

# THE EVOLUTION OF THE URBAN SYSTEM IN KOREA 1910-1970: AN ECONOMIC INTERPRETATION\*

by

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## I. INTRODUCTION

This paper attempts to review the process of urbanization in Korea within the context of a long-term dualistic model of development. Ordinarily, urbanization in Korea is examined in the light of the pressing problems of the seventies: the accelerating urbanization, the labor force explosion, the rapid change in the Korean value system, the ever-increasing pollution, etc. These issues are most important but it is also interesting to examine the historical record and to see how it all began. More particularly we should like to examine the extent to which economic models of dualistic development help in organizing and interpreting the facts available on the Korean urbanization process.

Considering the time period to be covered it is not possible to make use of all the facts now available on the pattern of Korean development and urbanization. The present paper while following the historical course of events is divided into four sections of unequal length. In the first two sections we make use of the body of hypotheses contained in dualistic models of economic development to interpret urbanization under the totalitarian system of the Japanese colonial administration. The dualistic model of economic development rests on the assumption of endogenously controlled growth and it appears worthwhile to define the consequences of the policies of a colonial administration whose decisions were framed by the requirements of the Japanese economy.

In a brief transitional section we discuss the progressive dislocation of the Korean urban system between 1944 and 1953. The main purpose is to indicate how the partition of the country and the destruction of the economy during the war further constrained urbanization.

In the final section we arrive at the analysis of the present urban system of South

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Korea viewed as endogenous process. It is possible to use again the dualistic model to show that under conditions of endogenously determined growth, the process of urbanization and industrialization agrees well with the expectations of the theory. However, the dualistic framework used by economists to explain nature and the structure of the transition from a rural-traditional society to an urban-modern economy implies a high degree of abstraction; we pay more attention to the factors affecting the spatial distribution of resources and economic activities. Namely, what are the forces explaining the mobility of capital and of labor, and what is the role of public investment and government policy in shaping the Korean system of cities.

## II. THE DUALISTIC MODEL OF DEVELOPMENT

### 2.1 Economic Development and Urbanization

The basic framework of the theory of dualistic development focuses on the urbanization-industrialization process as being at the core of economic growth and development. The concept of dualism contrasts a rural-traditional sector to a modern-industrial sector, and it can be given a fairly broad analytical content. The existence of dualism can be argued on the basis of differences in social organization and behavior, in the structure of production, in demographic behavior, in the dynamics of consumption patterns and the significant differences between the domestic and the foreign sector. Within such a context, development may be described as the expansion of the national economy with a slow convergence of the parameters of the two basic parts of the economy with the progressive—but not necessarily complete—disappearance of differences.

Recently, Kelley, Williamson and Cheetham (1972) have completed a very instructive simulation of the comparative static and dynamic implications of dualism using for the quantitative simulations a series of parameter estimates which correspond to the actual situation of several Asian countries. They were able to confirm and extend the predictions embodied in the theory while avoiding restrictive assumptions found in previous work. The dualistic theory of economic development as it has been shaped by Lewis, Fei and Ranis, Jorgenson and others set hypotheses about the historical course of output growth, capital accumulation, factor prices, the terms of trade and the rates of urbanization and industrialization in a growing economy. Its objectives are to chart major trends as constrained by the dualistic structure of the economy, whose major elements must be reviewed however briefly.<sup>(1)</sup>

### 2.2 Structural Elements for a Model of a Dualistic Economy

We have dualism in the *structure of consumption* where households in the rural sector exhibit a preference for rural-traditional consumer goods when the population in the urban-modern sector shows a greater preference for industrial goods. In both sectors consumer tastes shift gradually in favor of more manufactured consumer goods.

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(1) The following discussion summarized the salient points of the Kelly-Williamson-Cheetham study.

The *production technology* in the agricultural sector permits a high degree of substitution between labor and capital (the elasticity of substitution is larger than one). In the industrial sector the production process is more capital intensive than in agriculture and there is less possibility of substitution between labor and capital (the elasticity of substitution is close to or smaller than one).

Dualism exists also in the *pace and direction of technological progress*. Over time technological progress increases the efficiency of labor (through education and on-the-job training) and of capital (through the use of new production processes). But its rate and intensity differ for agriculture and industry: the historical evidence in Asian countries indicates that technical progress has tended to be labor-saving in industry and labor-using in agriculture; the reason being that agricultural technologies are typically endogenously developed and reflect the abundance of labor while industrial technologies are more commonly obtained from advanced economies where the relative scarcity of labor is reflected in different labor and capital costs.<sup>(2)</sup>

*Demographic dualism* exists in the form of significantly different population growth rates in the rural-traditional sector and in the urban-industrial sector. In the rural sector the fertility level is much higher than in the urban sector and while this differential is partially compensated for by a lower mortality rate in the urban area, we have a rural population growth which might be between 2 and 3 percent per year when the urban population growth rate is significantly below 2 percent. In the dualistic model when a household transfers from the traditional to the urban sector, its fertility level adjusts accordingly so that, everything else being equal, to a higher level of urbanization will correspond a lower aggregate population growth rate.

The supply of labor in both sectors is essentially derived from the natural increases in population in both areas and labor force participation rates. The transfer of labor force is influenced by the expected returns to labor in agriculture and industry. The *migration process* may not necessarily lead to equilibrium (in the sense that wage rates may be equalized and the income gap eliminated) because migration is affected by past conditions, both in the rural and in the urban sector, by migration costs and previous migration rates. (See Todaro, 1969.)

In the *financial sector* there are also impediments to investment in agriculture which may lead to the persistence of disequilibrium in the form of different rates of return by sector because of the specificity of capital to one sector in the short-run and of the limited institutional arrangements permitting the rechanneling of savings from one sector to the other. Fragmentation and disequilibrium on the factor markets must be explicitly recognized because historically we have persistent sectoral differences in labor incomes, wages and rates of return to capital in all Asian countries which formed the empirical basis for the K-W-C study.

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(2) This situation is referred to in the literature as the "induced innovation hypothesis."

### 2.3 Sensitivity of the Rate of Urbanization to Different Structural Parameters

A very large number of variables in this conceptual model can be traced over time and checked against the prediction of the theory. Here we are only interested in the pattern of industrialization and urbanization predicted by the theory. The value of the K-W-C study for our purpose is that it also describes the sensitivity of the rate of urbanization in our growing economy to specific parameters in the model. By comparing the policy choices made by the colonial government in Korea with these sensitivity tests we can try to evaluate their impact on urbanization for the period 1910-1944 and, further, how the legacy of that period affects the current pattern of urbanization.

