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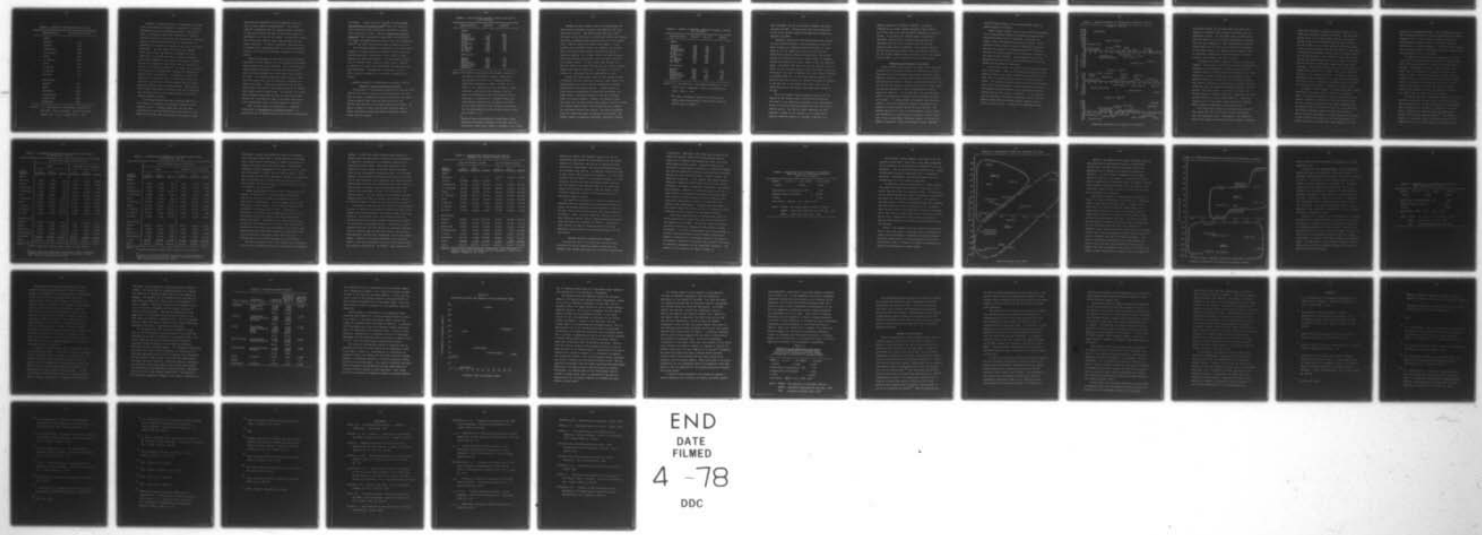

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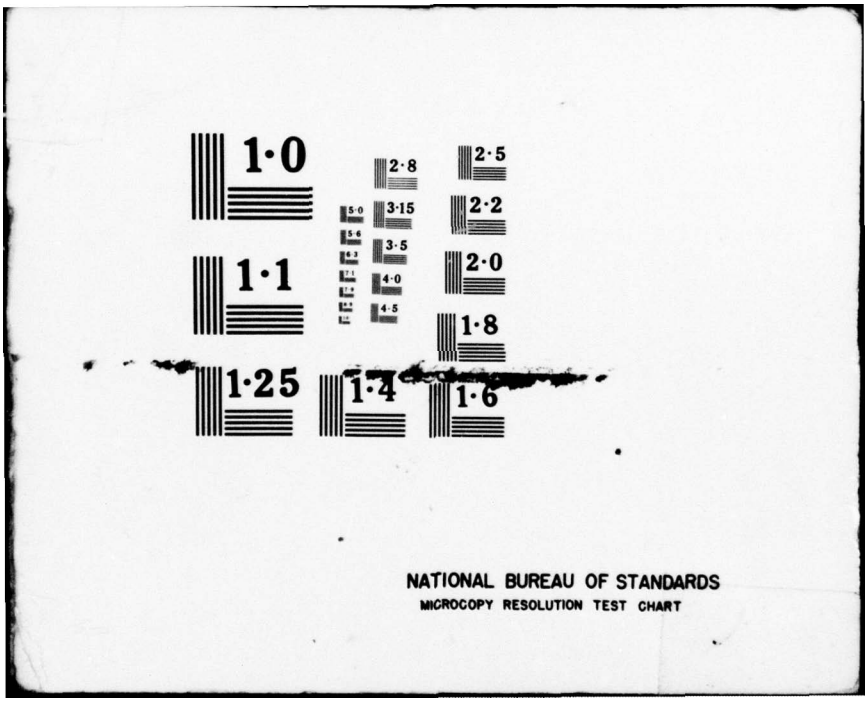
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(6) INTERREGIONAL MIGRATION IN THE USSR,

(9) A Research Paper,

Presented in Partial Fulfillment of the
Requirements for the Degree Master of Arts

by

(10) Blaine/Ball

(11) 1977

The Ohio State University

(12) 60 p.

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INTRODUCTION

The purpose of this paper is to describe, discuss, and analyze recent patterns of interregional migration in the USSR and to provide some insight into the relationship between these movements and regional levels of development. The first of the four sections is aimed at providing a brief overview of interregional population movements from the latter years of the Russian Empire to 1959. This is followed by a selective review of post-1959 migration studies, most of which were written by Soviet authors. In the third section, data from these studies, the 1970 Census, and other sources are pieced together in an attempt to describe the changing patterns of interregional migration from 1959 through 1969. The paper concludes with an analysis of the regional migration balances for the last two years of this period as given by the 1970 Census. The objective of this analysis is to provide a better understanding of the underlying determinants of Soviet migration.

SOVIET MIGRATION IN HISTORICAL PERSPECTIVE

During the past two decades it has become increasingly evident that the distribution of the Soviet population is not in accord with current needs and goals for economic development. Basically this has resulted from a concentration of the population in the European USSR, while Central Asia, Kazakhstan, and regions to the east of the Urals have continued to have relatively low population densities. These imbalances have been countered in part by high rates of natural increase in outlying areas and, to a limited degree, by migration from labor surplus to deficit regions.

Between 1959 and 1963, for instance, the labor surplus Central, Volga-Vyatka, and Central Chernozem Regions had a combined migration loss of over 1 million, while the developing Central Asian, Kazakh, and Far Eastern Regions experienced gains which slightly exceeded this number. However, concurrent with this, labor shortages in the Siberias were accentuated by the net loss of 17,000 migrants from East Siberia and 233,000 from West Siberia.[1] More recently, the results of the 1970 Census indicate that Central Asia and Kazakhstan have joined West Siberia as overall losers of migrants (the three regions had a combined net loss of 243,000), while East Siberia and the Far Eastern Regions showed net gains of 25,000 and 113,000 respectively.[2]

Adding to this, the urban-rural pattern of movement has also been a source of increasing concern. In Central Asia, which has a rural labor surplus but an urban labor shortage, cultural and ethnic factors have held down rural-to-urban mobility. In Kazakhstan, Siberia, and the Far Eastern Region, on the other hand, the high mobility of the population has given rise to heavy intraregional movements from both rural and urban places, and large-scale interregional flows between urban places. Thus, the populations of these areas have been in constant flux during recent years, resulting in high labor turnovers and a general dampening of economic growth.

Given this state of affairs, it is not surprising that migration has moved to the forefront as a key area of demographic research in the Soviet Union. However, this surge of interest is not really a new phenomenon, but rather, represents a revival of interests dating back to the turn of the century.

The first national census of the Russian Empire was conducted in 1897 and included questions on place of birth and place of residence. Consequently, it provided some indication of the population shifts which accompanied Russia's early industrial growth. The advent of industrialization in the latter half of the 19th century carried with it a growing demand for natural resources, particularly coal, iron ore, and oil. In order to move these materials, an extensive rail network was constructed with lines extending from European Russia to the Caucasus, Central Asia, Kazakhstan, the Urals, and beyond. As a result of these improvements and the need for workers, migration to these regions increased tremendously prior to World War I. However, after the war began, the overall level of migration was reduced considerably, with the North Caucasus and Central Asian Regions showing a net loss of migrants during the war.[3] In Kazakhstan the migration balance dropped from 116,000 in 1914 to less than 4,000 in 1916.[4]

The significance of Russia's transition from an agricultural society to one of increasing industrialization

was not overlooked by the Tsarist government, as evidenced by the attention given to the collection and assessment of migration data between 1897 and 1917. Undoubtedly, the single most important agency in this regard was the Resettlement Administration, which not only monitored migration within the empire, but also published periodic reports on these movements. This information was extremely important in that it allowed the government to keep its finger on the pulse of internal migration streams. In addition, these data were indispensable to publication of the journal *Voprosy Kolonizatsii* and to the study of migration in general.[5]

Although interrupted by World War I, the study of migration regained momentum in the post-war years. The leadership of the foundling Union of Soviet Socialist Republics recognized the importance of migration in attaining their goals for industrial growth and called for the 1926 Census to include information on both place of birth and residence. From these data they were able to discern origins and final destinations of migrants who were living at the time of the census. Also, as a means of updating and cross-checking the information from this and future censuses, they instituted a system where migrants were required to register changes in residence with local authorities. At least initially, however, this system proved to be rather inaccurate since internal passports

were not issued to much of the rural population and those with passports were not always conscientious about registering their movements.

The patterns of migration revealed by the 1926 Census were similar to those observed prior to 1897 in that they showed net in-migration to Kazakhstan, the Siberias, and the Far Eastern Regions. However, mainly as a result of its revolt against the Russians during World War I, Central Asia showed only slight net in-migration. In addition, there were notable changes in the sources and intensity of migrations. By the early 1900s, increasing population densities in what are now the Central Chernozem, Volga, and Volga-Vyatka Regions and the Ukrainian Republic had caused these areas to join the Central, Belorussian, and Northwest Regions as prime suppliers of migrants.[6] Thus, the nucleus from which the earlier Russian migrations had emanated was expanded to include virtually all of European Russia. Furthermore, after weathering the catastrophies of the early 1900s, the rising rate of natural increase swelled the pool of potential migrants. This, along with the increased mobility of the population, helped bring about an absolute increase in migration, particularly to areas east of the Urals.

