Data

ESTIMATES OF NET INTERNAL MIGRATION FOR KOREA 1970-75

Tai Hwan Kwon

This is to present the estimates of net migration in Korea during the five-year intercensal period 1970–75. In estimating the volumes and rates of net migration, we have adopted the forward census survival ratio method for all, urban and rural areas of each province and each administratively defined city, by five-year age group and sex. Procedures and major assumptions involved in the calculation are described below. Similar estimates for the quin-quennial periods during 1955–70 were published in *Bulletin of the Population and Develop-ment Studies Center,* Vol. IV(Kwon, 1975). The set of estimates presenting here is a 1970–75 counterpart of the previous set of estimates for 1955–70. Since the two sets of estimates are based on almost identical procedures and assumptions, hence present discussions are limited to those particularly relevant to the current estimates.

ARRANGEMENT OF DATA

In order to obtain comparability in the population figures between the censuses of 1970 and 1975, adjustment for the changes in boundary and status of the unit areas is required. During the intercensal period 1970–75, the number of cities increased from 32 to 35, and 14 out of 32 cities at the 1970 census were experienced boundary adjustment. The exten-siveness of boundary and status changes during the period in all, urban and rural areas of each province, is shown in the following table.

Percentage Gain or Loss Resulting from Boundary and Status Changes During 1970-75 by Province and by Urban and Rural Areas, 1970

	Seoul	Busan	Gyeong-gi	Gang-won	Chung-bug	Chung-nam	Jeon-bug	Jeon-nam	Gyeong-bug	Gyeong-nam	Jeju	Total
All	0.24	—	-0.40	—	—	—	—	—	—	—	—	—
Urban	0.24	—	20.40	2.90	—	—	5.91	0.39	0.24	10.23	—	2.42
Rural	—	—	-8.12	-0.75	—	—	-2.81	-0.13	-0.11	-2.82	—	-1.69

*Calculated as $\left(\dfrac{1970 \text{ population within the 1975 census boundary}}{1970 \text{ population within the 1970 census boundary}} - 1 \right) \times 100$

In the estimation, the 1970 census data in the areas subject to boundary and status change were brought to the 1975 census boundary or status. Information on age-sex structure by quinquennial age group is available from the 1970 census report up to *Myun* level, the smallest official administrative unit. Accordingly, the estimates of population structures as well as population totals in both 1970 and 1975 were necessary for those areas which had constituted part of a *Myun* and later transferred to a newly adjusted city area. For this, it was assumed that the population of the *Myun* at the 1970 census was evenly distributed and that its age-sex structure was identical between the remaining areas in the *Myun* and the areas transferred to the city.

METHOD OF ESTIMATION

The volumes and rates of net migration were calculated by adopting the forward census survival ratio method developed by Everett Lee, except for the age group 0-4 (Lee, 1960). The net numbers of migrants in this childhood ages were obtained using the male and female child-women ratios weighted for the entire nation in consideration of the fertility patterns by age for the same intercensal period 1970-75. Since the proportion of births borne to women at ages 15-19 and above 45 was negligible, the women at these ages were excluded in calculating the child-women ratios. The following weights were assigned to each five-year age group of women between ages 20 and 44.[1]

age group	weight
20-24	2
25-29	6
30-34	3
35-39	2
40-44	1

QUALITY OF THE ESTIMATES

Among various sources of errors in the estimates of net migration during 1970-75, the most important are regarded to be the assumption of closed population and the assumption of equal mortality among the units of observation.[2]

Previously during 1955-70, movement of Koreans beyond the national territory was very limited, and the nation can be reasonably assumed to have been closed against international migration. However, the volume of international migration of Koreans has increased significantly since 1970. During the intercensal years 1970-75, about 0.5 per cent of the total population was reported to have moved to elsewhere out of Korea. This suggest that inter-national migration would be a factor to be considered in estimating internal migration figures based on census survival ratio method. Here, if we can assume there have been no differ-ential rates of international migration among the units of observation by age and sex, the estimates would not be affected by international migration at all. No direct information on the pattern of international migration is available. However, it is certain that the emigrants were heavily originated from urban areas, particularly from large metropolitan centers, and this should have affected the estimates. The maximum error in this regard is expected to be less than one per cent point of the rate of net migration calculated here. However, it may exceed one per cent in a particular age-sex group.