The *rate* of urbanization, or equivalently the rate of labor redistribution to the urban-industrial sector, can be shown to depend on the aggregate capital-labor ratio of the economy. When this ratio rises the rate of urbanization increases. The model indicates also that in the early phases of development the rate of change in the capital-labor ratio is rapid because of the initial low level of capital use. At higher levels of per capita output the rate of urbanization slows down following the progressive stabilization of the capital-labor ratio. The most interesting aspect of the model for our purpose lies in the *relative timing of urbanization and industrialization*. This dualistic model of growth predicts that the *rate* of industrialization rises faster than the *rate* of urbanization in the early phases of growth and that the *level* of industrialization (i.e., the share of total output coming from the modern sector) increases faster than the *level* of urbanization (i.e., the percentage of urbanized population). At later stages of development the rate of urbanization accelerates (see Figures 1. a and 1. b).

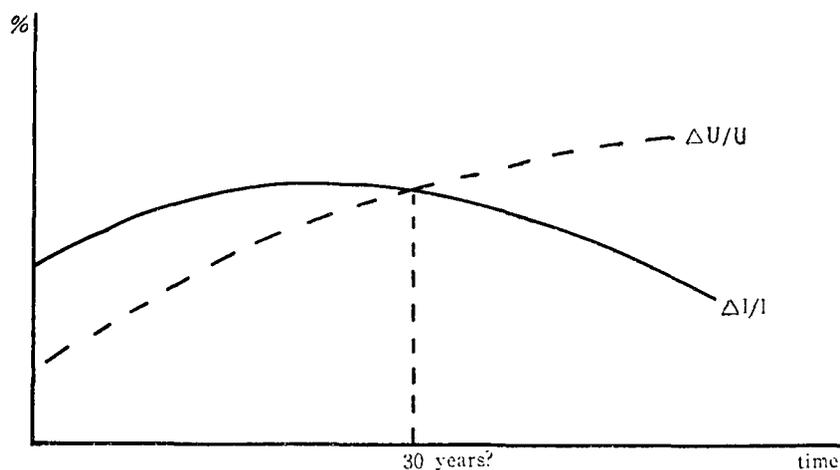
**Urbanization and the Rate of Population Growth.** Quantitative simulation of the model indicates that the initial population growth rate in the rural-traditional sector is very important to the pattern of urbanization and—not unexpectedly—that its level has cumulative dynamic effects. The K-W-C study shows that if the initial rural population growth rate could be reduced from 3 to 1 percent a year we would have a much higher level of urbanization after 50 years and the rate of redistribution of the labor force would be accelerated. This lower level in the initial rural growth rate leads to an increase of the rate of per capita output growth also.

**Sensitivity to the Structure of Demand and Tastes.** In a dynamic sense the transfer of population from the high fertility rural sector to the lower fertility modern sector has combined long-run benefits. In the K-W-C analysis consumption demand shifts over the long-run also plays an important role. With increasing income levels, Engel effects cause a shift to the urban-industrial sector of production and induce also higher levels of productivity and output. In terms of impact on urbanization-industrialization, the K-W-C gives as important a role to the structure of demand as to increasing savings rates, and indicates that both have strong cumulative effects by raising the rate of growth of the capital-labor ratio and stimulating the industrial output share.

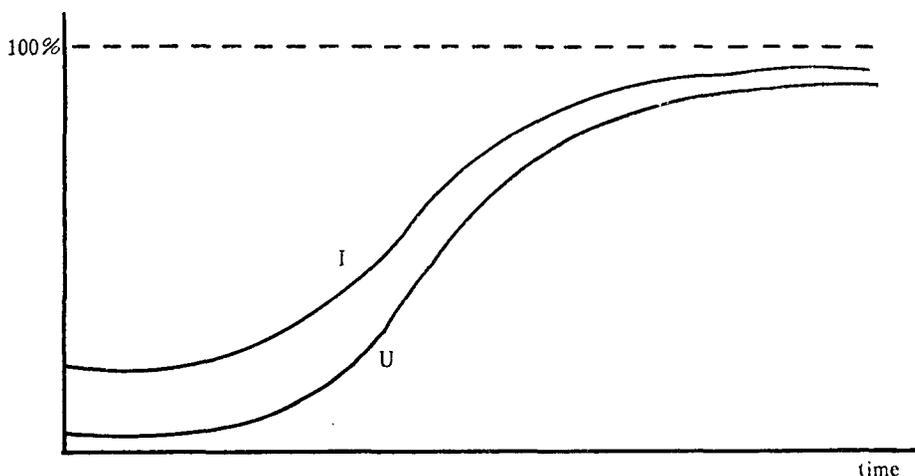
In the case of export demand, the same situation would prevail: if export demand goes

Figure 1: THEORETICAL PATTERNS OF URBANIZATION AND INDUSTRIALIZATION

A. Theoretical Evolution of the Levels of Urbanization and Industrialization



B. Changing Rates of Urbanization and Industrialization Over Time



to the output of the urban-industrial sector, it will have a positive impact on the rates of industrial output growth, overall output growth and urbanization. This could be described as *export dualism* because the type of external demand by favoring one sector will tend to give more weight to that sector in the national structure.

**Sensitivity to Technological Progress.** Increase in the productivity of labor and capital has a beneficial impact on the rate of growth and the per capita level of output. It also leads to a transfer of population to the urban sector with the attendant favorable effects already noted.

**Sensitivity of Migration.** The last important result of the K-W-C study for our purpose is that "the rate of migration is more sensitive to the macro-variables of rates of technical progress, savings rates, population growth rates and the elasticities of substitution and consumption demand than to a change in the parameters relating to migration behavior and costs." (Kelley, Williamson, Cheetham, 1966, p. 285.)