Following the 1926 Census, the Soviets waited 13 years before again surveying their population. Although the 1939 Census is notable for having revealed the rapid urban

growth that occurred in the 1920s and 1930s, it did little to aid the study of migration, since it was not published in its entirety and did not contain information relating specifically to migration. This marked the beginning of a long period of neglect during which collection and publication of migration data, and consequently the study of Soviet migration, virtually ceased. World War II, of course, was the major factor affecting this change, but even afterwards the apparent loss of interest continued. As a result, there is little basis for a thorough examination of migration between 1939 and 1959. It is known that great masses of migrants left the western border areas to escape the German invasion and to work in factories that had been relocated in the eastern regions,[7] but it is not known how many of these returned to their homelands after the war. It is also impossible to determine the pattern of urban-rural settlement during this period.

Following the war, and particularly during the Virgin and Idle Land Campaigns of the 1950s and 1960s, the Soviets renewed their push to develop the outlying areas of Central Asia, Kazakhstan, Siberia, and the Far East. However, the cumulative effect of this and earlier changes remained vague until revealed by the 1959 Census.

Although it contained no specific migration data, the 1959 Census left little doubt that population movements during and after World War II had brought about tremendous

changes in the distribution of the Soviet population. Between 1939 and 1959 the population of the USSR increased by 18 million, yet, the regions of European Russia and Belorussia actually lost 20 million inhabitants, most of which were from rural areas. The net effect of these changes was a population increase of over 38 million in the eastern regions and non-Russian republics (excluding Belorussia). Approximately 11 million of this increase occurred in the Urals Region, 9 million in West Siberia, 4 million in East Siberia, 3 million each in the Far Eastern, Central Asian, and Kazakh Regions, and the remaining 5 million in other non-Russian republics.[8]

In regard to urban-rural population balances, only Central Asia and Kazakhstan experienced overall rural population gains between 1939 and 1959. In contrast, the number and percentage of urban inhabitants rose sharply in every region, resulting in an urban population growth of 39 million or 65 percent.[9] Although some of this may be attributed to reclassification and natural increase (Konstantinov estimates 7 and 8 million respectively),[10] it was primarily the result of massive population movements from the countryside to the cities.

THE RESUMPTION OF MIGRATION STUDIES

The results of the 1959 Census would seem to indicate that the Soviets were making substantial progress in their attempts to increase the populations of developing regions. However, such a conclusion would be incorrect for several

reasons. Perhaps most importantly, despite the large population increases in Kazakhstan and the lands east of the Urals, these areas were still so sparsely settled (Figure 1) that labor shortages continued to be a major problem. Furthermore, there was good reason to expect that the situation would grow worse, since one of the main causes of migration during the 1939-59 intercensal period, the war, had ceased to be a factor. In addition, although the organized movements of the Virgin and Idle Land Campaigns continued into the 1960s, they were of decreasing importance as the more desirable lands became occupied.

As these facts became more evident, both scholars and authorities began to show a renewed interest in migration. Early post-war works such as those by Rashin,[11] Yatsunskiy,[12] and Pokshishevskiy,[13] which had essentially historical orientations, gave way to studies which sought to discover the causes of migration and investigate its implications concerning economic development. Perevedentsev's article, "Problems in the Territorial Distribution of Labor Resources," is representative of this group of studies.[14] Focusing on the labor shortages in the Siberian Regions and relying mainly on passport registration data, his research led him to conclude that the high labor turnover in Siberia was primarily a result of inadequate living conditions. This finding was to be corroborated by several later studies.

FIGURE 1.--REGIONAL POPULATION DENSITIES, 1959

Region/ Republic	Population in Thousands	Land Area (Km^2)	Density (Persons/Km^2)
RSFSR:			
Northwest	10,863	1,662,800	6.53
Central	25,718	485,200	53.00
Volga-Vyatka	8,253	263,300	31.34
C. Chernozem	7,769	167,700	46.33
Volga	15,981	680,000	23.50
N. Caucasus	11,601	355,100	32.67
Urals	14,180	680,300	20.84
W. Siberia	11,251	2,427,200	4.63
E. Siberia	6,473	4,122,800	1.57
Far East	4,834	6,215,900	.78
Non-Russian:			
Ukraine	41,869	603,700	69.35
Baltic	6,001	174,100	34.47
Belorussia	8,055	207,600	38.80
Transcaucasia	9,505	186,100	51.07
Central Asia	13,824	1,279,300	10.80
Kazakhstan	9,154	2,715,100	3.37

Source: Tsentral'noye Statisticheskoye Upravleniye, *Narodnoe Khozyaistvo*, Moskva, 1967, p. 12.

More general works dealing with migration on the national scale were published by Pokshishevskiy[15] in 1962 and later in a joint article by Pokshishevskiy, Vorob'yev, Gladysheva, and Perevedentsev[16] (1964). The main objective of the former was to set forth recommendations for a long-term model of production which could be used to forecast regional labor requirements. Pokshishevskiy contended that if this could be accomplished, there would be a more objective basis for directing migration flows to meet future labor needs. The second article is also concerned with the inconsistencies between population movements and regional labor requirements, particularly in the Siberias. Suggestions for resolving these inconsistencies reflect to a great extent the earlier work of Perevedentsev and include proposals for better housing, social services, and amenities in developing regions.

Although the study of migration progressed considerably during the 1960s, the lack of timely, accurate data was a source of constant difficulty. The passport registration system was slowly being expanded to some rural areas but, as pointed out by Tovkun,[17] registration was far from complete. Additionally, information on migrant characteristics was restricted to age, sex, and ethnic data, with no provision for determining educational levels or occupations of migrants. As a result, most researchers made little use of the passport registration data which was being

published in *Narodnoe Khozyaistvo* and *Vestnik Statistiki*. Nevertheless, the push for improved data and better research methods continued.

One of the more interesting innovations in migration research first appeared in 1967 in an article entitled "Contemporary Migration in the USSR."[18] In this study Perevedentsev employed a population balance method to estimate regional population changes due to migration over the 1959-63 time period. To do this, he began with the regional population data from the 1959 Census and added the natural increase in each region's population (1959-63) based on its birth and death rates. The estimated population of each region in 1963 minus this sum gave the implied net migration balances in Figure 2. Data from the internal passport registration system were used to check whether these migration balances were compatible with observed population movements.

Despite their obvious shortcomings, Perevedentsev's net migration estimates were not to be taken lightly. Both East and West Siberia showed net migration losses, which suggested a continuation of the large population fluxes and high labor turnovers in those areas. The positive balances for the Central Asian, Kazakh, and Far Eastern Regions, on the other hand, indicated some progress in augmenting the labor forces of these regions through migration.

FIGURE 2.--REGIONAL MIGRATION BALANCES, 1959-63

Region/Republic	Net Migration Balance
RSFSR:	
Northwest	+24
Central	-501
Volga-Vyatka	-539
C. Chernozem	-268
Volga	+16
N. Caucasus	+470
Urals	-202
W. Siberia	-233
E. Siberia	-17
Far East	+24
Non-Russian:	
Ukraine	+142
Baltic	+45
Belorussia	-263
Transcaucasia	+19
Central Asia	+319
Kazakhstan	+920

Source: V.I. Perevedentsev, "Contemporary Migration in the USSR," *Soviet Geography: Review and Translation*, Vol. X, No. 4, April 1969, p. 196.

Attempts to find the causes or determinants of migration also stimulated researchers' interests in the basic characteristics of the migrant population. The lack of data on educational levels and occupations of migrants inhibited research in this area, but data from the internal passport system did allow scholars to investigate the selectivity of migration in regard to age, sex, and ethnic background. One such study by Denisova and Fadeyeva found that in 1964 the majority of migrants to urban areas (56%) were men[19] and that the stream of migrants was heavily weighted in the younger age groups, with half of the net in-migrants being 15-24 years of age and two-thirds in the 15-29 age range.[20] In another study conducted the same year,[21] Perevedentsev examined the influence of ethnic factors on migration. In general, he found the Russians to be the most mobile of all ethnic groups, as reflected by high rates of intraregional rural-to-urban and interregional urban-to-urban movement. Non-Russians showed lower intraregional mobility than did the Russians and constituted only a very small portion of the interregional migration stream.

As 1970 approached there were increased efforts to have questions pertaining to migration included in the upcoming census. Although suggestions for the exact formulation of these questions were quite varied, it was generally felt that they should yield information on the

direction and magnitude of recent migration flows, as well as basic migrant characteristics. To do this, Volkov[22] recommended that the census include a question on how long a person had lived at his or her place of residence at the time of the census. If less than a year, they should also indicate their previous place of permanent residence. In regard to migrant characteristics, he proposed that information also be solicited concerning age, sex, ethnic affiliation, occupation, and family status.

When the qeustions for the 1970 Census were finally formulated, it was apparent that the preceding recommendations had been quite well-received. The census questionnaire required individuals to state how long they had lived at their residence as of the census date (January 15, 1970). If the period was less than two years, they were also asked their previous permanent residence and reason for moving. Using this information, the origin, destinations, and motives for movements during the 1968-69 time period could be ascertained. In addition, the census also contained information on age, sex, and ethnic background, but no attempt was made to determine the occupation, educational level, or family status of migrants.

When the 1970 Census was published, it contained information on <u>in-migration to selected cities</u>,[23] to include the sex of migrants and an urban-rural classification

of origins. A table was also provided to show in- and out-migration at the oblast level[24] with the sources of these migrations again categorized according to whether they were urban or rural. Data on regional in- and out-migration[25] also included the urban-rural classification of origins and destinations as well as the sex of migrants. Ethnic[26] and age[27] data were provided in separate tables.

The increased emphasis on migration in the 1970 Census reflects to a great extent the Soviets' concern over population imbalances, especially as they relate to labor shortages in developing regions. As the impact of migration on regional labor supplies became clearer, efforts to improve the quality and availability of migration data were multiplied. Improvements in this area, in turn, were mirrored by advances in the field of migration research.

CHANGING PATTERNS OF INTERREGIONAL MIGRATION, 1959-69

Changes in Regional Migration Balances

The patterns of interregional migration in the USSR from 1959-69 have been the source of much controversy over the past few years, primarily because of difficulties in reconciling migration data from the 1970 Census with the 1959-67 data obtained by the population balance method. As shown in Figure 3, there were several instances where a region experienced completely opposite migration trends during the two periods.

