between censuses.

Gainers and Losers through Assimilation

Figure 3 reveals marked inter-group differences in the proportions ethnically reidentifying between 1959 and 1970. The 26 nationalities (including the Russians and the 25 non-Russian nationalities) may be roughly classified into three main groupings: (a) REIDENTIFIERS, (b) GROUPS WITH LITTLE CHANGE, and (c) GAINERS.

REIDENTIFIERS. The ethnic groups estimated to have the largest proportions reidentifying between 1959 and 1970 are ASSR-level nationalities whose official territories are located in the RSFSR. The two most extreme cases are the Karelians and the Mordvinians. Among the Karelians, between 16 and 18 percent of those age 0-38 in 1959 are estimated to have reidentified ethnically by 1970; among the Mordvinians, between 14 and 16 percent of this cohort reidentified ethnically between 1959 and 1970. From the cohort age 9-18 in 1959, the Karelians lost between 30 and 32 percent through reidentification by 1970, while the Mordvinians lost between 28 and 29 percent.

It is not coincidental that of the 25 non-Russian nationalities for which we made reidentification estimates, the Karelians and Mordvinians are the only groups that showed an absolute decrease in their total population in the USSR between the censuses of 1959 and 1970 (as well as between 1970 and 1979). For these groups, high rates of assimilation apparently occur not only in the youngest age cohorts but also among adults.

Several other ethnic groups display less extreme but nonetheless high estimated rates of ethnic reidentification. Like the Karelians and the Mordvinians, these are ASSR-level nationalities with official homelands in the RSFSR and with an Orthodox Christian traditional religion. The Chuvash, Komi, Mari, and Udmurts all are estimated to have lost between 6 and 10 percent of the 0-38 cohort due to ethnic reidentification between 1959 and 1970. For these groups, between 17 and 25 percent of the 8-19 year-old cohort are estimated to have reidentified over the same period.

The Tuvinians are estimated to have lost between 3.8 and 6.3 percent of the 0-38 cohort through reidentification between 1959 and 1970. Because this relatively high estimated loss through ethnic reidentification is not consistent with the low propensity of Tuvinians to adopt Russian as native language (Silver 1974b), we are skeptical that Tuvinians are actually russifying in such proportions.

There are two alternative explanations for the Tuvinian results. First, the survival rate of Tuvinians may actually have been worse than that implied by the Coale-Demeny East Model Life Table at level 17. This is unlikely to be the complete explanation, since even at level 15, the Tuvinians would show a net 3 percent reidentification proportion for the 0-38 cohort. Second, the Tuvinian ASSR is located on the Soviet border with the Mongolian People's Republic. It is plausible that this border was not completely closed to migration between 1959 and 1970. At level 17, only a net of about 3,000 Tuvinians would have had to have emigrated to account for the estimated reidentification of those age 0-38 in 1959.

The remaining ASSR-level nationalities, the Yakuts and the Buriats, are marginal cases in the Reidentifier category.

Of the ASSR-level nationalities, the Tatars show the lowest estimated proportions ethnically reidentifying. The Tatars are one of the two ASSR nationalities (of the 11 for which we have estimates) who by tradition are Moslem. The other Moslem ASSR nationality, the Bashkirs, had a high reidentification proportion, comparable to that of the traditionally Orthodox ASSR-level nationalities. But based on census data on native language and on the historical pattern of assimilation of the Bashkirs by the Tatars, we would surmise that most of the 6 to 8 percent of the Bashkirs in the 0-38 cohort who are estimated to have reidentified ethnically between 1959 and 1970 relabelled themselves as Tatars. If this is true, then the low estimated proportion reidentifying among the Tatars is partially due to their absorption of Bashkirs.

GROUPS WITH LITTLE CHANGE. All nationalities whose official territories have the status of union republics (SSR's), with the exception of the Armenians, Georgians, and Russians, have estimated rates of ethnic reidentification that are close to zero.

For the six Moslem nationalities in this group, the range between the low and the high estimated proportion of the 0-38 cohort that reidentified between 1959 and 1970 across the five survival assumptions was -1.5 and +4.3 percent. Thus this range spanned the zero point. The six nationalities are the Azerbaidzhanis, Kazakhs, Kirghiz, Tadzhiks, Turkmenians, and Uzbeks.

Actual survival rates for these groups were probably near the low end of the range for which we have estimated the proportions that ethnically reidentified; therefore, the proportions of these groups that actually reidentified were probably also close to the low end of the estimated range. If there is any assimilation of members of these groups, it is less likely to be assimilation by Russians than it is by other Moslem groups.

The three Baltic nationalities (Estonians, Latvians, Lithuanians) also have negligible proportions ethnically reidentifying in the 0-38 cohort, with estimates ranging between -1.4 and +3.8 percent. Thus, despite the increasing net migration of Russians to the Baltic republics, there appears to be little net ethnic russification of the titular nationalities. This is consistent with the report by a Soviet social scientist that even when marriages occur between Balts and Russians in these republics, the children tend to choose on their passports the nationality of the titular group in the republic (Terent'eva 1969).

The proportion of Moldavians reidentifying also appears to be negligible. Between 0.1 and 2.8 percent of the Moldavian 0-38 cohort are estimated to have reidentified ethnically between 1959 and 1970.