### III. THE KOREAN PATTERN OF URBANIZATION UNDER JAPANESE RULE

#### 3.1. The Urbanization Hypothesis and the Sources of Evidence

Once we have theoretical guidelines concerning desirable direction of structural change, we can examine the record of the Japanese administration and its impact on the urbanization process. It will be seen that most of the policy choices made by the Japanese Government-General while leading to apparent urbanization worked against the desirable trends of the theoretical model. The *main hypothesis* for the colonial period is that Japan was much more advanced along the path of dualistic growth toward a reduction of its intersectoral differentials when it took forceful control of Korea.<sup>(3)</sup> Through its totalitarian manipulation of the political, institutional and economic system it imposed the policies that were seen as most advantageous to the home economy and drove Korea away from its "expected development path" with consequences that were altogether negative for the long-run stability of urbanization.

Together with the basic information dispersed in the censuses of the period and various partial studies and surveys we have now several analytical studies of separate facets of Korean growth and urbanization which taken together provide a reliable core for the discussion of the period. In an important study Sang-Chul Suh (1966) compiled estimates of the rate of growth and composition of the Korean output for the period 1910-1962. In a separate effort Sung Hwan Ban (1971) and (1973) has compiled new estimates of the growth of Korean agriculture for all Korea until 1944 and for South Korea separately between 1918 and 1968. The basic information on the demographic evolution of the Korean population for the Japanese period has been systematically reviewed by Yun Shik Chang (1966) in relation to social change. In a series of papers, Kyung Hi Hong (1962, 1963, 1965, 1966) took the viewpoint of the geographer to describe patterns of change in the urban system between 1910 and 1960. A thorough demographic analysis of the Korean population has been recently completed by Kwon (1972). Finally, the size distribution of all Korean urban areas between 1915 and 1940 and of South Korean cities between 1949 and 1970 is presented in the Appendix. Using this information we can compare the Korean situation with the predictions of the theoretical model.

#### 3.2 Initial Conditions for Urbanization and Growth.

There is convergent set of reasons for selecting the year 1910 as the starting point for

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(3) See William Lockwood (1954), *The Economic Development of Japan*.

the study of urbanization. Before that, we have what Korean historians call the seclusion period of the Yi Dynasty (1637-1876) where external trade was reduced to almost absolutely nothing and internal business activities (a prime engine of urbanization) were repressed. A minimum amount of urbanization took place with a small number of administrative towns and military garrisons; there was limited changes in this embryonic urban system, only small scale fluctuations around the traditional equilibrium. Then we have the transitional period 1876-1910 of opening to outside influences, most significantly of progressive Japanese interference, from the signature of the Commercial Kangwha Treaty forced upon Korea by Japan in 1876 to the complete annexation of 1910.

During this second period we have a series of institutional changes toward the modernization and revitalization of an agrarian economy in serious disarray.<sup>(4)</sup> In this transitional phase Japan made every effort to establish a monopoly position over Korea's external trade especially after the Japanese victory over Russia in 1905. While trade with Japan increased rapidly during this period, it remained small in absolute value; its main significance was in establishing Japanese control over the modern business and banking sector, including the reform of the monetary system. Its qualitative importance is great: it saw the steady and progressively overwhelming control by Japanese interests of the diffusion system of economic, institutional and technological innovations in Korea. From a quantitative viewpoint neither industrialization nor urbanization had been set in motion, and information of a comprehensive nature is not available for that period. A set of estimates made by the Japanese government of the size distribution of cities for the year

Table 1. LEVELS AND RATES OF URBANIZATION 1915-1970

	Total Population (Koreans in Korea)	Areas over 20,000	Urbanization	
			Level (B/A)	Rate of Change
	A	B		
		All Korea		
1915	16,278,389	497,598	3.11	2.62
1920	17,288,989	562,802	3.25	
1925	19,522,945	931,292	4.77	13.09
1930	21,058,305	1,452,457	6.89	11.19
1935	22,899,038	2,115,028	9.25	9.12
1940	24,326,327	3,894,833	16.01	16.83
		South Korea		
1949	20,188,641	3,946,343	19.54	13.65
1955	21,526,374	6,641,663	30.85	
1960	24,989,241	9,255,444	37.03	7.87
1966	29,192,762	13,596,882	46.57	9.38
1970	31,460,494	17,624,000	56.01	5.92

(based on the data presented in the Appendix. See text for a discussion of the reliability of a single index of urbanization)

(4) See Ching-Young Choe (1972), *The Rule of the Tae won gun* for a succinct but effective description of the economic and social problems of the late Yi period,

1915 is presented in the Appendix. If we consider only the places with more than 20,000 people as urbanized, with an estimated total population of 15,958 million we have a level of urbanization of 3.11 percent (including all the places listed we have an urbanization level of 4.73 percent): Korea was then a purely agrarian society.

### 3.3 The Japanese Policy toward the Korean Rural-Traditional Sector.

In his thorough analysis of the period Sung Hwan Ban (1973) shows that in terms of observed growth it is possible to distinguish four periods for the agriculture of all Korea. In the first phase of the Japanese era from 1910 to 1918 the adjusted gross rate of agricultural output was very high at a level of 6.48 percent per year. This period was followed by stagnation between 1918 and 1929 when gross output grew at less than 1 percent a year (0.68). The third period was again one of higher growth at an average of 2.68 percent yearly between 1929 and 1938. A notable difference with the first period is that the record indicates for the first time significant gains in the overall productivity of the sector. The end of the Japanese period was marked by sharp fluctuations in output and no gain in productivity. For the entire colonial period Ban suggests an upper limit of agricultural growth 1.75 percent yearly for total output between 1910 and 1942, and in his opinion "it seems relatively safe...to assume that under the Japanese colonial rule the gross agricultural output in Korea grew at an annual compound rate of about 1.0 percent from 1918 to 1942." (Ban, 1973, p.16)

These trends can be easily correlated with the shifts in the agricultural policy of the Government General of Korea according to the fortunes of the Japanese Empire. At the time of annexation Japan had already started the development of agriculture in Formosa and was looking for controlled sources of food supply.<sup>(5)</sup> On the basis of the first modern land survey and through the adoption of the Japanese civil law in 1912, the control of the land was clarified (most frequently to the benefit of Japanese settlers) and in addition most of the land from the royal estate was sold to private parties (again mostly to Japanese) leading to the control of the sector by the Oriental Development Company for all commercialized farm products. The expansion of output during the first period was due essentially to the growth of acreage under cultivation. Most of the investment effort of the period was directed to agriculture and related activities under the influence of the Corporation Law which had for main effect to restrict investment in manufacturing activities in the nonagricultural sector.<sup>(6)</sup>

The second phase of low overall growth rate of output may be explained by the combined effects of the repeal of the Corporation Law in 1923 allowing Japanese investors to invest in manufacturing and possibly the strong disincentive of very high taxes and very high rents forced upon Korean farmers to obtain rice for shipment to Japan following the 1918 rice riots in Japan.<sup>(7)</sup> In addition, the process of land reclamation had run its course.