FIGURE 3.--NET MIGRATION BALANCES, 1959-67 and 1968-69
(In Thousands)

Region/Republic	1959-67[a]	1968-69[b]
RSFSR:		
Northwest	0	+111
Central	-611	+173
Volga-Vyatka	-845	-67
C. Chernozem	-486	-64
Volga	0	+41
N. Caucasus	+764	+44
Urals	-595	-110
W. Siberia	-390	-93
E. Siberia	-115	+25
Far East	+205	+113
Non-Russian:		
Ukraine	+419	+37
Baltic	+111	+33
Belorussia	-262	+2
Transcaucasia	+12	-59
Central Asia	+226	-128
Kazakhstan	+1083	-22

Source: [a] The 1959-67 balances for the economic regions of the RSFSR, the Ukrainian Republic, Belorussia, and Kazakhstan are from V.V. Pokshishevskiy's, "Migratsiya naseleniya v SSSR," *Priroda*, No. 9, 1969, p. 70. Complete data for the Baltic, Transcaucasian, and Central Asian Regions were not given by Pokshishevskiy and were therefore taken from Peter J. Grandstaff's, "Economic Aspects of Interregional Migration in the USSR," presented at the annual meeting of the American Association for the Advancement of Slavic Studies, March 15-18, 1972 (mimeo), p. 27.

[b] Tsentral'noye Statisticheskoye Upravleniye, *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Tom VII, Statistika, Moskva 1974, Tables 3 through 17, pp. 9-156.

Perhaps the most obvious source of inconsistency between these two groups of data is the length of the time intervals involved. The 1968-69 migration data, which are based on the 1970 Census, include all persons who had been living at a residence less than two years as of the census date. However, during the period from 1959-67, it was possible for a migrant to move to a region, stay several years, and then depart without effecting the region's migration balance. On a larger scale, any shift in migration trends during this period could have been concealed in a similar manner. To help reduce this problem, the data for 1959-67 have been divided into two shorter periods, 1959-63 and 1964-67 (Figure 4). This choice of time intervals was constrained by the availability of data.

During the first period, 1959-63, the primary sources of migrants were the industrial Central, Volga-Vyatka, and Urals Regions, as well as the more agricultural Central Chernozem and Belorussian Regions. A large portion of these movements undoubtedly stemmed from government programs aimed at channeling migrants from more developed areas to outlying regions. However, it should be noted that both East and West Siberia lost migrants overall (17,000 and 233,000 respectively), even though they were targets for development during this period. The other developing areas all showed net gains of migrants from 1959-63, the largest being in Kazakhstan (920,000), followed by Central

FIGURE 4.--CHANGES IN REGIONAL MIGRATION BALANCES, 1959-69
(In Thousands)

Region/Republic	1959-63[a]	1964-67[b]	1968-69
RSFSR:			
Northwest	+24	-24	+111
Central	-501	-110	+173
Volga-Vyatka	-539	-306	-67
C. Chernozem	-268	-218	-64
Volga	+16	-16	+41
N. Caucasus	+470	+294	+44
Urals	-202	-393	-110
W. Siberia	-233	-157	-93
E. Siberia	-17	-98	+25
Far East	+24	+181	+113
Non-Russian:			
Ukraine	+142	+277	+37
Baltic	+100	+111	+33
Belorussia	-263	+1	+2
Transcaucasia	+19	+12	-59
Central Asia	+319	+226	-128
Kazakhstan	+920	+163	-22

[a]Source: V.I. Perevedentsev, "Contemporary Migration in the USSR," *Soviet Geography: Review and Translation*, April, 1969, p. 196.

[b]The 1964-67 migration balances were obtained by subtracting Perevedentsev's 1959-63 data from the 1959-67 data in Figure 3.

Asia (319,000), the Far East Region (24,000), and Transcaucasia (19,000). Sizable gains were also experienced by the North Caucasus Region (470,000) and the Ukrainian Republic (142,000).

Migration trends from 1964 through 1967 were similar to those observed during the earlier period in that the major suppliers of migrants remained basically the same. However, the net migration losses of the Central and Volga-Vyatka Regions decreased dramatically, while Belorussia, which had also given up large numbers of migrants during the previous five years, began to show net migration gains. Concurrent with this, the loss of migrants from the Urals and East Siberian Regions became even more severe and Kazakhstan's net gain of migrants fell from 920,000 (1959-63) to 163,000 (1964-67). In the North Caucasus Region, the positive migration balance for 1959-63 (470,000) was reduced to 294,000 over the following four years, while the net migration gain for the Ukraine increased from 142,000 to 277,000.

The trend towards reduced migration losses from the regions of the European USSR continued into 1968-69 as the number of net migrants surrendered by the Volga-Vyatka, Urals, and Central Chernozem Regions all fell below their 1964-67 levels. The Central Region underwent the most remarkable change of all, however, as it moved from a negative migration balance of 110,000 in 1964-67 to a

positive balance of 173,000 in 1968-69. A similar, although not so large, change occurred in East Siberia as it went from a net loss of 98,000 migrants to a gain of 25,000. In contrast, the 1964-67 gains of Kazakhstan (163,000), Transcaucasia (12,000), and Central Asia (226,000) gave way to net losses of 22, 59, and 128 thousand respectively in 1968-69. The migration balance for the North Caucasus Region fell from 294,000 (1964-67) to just 44,000 (1968-69) and the Ukraine's net gain dropped from 277,000 to only 37,000 over the same two periods.

Transition and Reversal in the 1960s

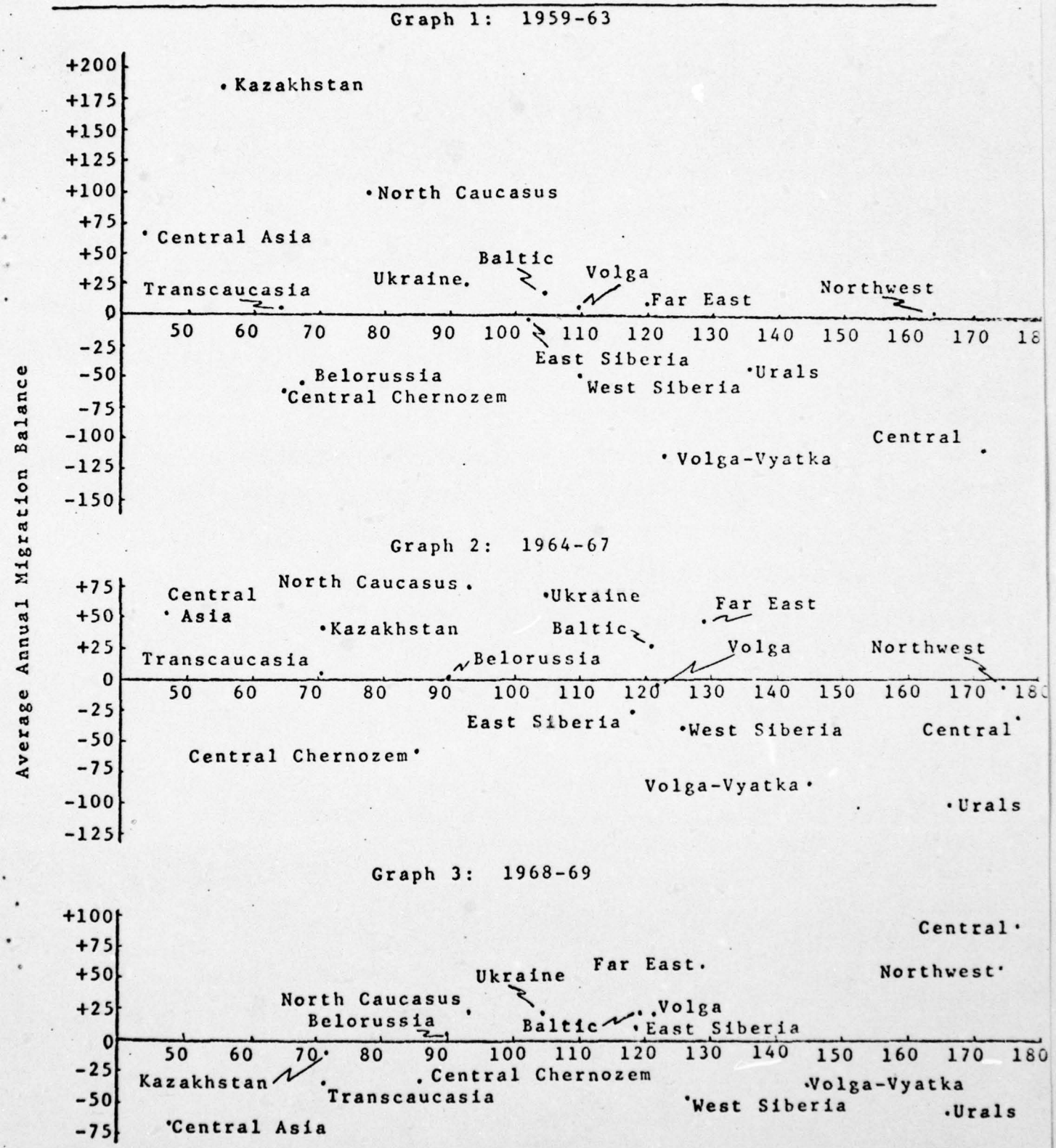
Based on these observations, it appears that from 1959 through 1963 the greatest sources of migrants for developing areas were the industrialized Central and Volga-Vyatka Regions, followed by the more agricultural Central Chernozem and Belorussian Regions. However, between 1964 and 1967 the net out-flow of migrants from the first three of these areas was reduced considerably, while Transcaucasia actually gained net migrants. At the same time, the net migration gains of Transcaucasia, Central Asia, and Kazakhstan were all reduced. As these patterns of movement continued into 1968-69, there was virtually a complete reversal of the migration trends observed during the first period. The largely agricultural areas of Transcaucasia, Central Asia, and Kazakhstan all experienced net migration losses, while most of the predominantly industrial areas, to include the Central, Northwest, Volga, Volga-Vyatka, Urals, Siberian,

and Far Eastern Regions, all decreased their losses or gained migrants on balance.