The most surprising result of the reidentification estimates is the apparently low proportion undergoing ethnic reidentification among the Belorussians and Ukrainians. Given the well documented historical patterns of assimilation of these two Slavic groups by the Russians, particularly for Belorussians and Ukrainians living outside their titular republics, as well as the evidence that Ukrainians and Belorussians readily intermarry with Russians, we would expect to find higher rates of ethnic reidentification among the two major non-Russian Slavic groups. Yet in the 0-38 cohort, only between -1.4 and +1.4 percent of the Belorussians are estimated to have ethnically reidentified, and only between -0.3 and + 2.5 percent of the Ukrainians appear to have done so.

One possible explanation of the low apparent rates of assimilation of the Belorussians and Ukrainians is that the two groups were absorbing members of other groups: Poles and Jews. There were large numbers of Poles in Belorussia and the Ukraine in 1959. These numbers declined absolutely between 1959 and 1970. Furthermore, many of the self-identified "Poles" in the 1959 census probably were actually Belorussians or Ukrainians who called themselves Poles because they were Roman Catholics.

The Jews also declined in absolute numbers in the USSR between 1959 and 1970 -- before the beginning of substantial emigration in the 1970's -- and may also have helped to increase the number of Belorussians and Ukrainians. However, given their pattern of language preference, we would expect most of the Jews who reidentified ethnically to become Russians, not Belorussians or Ukrainians.

To take possible assimilation of Poles by Ukrainians and Belorussians into account, we estimate the proportion ethnically russifying of the three Slavic groups -- Ukrainians, Belorussians, and Poles -- taken together. We estimate that between -0.2 and +2.6 of the "Non-Russian Slavs" in the 0-38 age cohort in 1959 ethnically russified by 1970.

Therefore, the possible absorption of Poles by Belorussians and Ukrainians cannot explain the low estimated rate of ethnic russification of the Belorussians and Ukrainians. Kozlov (1982: 288) has claimed, in any case, that the declining reported number of Poles in the USSR has resulted chiefly from their assimilation by Russians rather than from their assimilation by Ukrainians and Belorussians.

GAINERS. Three ethnic groups show definite "negative" rates of ethnic reidentification, which implies that they gained in group members. These three are the Georgians, the Armenians, and the Russians.

The main source of the Georgian surplus is probably the Ossetians, who have shown a strong tendency toward adoption of Georgian as native language. Another source of the apparent surplus of Georgians could be unusually high survival rates. In their study of old-age mortality, Bennett and Garson have shown that the Georgians have an unusually large proportion of reported old people, which might suggest better than average mortality rates for younger age groups as well. But the reported longevity of Georgians may be primarily due to age exaggeration (Bennett and Garson 1982).

The Armenian SSR is ethnically the most homogeneous republic in the USSR. In 1959, 88 percent of the republic's population consisted of Armenians. Intermarriage between Armenians and non-Armenians in the Armenian SSR occurs extremely infrequently. Assimilation of non-Armenians is therefore not a likely source of the excess Armenians.

Instead, the most likely source is repatriation of Armenians from abroad. Between 1946 and 1975, approximately 150,000 Armenians repatriated to Soviet Armenia. Of these, 90,000 arrived in 1946-1949, and the remainder came later. During the 1960's, an average of 2 to 4 thousand Armenians per year repatriated to Soviet Armenia from abroad.

Under the USSR cohort survival assumption, only on net about 24,000 Armenians who were age 0-38 in 1959 would have had to have immigrated to account for the extra Armenians estimated to be in this cohort of Soviet Armenians in 1970. Therefore, we consider Armenians not to be gainers through ethnic reidentification but instead to belong to the group of nationalities showing little change due to ethnic reidentification.

RATES OF REIDENTIFICATION. Another way to illustrate the implications of the differing proportions reidentifying ethnically between 1959 and 1970 is to calculate the implied annual rates of decline based on the proportions reidentifying during the 11 year intercensal period. An extension of this approach is to calculate the number of years that it would take, at the given annual rate of decline, for a cohort to lose half of its members due to ethnic reidentification. The "halving times" are analogous to radioactive half-lives. The annual rates and halving times are given in Table 7 for the 0-38 age cohort.

The annual rates and halving times assume that each group's survival proportion between 1959 and 1970 equalled the USSR cohort survival proportion. In cases where the estimated reidentification proportion was negative, no rates of decline or halving times are given.

TABLE 7

Rates of Ethnic Reidentification and Halving Time for 0-38 Cohort

	Annual Rate of Decline per 1,000	Halving Time in Years
1. GROUPS REIDENTIFYING		
Karelians (KAR)	17.2	40
Mordvinians (MOR)	15.0	46
Udmurts (UDM)	8.9	78
Komi (KOM)	8.0	87
Chuvash (CHU)	7.8	89
Mari (MAR)	7.5	93
Bashkirs (BAS)	6.8	103
Yakuts (YAK)	5.9	118
Tuvinians (TUV)	4.8	144
Buriats (BUR)	3.4	203
2. GROUPS WITH LITTLE CHANGE		
Kirghiz (KIR)	2.9	241
Estonians (EST)	2.2	320
Tadzhiks (TAD)	2.1	333
Tatars (TAT)	1.9	370
Moldavians (MOL)	1.4	505
Turkmenians (TUR)	1.3	525
Azerbaidzhanis (AZE)	1.1	639
Latvians (LAT)	1.1	655
Ukrainians (UKR)	1.0	671
Uzbeks (UZB)	.2	2,954
Belorussians (BEL)	--	--
Kazakhs (KAZ)	--	--
Lithuanians (LIT)	--	--
Armenians (ARM)	--	--
3. GROUPS GAINING THROUGH REIDENTIFICATION		
Georgians (GEO)	--	--
Russians (RUS)	--	--

NOTES: (a) The rates are calculated on the basis of estimates of ethnic reidentification using the 1959-1970 USSR cohort survival assumption.