Research findings persistently suggest an inverse relationship between the degree of urbanity and the level of mortality throughout the 1960s in Korea. Accordingly, we expect some errors in the current estimates due to the assumption of equal mortality among the observation units. Concerning the extensiveness of errors, we may have a clear insight from the comparison of two sets of migration estimates between urban and rural areas for 1965-70. The two used the same data, census populations, but they differ in the method and assumptions of estimation. One was based on the almost identical assumptions and methods with those adopted for the current estimates (Kwon, 1975). The other employed the life table survival ratio method and differing mortality rates (survival ratios) for urban and

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1. For the concept and the method of calculation, see Kwon, 1975, p.57.
2. For the major assumptions involved, see Zachariah, 1962, and for the discussions concerning the validity of the assumptions for Korea, see Kwon, 1975.

rural areas respectively (Park, 1978). The difference between the two sets of the estimated net migration rates is mostly in a range. of 0.5 per cent point and does not exceed 0.7 per cent point. If we divide the area of observation into a smaller unit, for example cities, the difference will certainly increase. However, it appears to be very unlikely to exceed one per cent point for any age-sex group in any observation unit adopted for the current estimates. We also have good grounds to believe that the situation has little changed between the periods 1965–70 and 1970–75.

From the above discussions, it is clear that the current estimates are subject to two major sources of errors; that is differential international migration rates and differential mortality among unit areas. Logically, however, these two sources can be combined into one forming a new category called 'differential rates of exit'. If we adopt this new concept, the assumptions of closed population and equal mortality, inherent in the census survival ratio method, can be transformed into a new assumption of equal rates of exit (by age group and sex for all units of observation). So it seems more useful to evaluate a set of the estimates for a particular area in terms of the rate of total exit (excluding those caused by internal migration) in the area rather than by examining the two components of the exit separately.

As mentioned |above, the rate of net emigration has been much higher in urban areas than in rural areas and closely associated with the degree of urbanity of an area since 1970. On the other hand, the level of mortality is known to have been lower in urban areas than in rural areas and inversely related to the level of urbanity of an area during the period of estimation 1970–75. It appears almost certain that the two components caused biases in the rate of exit in the reverse direction in most unit areas, and the absolute degree of bias would be fairly similar between the two components in each unit area. As a result, the combined errors in the current estimates are expected to be much smaller than those from either of the major sources. We can also conclude from the above observation that though the assumption of closed population and that of equal mortality are both unrealistic, the assumption of equal rates of exit among unit areas still holds for the intercensal period 1970–75, and thus that the adoption of the census survival ratio method can be fairly justified.

References

(1) Kwon, Tai Hwan, "Estimates of Net Internal Migration for Korea 1955–70", *Bulletin of the Population and Development Studies Center,* Vol. IV, 1975, pp. 54–59.

(2) Lee, E.S. and A.S. Lee, "Internal Migration Statistics for the United States", *Journal of the American Statistical Association,* Vol. 55, 1960.

(3) Park, Sang Tae, *Urbanization and Fertility in Korea,* Population and Development Studies Center, Seoul National University, Seoul, 1978, pp. 53–61 & 212–213.

(4) Zachariah, K.C, "A Note on the Census Survival Ratio Method of Estimating Net Migration", *Journal of the American Statistical Association,* Vol. 57, 1962.

Table I. Estimates of Net Internal Migration for Each Province, by Age Group and Sex, 1970-75

WHOLE AREA

MALE

AGE	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0-4	12009	12219	15027	-4872	-940	-4544	-6837	-13902	-5576	-2928	344	0
5-9	27439	15405	15999	-14530	-5556	-6842	-11661	-11739	-14340	-3861	-687	0
10-14	52439	52889	17410	-16294	-17382	-9914	-13147	-19404	-13755	-10094	-255	0
15-19	133147	43863	23329	-18774	-16285	-30356	-31204	-58778	-16292	-28394	-860	0
20-24	175736	91148	21938	-10362	-6406	-11706	-14602	-20868	-8045	-2435	-50	0
25-29	35728	26191	26010	-5868	-2319	-14452	-9624	-30837	-11599	-8510	-57	0
30-34	37181	12894	11694	-6587	-519	-5815	-5929	-14139	-2913	-3672	57	0
35-39	21702	4364	4457	-6323	-301	-1982	-2613	-17547	2513	-962	86	0
40-44	24702	2064	3790	-3936	-79	-1199	-1974	-4548	608	-779	-33	0
45-49	20847	2916	5105	-2879	-100	-552	-1506	-3064	253	-506	112	0
50-54	2847	916	4478	-1490	-267	-596	-1653	-2275	-37	-1074	114	0
55-59	1328	111	2933	-1369	-244	-440	-1361	-1044	444	-889	194	0
60-64	1753	169	3505	-585	-114	-506	-1117	-3145	-291	-2920	83	0
65+	5122	1082					-1767		-691			0
TOTAL	308472	153492	164888	-96115	-38834	-79587	-104987	-194716	-51154	-61536		0