(5) See Hayami (1972).

(6) See Bank of Chōsen, *Economic History of Chōsen*, 1920 for a comprehensive report on the first 10 years of Japanese control.

(7) See Y. Hayami (1972), "Rice Policy in Japan's Economic Development,"

In the third phase, rising productivity and expansion coincides with the expanding use of modern inputs such as fertilizers and pesticides under the pressure of expanding food requirements both to feed a larger population in Japan and Korea and in anticipation of the war effort. The final phase of irregular output may be attributed to the disturbances of the war effort on Japan and its colony following the Manchurian incident and the expansion of the Sino-Japanese War and to the forced shift away from rice to cotton following overproduction in Japan.

From the viewpoint of urbanization it must be noted that economic interaction between the Korean rural-traditional sector and the Korean modern-industrial sector was blocked. Over the entire period most of the gains in the agricultural sector were siphoned out of the Korean society through the combined effects of land transfers to the Japanese, increasingly high levels of rents imposed on the Korean tenants and heavy taxation all under strict police control with the stagnation and eventual decline of Korean (vs. Japanese) per capita income, there was little expansion of Korean demand for Korean manufactured goods to create an endogenous self-sustained process of urbanization.<sup>(8)</sup> Over the entire period, the evidence indicates that the economic welfare of the rural-traditional sector deteriorated steadily: the number of tenants increased in percentage and per capita consumption levels declined. The productivity gains which contribute to the growth and urbanization process were mostly circumscribed to the large Japanese-owned farms which shipped 60 percent of the total rice export to Japan. Most tellingly, the level of agricultural exports increased much more rapidly than agricultural output in the face of an increasing population indicating a *decline* in per capita food consumption for the Korean population.

### 3.4 Growth of the Urban-Industrial Sector.

As mentioned previously, the growth of manufacturing was slow until 1922 because of the desire to avoid activities which would be competitive with those of Japan (a policy reflected in the application of the Corporation Law). This sector was entirely controlled by the Japanese and produced exclusively for Japan.<sup>(9)</sup> Over the entire period 1910—1941 the speed of industrialization was extremely rapid especially in the mining and manufacturing sectors. In his path-breaking study Suh has estimated the net value of the Commodity Product by Industrial Origin (see Table 2) and its percentage distribution (see Table 3). These data permit us to evaluate the rate of industrialization and its level over time in a relatively accurate manner except for the fact that Suh's estimates could not include several sectors of great importance in the urbanization process: construction, trade, services

(8) The following passage from Hoon K. Lee (1936) quoted by S.C. Suh (1966) is indicative of the situation: "The maximum amount of rent runs up as high as four-fifth or even nine-tenth of the crop and the minimum amount goes down as low as one-third and one-fifth. The most prevalent amount is about one-half of yield. In certain localities, however, like Namwon county, North Cholla province, about four-fifth of the yield is paid in rent. In North Chunchong province the prevalent amount of rent is about seven-tenths. These high rents result from a gradual raising of the amount by landlords at the time of new leases."

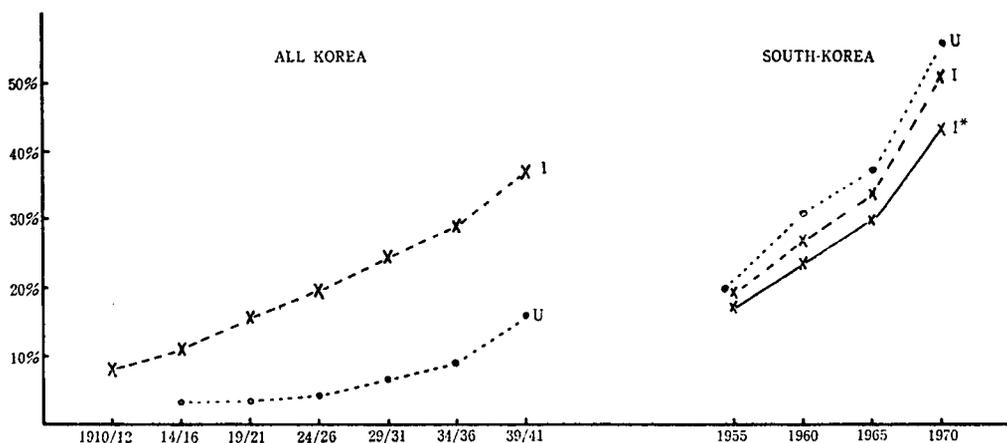
(9) See Bank of Chōsen (1920), pages 152-153 for the breakdown of manufacturing firms by nationality of ownership, value of output and types in 1917.

**Table 2. NET VALUE OF COMMODITY-PRODUCT BY INDUSTRIAL ORIGIN 1910~1941**  
(Amount in Million Yen at 1929~31 Prices)

Annual Average	Agriculture (1)	Forestry (2)	Fishery (3)	Mining (4)	Manufacturing (5)	Total (6)
1910-12	433.7	28.6	10.3	5.0	35.6	513.2
1914-16	556.8	32.7	19.3	8.1	64.6	681.5
1919-21	571.2	23.6	25.5	11.1	122.2	753.6
1924-26	587.8	40.9	35.8	13.4	199.6	877.5
1929-31	644.6	59.5	51.3	19.5	204.8	979.7
1934-36	636.5	101.9	71.6	37.3	397.7	1,245.0
1939-41	703.3	117.4	102.9	76.8	523.2	1,523.6

Source: S.C. Suh(1966), p. 39.