These changes suggest that a more in-depth examination of the relationship between interregional migration and industrialization might be warranted. The graphs in Figure 5 have been constructed for this purpose. On the horizontal axes, regional rates of industrial employment are used as a measure of industrialization.[28] The significance of this surrogate will be discussed in detail in the section which follows. Average annual rates of net migration have been used on the vertical axes so that the graphs will be directly comparable.

In the first graph, the regions may be roughly divided into three groups. Those in the lower left portion of the graph are some of the least industrialized regions, two of which show net migration gains while two others show net losses. The gaining regions, Central Asia and Transcaucasia, were targets for development during this period, while the more agriculturally developed Central Chernozem and Belorussian Regions were sources of migrants. On the opposite side of the graph, the positive migration balance for the highly industrialized Northwest Region suggests that it was not a major source of migrants for developing areas.

FIGURE 5.--CHANGING PATTERNS OF INTERREGIONAL MIGRATION, 1959-69



The Central Region, on the other hand, did lose large numbers of migrants, many of which undoubtedly went to developing regions. In the middle group, Kazakhstan has both the lowest rate of industrial employment and highest level of net in-migration. This large migration balance stems mainly from its role in the Virgin Land Campaigns. At the other extreme, the regions with the highest rates of industrial employment all experienced net migration losses or had balances very close to zero.

The graph for 1964-67 reflects some very significant changes. On the whole, there was an increase in industrial employment rates throughout the USSR, as reflected by a rightward shift of points along the horizontal axis. More importantly, however, there were great changes in the migration balances of Kazakhstan and the Central Region. From 1964-67 Kazakhstan's average gain of migrants fell to 41,000 per year, as compared to 184,000 annually over the previous five-year period. Concurrent with this, the Central Region's average yearly loss of migrants went from 100,000 (1959-63) to just 28,000 (1964-67). These two changes were the first major steps toward the reversals which manifested themselves in the 1970 Census.

The third graph is based on migration data from the 1970 Census but, for lack of more current information, uses 1965 employment data. Consequently, the rightward shift noted during the previous period is absent, although

there was undoubtedly a general increase in the rate of industrial employment during this period. The most noteworthy aspect of the third graph, however, is that the pattern of points is virtually opposite that in Graph 1. As just alluded to, the first stage of transition appears to have occurred between 1964 and 1967 with the large drop in Kazakhstan's migration balance and the Central Region's rise in net migration. This continued into 1968-69 when Central Asia joined Kazakhstan as a net loser of migrants and the Northwest and Central Regions experienced large net gains. Given these changes, all that was necessary to complete the reversal was a slight shift in the migration balances of the remaining regions. In general, this was accomplished by a decrease in net migration for the regions with lower rates of industrial employment and an increase in the migration balances of regions with higher rates.

In light of these changes, the period from 1964 through 1967 seems especially worthy of further investigation, since the transition appears to have occurred during this period. However, in order to do this the migration data for this interval would have to be further disaggregated. An apparent means of doing this would be to use data from the internal passport system to obtain information on annual population movements, but unfortunately, this cannot be done because these data have not been published on an annual basis and, even when they were published, did not

include all interregional flows. As an alternative, passport registration data for 1967 and census data for 1968-69 (Figures 6 and 7) will be used to examine some of the 1967-69 flows associated with the Northwest, Central, Central Asian, and Kazakh Regions. These particular regions were selected because of the extreme migration changes which they experienced in the late 1960s.

In regard to Central Asia and Kazakhstan, the urban areas of both regions gained net migrants in 1967 (21,900 and 21,300 respectively) as a result of interregional migration. The greatest portion of Central Asia's urban gains came in exchanges with Kazakhstan (9,100), West Siberia (7,100), and the Urals Region (5,300), while its largest net loss (2,600) was to the North Caucasus Region. Most of Kazakhstan's net urban gain came from just two regions, West Siberia (12,500) and the Urals (9,800). Central Asia received the most net migrants (3,830) of any region from the urban areas of Kazakhstan.

In 1968-69 there was a tremendous change in population movements associated with the cities of Central Asia as they surrendered over 35,000 net migrants to other regions. This, coupled with a net loss of 93,000 from the rural areas, resulted in a negative balance of 128,000 for Central Asia over the two-year period.[29] The inflow of migrants to the urban areas of Kazakhstan also fell in 1968-69, but not to the same extent as in Central Asia.

FIGURE 6.--INTERREGIONAL MIGRATION TO AND FROM THE URBAN AREAS OF CENTRAL ASIA, 1967-69

Region/ Republic	For the Urban Areas of Central Asia:					
	1967[a]			1968-69[b] (2-Year Average)		
	In-Migration	Out-Migration	Balance	In-Migration	Out-Migration	Balance
RSFSR:						
Northwest	5,079	4,964	+115	2,172	10,258	-8,086
Central	11,330	11,892	-562	5,061	14,045	-8,984
Volga-Vyatka	3,916	3,857	+59	1,942	2,456	-514
C. Chernozem	3,383	3,361	+22	1,259	2,351	-1,092
Volga	21,529	21,994	-465	9,474	14,125	-4,651
N. Caucasus	12,249	14,855	-2,606	3,524	7,938	-4,414
Urals	18,698	13,357	+5,341	10,698	7,631	+3,067
W. Siberia	19,493	12,346	+7,147	11,366	7,272	+4,094
E. Siberia	7,942	4,840	+3,102	3,678	2,828	+850
Far East	6,063	4,310	+1,753	2,517	4,730	-2,213
Non-Russian:						
Ukraine	14,621	16,492	-1,871	6,192	12,369	-6,177
Baltic	1,382	3,586	-2,204	604	1,827	-1,223
Belorussia	2,439	2,781	-342	932	2,010	-1,078
Transcaucasia	4,575	1,269	+3,306	2,166	1,150	+1,016
Kazakhstan	31,009	21,937	+9,072	16,525	22,581	-6,056
TOTAL	163,708	141,841	+21,867	78,110	113,571	-35,461

Source: a *Vestnik statistiki*, Moskva, 1968, Tables 1-4, pp. 89-96.

b Tsentral'noye Statisticheskoye Upravleniye, *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Tom VII, Statistika, Moskva, 1974, Tables 3 through 17, pp. 9-156.

FIGURE 7.--INTERREGIONAL MIGRATION TO AND FROM THE URBAN AREAS OF KAZAKHSTAN, 1967-69

Region/ Republic	For the Urban Areas of Kazakhstan:					
	1967[a]			1968-69[b] (2-Year Average)		
	In-Migration	Out-Migration	Balance	In-Migration	Out-Migration	Balance
RSFSR:						
Northwest	6,881	6,416	+465	3,435	6,878	-3,443
Central	12,528	13,459	-931	8,599	11,222	-2,623
Volga-Vyatka	7,446	5,267	+2,179	4,393	3,726	+667
C. Chernozem	4,800	4,154	+646	3,151	2,742	+409
Volga	17,643	17,230	+413	12,246	10,613	+1,633
N. Caucasus	16,797	17,175	-378	9,789	10,416	-627
Urals	31,382	21,599	+9,783	17,321	11,633	+5,688
W. Siberia	42,131	29,614	+12,517	24,608	15,193	+9,415
E. Siberia	10,782	7,933	+2,849	5,930	6,512	-582
Far East	6,389	5,114	+1,275	3,577	6,594	-3,017
Non-Russian:						
Ukraine	26,530	29,523	-2,993	15,860	19,466	-3,606
Baltic	2,220	2,555	-335	1,254	2,081	-827
Belorussia	5,858	6,447	-589	3,001	4,379	-1,378
Transcaucasia	3,153	2,948	+205	4,269	1,013	+3,256
C. Asia	25,735	29,565	-3,830	31,189	13,599	+17,590
TOTAL	220,275	198,999	+21,276	148,622	126,067	+22,555

Source: a *Vestnik statistiki*, Moskva, 1968, Tables 1-4, pp. 89-96.

b Tsentral'noye Statisticheskoye Upravleniye, *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Tom VII, Statistiki, Moskva, 1974, Tables 3 through 17, pp. 9-156.

Furthermore, during this period the cities of Kazakhstan had an average annual gain of 17,600 migrants from Central Asia, which was more than enough to offset the decline in urban in-migration from most other areas. Consequently, Kazakhstan actually increased its net gain of urban migrants from interregional sources over the 1967-69 period. This was not the case for rural migrations, however, as Kazakhstan lost 44,200 migrants on balance from its rural areas to other regions in 1968-69, giving it a total negative balance of 21,600 for the two years.[30]

Rather surprisingly, Figures 6 and 7 indicate that the decline in Central Asia's urban migration balance over 1967-69 was not due to greater out-migration, but to a sharp fall in in-migration. In fact, every region in the USSR gave up fewer migrants to the cities of Central Asia in 1968-69, on average, than in 1967. Similarly, in-migration to the urban areas of Kazakhstan decreased from all regions except two, Central Asia and Transcaucasia, during this period. Although data on rural-related flows in 1967 are not available, it is likely that interregional movements to the rural areas of Kazakhstan and Central Asia also declined from 1967-69 and that this, along with extensive out-migration from these areas, drove the rural balances down to the levels observed in the 1970 Census.

The data in Figures 6 and 7 also provide some indication of the sources of migration gain for the Central and Northwest

Regions. In 1967 the Central Region gained migrants on balance from the urban areas of Central Asia and Kazakhstan. In 1968-69 it was joined by the Northwest Region in experiencing similar gains. Given the relatively small numbers of Central Asians and Kazakhs who are normally found in the interregional migration stream, this strongly suggests that Russians were leaving these areas and returning to their homelands in the Northwest and Central Regions. Additionally, there is some indication that flows which had formerly gone to Central Asia and Kazakhstan from other regions were redirected, in part, to the Northwest and Central Regions. The many sources of in-migration and net migration gain for both the Central and Northwest Regions in 1968-69 (Figure 8) would seem to support this argument.