FEMALE

AGE	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0-4	11178	11374	13987	-4534	-875	-4230	-6364	-12940	-5190	-2725	320	0
5-9	21506	13555	15938	-13261	-4304	-6154	-10039	-11178	-3278	-2490	-295	0
10-14	52711	19055	10190	-16548	-7941	-10806	-12980	-21446	-3801	-9208	-489	0
15-19	157311	53884	30340	-26215	-20662	-39630	-38243	-73024	-13928	-23046	-1532	0
20-24	146738	285710	33722	-8954	-2981	-12971	-17901	-40490	-14187	-9496	-1682	0
25-29	101728	187010	39824	-1768	-1298	-6206	-11038	-17106	-11249	-8666	-847	0
30-34	106665	60023	4742	-6523	-1161	-2417	-2969	-7138	-105	-5665	329	0
35-39	97351	46907	4626	-7464	-1627	-1946	-2658	-6222	-1081	-2198	303	0
40-44	81991	34098	5755	-5696	-1008	-2127	-2797	-4663	-1364	-1688	-8	0
45-49	76530	2909	5214	-3360	-913	-1447	-3745	-5324	-1047	-1851	116	0
50-54	63970	23742	4614	-1981	-1031	-2188	-2885	-4123	-967	-1791	231	0
55-59	64170	24141	2538	-1442	-1065	-1811	-2803	-4140	-1549	-1409	204	0
60-64			5242	-2375		-1845	-2072	-2800	-2399	-4003	544	0
65+							-3372	-5642			1227	0
TOTAL	364132	177151	170414	-102950	-45654	-95531	-118181	-218546	-66393	-65665		0

BOTH SEXES

AGE	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0-4	23187	23593	29015	-9406	-1816	-8774	-13201	-26842	-10765	-5653	664	0
5-9	48945	28945	31938	-27791	-9860	-12996	-21700	-22917	-17618	-6352	-609	0
10-14	105304	38674	27600	-32877	-15323	-20721	-26124	-31802	-17555	-19301	-1176	0
15-19	290458	97187	176600	-44589	-36948	-69968	-69447	-131802	-35501	-51413	-1788	0
20-24	322474	571595	556660	-19316	-3411	-14617	-27560	-161358	-22282	-17060	-1542	0
25-29	137456	448765	493928	-3980	2910	-20658	-8412	-49277	-22848	-13376	798	0
30-34	212783	120211	159550	-12391	1661	-8232	-5271	-21279	-2900	-2117	172	0
35-39	218477	91082	95459	-14019	1681	-3928	-4537	-13769	-473	-2570	387	0
40-44	154499	54725	103091	-11296	-1706	-3326	-4531	-8999	-1110	-2630	78	0
45-49	153477	3825	9093	-5810	-1108	-1999	-4537	-7392	-1084	-2011	343	0
50-54	127918	2412	5870	-3571	-1646	-2784	-3464	-6419	-1523	-2866	423	0
55-59	8222	5271	8747	-2859	-1178	-2250	-3184	-3845	-1250	-2298	738	0
60-64	15854					-2527	-5140	-8793	-3090	-6922	1310	0
65+												0
TOTAL	672604	330643	335302	-199065	-84488	-175118	-223168	-413263	-117547	-127201		0

— INDICATES NET LOSS.

Table I (Continued)

WHOLE AREA

	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	PER CENT RATES WHOLE COUNTRY

MALE

0-4												
5-9												
10-14												
15-19												
20-24												
25-29												
30-34												
35-39												
40-44												
45-49												
50-54												
55-59												
60-64												
65+												
TOTAL												

FEMALE

0-4												
5-9												
10-14												
15-19												
20-24												
25-29												
30-34												
35-39												
40-44												
45-49												
50-54												
55-59												
60-64												
65+												
TOTAL												

BOTH SEXES

0-4												
5-9												
10-14												
15-19												
20-24												
25-29												
30-34												
35-39												
40-44												
45-49												
50-54												
55-59												
60-64												
65+												
TOTAL												

"—" INDICATES NET LOSS.