**Figure 2. : LEVELS OF INDUSTRIALIZATION AND URBANIZATION:**  
ALL KOREA 1910-1940; SOUTH-KOREA 1955-1970



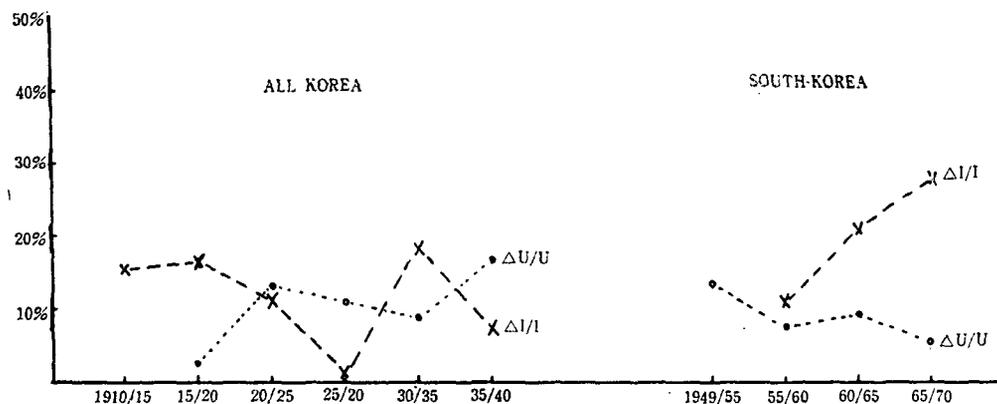
- I: Mining and Manufacturing as a share of total commodity product (Suh's definition)  
 I\* Share of the "modern sector" in the GNP ("Modern sector": Mining, Manufacturing, Construction, Transportation, Utilities, Banking Insurance)  
 U: Urbanization level: Percentage of total population in areas over 20,000 people.

**Table 3. PERCENTAGE DISTRIBUTION OF COMMODITY-PRODUCT BY INDUSTRIAL ORIGIN 1910-1941(Based on Values at Constant Prices)**

Period	Agriculture (1)	Forestry (2)	Fishery (3)	Mining (4)	Manufacturing (5)
1910-12	84.6	5.6	2.0	0.9	6.9
1914-16	81.7	4.8	2.8	1.2	9.5
1919-21	75.8	3.1	3.4	1.5	16.2
1924-26	67.0	4.7	4.0	1.5	22.8
1929-31	65.7	6.1	5.2	2.1	20.9
1934-36	51.1	8.2	5.7	3.1	31.9
1939-41	46.2	7.7	6.8	5.0	34.3

Source: S.C. Suh (1966), p. 46.

Figure 3. RATES OF INDUSTRIALIZATION AND URBANIZATION



and public utilities.

During the period one could distinguish two phases: the early twenties with the development of light manufacturing based on food products and textiles to take advantage of low wages in Korea, with a weak local Korean demand for the reasons explained above, much of the output was exported to Japan. This pattern covered much of the twenties and there was no significant change in the structure of the urban-industrial sector. During the 1930's under the change of objectives of Japan, Korea's role was modified from that of a basic supplier of food products and cheap manufactured goods to

Table 4. KOREA: LEVELS AND RATES OF INDUSTRIALIZATION AND URBANIZATION, 1910-1970

	$I^*$ (%)	$U$ (%)	$\Delta I/I^*$ (%)	$\Delta U/U$ (%)
All Korea				
1910-12	8.3**	—	—	—
1914-16	11.3	3.1	15.8	—
1919-21	15.7	3.2	16.7	2.6
1924-26	19.9	4.8	11.9	13.1
1929-31	24.5	6.9	1.3	11.2
1934-36	28.9	9.3	18.8	9.1
1939-41	36.9	16.0	7.6	16.8
South Korea				
1949	—	19.5	—	—
1950	—	—	?	—
1955	19.0	30.8	?	13.6
1960	26.7	37.0	11.0	7.9
1965	33.5	46.6	21.2	9.4
1970	52.0	56.0	27.6	5.9

\* Industrialization levels and rates are based on the share of mining and manufacturing in the commodity product.

\*\* The share of the industrial sector may be overstated because of the Japanese reporting procedures, especially in the very early years.

that of a forward base in the intensifying war effort. During the thirties industrial output increased at a very high rate and consisted mostly of heavy producers' goods and mining products not required by the local Korean market but by the objectives of the Empire.

### 3.5. Japanese Policies and Changes in the Parameters of the Dualistic Structure of Korea.

Examination of the aggregate data indicates that on the surface the Korean pattern of growth follows the predictions of the theory. The level of industrialization increased very rapidly: for the entire period Suh estimates an average annual growth rate for the total commodity product of 3.3 percent which is close to Japan's growth rate in the early stages of growth (3.7%) (Suh, 1966, p. 47). But an examination of the parameters of the dualistic structure indicates that Korea did not experience the structural shifts that the theory predicts for an endogenously induced urbanization-industrialization process.

In the case of the *demographic parameters* the period of Japanese control did not lead to the expected overall decline in the population growth rate. While the improvement in public health led to a reduction in the crude death rate (see Table 5), the level of fertility for the entire period remained close to the biological maximum. (See Table 5) This situation led to a slowly improving life expectation at birth and a rapidly growing population. Despite apparent urbanization, the shift from the high fertility preference of the rural-traditional sector to the low fertility preference of the urban-modern sector did not occur at any significant level. According to Chang's calculation, life expectation at

**Table 5. CRUDE DEATH RATES, CRUDE BIRTH RATES AND CRUDE GROWTH RATES (PER 1,000)**

	Crude Death Rate	Crude Birth Rate	Implicit Growth Rate
before 1925	26.2	44.9	18.7
1926—1930	26.2	44.9	18.7
1931—1935	23.9	44.1	20.2
1936—1940	23.2	43.8	20.6

Source: Kwon (1972), pp. 30 and 200.

birth for a Korean was significantly lower than for a Japanese resident in Korea or, on a relative basis, approximately 20 percent shorter (see Table 6).

**Table 6. LIFE EXPECTATION AT BIRTH IN KOREA, 1925—1940**

		1925—1930	1930—1935	1935—1940
Korean:	Male	37.85	40.37	40.41
	Female	37.19	40.05	41.67
Japanese Residents:	Male	44.5	46.2	n.a.
	Female	45.0	47.7	n.a.

Source: Y. Chang (1966), pp. 277-278. (Kwon (1972), Table 2. OC, p. 78, provides somewhat different estimates for the Korean population from those of Chang. Kwon's estimates are reported).