(b) Rates are not calculated (given as --) if estimated reidentification was negative.

For the 0-38 age cohort among ethnic groups that were reidentifying between 1959 and 1970 (Panel 1 of Table 7), the estimated average annual decline in population per thousand due to ethnic reidentification ranged between 17.2 for the Karelians and 3.4 for the Buriats. At the estimated annual rates of decline, the Karelian cohort would lose half of its 1959 population due to reidentification in 40 years, i.e., by the year 1999. The Mordvinian cohort would reduce by half in 46 years; the Bashkirs, Udmurts, Komi, Chuvash, and Mari in about 80 to 100 years; and the Buriats in 203 years.

These are hypothetical figures for several reasons. First, they assume a constant annual rate of decline. If 1979 age data for Soviet ethnic groups become available, we would compare the reidentification rates between 1959-1970 and 1970-1979. Second, the figures assume an identical survival proportion by cohort (those age 0-8, 9-18, 19-28, and 29-38 in 1959) between 1959 and 1970 for all ethnic groups. Third, cohorts do not survive 100 or 200 years. But the halving times are based on actual experiences of ethnic groups between 1959 and 1970, and they help to demonstrate how dramatically diverse these experiences have been.

The experiences of the groups with little estimated change due to ethnic reidentification (Panel 2 of Table 7) contrast sharply with the experiences of the groups seemingly undergoing substantial reidentification (Panel 1). At the assumed survival proportions, several of the groups with little change are estimated to have slight net gains through reidentification; for these groups, no annual rates of decline or halving times are given in Table 7.

For those groups that have positive estimated proportions reidentifying, the annual rates of decline per thousand population range from a high of 2.9 for the Kirghiz to a low of 0.2 for the Uzbeks. Correspondingly, the projected halving times for the 0-38 age cohort range from a low of 203 years to a high of 2,954 years.

RUSSIAN GAIN

Now that we have described the differential rates of ethnic reidentification among non-Russian nationalities, we examine the magnitude of the Russian gain in population through assimilation.

MAGNITUDE OF GAIN. Assuming that Russians survived between 1959 and 1970 at the same rate as the Soviet population as a whole, Russians had a net gain of 7.7 people per thousand through reidentification in the 0-38 cohort. Under this survival assumption, non-Russians as a whole age 0-38 in 1959 had a net loss of 10.0 people per thousand through ethnic russification.

Based on these estimates of the proportions ethnically russifying between 1959 and 1970, the Russians gained an estimated 599.9 thousand in the 0-38 age cohort (age 11-49 in 1970), while non-Russians lost an estimated 638.5 thousand. The difference between these two estimates is not large.

The survival rate of Russians during this period may in fact have been somewhat below that of the USSR population as a whole (Dutton 1979). If so, in order to obtain the reported number of Russians in the 11-49 age cohort in the 1970 census, the Russians would have had to gain through reidentification somewhat more than 600 thousand. At the same time, if the survival rate of the non-Russian population as a whole was somewhat better than that of the USSR population as a whole between 1959 and 1970, the estimated number of non-Russians who reidentified would also be higher.

The purpose of this analysis is not to come up with precise estimates of the number of people the Russians gained and the non-Russians lost through ethnic reidentification. Precise estimates of these numbers would require mortality data by ethnic group that are not currently available. It is probably safe to assume, however, that the magnitude of the Russian gain was at least 600,000 between the censuses of 1959 and 1970 in the cohort age 0-38 in 1959 (11-49 in 1970).

The significance of a Russian gain of this magnitude can be examined by calculating how the Russians would have fared as a proportion of the Soviet population as a whole with and without the estimated 600,000 ethnic reidentifiers. In 1959, Russians were 54.6 percent of the total Soviet population. In 1970, they were 53.4 percent.

If we assume that practically all those who actually reidentified as Russians were within the 0-38 age group in 1959, then we can estimate that without their net gains through ethnic reidentification, Russians would have comprised 53.1 percent of the Soviet population in 1970. Although the difference between 53.4 percent and 53.1 percent is small, the decline in Russians as a proportion of the Soviet population was only 80 percent of what it is estimated to have been if the Russians had not gained population through reidentification.

Another way to look at these numbers is to calculate the annual decline in the proportion of the Soviet population constituted by Russians with and without a net Russian gain through ethnic reidentification between 1959 and 1970 of 600,000 people. With ethnic reidentification, the actual annual decline in the proportion of the population that was Russians was 0.020 percent; had there been no ethnic reidentification, the annual decline in the Russian proportion of the population would have been 0.025 percent. These rates of decline take into account fertility and mortality rates of Russians and non-Russians, because they are based on the change in both the number of Russians between 1959 and 1970 and the number of non-Russians.