Table I (Continued)

URBAN AREA

MALE

AGE	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0—4	12009	12219	14698	-1074	1396	511	697	-1112	2254	6985	655	49238
5—9	22439	15989	18411	1730	2484	3641	2990	7266	7306	8794	1077	97205
10—14	52319	19589	21169	1148	4143	6001	5717	11188	17736	8665	1809	148771
15—19	133147	43863	37718	1313	5668	11374	8316	21101	38512	16649	-1882	319470
20—24	117528	9148	15654	-4568	-1308	-2606	-7091	-19386	-10781	3307	780	109136
25—29	35728	26191	24419	-926	1662	2341	1680	355	8806	16014	485	-1232
30—34	21123	12894	11433	1756	1342	602	1087	264	2811	4122	316	50086
35—39	5706	5717	7038	-514	861	599	641	-489	879	1609	155	28878
40—44	4206	2064	4435	293	300	458	-118	-1898	423	926	1224	22656
45—49	1828	2916	3227	211	209	-65	-1157	-1422	145	490	551	7961
50—54	11753	110	2678	-211	-132	-258	-1113	-1191	824	2114	54	4530
55—59	5122	1082	2678	-221	1420	1358	1183	189	824	-100	160	4112
65+												11437
TOTAL	308472	153492	187937	-7777	18522	21341	14346	14821	75578	76021	5611	868364

FEMALE

AGE	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0—4	11178	11374	13680	-1000	1299	475	649	-1035	2098	6502	610	45829
5—9	21565	13555	20395	-6656	2243	3023	2447	-6097	16552	8088	497	83668
10—14	52731	19089	51208	6891	3097	4901	4627	9438	141307	27848	880	138876
15—19	146738	53884	29414	-3852	30711	13665	6940	13436	343342	270345	1311	364871
20—24	128753	28079	16658	-1807	11908	450	-1690	-9444	-16633	141456	1485	109021
25—29	10660	16700	9308	-1530	1246	1098	1258	-1254	1663	45201	1563	65496
30—34	9795	6029	6901	-1807	796	1284	9008	1392	3980	16221	394	36677
35—39	8151	4669	6014	-2148	405	1098	1771	11380	2506	11188	1531	20864
40—44	76300	30924	5252	-1124	2061	525	95	-6670	-1432	9667	138	18428
45—49	6397	23742	4904	-1233	2135	229	1248	-1399	1110	809	1138	15905
50—54	6471	23408	3606	1103	2061	223	2135	-238	-1164	739	98	16004
55—59	36413	4188	3606	1365	11132	4473	921	603	1011	1239	413	30201
65+												
TOTAL	364132	177151	208066	-6426	21868	27934	18600	20919	77386	883940	7108	1005132

BOTH SEXES

AGE	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0—4	23187	23593	28378	-2073	2695	986	1345	-2148	4351	13487	1265	95067
5—9	48945	28960	42161	-1386	4727	6664	5434	13363	138586	16882	12651	180873
10—14	105057	30977	41846	2004	7239	109002	10344	206267	318669	16516	3120	287147
15—19	290457	97187	88926	-8420	11740	25039	15256	345347	718497	436849	1399	684358
20—24	246456	37187	45068	-9	3288	-2058	-8781	-28834	104697	274749	1905	1090040
25—29	107809	44765	43956	-1942	2870	7791	16937	1312	59984	126804	1048	1746322
30—34	42937	19594	20495	-1709	25899	886	21955	1934	67797	23641	730	83998
35—39	13447	11730	10358	-1912	16572	1696	14412	-888	47797	21457	447	512270
40—44	10399	54725	10354	-3117	1683	1296	213	-1424	23122	2047	207	329803
45—49	7718	38242	9687	94	4617	206		-1710	1533	1457	172	26389
50—54	77180	24117	7586	586	397	448	123		10311	1020	152	20435
55—59	15854	52711	5837		473	1513	1104	1710	3253	1139	573	20116
65+												41637
TOTAL	672604	330643	396003	-14204	40390	49275	32947	35740	152964	164415	12719	1873493

"—" INDICATES NET LOSS.

Table I (Continued)

URBAN AREA

PER CENT RATES

	SECUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY

MALE

0- 4												
5- 9												
10-14												
15-19												
20-24												
25-29												
30-34												
35-39												
40-44												
45-49												
50-54												
55-59												
60-64												
65+												
TOTAL												

FEMALE

0- 4												
5- 9												
10-14												
15-19												
20-24												
25-29												
30-34												
35-39												
40-44												
45-49												
50-54												
55-59												
60-64												
65+												
TOTAL												

BOTH SEXES

0- 4												
5- 9												
10-14												
15-19												
20-24												
25-29												
30-34												
35-39												
40-44												
45-49												
50-54												
55-59												
60-64												
65+												
TOTAL												

"-" INDICATES NET LOSS.