The expected shifts in the *productivity of labor* and capital cannot be examined at length but again in the case of labor we do not have the improvements predicted by the endo-

genous theory of growth: improvement in labor efficiency through investment in education was carefully and strictly controlled. Beginning in 1910 the entire educational system was placed under Japanese control, to replace the system of Sodang which was very archaic, though possessing strong Korean values, with modern schools which would provide a very basic modern education and the Japanese view of the world. The main interest of the government was to obtain a cheap labor force that could operate within a modern system; access to high school and higher education instruction was regulated and advanced education was mostly reserved for local Japanese children.<sup>(10)</sup> In Table 3 the impact of the Japanese educational policy can be visualized by considering the illiteracy level reported in the 1966 census when all age groups over 45 were educated under the Japanese. Through their indifference to education past the primary level, the Japanese slowed down the rate of increase in labor productivity which is directly favorable to growth and urbanization. Indirectly, they blocked a possible shift in preference for lower fertility levels. In addition, Table 3 understates the impact of Japanese policies because it does not reflect length of schooling.

Both because of the declining standard of living and the limited dissemination of new attitudes through education, the *shift in tastes toward consumption of more urban goods* did not take place among the majority of the Korean population. As mentioned previously,

**Table 7. ILLITERACY RATES BY AGE GROUPS IN KOREA IN 1966**

Age Group	Illiterates	Total Size of the Group	Illiteracy Rate
13-19	63,673	3,982,272	.01
20-24	52,199	2,298,683	.02
25-29	94,227	2,249,334	.04
30-34	140,474	1,959,774	.07
35-39	191,151	1,552,795	.12
40-44	243,503	1,346,826	.18
45-49	274,673	1,116,536	.24
50-54	304,400	947,637	.32
55-59	323,632	788,723	.41
60-64	284,610	550,953	.51
65-69	265,682	437,389	.48
70-74	178,678	267,288	.66
75-79	<u>123,994</u>	<u>171,669</u>	<u>.72</u>
Total	2,540,896	17,669,879	.14

Source: October 1, 1966 Population Census.

Note: All individuals over the age of 40 were of school age during the period of Japanese control. Length of schooling is not reflected in this Table.

(10) Y. Chang (1966) reports that there were only 250 Koreans attending the only university in 1940 out of a total population of 24.3 million Koreans. The percentage of Korean children between 6 and 24 attending school was 5.54 in 1925, 6.06 in 1930, 8.73 in 1935 and 15.60 in 1940. (Chang, Table 3.2, p. 86).

the K-W-C study has shown that the long term dynamic effects of a change in consumer taste have a strong positive impact on sustainable urbanization.<sup>(11)</sup>

### 3.6 The Spatial Distribution of the Korean Population and Urbanization.

While it is now apparent that many of the requirements for the endogenous transformation of Korea were blocked by Japanese policies, urbanization nonetheless took place. With the steadily deteriorating economic conditions in rural areas and the accelerating growth of the population, we have a transfer of population to nonagricultural activities without consideration of the rate of industrialization, and emigration to other Japanese controlled areas.

Following the land survey which gave their land to the Japanese and in the wake of the Independence Uprising in 1919, an estimated 250,000 Koreans emigrated to Manchuria where they generally settled as farmers. This flow of migrants released some of the domestic pressures, and with the increase in population and its rate of growth over time, more and more people migrated either to Japan or to Manchuria as cheap labor (see Table 8).

As seen before, by controlling the growth of manufacturing at all times and by pushing the growth of heavy industry in the 1930's while preventing the growth of light manufacturing oriented toward the domestic consumer markets, Japan effectively blocked the growth of a native Korean sector. Thus, internally we expect the rate of growth of

Table 8. KOREAN AND JAPANESE MIGRANTS, 1887-1940

	KOREANS		JAPANESE
	In Japan	In Manchuria	In Korea
1887	1	—	4,521
1897	12	—	12,303
1907	303	—	42,460
1908	459	—	81,754
1909	459	—	98,001
1910	790	200,000(?)	126,168
—			
1925	121,000	533,000	444,340
1930	419,009	607,000	527,016
1935	625,000	667,000	619,005
1940	1,265,049	1,450,284	707,337

Source: Yun Shik Chang (1966), pp. 21, 28.

Note: on the basis of these figures, the average annual growth rates of the global Korean population (Korea+Manchuria+Japan) was 1.82 for 1925-30, 1.89 for 1930-35 and 2.35 for 1935-40.

Korean cities to be heavily predictable on factors entirely controlled by the Japanese:

a) the location of agricultural processing firms for the export of food products along the coast of Cholla province.

(11) S.C. Suh (1966, p. 137) quotes the estimate "that per capita use of rice by landlords during the late 1930's was over 10 *sok*s whereas the per capita use for tenants was even less than 0.4 *sok*s."

b) the location of new mining and manufacturing industries particularly in the northern part of the country.

c) the expansion of military garrisons and entrepots towns along the path of the South Manchurian Railway.

These expectations are borne out by the size-distribution of cities presented in the Appendix (no map of the fastest growing centers is provided in order to save space).

#### IV. THE PERIOD OF DISLOCATION, 1942-1953

From the viewpoint of urbanization—and maybe from any other—there is little of positive value to report for the period 1942-1953. This entire decade was a time of accelerating dislocation of the Korean urban system and of the economy. During World War II large segments of the Korean population moved according to the requirements of the Japanese war effort. After the Japanese surrender, Korea was faced with a new set of initial conditions for the urbanization process.

1) It had a population with a high growth rate, with consumption patterns oriented toward agricultural-traditional goods, a low level of education and an income level which could not justify a significant level of demand for manufactured urban consumer goods.

2) It had an industrial structure geared to the Japanese market and totally unsuited to the level of income and the domestic structure of demand. In addition, this industry had neither qualified Korean management, nor working capital to run it.

3) It had to absorb a large flow of Korean migrants returning from Japan and Manchuria.

4) On the positive side, the Japanese had left an improved transportation system, a network of public utilities and a system of city planning for the development of the cities (but no planners!).