To summarize this section, the thrust of the discussion has been to describe the migration changes from 1959-69 and suggest how and approximately when these changes might have occurred. For the most part, the movements during the earliest period were closely linked to government programs for developing the outlying regions. Consequently, interregional migration over this period was generally characterized by movements from the European USSR to areas such as Transcaucasia, Central Asia, Kazakhstan, and the Far Eastern Region. Efforts to encourage migration to the Siberias, however, were less successful as both of these regions lost net migrants from 1959-63. By 1964-67 these programs were

FIGURE 8.--INTERREGIONAL MIGRATION TO AND FROM THE NORTHWEST AND CENTRAL REGIONS, 1968-69

Region/ Republic	For the Northwest Region: In-Migration	Out-Migration	Balance	For the Central Region: In-Migration	Out-Migration	Balance
RSFSR:						
Northwest	---	---	---	57,611	81,200	-23,589
Central	81,200	57,611	+23,589	---	---	---
Volga-Vyatka	23,378	12,623	+10,755	37,570	23,346	+14,224
C. Chernozem	16,158	11,050	+5,108	50,257	20,027	+30,230
Volga	25,229	20,450	+4,779	50,765	37,803	+12,962
N. Caucasus	28,640	22,517	+6,123	47,258	25,598	+21,660
Urals	23,330	17,952	+5,378	43,341	31,442	+11,899
W.Siberia	14,513	10,472	+4,041	26,469	23,570	+2,899
E.Siberia	10,704	9,767	+937	20,696	21,832	-1,136
Far East	11,576	13,826	-2,250	25,405	35,262	-9,857
Non-Russian:						
Ukraine	68,858	47,104	+21,754	96,502	59,400	+37,102
Baltic	13,884	17,343	-3,459	11,916	10,500	+1,416
Belorussia	23,094	17,243	+5,851	19,531	15,193	+4,338
Transcaucasia	6,032	2,011	+4,021	14,990	4,330	+10,660
C. Asia	12,518	5,021	+7,497	49,374	11,443	+37,931
Kazakhstan	22,233	9,383	+12,850	34,843	21,086	+13,757
Others	12,088	7,703	+4,385	17,485	8,992	+8,493
TOTAL	393,435	282,076	+111,359	604,013	431,024	+172,989

Source: Tsentral'noye Statisticheskoye Upravleniye, *Itogi Veseoyuznoy Perepisi Naseleniya 1970 goda*, Tom VII, Statistika, Moskva, 1974, Tables 3 through 17, pp. 9-156.

having less impact, the migration balances of all the developing areas except the West Siberian and Far Eastern Regions were declining, and the net out-migrations from the Central, Volga-Vyatka, and Central Chernozem Regions were becoming less intense. In addition, Belorussia began to gain rather than surrender net migrants. As this trend carried over into 1968-69, the migration balances of Transcaucasia, Central Asia, and Kazakhstan became negative. All the regions of the European USSR, on the other hand, raised their migration balances, with the highly industrialized Northwest, Central, and Volga Regions all experiencing large net gains.

The question now arises as to why the regions of the European USSR, and especially the established industrial areas, had growing migration balances during the last two periods, while most developing areas were losing migrants on balance. Also, it is not clear why, despite this trend, some industrial regions such as Volga-Vyatka and the Urals still surrendered net migrants in 1968-69. The section which follows is aimed at answering these and similar questions through analyses of net migration data from the 1970 Census.

FACTORS AFFECTING INTERREGIONAL MIGRATION

One does not have to read very far into the recent literature on Soviet migration before encountering the argument that living conditions are the primary determinants

of migration. Certainly, this would seem to explain the influx of migrants from rural to urban places and the large flow of migrants from developing areas to the more urban-industrialized regions. Migrants appear to be attracted to these areas by prospects of industrial employment and its associated benefits, including better housing, medical and educational facilities, public services, and amenities in general. If so, regions with higher rates of industrial employment should offer better overall living conditions, excluding the physical environment, and attract more migrants. However, it is interesting to note that in their efforts to rationalize migration the Soviet authorities have not focused so much on living conditions but rather have implemented a system of occupational and regional wage differentials. Clearly, the expectation is that higher wages will offset the lack of acceptable living conditions and lure migrants to labor-short regions.

Given these observations, one would expect wages and living conditions to account for much of the variation in net migration in the USSR. As the wage levels and living conditions improve, net migration levels should increase accordingly. In order to investigate these relationships, a multiple regression analysis was performed utilizing net migration (1968-69) for 18 economic regions of the USSR as the dependent variable and regional wage indices[31] and rates of industrial employment as the independent variables. The results of this analysis are shown in Figure 9.

FIGURE 9.--REGRESSION OF NET MIGRATION ON INDUSTRIAL WAGES AND RATE OF INDUSTRIAL EMPLOYMENT (18 Economic Regions)

NETMIG = -223.363 + 1.020 EMPLOY + 1.020 WAGES

t values = (1.863) (.819)

Coefficient of Determination (R^2) = .298

Standard Error of Estimate = 80.597

F Value = 3.195

Beta values: EMPLOY (.444) WAGES (.193)

Where: NETMIG - Net Migration in thousands, 1968-69

EMPLOY - Industrial employment per 1000 pop., 1965

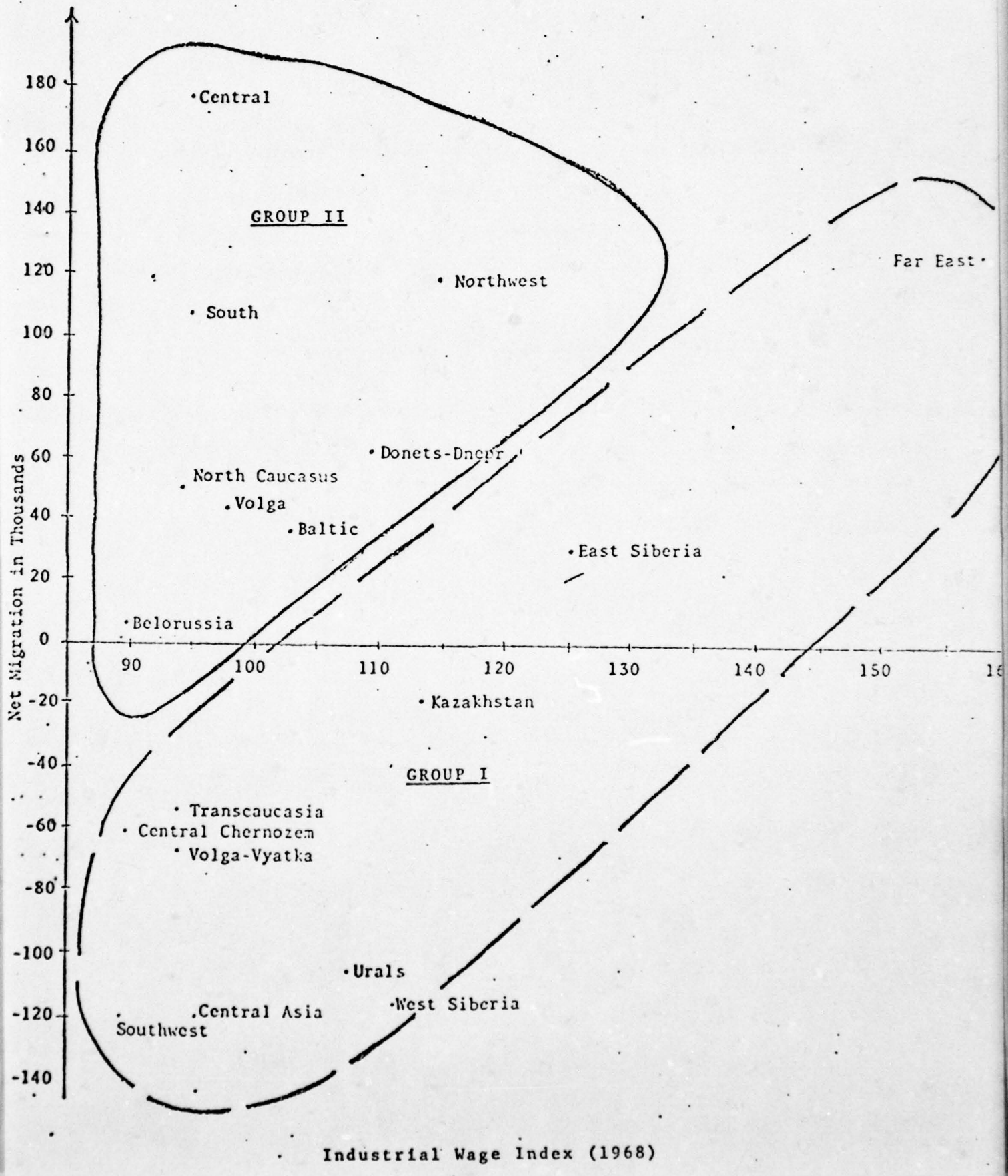
WAGES - Industrial wage index, 1968

The analysis clearly implies a rejection of the hypothesis stated above, since only a very small proportion of the variation in net migration is explained by the two variables. That is, there is little indication of a linear relationship between net migration and the independent variables. Furthermore, the variable coefficients are insignificant as is the overall regression.

In practical terms and intuitively, it seems unlikely that wages and industrial employment levels would be so poorly associated with net migration rates. An examination of the scatter diagram in Figure 10 suggests an alternative procedure for testing the relationships. The points on the graph appear to form two regional groups, one extending from the lower left to the upper right of the cartesian space and the other in the upper left portion of the graph. All of the regions in the former group, except East Siberia and Far East, experienced negative migration balances, whereas those regions in the latter group experienced positive balances.

Group I, the regions which are aligned from the lower left to the upper right of the graph, may be described as either newly developing or relatively recently developed, primarily agricultrual, or environmentally unattractive. In addition, Group I includes the primary concentration of minority nationalities or ethnic groups.