If ethnic reidentification occurred between the 1970 and 1979 censuses at the same annual rate as in the 1959-1970 intercensal period, and if the rates of natural increase of Russians and non-Russians also continued as in 1959-1970, because of their gains through ethnic reidentification Russians should have constituted 52.5 percent of the Soviet population in 1979; had the Russians not gained through reidentification, they should have constituted 51.9 percent of the Soviet population. In fact, according to the 1979 Soviet census Russians were 52.4 percent of the Soviet population.

If we employ the same assumptions about the rates of ethnic reidentification and natural increase (and assuming minimal emigration), we can project that if the Russians were not gaining through reidentification they would decline to only half of the Soviet population in the year 1994; because they are gaining through reidentification, they will not decline to half of the Soviet population until 2003 -- 9 years later.

CONTRIBUTIONS TO THE RUSSIAN GAIN. In principle, the contributions of the 25 non-Russian nationalities to the estimated Russian gain through reidentification could be assessed by multiplying the estimated proportion reidentifying in each nationality by its population size. For several reasons, however, estimates of the number of people contributed by individual nationalities to the Russian gain can be made only with substantial risk of error.

Nonetheless, one rough estimate of the contribution to the Russian gain does seem in order. If we can assume that the survival proportions by age among the Russians were close to those of the Soviet population as a whole between 1959 and 1970, as well as that the survival proportions of the other Slavic nationalities taken together and of the non-Slavic nationalities taken together were also close to the all-USSR levels, then it is possible to gauge the relative contributions of the Slavic and non-Slavic populations to the Russian gain.

Table 8 presents estimates for non-Russian Slavs and for other non-Russians, using the USSR cohort survival assumption. We combine the Belorussians, Ukrainians, and Poles into a single non-Russian Slavic group for reasons discussed earlier. In addition, we assume that all of the net reidentifiers among the non-Russian Slavs and among the remaining non-Russian population as a whole became Russians.

The most striking thing about Table 8 is that, despite their low overall proportion reidentifying, the reidentification of non-Russian Slavs can account for 55.4 percent of the total Russian gain. Because the Ukrainians, Belorussians, and Poles together constituted 49.1 percent of the entire non-Russian population of the USSR in 1959, even with a low estimated rate of ethnic russification they can account for a majority of the net Russian gain. In fact, the Ukrainians alone, who constituted 39.3 percent of the non-Russian population in 1959, can be estimated to contribute 271 thousand people to the Russian net gain through reidentification between 1959 and 1970 -- 45.1 percent of the Russian gain.

That 357 thousand non-Russian Slavs may have changed their ethnic self-identification to Russian between the censuses of 1959 and 1970 is impressive. The non-Russian Slavic groups also appear to have a somewhat higher propensity to reidentify as Russians than do other non-Russians as a whole. As shown in column (a) of Table 8, an estimated 11.8 per thousand non-Russian Slavs in the 0-38 age cohort reidentified between 1959 and 1970; while an estimated 8.4 per thousand other non-Russians did so.

The large number of non-Russian Slavs who appear to have russified ethnically between these two censuses suggests that over a period of many decades, if the same process and rate of russification has been occurring,

TABLE 8

Estimated Contribution by Slavs and Non-Slavs to the Gain in Russians
between 1959 and 1970

Age in 1959:	0-38		
	(a)	(b)	(c)
	Number Reidentifying per 1,000	Number Reidentifying x 1,000	Pct. of Russian Gain
Russians	-7.7	-599.9	--
Non-Russian Slavs	11.8	357.3	55.5
Non-Slavs	8.4	286.3	44.5

NOTE: "Non-Russian Slavs" are Ukrainians, Belorussians, and Poles.

many million former Ukrainians and other non-Russian Slavs have changed their ethnic identification to Russian. Therefore, the suggestions by Lewis, Rowland, and Clem (1976), and by Kozlov (1975), among others, about the large number of Ukrainians who changed to Russian ethnic identity in the 19th and 20th centuries are not inconsistent with there being a low actual rate of ethnic russification among the non-Russian Slavic groups.

Most of the ASSR nationalities, on the other hand, have a much greater tendency to russify ethnically than the non-Russian Slavic groups, but because their populations are small compared to the non-Russian Slavs, they contribute a much smaller number of people to the Russian gain. Among the Karelians, for example, 173 per thousand in the 0-38 age cohort are estimated to have russified ethnically between 1959 and 1970 (using the USSR cohort survival proportions), more than 15 times the estimated proportion of Ukrainians who reidentified. But the Karelians contributed only an estimated 17.3 thousand people to the Russian gain between 1959 and 1970 -- less than 3 percent of the total and less than 7 percent of the estimated number of Ukrainians who russified.

Implications

Although many scholars have asserted that extensive ethnic assimilation has occurred in Tsarist Russia and the Soviet Union, little effort has been devoted to making quantitative estimates of assimilation. There is almost no published work assessing the relative rates of assimilation of different non-Russian nationalities (but see Anderson 1978 and Lewis, Rowland, and Clem 1976). Also estimates and projections of the future ethnic composition of the USSR have made no allowance for assimilation.

We think the rates of assimilation are valid within the ranges given, although the estimates are not definitive. In particular, problems concerning the available age and mortality data by ethnic group make us hesitate to provide exact estimates of the number reidentifying for particular nationalities. But even using a wide range of assumptions about the actual survival rates between census dates, we have produced estimates of the proportions ethnically reidentifying that fall within narrow bands.