The Korean War destroyed most of what had been left by the Japanese after the liberation of Korea: the buildings of the largest cities, most of the industrial equipment, the transportation system and the public utilities. Under the Japanese, the division of labor in Korea had been performed indirectly through the structure of the Japanese economy. Rice and high quality food products from the South were exported to Japan to sustain the expansion of Japan's modern sector. Heavy industries in the North were producing mostly producer goods for Japan with a technology corresponding to the factor proportions found in Japan. The South had mostly light manufacturing for consumer goods which by then were no longer in competition with Japan's domestic sector. As long as Japan maintained control there was no need for complementarity between the rural-traditional sector and the urban-industrial sector, nor between the North and the South.<sup>(12)</sup> But there was the potential for complementarity and trade adjustment. Even this potential was dissipated by the Korean War which froze the partition of the country. *For all*

(12) The most significant intra-Korea regional differentiation was in agriculture. Because the South was forced to export its rice to Japan it had to import beans and lower quality cereals from the North where quality rice could not be grown (Suh, 1966, Table V-8, p. 166).

*practical purposes the end of the Korean War marked a new set of initial conditions for urbanization under more difficult circumstances than in 1910:*

a) There was a higher population growth rate of the order of 2.9 per year instead of possibly less than 1.2 in 1910 (Chang).

b) There was a system of "cities" which was extensive and growing very rapidly because of the refugees from Manchuria, Japan, North Korea and the devastated country side.

c) Despite the level of urbanization the industrial sector had to be recreated entirely under endogenous conditions with no significant markets for manufactured goods in view of very low income levels.

In many ways we have at that time a *textbook limiting case of "overurbanization"*: for exogenous reasons the rate of urbanization was *large and positive* while the rate of industrialization was *very large and negative* driving the level of industrial output rapidly toward zero.<sup>(13)</sup>

## V. THE ENDOGENOUS GROWTH OF THE URBAN SYSTEM IN SOUTH KOREA, 1953-1970

### 5.1 Overview of Major Trends

As we move closer to the current period it becomes more important to go beyond description of aggregates and to examine the urban system in detail. From the new initial conditions at the end of the Korean War the South Korean economy went through three distinct periods. The period 1953—1958 was a period of instability and reorganization of the economy, much of it dependent upon the availability of foreign aid. The second period 1959—1962 was one of stagnation because of the inability of the Rhee government to go much beyond the simple objective of foreign aid maximization. In the last period, after the administrative, economic and financial reforms of 1963—65<sup>(14)</sup>, the new policies of achieving maximum growth rates have had a profound impact on the urban system. The per capita GNP which had been declining at the end of the Rhee period grew at a rate of about 9 percent per year. By then all the desirable shifts in structural parameters indicated by the dualistic model were taking place: shift in consumer preferences, decline in fertility, increasing rates of savings, development of an export sector based on urban-manufactured goods, rapid increases in saving and steady shifts upwards in labor productivity and educational levels.

The highest *rate* of urbanization was observed between 1949 and 1955 when masses of refugees were flocking to the relatively safe cities and while the *level* of urbanization had gone up steadily, its apparent overall rate was slowing down progressively from 13.6 percent

(13) This pattern is most graphically visible in the economic indicators, in particular through the explosive rate of inflation during that period.

(14) See Ronald McKinnon, *Money and Capital in Economic Development* for a very interesting interpretation of these reforms.

yearly between 1949 and 1955 to 5.9 percent between 1966 and 1970. (We shall return to this point later.)

The high rates of urbanization were due to the inability of the *agricultural sector* to absorb more labor despite its output growth rate which was much higher than under the Japanese. Following the land reform, the increase in labor input and the use of fertilizers led to an average compounded growth rate of 4.75 between 1956—1958 and 1966—1968 (S.H. Ban, 1973, p.17). In the urban-industrial sector the entire period is marked by the rapid growth rate of *manufacturing* and of *social overhead* (construction, transportation, storage, communication, and utilities). As this phase of Korean growth and development is much better known we can look directly at the changes in the urban structure.<sup>(15)</sup>

## 5.2 The Differentiated Growth of South Korean Cities

The remarkable economic record of the postwar period has contributed to the restoration of a better balance between the levels of industrialization and of urbanization. But once again government policies have shaped the growth of the urban system. On the basis of the limited natural resources of South Korea, an all-out effort was made to develop manufacturing exports, a move which the K-W-C study has shown to be highly favorable in the long-run. But as a side effect, the policy has accentuated the existing imbalance among Korean cities and regions.

All theories of urban growth emphasize the function of an urban system as a system for the diffusion of innovations through a hierarchical and polarized network of cities.

Table 9. EVOLUTION OF THE URBAN POPULATION BY CITY SIZE 1955—1970

Class Size (in 1,000)	Growth Rate 1955—1970	Growth Rate 1960—1970	Growth Rate 1966—1970	Population Distribution in 1970
over 1,000	6.7	7.5	9.0	57.1%
500—1,000	5.0	6.0	7.0	17.3%
200—500	3.9	5.0	5.5	6.7%
100—200	3.3	4.0	4.5	10.4%
75—100	3.4	3.0	3.5	7.2%
50—75	0.6	1.5	2.0	1.3%
Average	5.6	6.4	7.2	100.0%
	Yearly Rate 1955—1960	Yearly Rate 1960—1966	Yearly Rate 1966—1970	
All <i>Shis</i>	4.5	4.8	7.2	
All <i>Ups</i>	3.3	2.3	1.5	
National Population Growth Rate	2.9	2.7	1.9(?)	

(15) In constant 1965 prices, the social overhead sector increased from 22.38 to 198.86 billion wons between 1955 and 1970 for an annual growth rate of 52.6%. Manufacturing grew from 48.78 to 447.43 billion wons for a rate of 54.5%. See Bank of Korea, *Economic Yearbook of 1972*.

Economists emphasize the allocation of capital and the migration of labor in the process of urban growth. Without any doubt, the export-first policy of the government has led to an intense importation of foreign technology which has percolated only slowly down the urban hierarchy.

If we classify the urban areas officially designated as "shis" into 6 classes according to size we find that over the entire period the larger cities have grown the fastest, and that the overall growth rate of the *ũps* has been below that of the total population.<sup>(16)</sup> These growth rates are reported in Table 9. The rapid growth of the larger cities and the stagnation of the towns between 20,000 and 50,000 render the aggregate average urbanization rate of limited value for planning and policy purposes. It explains also the apparent decline of the overall pace of urbanization reported earlier (see also Figure 3). If we refer to the polarization scheme of Figure 4, the fastest growing areas are the largest cities of Seoul and Pusan *and* the cluster of smaller areas directly dependent upon them. What are the economic forces behind this pattern of growth?