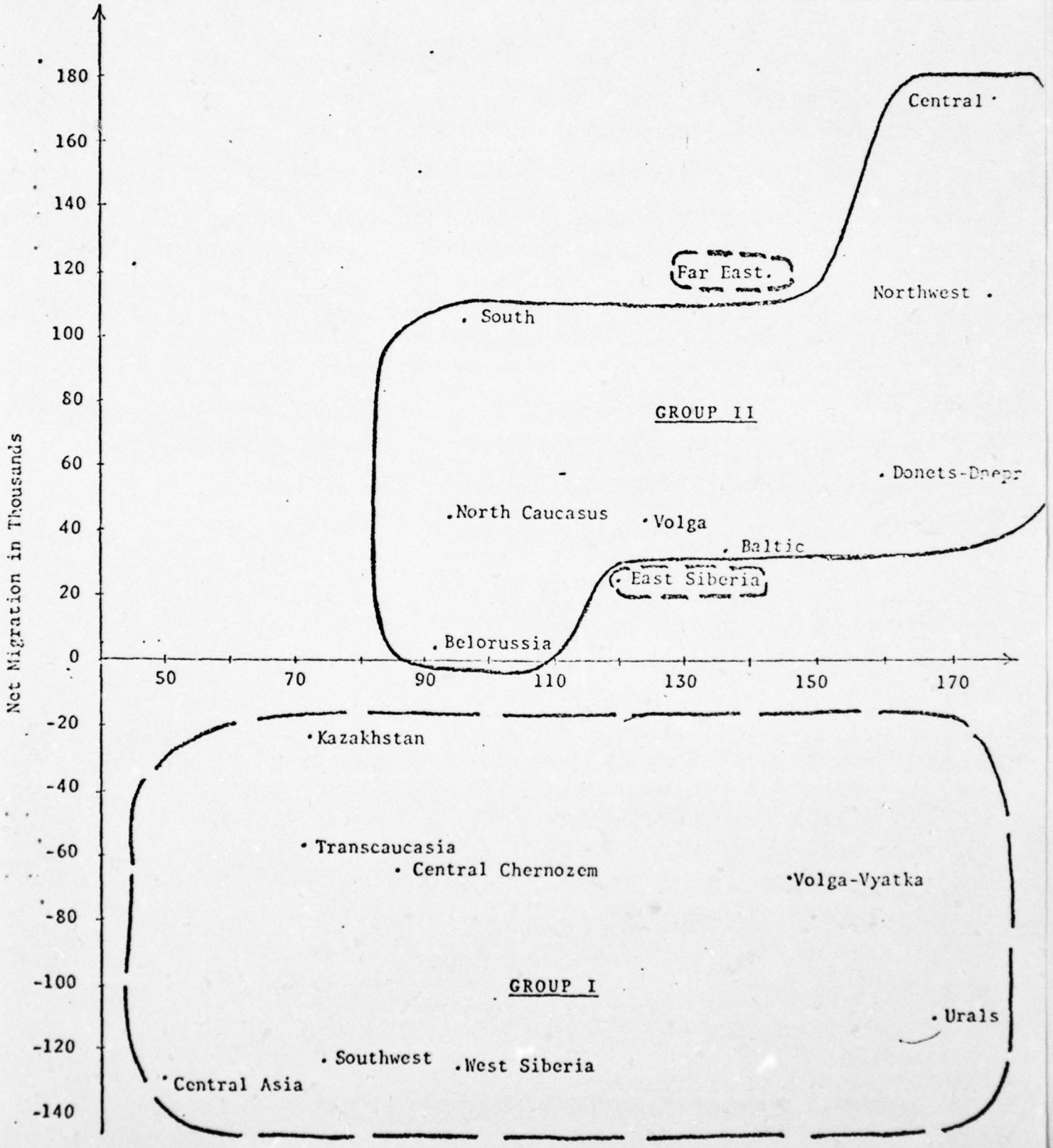
FIGURE 10.--RELATIONSHIP BETWEEN NET MIGRATION AND WAGES



Group II, the regions in the upper left-hand corner of the graph, may be characterized either as established, economically developed regions containing large urban agglomerations or regions with excellent environmental amenities. In view of their arrangement in the upper portion of Figure 11, the regions of Group II may reasonably be hypothesized as being attractive to migrants because their levels of industrialization result in better living conditions, higher levels of service, better housing, and more social/cultural amenities.

The linear arrangement of points for the regions in Group I is fairly well-defined (see Figure 10). There is, however, some variation among regions. Based on their wage bills, the Central Chernozem, Volga-Vyatka, and Transcaucasus Regions lose fewer net migrants than one would expect, while the Southwest, Central Asian, Urals, and West Siberian Regions lose more. The reason for this may be found by comparing regions which have approximately the same industrial wage bill but very different net migration rates, such as the Central Chernozem and Southwest. In this case, the more populace Southwest Region loses far more net migrants than does the Central Chernozem. Similarly, in comparing Volga-Vyatka and Transcaucasia with Central Asia, the more heavily populated Central Asian Region loses more net migrants than either of the other two. Based on these observations, it appears that the regions of

FIGURE 11.--RELATIONSHIP BETWEEN NET MIGRATION AND INDUSTRIAL EMPLOYMENT



Group I tend to lose net migrants in proportion to their population size.

In order to test these hypotheses, the two variables, industrial wages and population, have been included in a multiple regression with net migration rates for the regions of Group I. In contrast to the previous analysis, the results are quite conclusive (see Figure 12). Now wages account for a very great proportion (over 76%) of the variation in net migration. Inclusion of the population variable contributes an additional 12.5 percent bringing the total explanation to almost 89 percent. In addition, all coefficients and the regression are significant (at the .05 level). This lends considerable support to the hypothesis that wages play a predominant role in migration processes of regions of Group I.

Turning now to Group II, it was suggested in an earlier discussion that living conditions, as measured by the rate of industrial employment, may be an appropriate variable for explaining migration to these regions. Although this is generally borne out by the scatter diagram in Figure 11, there is still considerable variation among the regions, particularly in regard to the Central Region and Ukrainian South. The implication is that another variable or variables, which are key to migration processes in Group II, have not yet been considered.

FIGURE 12.--REGRESSION OF NET MIGRATION ON INDUSTRIAL WAGES AND POPULATION (Group I)

NETMIG = -220.366 + 2.281 WAGES - .006 POP

t values: (4.442) (2.807)

Coefficient of Determination (R^2) = .888

Standard Error of Estimate = 28.352

F Value = 27.805

Beta Values: WAGES (.657) POP (-.415)

Where: NETMIG - Net migration in thousands, 1968-69

WAGES - Industrial wage index, 1968

POP - Total regional population, 1968

The regression in Figure 12 showed that the agricultural/developing regions (Group I) tend to give up migrants in proportion to their populations. Furthermore, it may be shown from the migration data that these regions suffer their greatest losses to contiguous, developed or Group II regions. For example, of the 203,000 migrants which left the Central Chernozem, more than 112,000 went to the adjacent Northwest, Central, North Caucasus, and Donets-Dnepr Regions. Similar losses to neighboring regions of Group II were experienced by the Volga-Vyatka, Urals, Southwest, Transcaucasia, Kazakh, and West Siberia Regions. In fact, whenever a region from Group I shares a common border with one from Group II, the flow of migrants to the latter is unusually large. This situation suggests that, in the case of the regions in Group II, there is a proximity effect which should be incorporated into the analysis.

A measure for the proximity effect may be calculated in the following manner. Each region in Group II is matched with all adjacent regions in Group I (see Figure 13). The outflow of migrants from an adjacent Group I region is assumed to be in proportion to its population whereas the migrant inflow to the gaining regions is assumed to be proportional to their relative attractiveness. In order to determine relative attractiveness, the drawing power of wages in Group I regions must be equated with industrial

employment (the surrogate for living conditions) in Group II regions. The first step in accomplishing this is to regress net migration on industrial wage indices for the regions of Group I. The equation for the regression line indicates the wage index necessary for a given level of net migration to Group I regions. Similarly, regressing net migration on the rate of industrial employment for the regions of Group II yeilds a second equation. Solving these equations for the same level of net migration gives equivalent values of the wage index and industrial employment rate. Thus, the relative effect of wages for Group I regions and the rate of industrial employment for Group II regions may be calculated.

To illustrate this, the third line of Figure 13 shows that out of West Siberia's total population of 12,201,000 the Northwest was allotted 7,535,000 for its proximity index. The latter figure was derived by apportioning West Siberia's population among the adjacent, more attractive Northwest, Kazakhstan and East Siberian Regions. The Northwest's attractiveness stems from better living conditions, as reflected by its industrial employment rate of 176 per thousand, while Kazakhstan and East Siberias' wage indices of 113 and 126, respectively, are higher than West Siberia's. Using the method of conversion just discussed, these wage indices (113 and 126) have roughly the same effect on net migration as would industrial employment rates of 28 and 70 per thousand respectively. The portion of West Siberia's population assigned to each region, therefore, is

FIGURE 13.--REGIONAL PROXIMITY INDICES

Group II Region	Contiguous Group I Region	Population in Thousands	Portion of Population Allotted to Region in Column 1	Proximity Index for Region in Column 1
Northwest	Volga-Vyatka	8,288	2,995	18,338
	Urals	15,262	7,808	
	West Siberia	12,201	7,535	
		Total	18,338	
Central	Volga-Vyatka	8,288	3,012	11,826
	Central Chernozem	7,948	2,549	
	Southwest	20,389	6,265	
		Total	11,826	
Volga	Volga-Vyatka	8,288	2,093	21,999
	Central Chernozem	7,948	1,771	
	Urals	15,262	5,457	
	Kazakh	12,678	12,678	
		Total	21,999	
North Caucasus	Transcaucasia	11,882	11,882	13,235
	Central Chernozem	7,948	1,353	
		Total	13,235	
Donets-Dnepr	Central Chernozem	7,948	2,275	7,868
	Southwest	20,389	5,593	
		Total	7,868	
South	Southwest	20,389	3,398	3,398
Baltic	--	-0-	-0-	-0-
Belorussia	Southwest	20,389	3,221	3,221