Table I (Continued)

RURAL AREA

MALE

	SEQUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0— 4	0	0	-3300	-3758	-2336	-5055	-7534	-12790	-7829	-9912	-311	-49238
5— 9	0	0	-5842	-13807	-8039	-10483	-14651	-19004	-11646	-12656	-1083	-97205
10—14	0	0	-13759	-11747	-11525	-11915	-18863	-30591	-21490	-18760	-1391	-148771
15—19	0	0	-14390	-20084	-21954	-41700	-39519	-79874	-54804	-45044	-2064	-319470
20—24	0	0	-6283	5794	1977	-1900	-152	-148	-2036	-2425	220	-109136
25—29	0	0	2656	-1285	-6977	-14793	-15037	-26875	-20404	-24520	-800	-154086
30—34	0	0	-2582	-4967	-3980	-6617	-7609	-15259	-7283	-10856	-579	-28878
35—39	0	0	-5470	5624	-1862	-2581	-2615	-4691	-1684	-2571	-171	-22116
40—44	0	0	1236	5581	-1162	-1607	-1623	-3059	-460	-1996	-38	-28656
45—49	0	0	1706	2587	-309	-5311	-1496	-2166	298	-1705	-78	-7961
50—54	0	0	670	2501	-394	-431	-998	-1853	-274	-1063	60	-4530
55—59	0	0	5528	-1360	-396	-481	-1950	-3334	-1516	-2820	35	-4142
60—64	0	0		-1806	-533	-1040	-11933					-1437
65+	0	0										
TOTAL	0	0	-23049	-88338	-57356	-100928	-119333	-209538	-126732	-137557	-5528	-868364

FEMALE

	SEQUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0— 4	0	0	-3077	-3535	-2174	-4705	-7013	-11904	-7287	-9227	-290	-45829
5— 9	0	0	-4381	-12657	-8087	-9177	-12482	-19004	-9831	-10577	-1791	-138876
10—14	0	0	-10525	-17203	-11037	-15708	-17607	-30884	-17931	-17054	-3941	-364887
15—19	0	0	-20868	-26906	-26733	-53295	-45183	-86460	-52545	-50054	-2844	-1102271
20—24	0	0	-3845	5747	-2277	-26656	-12296	-31040	-12912	-16322	-1277	-654596
25—29	0	0	3947	5792	1799	-3043	-3883	-17852	-26012	-23638	1305	-366677
30—34	0	0	-4567	5482	-2405	-2965	-3766	-7360	-4085	-3941	-1650	-208864
35—39	0	0	-2259	-2907	-2155	-1971	-3568	-5052	-2796	-4449	93	-18428
40—44	0	0	-238	1855	-10322	-2040	-3009	-4089	-2157	-3039	-161	-15905
45—49	0	0	2712	1793	-1260	-2459	-3221	-4142	-2131	-2472	-36	-16001
50—54	0	0	-672	-1545	-1178	-2040	-3009	-3403	-2560	-2018	93	-16201
55—59	0	0	4724	-1739	-1351	-2227	-3042	-7169	-2828	-2148	210	-30201
60—64	0	0			-1797	-3060	-42294		-1524	-5242	131	-1005132
65+	0	0										
TOTAL	0	0	-37652	-96524	-67522	-123465	-136781	-239465	-143779	-154058	-5881	-1005132

BOTH SEXES

	SEQUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY (NUMBERS)
0— 4	0	0	-6377	-7335	-4510	-9760	-14547	-24694	-15116	-19141	-601	-95067
5— 9	0	0	-10223	-26435	-14587	-19660	-27130	-36207	-21476	-23234	-1874	-180873
10—14	0	0	-24284	-34714	-25627	-31623	-36470	-66475	-39421	-35816	-1781	-287147
15—19	0	0	-35258	-49992	-48687	-95029	-84743	-166324	-107493	-95097	-4908	-684358
20—24	0	0	-10092	11540	-3402	-12649	-18743	-44227	-35317	-24510	-1143	-1090402
25—29	0	0	5436	11580	5779	-6119	-10993	-22589	-99884	-40897	-1875	-830998
30—34	0	0	-4497	-10688	-4269	-9118	-7467	-15992	-63834	-14797	344	-65555
35—39	0	0	-18051	-11764	-3318	-5624	-6183	-8111	-52270	-8943	-61	-51270
40—44	0	0	1807	6633	1418	-4622	-4964	-6295	-2611	-4744	-200	-32980
45—49	0	0	1563	-5494	-1563	-2682	-4505	-11455	-2836	-3468	-1124	-26389
50—54	0	0	1043	3350	-1048	-2473	-3307	-4256	-6343	-3885	172	-26435
55—59	0	0	15077	-2905	-2730	-2708	-6234	-10502	-6286	-3811	210	-20116
60—64	0	0	-336	-3545	-1748	-4040	-62343	-105002	-22865	-8061	165	-20437
65+	0	0										-1473493
TOTAL	0	0	-60701	-184861	-124878	-224392	-256114	-449003	-270511	-291616	-11409	-1873493

"—" INDICATES NET LOSS.