The differences in the estimated rates of ethnic reidentification are generally consistent with the results of cross-sectional analyses of linguistic russification among the non-Russian nationalities. The groups showing the greatest propensity toward ethnic russification are the traditionally Orthodox Christian nationalities, especially those whose official homelands in the Soviet state structure are below the level of union republic.

All nationalities whose official homelands were union republics showed low estimated rates of ethnic reidentification between 1959 and 1970. The most surprising result of our estimates is the low rate of ethnic reidentification by Ukrainians and Belorussians. These kindred Slavic groups provide a large reservoir from which self-identified Russians have apparently been drawn in the past and might be drawn in the future; but their propensity toward ethnic reidentification is not very strong.

The inter-group differences in the proportions ethnically reidentifying between 1959 and 1970 probably correlate closely with group experiences during most of the period since the 1917 Revolution. To be sure, russification of many of the ASSR nationalities is not of recent origins. It dates essentially from their Christianization by Russian missionaries in the two or three centuries prior to the 1917 Revolution. But the very high proportions reidentifying that we estimate for many of the ASSR-level nationalities for the 1959-1970 period are likely to be of more recent origin. Ethnic groups cannot long withstand continual losses of up to 30 percent of their 9-18 year olds through assimilation in an eleven-year period. At the same time, because before the Revolution the Tsarist government actively tried to russify the Ukrainians and Belorussians, the low estimated proportions reidentifying in 1959-1970 for these nationalities may also be a fairly recent phenomenon.

Change in ethnic self-identification in the census is a change in self-applied labels. It does not necessarily denote change in everyday conduct, in cultural preferences, or in preferences for associating with members of particular nationalities. Moreover, in some cases, the choice

of an ethnic label on the census may be more a matter of convenience than of conviction -- to avoid discrimination or persecution, for example.

Nonetheless, we think Soviet scholars are correct in asserting that change in ethnic self-labels is generally not made lightly and that it typically implies a serious change in ethnic attachments. It is also likely to be linked to other behaviors such as ethnic intermarriage. Although erstwhile Ukrainians, Karelians, or Mordvinians who come to call themselves Russian may still maintain sentiments or habits that mark them as Ukrainian, Karelian, or Mordvinian, they are likely to try to blend into Russian society and to intermarry with Russians. If not they themselves, then more likely their children, will come truly to regard themselves as Russians.

III. ADDITIONAL WORK IN PROGRESS

The three subprojects described in the previous section are supplemented by additional research on Soviet language and nationalities policy and processes. In this section we describe four areas of research that are either partly or substantially complete at this time. Each of these areas involves the generation of large new data sets and addresses subjects of research that generally have not been addressed empirically in previous research.

A. LINKING POLICY TO ETHNIC REIDENTIFICATION

The official ideology of the Communist Party envisions the eventual elimination of distinctions among nationalities. It is widely believed in the West that much of Soviet nationalities policy has been directed toward achieving this end. We argue on the basis of our study of Soviet school-language policy that the actual practice of Soviet nationalities policy has neither invariably favored nor produced the elimination of linguistic differences.

In particular, the maintenance and expansion of opportunities for non-Russian schoolchildren to obtain instruction in their ethnic group's traditional language as a subject of study appears to provide significant support for the maintenance of the non-Russian languages, even as the number of hours per week devoted to study of the Russian language has increased. Moreover, the most important factors accounting for the spread of the Russian language among the non-Russian nationalities are social-demographic rather than political (Silver 1978).

We plan to investigate the extent to which social-demographic and political factors can account for the different rates of ethnic reidentification among the nationalities. We expect to find again that the main forces accounting for the ethnic russification of non-Russian ethnic groups are those that have been operating for generations, in particular the increasing contact between the non-Russians and Russians and the increasing urbanization of the non-Russians.

At the same time, however, we expect language policy to have an indirect effect on the rate of assimilation through its effect on shift in native language. Specifically, earlier work (Anderson 1978) suggests that change to Russian as native language is a very strong predictor of future ethnic russification. We think change in native language is typically a crucial and often a nearly conclusive step in a process of assimilation. This is the position taken by leading Soviet ethnic demographers. Once a

person has taken such a step, the next step in the process, change in ethnic self-identification, is likely to be easy. Therefore, although on balance the manipulation of linguistic opportunities through the school system has had comparatively little impact on shift of mother tongue to Russian, manipulation of linguistic opportunities could affect ethnic reidentification (russification) under certain conditions, namely when opportunities to study the non-Russian languages even as subjects in school are limited.

The estimates of ethnic reidentification described earlier are age-specific, that is, they reflect the experiences not of entire nationalities but of age cohorts within these nationalities. The most appropriate way to test for the effects of governmental policy on ethnic reidentification would also involve analysis based on age cohorts. Accordingly, we have developed from the 1959 and 1970 Soviet census reports a set of data on language behavior by age cohort. To test for the effects of language policy on the language behavior of age cohorts, we shall use the data on school-language policy to develop measures of the policy that was probably in effect when each age cohort was in school.

In most of our work to date (Silver 1978; Anderson and Silver 1982a), we have assessed the effects of school-language policy through an analysis of the language behavior of the population not broken down by age. In analyzing the effects of school-language policy by age cohort, we will tacitly be assessing the effects of school-language policy historically.