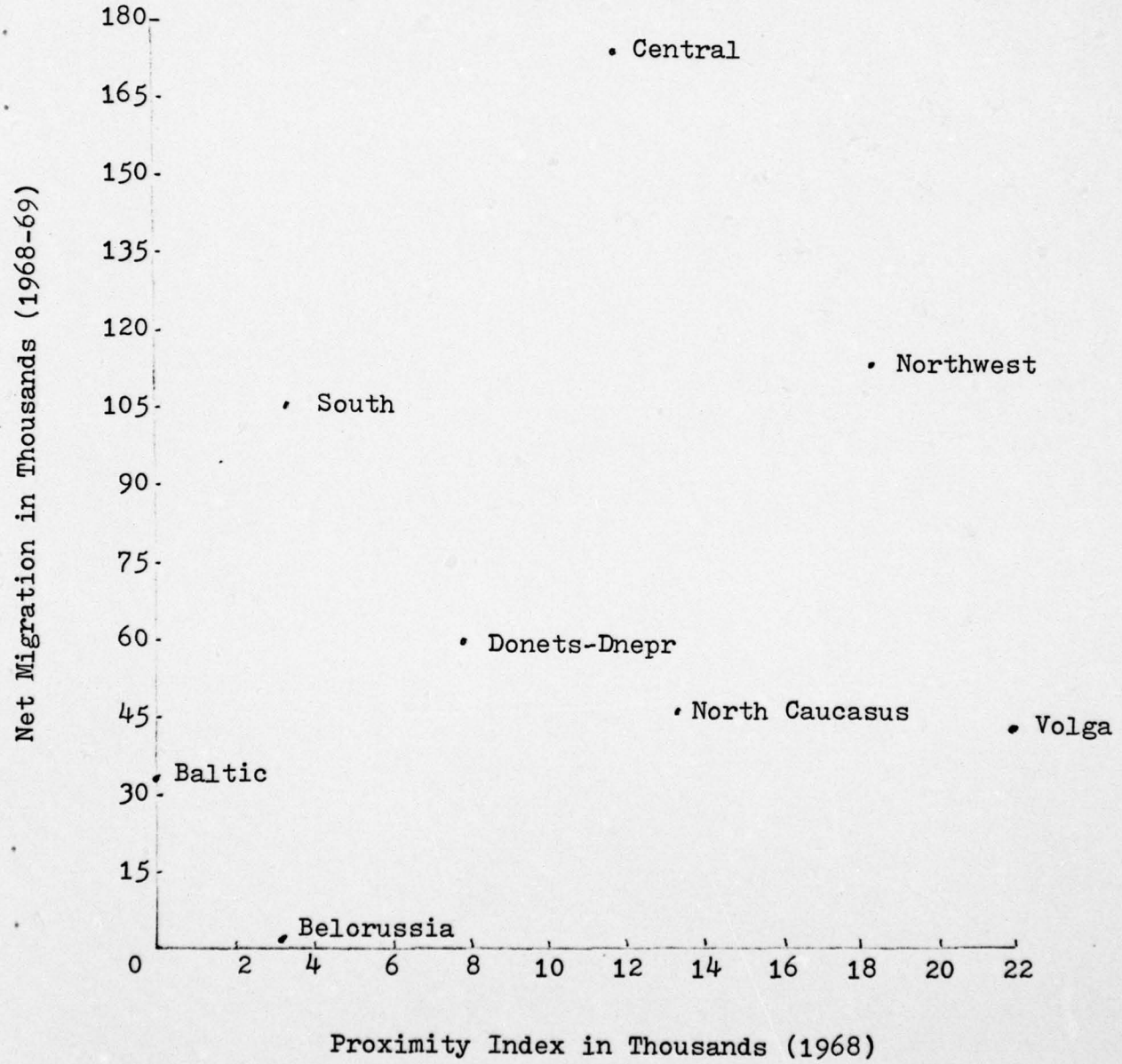
that region's actual or equivalent rate of industrial employment, depending on whether it is a Group II or Group I region, divided by the total for the three regions. In this case the total is 274, so the Northwest Region is allotted 176/274 of West Siberia's population for its proximity index. This same methodology was used to calculate all the proximity indices in Figure 13.

When plotted on a scattergram of net migration versus proximity index (Figure 14) the most striking feature is that, as in Figure 11, the South and Central regions exhibit far higher net migration gains than might be expected. In addition, the Volga Region has a lower net migration balance than would seem to be warranted by its proximity index. Because of these anomalies, regression of net migration on rates of industrial employment and the proximity indices for Group II regions yeilds a low R^2 (.41) and statistically insignificant results.

The anomalous relationship between net migration and the proximity index for the Volga Region may be explained in terms of the data in Figure 13. Specifically, in calculating the proximity indices, the absence of other more attractive regions adjacent to Kazakhstan resulted in its entire population being allotted to the Volga Region. Yet, earlier discussion indicated that out-migration from Kazakhstan has been characterized by a return of Slavic peoples to their homelands. This, along with the low mobility of indigenous Kazakhs has greatly reduced

Figure 14

Relationship Between Net Migration and the Proximity Index



the net migration gains which the Volga Region might otherwise have enjoyed due to its proximity to Kazakhstan.

The unusually high net migration balance for the South Region of the Ukraine also requires further explanation. Based on its rate of industrial employment (96 per 1000) and its proximity index, the region should have only a slight positive migration balance. Its net gain of migrants over the 1968-69 period, however, was an astounding 103,000. A very large portion of this can undoubtedly be attributed to the South's natural environment. Located on the Black Sea, its mild climate makes it a recreational and retirement haven. This is particularly true of the Crimean Oblast where the population increase due to in-migration during the last intercensal period was 7.1 percent, representing an influx of over 128,000 migrants. Of these, nearly 19,000 came from the Donets-Dnepr Region, while over 25,000 were from the Ukrainian Southwest. However, this very intense stream of intra-republic arrivals was by no means peculiar to the Crimean Oblast. Roughly half of the South Ukraine's net migration balance can be attributed to migrants from within the republic, with the Donets-Dnepr Region surrendering 12,000 on balance and the Southwest Region 35,000. This is especially revealing, since the highly industrialized Donets-Dnepr Region had a net gain of only 6,500 intra-republic migrants. Furthermore, the drawing power of the South Ukraine was not limited to nearby areas, since it experienced a net gain of migrants from all 10 economic regions of the RSFSR and every republic except Latvia.

The Central Region is also atypical in many respects. Its rate of industrial employment, 177 per thousand of population, is the highest in the USSR. Yet, even this does not adequately account for its extremely high net in-migration over 173,000 during the 1968-1969 time period. To further explain this one must consider the exceptional nature of Moscow, the region's and country's largest city. Moscow has the highest total in-migration (201,000) of any Soviet city, and even more importantly, 129,000 of these in-migrants originated in areas outside the Central Region, while none of the remaining cities except Leningrad received more than 25,000 migrants from outside their own region. In addition, migration data for Moscow Oblast suggests that the city's attractiveness also benefits surrounding areas. Even after subtracting in-migration to the Moscow urban area, the remainder of the oblast still received over 384,000 migrants as compared to 101,000 for Kalinin Oblast which was next highest in the region.[32] Altogether, the number of migrants arriving in Moscow Oblast exceeded one-half million and accounted for more than a third of all migration into the Central Region. There would seem to be little explanation for such phenomenal rates of in-migration other than Moscow's size and prominence in the national political, economic, and social sphere.

In light of these anomalies it was decided to perform a second regression which excludes the Central and South regions

and Kazakhstan's contribution to the Volga Region's proximity index (Figure 15). In this regression the rate of industrial employment accounts for 68.5 percent of the variation in net migration, with the proximity variable adding another 28.5 percent to give a total coefficient of determination of .97. Both the regression coefficients and the overall regression are significant at the .05 level. Thus, there is a strong indication that net migration to Group II regions increases with better living conditions, as measured by rates of industrial employment, and with proximity of less attractive Group I regions. While this remains true in regard to the South and Central regions, the interaction of additional variables results in unusually high net migration balances. The Volga Region, on the other hand, is an exception in that it does not reap the full benefit of its proximity to Kazakhstan.

Figure 15

REGRESSION OF NET MIGRATION ON THE RATE OF INDUSTRIAL EMPLOYMENT AND PROXIMITY INDEX
(Group II minus the South and Central Regions and Kazakhstan's contribution to proximity index)

NETMIG = -62.774 + .647 EMPLOY + .003 PROX

t values: (5.733) (5.379)

Coefficient of Determination (R^2) = .971

Standard Error of Estimate = 7.961

F value = 49.431

Beta values: EMPLOY (.613) PROX (.576)

Where: NETMIG - Net migration in thousands, 1968-69

EMPLOY - Industrial employment per 1000 pop., 1968

PROX - Regional proximity index, 1968

The preceding analyses represent an attempt to uncover in a sequential manner the major underlying determinants of migration in the Soviet Union. It is quite apparent that there are no simple, all-encompassing explanations. The procedures used, however, indicate that by progressively disaggregating regional groups and associating them with relevant variables, one may gain at least a limited insight into the web of interactions which give rise to regional migration balances.

SUMMARY AND CONCLUSIONS

Recent improvements in Soviet migration data, both in terms of quantity and quality, have opened entirely new paths of study and cleared the way for research which was previously more difficult if not impossible. Among the more important changes, data on the age, sex, and ethnic background of migrants has provided a much improved insight into the characteristics of the migrant population. Using data from the internal passport registration system, Denisova and Fadeyeva found the preponderance of urban in-migrants to be in the working ages.[33] The 1970 Census showed that this was also true of the migrating population as a whole.[34] Interestingly, however, the census data regarding sex of migrants differed from earlier findings in that women accounted for slightly more than half of all migrants (7 out of 13.9 million) in 1968-69.[35] This was probably due

to their increased participation in the labor force. The role of ethnic factors has also proved important as the Russians have invariably been the most mobile of all Soviet peoples, while the Central Asians have proven to be the least migratory.

The changes in the direction and intensity of population movements during the 1960s are also noteworthy. Disaggregation of the 1957-67 data indicated that from 1959 through 1963 large numbers of migrants left the European USSR for developing areas. The heaviest of these migrations were to Kazakhstan and Central Asia and were primarily the result of government programs connected with the Virgin and Idle Land Campaigns. In addition, there was also an east-west exchange of migrants between the European regions, the Siberias, and the Far Eastern Region. These movements stemmed mainly from the large industrial projects being undertaken in the eastern areas at this time.