Table I (Continued)

PER CENT RATES

RURAL AREA

	SEOUL	BUSAN	GYEONG GI	GANG WON	CHUNG BUG	CHUNG NAM	JEON BUG	JEON NAM	GYEONG BUG	GYEONG NAM	JEJU	WHOLE COUNTRY

MALE

FEMALE

BOTH SEXES

0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65+, TOTAL

"—" INDICATES NET LOSS.

Table II. Net Internal Migration for Each City by Age Group and Sex, 1970–75

CITIES	IN CHEON	SU WEON	SEONG NAM	EUI JEONGBU	AN YANG	BU CHEON	CHUN CHEON	WEON JU	GANG REUNG	SOG CHO	NUMBERS CHEONG JU
MALE											
0– 4	2246	920	9116	-55	768	1700	-515	-306	36	-288	1022
5– 9	2618	1803	14999	-1509	803	2180	62	-676	457	-1573	1924
10–14	4318	1732	12076	-306	1170	2180	1239	-363	838	-565	3095
15–19	12819	3595	13342	909	2856	4205	-2084	-1760	766	-777	-5063
20–24	5779	1239	6828	178	1306	1806	-1267	-1745	-902	-674	-1119
25–29	12234	2238	10547	614	2866	2375	-1245	-145	-327	-210	596
30–34	-1322	1763	9034	-239	1319	1824	-1319	-220	-155	-443	1348
35–39	1031	454	3388	-161	440	1278	-246	-277	-153	-256	1032
40–44	461	206	2970	-161	287	797	-143	-177	-165	-220	601
45–49	260	173	2349	154	249	553	26	-170	87	-201	289
50–54	502	109	1481	125	265	512	96	-35	77	-201	207
55–59		264	1605		192	388	162	-32	24	-94	117
60–64					151	286			27		100
65+					143	339					259
TOTAL	32921	14786	106320	695	12815	20400	745	-5451	1470	-4542	14525
FEMALE											
0– 4	2093	857	8485	-51	714	1582	-480	-284	33	-269	951
5– 9	2107	1473	14245	-302	884	1913	-1000	-617	486	-505	1764
10–14	3924	1746	11575	2395	1417	2148	2039	-1294	712	-729	2422
15–19	17724	6186	13961	13013	62290	5196	2313	-1522	66	-1081	5635
20–24	11715	2176	11221	351	2378	3586	-981	143	-144	-671	1282
25–29	3593	1655	9303	-351	950	2708	-338	-195	68	-340	1217
30–34	804	594	7166	-479	443	992	106	-358	215	-365	979
35–39	797	504	4730	-181	417	819	630	-241	255	-201	979
40–44	789	353	3114	300	406	654	110	-115	105	-209	667
45–49	660	306	2514	900	394	544	94	-159	60	-102	398
50–54	607	266	1912	462	174	454	65	-32	521	-12	167
55–59	1724	552	2761	620	312	359	311	-158	813		277
60–64						617					277
65+											821
TOTAL	43120	17044	107389	2505	15570	22438	1290	-4636	1768	-4848	17834
BOTH SEXES											
0– 4	4341	1777	17601	-105	1482	3282	-995	-590	69	-557	1972
5– 9	4723	3278	29244	-811	1686	4042	42	-1293	943	-1078	3687
10–14	8241	3781	23651	1401	2587	4328	2238	-1657	1550	-1294	5516
15–19	30060	9781	27305	3238	9146	9397	4397	-3248	976	-1858	10699
20–24	8958	3484	22039	1575	3684	5422	-2226	143	-1668	-1345	163
25–29	9310	3414	19541	575	3833	4645	-1757	-486	-183	-349	1913
30–34	2592	1879	16200	-116	1668	3132	-307	-758	407	-479	2011
35–39	1126	758	10078	-349	883	1615	16	-392	379	-550	1268
40–44	1250	558	7148	1129	665	1207	-80	-242	231	-422	687
45–49	9200	482	6084	1444	672	1056	113	-167	147	-335	367
50–54	9320	295	4883	61	586	842	119	-26	105	-211	344
55–59	2226	476	3392	665	325	645	161		140	-105	377
60–64		816	4366	265	455	956	473			-11	1080
TOTAL	76040	31831	213709	3200	28385	42838	2035	-10086	3238	-9391	32359

"—" INDICATES NET LOSS.

Table II (Continued)

PER CENT RATES

CITIES	IN CHEON	SU WEON	SECNG NAM	EUI JEONGBU	AN YANG	BU CHEON	CHUN CHEON	WEON JU	GANG REUNG	SOG CHO	CHEONG JU

MALE

0-4											
5-14											
10-14											
15-19											
20-24											
25-29											
30-34											
35-39											
40-44											
45-49											
50-54											
55-59											
60-64											
65+											
TOTAL											

FEMALE

BOTH SEXES

"—" INDICATES NET LOSS.