Since the experiences of age cohorts and of nationalities vary, if school-language policy can be shown to affect the language behavior by age cohort, we can measure the long-term impact of the differential treatment of nationalities on linguistic assimilation. We can then estimate the possible impact of the differential treatment of nationalities in schools on their rates of ethnic reidentification.

B. SCHOOL TEXTBOOK PRESS RUNS

The analysis of school-language policy described in Section II of this report relied on measures of policy that reflect the highest class level in which school textbooks in math-science or language-literature were published. Although such measures in themselves are important indicators of the government's commitment to the maintenance of the non-Russian languages, they do not reflect the extent to which the languages are available in the schools. To measure availability, additional information is provided in Knizhnaia letopis' and Ezhegodnik knigi SSSR for most years since 1934. Namely, it is possible to determine the size of the press run (tirazh) for school textbooks by subject, by class level, and by the language in which the texts were written.

Although the relation between the size of the press run of textbooks in a given subject in a particular year and the size of the contingent of schoolchildren studying in the language in that year is not likely to be one-to-one, the tirazh information should provide a reasonable approximation for purposes of comparing the experiences of different ethnic groups.

In making such comparisons, we can benefit from our work on estimating the age distributions of nationalities. Specifically, we will estimate the relationship between the size of the press run of textbooks in a group's traditional language (in courses in math-science and language-literature) and the estimated size of the cohort of pupils in the given class level. To minimize the error in estimating the size of the single-year school cohorts, we will calculate the ratio between the tirazh and the number of children of the particular nationality (by class level) only for years close to the recent census dates: 1959, 1970, and 1979.

Preliminary work with the tirazh data alerted us to the need to use some form of smoothing procedure to take into account the fact that the year of publication of the textbooks does not correspond to the academic calendar, as well as the fact that books may be published in a given calendar year for use in more than one academic year (especially when the used book market is considered). This work also suggested that examination of information on the size of the press run can provide useful information that will complement the analysis we have done so far on school textbooks.

The main limitation of the tirazh data will be the limited number of years for which the data can be used effectively. The main attraction of the data is that, if they are used with caution, they will give us a systematic measure of the extent to which the non-Russian languages have been used at each grade level and for each nationality.

Data on the size of the printing of math-science and language-literature textbooks will help us to determine how many non-Russian pupils are enrolled in the type 3 "national" (non-Russian) schools described earlier and how many are in the type 2 "Russian" schools. By comparing the numbers of schoolchildren of a particular nationality estimated to be enrolled in classes at a given class level in math-science and in language-literature, we can interpret the difference between these two numbers as the number enrolled in the type 2 "Russian" schools.

Because the nationalities whose official territories are union republics have all had at least some schools where their traditional language served as the primary medium of instruction through complete secondary education, only the tirazh data can provide systematic estimates of the differences in native-language schooling among these nationalities.

C. NEWSPAPER DATA

Although the data we have collected on school textbooks provide a rich source of information on government policy toward the non-Russian nationalities, their utility is limited by the fact that they reflect policy only at a highly aggregated level. They answer the question: What was the policy toward maintenance of the nationality's language on the whole? Only on the basis of subsidiary information from published Soviet sources do we know where in the Soviet Union particular languages are used in the schools. This subsidiary information is very incomplete.

We therefore sought a way to determine the government's support for particular languages that could be linked unambiguously to the social and demographic characteristics of the populations in particular geographic locations. Work by Szporluk (1979) brought to our attention an important source of information on Soviet language policy. This is the Chronicle of the Periodical Press (Letopis' periodicheskikh izdaniy), which has been published in several volumes covering the years 1946 to 1975. This Chronicle reports information on the language and the size of the press run (tirazh) of every official newspaper published in the USSR during these years. Newspapers sponsored at every level of the administrative hierarchy, from the USSR-level down to the rural district, are included.

For each year, we have coded several key pieces of information about every newspaper listed in the Chronicle: the type of newspaper (e.g., general news, sports, agriculture), the administrative level of its sponsors (e.g., all-Union, union republic, province, city, district), the name of the administrative unit served (e.g., name of republic, city, or province), the type of sponsor (Party, state, ministry, trade union, etc.), the frequency of publication, the tirazh, and the language or languages in which the newspaper was written. In all, the data set consists of about 60,000 card images. As of now, the data have been coded, but the punching has not been completed.

We coded so much information not only because of its value for the immediate purposes of this project but also because of the potential for other types of analysis (see section IV of this report). For our current project, the most important feature of the newspaper data is that they provide a measure of applied language policy for specific geographic locations. The newspaper data tell us about official use of particular languages in administrative units that are even more refined than those for which the Soviet census data are reported.

With these data we can determine empirically the relationship over time between the availability of newspapers by language and key characteristics of the population, such as its size, ethnic composition, education, and native language and second language preferences and capabilities. We shall test two main alternative hypotheses: (a) that the availability of newspapers is essentially determined by the ethnic-linguistic composition of the population, i.e., by the "market"; (b) that the availability of newspapers is essentially determined by political and other factors that shape, more than they actually reflect, market demand. We will examine the relationship between the availability of newspapers, the formal political status of the nationality, and the provision of native-language schooling.