In the mid-to-late 60s, government recruiting programs for the developing areas began to have less impact, migrants became increasingly disenchanted with the rugged living conditions in outlying areas, and the earlier migration trends began to be reversed. The beginning of this transition was signaled in 1964-67 by a drop in Kazakhstan's migration balance and a reduction in net out-migration from the Central Region. In 1968-69 the

reversal was completed, as net migration to the developing, mainly agricultural areas fell and the balances of most urban-industrial regions rose.

As discussed earlier, urban in-migration, especially to the more economically developed regions in Group II, was largely due to better living conditions in those areas. In addition, there was a strong proximity effect where the less developed Group I regions lost unusually large numbers of migrants to adjacent, more urban-industrialized Group II regions. The movements of migrants from the Central Chernozem to Central Region and Volga-Vyatka to Northwest Region are vivid examples of this process. In every case, the first region, which belongs to Group I, gave up a large number of migrants on balance to the adjoining area in Group II.

The analysis also revealed that migration processes in regions of Group I and Group II differ markedly. Because of less desirable living conditions, stemming from inadequate economic development, an unfavorable natural environment, or a combination of these two factors, the Group I regions tended to experience net losses of migrants. Out-migration from these regions was generally in proportion to population size, while occupational wage scales and regional wage differentials were the primary measures for offsetting these losses.

To help place the preceding discussion in perspective, it should be noted that the migration process involves the interaction of an extremely complex set of variables,

some of which have only been touched upon, and others which have been omitted altogether. The roles of environmental amenities and ethnicity, for example, have been alluded to, but have not been addressed in depth or incorporated in the analyses. Similarly, the importance of women in the Soviet labor force merits a much more thorough treatment than afforded here. The possibility of using alternative surrogates as measures of living conditions should also be explored, since no single measure can hope to include all the factors which should be considered. In regard to wages, this and several other instruments of Soviet migration policy, to include recruitment and housing programs, are worthy of more detailed investigation. Finally, much could be added to the picture of migration presented here if passport registration data were more readily available, more complete, and detailed enough to permit research at the oblast level.

In conclusion, although the present research has focused on interregional migration in the Soviet Union, this does not limit its applicability to a centrally-planned society. Factors such as wages and living conditions, as well as a diverse array of other socio-economic variables, are of virtually universal importance to the migration process. By examining how people react to changes in these variables, regardless of whether these changes are planned or spontaneous, we will add much to our overall understanding of the migration process.

FOOTNOTES

1 V.I. Perevedentsev, "Contemporary Migration in the USSR," *Soviet Geography: Review and Translation*, Vol. X (April 1969) p. 196.

2 Net migration figures are based on data in Tsentral'noye Statisticheskoye Upravleniye, *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Tom VII, Statistika, Moskva, 1974, Tables 3 through 17, pp. 9-156.

3 Frank Lorimer, *The Population of the Soviet Union: History and Prospects* (Geneva, 1946) p. 30.

4 George J. Demko, *The Russian Colonization of Kazakhstan: 1896-1916* (Bloomington, 1969) p. 79.

5 Additional sources dealing with prerevolutionary migration are given by George J. Demko, pages 7-9 of the preceding book, and Robert A. Lewis, "The Postwar Study of Internal Migration in the USSR," *Soviet Geography: Review and Translation*, Vol. X (April 1969) pp. 157-166.

6 Lorimer, pp. 46-48.

7 Eugene M. Kulischer, *Europe on the Move: War and Population Changes, 1917-47* (New York, 1948) pp. 259-260.

8 "Preliminary Report on the 1959 Census," *Current Digest of the Soviet Press*, Vol. XI (1959) pp. 3-5.

9 *Ibid.*

10 O.A. Konstantinov, "Some Conclusions About the Geography of Cities and the Urban Population of the USSR Based on the Results of the 1959 Census." *Soviet Geography: Review and Translation*, Vol. I (September 1960) p. 60.

11 A.G. Rashin, *Naseleniye Rossii za 100 Let* (The Population of Russia for 100 Years), Moscow, 1956.

12 V.K. Yatsunskiy, "Changes in the Distribution of the Population of European Russia between 1724-1916," *Istoriya SSSR*, No. 1 (1957) pp. 192-224.

13 V.V. Pokshishevskiy, "A Survey of the Settlement of the Forest Steppe and Steppe Regions of the Russian Plain," in Moskovskiy Gosudarstvennyy Pedagogicheskiy Institut, *Ekonomicheskaya Geografiya SSSR* (Economic Geography of the USSR), No. 5 (1960) pp. 3-68.

14 V.I. Perevedentsev, "Problems in the Territorial Distribution of Labor Resources," *Current Digest of the Soviet Press*, Vol. XIV (July 1962) pp. 3-6.

15 V.V. Pokshishevskiy, "Prospects of Population Migration in the USSR," *Soviet Geography: Review and Translation*, Vol. IV (January 1963) pp. 13-25.

16 V.V. Pokshishevskiy et. al., "On Basic Migration Patterns," *Soviet Geography: Review and Translation*, Vol. V (December 1964) pp. 3-18.

17 V. Tovkun, "The Improvement of the Registration of Migration," *Soviet Geography: Review and Translation*, Vol. X (April 1969) pp. 179-185.

18 Perevedentsev, "Contemporary Migration in the USSR," pp. 192-208.

19 L. Denisova and T. Fadeyeva, "Some Data on Migration in the USSR," *Vestnik Statistiki*, No. 7 (1965) p. 20.

20 *Ibid.*, pp. 20-21.

21 V.I. Perevedentsev, "On the Influence of Ethnic Factors on the Territorial Distribution of Population," *Soviet Geography: Review and Translation*, Vol. VI (August 1965) pp. 40-50.

22 A. Volkov, "Questions About Migration in the Program of the Census," *Soviet Geography: Review and Translation*, Vol. X (April 1969) pp. 186-191.

23 *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Tables 3 through 17, pp. 9-156.

24 *Ibid.*, Table 18, pp. 158-162.

25 *Ibid.*, Tables 3 through 17, pp. 9-156.

26 *Ibid.*, Table 21, pp. 184-185.

27 *Ibid.*, Table 32, pp. 380-395.

28 Industrial employment rates for 1960 are from *Promyshlennost' v khozyaistvennom komplekse*, Moskva, 1964, Table 2, p. 8. Those for 1965 are given by A.I. Vedishchev in *Promyshlenno-proizvodstvennii personal*, Moskva, Table 1, p. 63.

29 *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Table 3 through 17, pp. 9-156.

30 *Ibid.*

31 Regional wage data are adapted from Leslie Dienes, "Regional Variations of Capital and Labor Productivity in Soviet Industry," *Journal of Regional Science*, Vol. 12, No. 3 (1972) p. 404.

32 *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Tables 3 through 17, pp. 9-156.

33 The working age for males ranges from 16 to 59 and for females from 16 to 54.

34 *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda*, Table 32, pp. 380-395.

35 *Ibid.*, Tables 3 through 17, pp. 9-156.

BIBLIOGRAPHY

Demko, G.J. *The Russian Colonization of Kazakhstan (1896-1916).* Bloomington, 1969.

Denisova, L. and T. Fadeyeva. "Some Data on Migration in the USSR," *Vestnik Statistiki,* No. 7 (1965) pp. 16-21.

Dienes, L. "Regional Variations of Capital and Labor Productivity in Soviet Industry," *Journal of Regional Science,* Vol. 12 (1972) pp. 401-406.

Gruliow, L. (ed.) "Preliminary Report on the 1959 Census," *Current Digest of the Soviet Press,* Vol. XI (1959) pp. 3-5.

Konstantinov, O.A. "Some Conclusions About the Geography of Cities and the Urban Population of the USSR Based on the Results of the 1959 Census," *Soviet Geography: Review and Translation,* Vol. I (September 1960) pp. 59-74.

Kulischer, E.M. *Europe on the Move: War and Population Changes, 1917-47.* New York, 1948.

Lewis, R.A. "The Postwar Study of Internal Migration in the USSR," *Soviet Geography: Review and Translation,* Vol. X (April 1969) pp. 157-166.

Lorimer, F. *The Population of the Soviet Union: History and Prospects.* Geneva, 1946.

Perevedentsev, V.I. "Contemporary Migration in the USSR," *Soviet Geography: Review and Translation*, Vol. X (April 1969) pp. 192-208.

_____. "Problems in the Territorial Distribution of Labor Resources," *Current Digest of the Soviet Press*, Vol. XIV (July 1962) pp. 3-6.

_____. "On the Influence of Ethnic Factors on the Territorial Distribution of Population," *Soviet Geography: Review and Translation*, Vol. VI (August 1965) pp. 40-50.

Pokshishevskiy, V.V. "A Survey of the Settlement of the Forest Steppe and Steppe Regions of the Russian Plain," *Ekonomicheskaya Geografiya SSSR*, No. 5 (1960) pp. 3-68.

_____. "Prospects of Population Migration in the USSR," *Soviet Geography: Review and Translation*, Vol. IV (January 1963) pp. 13-25.

_____. et al. "On Basic Migration Patterns," *Soviet Geography: Review and Translation*, Vol. V (December 1964) pp. 3-18.

_____. "Migratsiya naseleniya v SSSR," *Priroda*, No. 9 (1969) pp. 69-74.

Promyshlennost' v khozyaistvennom komplekse. Moskva, 1964.

Rashin, A.G. *Naseleniye Rossii za 100 Let.* Moskva, 1956.

Tovkun, V. "The Improvement of the Registration of Migration," *Soviet Geography: Review and Translation*, Vol. X (April 1969) pp. 179-185.

Tsentral'noye Statisticheskoye Uprvaleniye, *Itogi Vsesoyuznoy Perepisi Naseleniya 1970 goda.* Tom VII, Moskva, 1974.

Tsentral'noye Statisticheskoye Upravleniye, *Vestnik Statistiki.* No. 10 (1967) Moskva, 1968.

Vedishchev, A.I. *Promyshlenno-proizvodstvennii personal*, Moskva, 1969.

Volkov, A. "Questions About Migration in the Program of the Census," *Soviet Geography: Review and Translation*, Vol. X (April 1969) pp. 186-191.

Yatsunskiy, V.K. "Changes in the Distribution of the Population of European Russia between 1724-1916," *Istoriya SSSR*, No. 1 (1957) pp. 192-224.