Table II (Continued)

NUMBERS

CITIES	CHUNG JU	DAE JEON	CHEON AN	JEON JU	GUN SAN	IRI	GWANG JU	MOG PO	YEO SU	SUN CHEON	DAE GU
MALE											
0-4					441	81	-846	-370	170	-67	-423
5-9					848	448	6146	961	204	820	3306
10-14					1158	804	8822	761	1927	1412	13925
15-19										2531	32727
20-24						-2265		-5008	-969	-1898	-9268
25-29						-3332			2395	-1295	3170
30-34						375			246	54	365
35-39						194	2450		312		1207
40-44						-82	-1758		-121	-111	332
45-49						-159	-1580				
50-54						-174	-1100				-17
55-59									-132	300	-1335
60-64						-73	-1303		-133	52	-565
65+									-31		
TOTAL	3996	17669	3672	6941	6366	1039	16783	-6007	373	3673	46471
FEMALE											
TOTAL	4034	21713	6221	9048	7188	2364	20964	-3730	869	2815	52411
BOTH SEXES											
TOTAL	8031	39382	9892	15989	13554	3404	37747	-9737	1242	6488	98882

"—" INDICATES NET LOSS.

Table II (Continued)

PER CENT RATES

CITIES	CHUNG JU	DAE JEON	CHEON AN	JEON JU	GUN SAN	IRI	GWANG JU	MOG PO	YEO SU	SUN CHEON	DAE GU

MALE

Age											
0-4											
5-9											
10-14											
15-19											
20-24											
25-29											
30-34											
35-39											
40-44											
45-49											
50-54											
55-59											
60-64											
65+											
TOTAL											

FEMALE

Age											
0-4											
5-9											
10-14											
15-19											
20-24											
25-29											
30-34											
35-39											
40-44											
45-49											
50-54											
55-59											
60-64											
65+											
TOTAL											

BOTH SEXES

Age											
0-4											
5-9											
10-14											
15-19											
20-24											
25-29											
30-34											
35-39											
40-44											
45-49											
50-54											
55-59											
60-64											
65+											
TOTAL											

"—" INDICATES NET LOSS.

ble II (Continued)

NUMBERS

CITIES	PO HANG	GYEONG JU	GIM CHEON	AN DONG	MA SAN	JIN JU	CHUNG MU	JIN HAE	SAM CHEONPO	UL SAN	JEJU
					MALE						
0-4	2105	351	-11	228	2956	344	183	-1288	-139	3829	655
05-09	2140	871	-50	939	5030	1641	362	-1522	-159	3124	769
10-14	2820	705	-2251	1637	5729	1988	2814	-1918	-192	1678	1077
15-19	-4790	-416	-1291	-2299	9196	4091	1884	-3807	-466	4296	-1802
20-24	-4257	-503	99	-1476	2652	-2230	-488	1397	-153	3910	-780
25-29	3257	3412	63	3413	3253	5911	3217	3574	-284	9090	485
30-34		3307	-50	2579	3225	479	1458	-686	-124	4524	336
35-39	1577	207	-204	1030	1473	167	70	-246	-158	2024	155
40-44	307	98	-24	162	851	-114	29	147	-281	2583	-1254
45-49	168	103	-52	500	441	-407		-577	-312	362	-55
50-54					264	-28	-55	-12	-17	257	54
55-59	345	1033			125	-137	-27	-91	-165	132	
60-64							-45			110	160
65+	2057	1552									
TOTAL	20862	3702	-851	5395	39525	7145	1392	-4960	-1128	34047	5611
					FEMALE						
0-4	1963	327	-10	212	2752	320	171	-268	-136	3564	610
05-09	2682	795	204	604	4590	1486	354	-1302	114	2847	497
10-14	1132	5892	35	6896	2269	1567	187	-866	-103	2208	880
15-19	-1112	-172	-452	-1476	8541	5380	1420	-1415	-281	5889	1311
20-24	3787	469	28	-3046	3316	481	2998	-2214	211	7049	1483
25-29	1680	473	548	2357	2174	468	1888	-846	610	5700	1125
30-34	1389	388	-188	1127	1669	2774	877	-923	-208	929	563
35-39	2841	1243	-557	1277	1281	22	37	-435	-330	501	393
40-44	277	446	-37	1280	830	84	-19	-175	-56	436	293
45-49	165	1109	-176	1059	592	-243	-35	-216	-150	311	152
50-54	1620	1125		1159	401	113	-229	-180		347	138
55-59	207		88	1199	565	195		-231		270	198
60-64		2217	-66							453	-413
65+											
TOTAL	17037	3744	-331	4525	55494	7662	1622	-4571	-738	28924	7108
					BOTH SEXES						
0-4	4072	677	-22	439	5708	664	354	-556	-176	7393	1265
05-09	4423	1667	1502	1531	9620	3155	416	-2824	272	5971	1657
10-14	2305	1204	286	2537	10998	3557	467	-1784	511	3266	3120
15-19	4550	-1207	-1722	-3775	321194	-6755	3269	-10651	-951	6059	3120
20-24	8691	-348	77	-1780	118576	-27800	6620	16189	-454	9759	-399
25-29	4848	885	1077	6700	8527	10728	6205	17094	-263	16139	1905
30-34	22226	8112	-173	3887	3940	4424	2641	-1709	-118	2953	1048
35-39	8867	5822	-177	1637	2754	442	107	-1321	-35	1084	730
40-44	591	3406	-165	1415	16815	-44	28	-1192	-51	798	448
45-49	1747	346	-105	1559	1035	-611	-90	-321	-512	568	207
50-54	477	2217	-88	2115	8556	-862	-149	-180	-88	474	172
55-59	345			2120	5526	162	-16	-1115	-245	402	152
60-64	2057				5588					564	573
65+											
TOTAL	37899	7446	-1182	9920	95019	14807	3014	-9531	-1866	62971	12719