D. STANDARDIZATION OF ETHNIC GROUP POPULATIONS

The analysis of bilingual schooling policy described earlier employs data on the population of Soviet nationalities from both the 1926 and 1959 censuses. The 1926 census report publishes data for about 190 narodnosti ("peoples"). The 1959 and later Soviet censuses publish data for about 125 natsional'nosti ("nationalities"). The difference between these numbers is attributable in part to the change from using the concept "people" to using the concept "nationality." It is attributable in part also to assimilation of some small ethnic groups. But it is probably primarily attributable to formal reclassification of ethnic groups by the Central Statistical Board. In making this reclassification, the Board relied on the work of Soviet ethnographers.

It is not widely recognized among Western scholars who use Soviet census data that the "nationalities" included in the recent censuses are synthetic. In each census, people were asked to name their own nationality, which was recorded verbatim by the census enumerator. The Central Statistical Board then used a "Glossary of Nationalities" to recode the verbatim responses into a list of official nationalities. In the 1959 census, for example, 733 different ethnic titles appeared in the verbatim responses (Isupov 1964: 11), which were then aggregated into 126 nationalities for use in the census report.

Fortunately, from the Foreign Demographic Analysis Division of the U.S. Department of Commerce, we have been able to obtain copies of the official Soviet glossaries used for recoding the verbatim responses on nationality in the 1959 and 1970 Soviet censuses. These glossaries by themselves do not clarify the fates of all of the "peoples" listed in the 1926 Soviet census report. But on the basis of the glossaries as well as Soviet ethnographic and linguistic literature, we have been able to determine with fair certainty how each of the 190 narodnosti from the 1926 census maps onto the 126 natsional'nosti in the 1959 and 1970 Soviet census reports.

The predominant majority of the "extra" ethnic titles in the 1926 census consists of groups that in the later censuses have been treated as subgroups of larger nationalities. For example, the 1926 census treated as separate "peoples" such groups as the Tatars, Mishars, Teptiars, Kriashens, and Nagaibaks; in the 1959 and later Soviet censuses, all of these groups have been aggregated together and counted as "Tatars."

For our own analyses using 1926 census data on ethnic groups, we developed an exhaustive mapping of the 1926 narodnosti onto the 1959 (and later) natsional'nosti. We plan to write a paper describing and documenting the basis of the mapping so that researchers might have a set of rules standardizing the definitions of ethnic group populations across Soviet censuses.

IV. PRIORITY AREAS IN FUTURE RESEARCH

In conducting our current research project, we became aware of several subjects deserving further research. We shall identify two such areas here that we think are especially important and promising, and that we plan to pursue when our current project is completed.

A. FURTHER APPLICATIONS OF NEWSPAPER DATA

In the previous section we described our plan to use data on Soviet newspaper press runs by language as an indicator of governmental policy toward particular nationalities. Once that analysis is completed, we expect to have a good understanding of the relationship between population characteristics and newspaper publication. We think what we learn from that analysis can be put to another use: estimating the ethnic composition of particular cities and rural districts (raiony).

The smallest administrative units for which the recent Soviet censuses report data on the ethnic composition of the population are the urban and rural populations of entire provinces (oblasti). The one exception is the reporting of data for the capital cities of union republics. Provinces and union republic capital cities have very large and often ethnically very heterogeneous populations -- populations numbering in the hundreds of thousands or the millions. Soviet census reports do not provide any data for small units of analysis comparable in size to the "census tracts" employed in the U.S. census.

Consequently, if one wants to determine the level of ethnic mixing in the USSR based on data in Soviet census reports, one is restricted to measures for large population aggregates. The population of a given province may be composed 40 percent of Kazakhs, 30 percent of Russians, 20 percent of Ukrainians, and the remainder of Central Asian nationalities. But where in the province do the members of the different nationalities live? Do they live in close proximity to one another? Although there is no way to get data for units comparable to U.S. census tracts, we think there is a way to make much more refined estimates of ethnic mixing than are currently feasible from Soviet census data.

The data on newspapers cover all official newspapers, including not only the USSR-level papers but those for every republic, province, city, and rural district. We can learn from these data for a given (hypothetical) province in the Ukraine that had eight cities and seventy rural districts, which of those cities and rural districts had newspapers written only in Ukrainian, which had newspapers only in Russian, which had both Ukrainian and Russian newspapers, and so forth. Similarly, for particular

provinces of the Central Asian republics we can determine for each city and rural district whether newspapers were published in Russian, Uzbek, Tadzhik, Turkmenian, or other languages.

Therefore, available data on newspapers published in specific small administrative units might be used indirectly to infer the ethnic composition of particular cities and districts. It is for this reason that we have coded the newspaper data in such detail. In the current project, we employ the detailed data to provide a more refined measure of official language policy and to determine indirectly the extent of ethnic mixing within provinces and republics. In future, we plan to use these data (in combination with other available information) to develop estimates of the ethnic composition of Soviet cities and districts.

B. RE-ESTIMATES OF SOVIET DEMOGRAPHIC DATA

An important part of our current project requires the use of population data from Soviet census reports and other Soviet publications as well as estimates of age distributions and other Soviet population characteristics by Western scholars. Measurement of ethnic reidentification was complicated by the lack of mortality data for ethnic groups and by peculiarities in the categories used in Soviet census reports, especially for the reporting of age data. For example, to align the cohorts between censuses, we had to estimate the single year age distributions for ethnic groups.

In addition, age distributions for several Soviet ethnic groups at recent census dates are missing. No age distributions are yet available for the 1979 Soviet census, and we have heard several comments attributed to Soviet scholars that age data will not be reported at all from that census.

The procedures adopted in this project for dealing with these data problems are adequate for this project's objectives. For example, we are able to show that estimates of ethnic reidentification are reasonably robust under varying assumptions about survival rates. The relative propensities of different nationalities to reidentify ethnically can be determined through the use of a range of survival assumptions between 1959 and 1970 and attribution of estimates of the single year age distribution for the USSR-wide population to reported age groups of Soviet nationalities.

But our work on this project has alerted us to some very significant problems with extant data on the Soviet population. We believe these problems merit attention because insufficient awareness of them has already led to questionable conclusions about Soviet population problems and trends. Four problem areas in particular not only deserve additional "exposure" but also require technical corrections. Fundamental demographic research is necessary so that scholars and analysts who must use official Soviet population statistics can have the most reliable data possible with which to work.

The first area is data on mortality. Several analysts (e.g., Eason 1981; Grupp and Jones 1982) have already given attention to the serious problems with Soviet mortality statistics as well as to how recent improvements in the quality of the Soviet data may have led to a misinterpretation of the nature and extent of the "mortality crisis" in the Soviet Union.

We think work on Soviet mortality statistics needs to be taken a step further. In particular, to make reliable projections of the growth and distribution of the Soviet population -- as a whole and by region -- technical adjustments and corrections to Soviet mortality data are essential. This requires a thorough evaluation and re-estimation of published life tables both for the USSR as a whole and for regions.

In addition, we think it not only important but also feasible to make estimates of mortality by ethnic group, at least for the larger nationalities. Such an effort would not only make it possible to derive more precise estimates of rates of assimilation by ethnic group but also would help to improve projections of the ethnic composition of the Soviet population.

The second problem area is with age data from the recent Soviet censuses. For estimating ethnic reidentification between censuses, we have relied heavily on work by others (e.g., Brackett 1964; Baldwin 1973; Biraben 1976) on estimates of the single year age distributions for the Soviet population as a whole in 1959 and 1970. Single year age distributions play a vital role in projecting population growth, in calculating several kinds of age-specific rates (e.g., employment, fertility, entrants to working ages and to military conscription age), and in reconciling inconsistent age categories used in different censuses.

We think the currently available single year age estimates are competently done and are useful for many purposes. But we also found certain anomalies in these estimates that make their use for some purposes questionable, in particular for projecting population growth of the Soviet Union. For example, the implied number of people surviving (by sex) from 1959 to 1970 in single year age cohorts was sometimes implausibly high, and the entire distribution of implied survival rates was inordinately jagged. We think the available single year of age estimates for the Soviet population as a whole need a thorough examination and, where appropriate, revision.

Furthermore, the existing estimated single year age distributions apply to the Soviet population as a whole, not to regional populations or ethnic groups. Given the wide variation in age patterns among Soviet regions and ethnic groups, adequate projection of future growth and composition of the Soviet population depends on the development of regional and ethnic group single year age distributions for the 1959 and 1970 censuses. We believe sufficient data are now available in Soviet sources to make such regional and ethnic group estimates.

In addition, if it is true that age data from the 1979 census are not going to be published (or not published in any detail), then a substantial

effort will have to be made to develop estimates of the 1979 age distribution of the Soviet population. Derivation of reliable estimates for 1979 will depend in part on the quality of the estimated age distributions for 1970.

A third problem area is with Soviet data on fertility. There are two main deficiencies with published Soviet statistics on fertility. First, the statistics report overall fertility rather than marital fertility. This confounds marital fertility rates with marriage rates and makes it difficult to analyze the underlying processes behind fertility change. Second, fertility rates are reported by region but not by ethnic group.

The latter point deserves emphasis. Almost all research on Soviet regional patterns of fertility and mortality assumes either explicitly or implicitly that data on the vital rates of regional populations are reasonable surrogates for data on ethnic groups. Scholars almost invariably explain regional differences in fertility and mortality in terms of socioeconomic or cultural characteristics of the indigenous ethnic groups of the regions.

The largest part of the regional differences probably does derive from ethnic group differences. But most of the "nationality regions" (union republics, autonomous republics, and so forth) are far from being ethnically homogeneous; and the extent of ethnic homogeneity varies greatly across regions at any given time and also changes over time due to migration and differential rates of natural increase of both the "indigenous" and "non-indigenous" populations.

Accurate measurement of fertility rates for the USSR population and for ethnic groups is important not only in itself but because of its role in making projections of population growth, the fourth problem area in Soviet statistics that we shall comment on. Projection of growth of the Soviet population as a whole depends on three rates of change: mortality, (international) migration, and fertility. We think our research establishes that accurate projection of the ethnic composition of the Soviet population depends in addition on another rate of change: ethnic reidentification (assimilation).

Efforts to estimate the future ethnic composition of the Soviet population always rely on extrapolations from recent rates of natural increase or of intercensal population growth by nationality. We think extrapolations based on rates of natural increase are likely to be misleading if they fail to take assimilation into account. And we think extrapolations based on intercensal population growth are also likely to be misleading if they rely on the currently available age data for ethnic groups.

In sum, we think there should be a major effort in fundamental demographic estimation of mortality, age distributions, and marital fertility for the Soviet population as a whole and for ethnic groups. This work is essential for obtaining indicators of underlying demographic processes, for describing patterns of demographic convergence and divergence among regions and ethnic groups in the USSR, and for projecting the size and ethnic composition of the Soviet population.

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