"-" INDICATES NET LOSS.

Table II (Continued)

PER CENT RATES

CITIES	PO HANG	GYEONG JU	GIM CHEON	AN DONG	MA SAN	JIN JU	CHUNG MU	JIN HAE	SAM CHEONPO	UL SAN	JEJU

MALE

| 0—4 |
| 5—9 |
| 10—14 |
| 15—19 |
| 20—24 |
| 25—29 |
| 30—34 |
| 35—39 |
| 40—44 |
| 45—49 |
| 50—54 |
| 55—59 |
| 60—64 |
| 65+ |
| TOTAL |

FEMALE

| 0—4 |
| 5—9 |
| 10—14 |
| 15—19 |
| 20—24 |
| 25—29 |
| 30—34 |
| 35—39 |
| 40—44 |
| 45—49 |
| 50—54 |
| 55—59 |
| 60—64 |
| 65+ |
| TOTAL |

BOTH SEXES

| 0—4 |
| 5—9 |
| 10—14 |
| 15—19 |
| 20—24 |
| 25—29 |
| 30—34 |
| 35—39 |
| 40—44 |
| 45—49 |
| 50—54 |
| 55—59 |
| 60—64 |
| 65+ |
| TOTAL |

"—" INDICATES NET LOSS.

〈國文要約〉

韓國의 純 國內移動 推定, 1970-75

權　　泰　　煥

　　1970-75년의 센서스 期間동안의 한국의 純國內移動의 量과 率을 推定함에 있어서 우리는 行政的인 市와 各道內의 市로 構成된 都市地域과 이를 除外한 農村地域을 單位地域으로 使用하였다. 本推定에 使用된 方法은 「前進 센서스 生殘率 方法」으로서 0-4세 移動人口 推定을 除外하고는 本 「人口 및 發展問題 研究所 會報」 第4輯에 실린 1955-70년 사이의 純國內移動人口推定方法과 同一하다. 0-4세의 경우에는 1955-70년의 추정때 주어진 경우와는 다른 加重値를 使用하여 移動人口를 推定하였다.

　　本 推定을 위해서는 우선 준비작업으로서 1970년 센서스 資料와 1975년 센서스資料 사이의 比較性의 確保가 필요하였다. 1970-75년 센서스기간 사이에 우리나라에는 총 32개중 14개 市의 地域이 再調整되었고, 또한 새로이 3개의 邑이 市로 昇格하였다. 이와 같은 광범한 地域再調整과 地域地位의 變動으로 인한 推定單位地域의 比較性 상실문제는 1970년 센서스의 地域을 1975년의 것에 맞추어 조정함으로서 해결하였다.

　　本 推定의 質은 주로 單位地域間의 死亡水準의 차이와 海外移動率의 영향을 어느 정도 받는 것으로 보인다. 그러나 다행히 이 두가지 主要 오류의 要因은, 한 單位地域을 中心으로 볼 때, 서로 反對의 方向으로 作用하고 있어, 이 두 要因을 合하여 영향을 측정하면 오류의 정도는 극히 미미할 것으로 보인다. 즉 本 推定은 상당히 높은 신뢰도를 보일 것으로 판단된다.