### 5.3 The Location of Manufacturing Firms: The Impact of Overhead Investment and of Government Policy

Despite its higher growth rate, the agricultural sector could not offer a domestic market strong enough to stimulate the demand for urban-industrial goods at a pace fast enough to provide employment for a large urban labor force. The export-first policy implied the use of foreign techniques which will be diffused from the top of the urban hierarchy. New manufacturing centers will locate at the largest urban centers or within their area of control.<sup>(17)</sup>

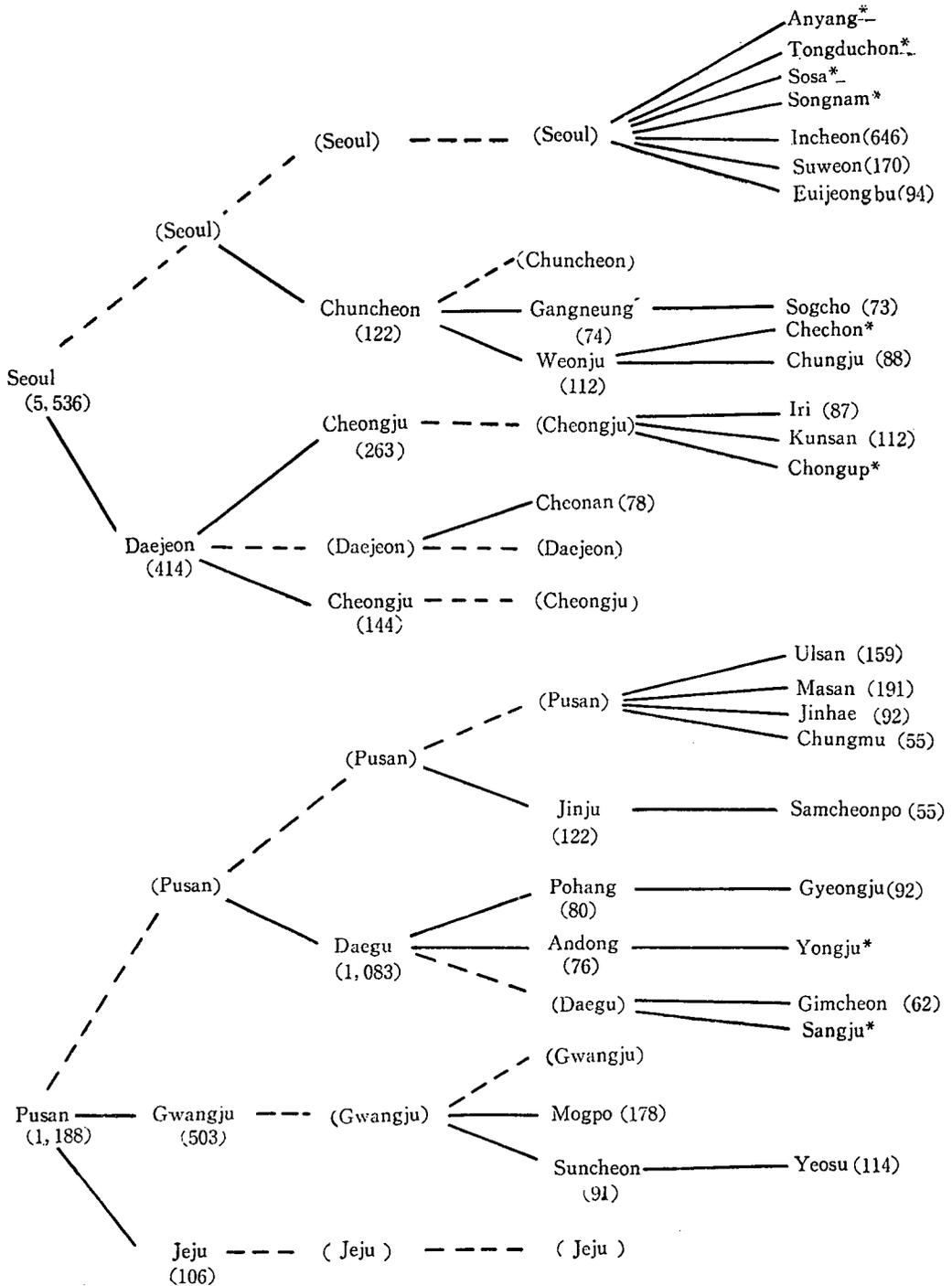
The location of new firms will be influenced by *access* to the export markets and raw materials. Since the import content of Korean exports is high, proximity to the main ports of Seoul and Pusan is important because it reduces transshipment costs. Industry is also extremely sensitive to the quality of the infrastructure: the growth rate of investment of *social overhead* has been extremely high but it has concentrated on the more developed urban areas first where the expected rate of return on capital in the short-run was the highest. Finally, industrial firms are sensitive to the quality of business services available in a given location, or more generally in *social and business amenities*. This level of services can be evaluated in four separate ways: (a) by the number of commodity products available in a given city, (b) by the number of professional categories present in the city (lawyers, tax consultants, etc.), (c) by the type of public facilities (hospitals, banks, newspapers, etc.) or (d) the degree of sophistication of the local educational system. These

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(16) However, it was expected that nine *ũps* would be designated by the end of March 1973 as "shis" now that their population is above 50,000. They are: Anyang, Chechon, Yungju, Sosa, Mukho, Tongduchon, Sangju, Songtan, Chongup and Songnam (the former Kwangju in Kyonggi-do). At present only three of these localities have been promoted:

(17) Annable (1971) lists seven principal channels for the transfer of new technology: (1) International organizations (UNDP, UNCSAT, UNIDO, AID, churches...), (2) Branch plants

Figure 4. TENTATIVE POLARIZATION SCHEME OF SOUTH-KOREAN CITIES



1970 city populations are given in parentheses (in thousands)

\* Starred centres: ũps with population over 50,000 which qualify for a promotion to the status of shjs.

four measures have been used for the 32 *shis* existing in 1970 and the results underline again the degree of disparity among areas. They are presented in the Appendix.<sup>(18)</sup>

Due to strong externalities among firms and industries of the modern sector, the growth of the largest cities (and of their satellites) has accelerated over time and increased the disparities between regions.

#### 5.4. The Redistribution of Population: Patterns of Urban Migration

It is not feasible to discuss the economics of migration at length in this paper. In the language of economists people migrate to maximize their expected utility which may be broken into two parts: (a) the level of expected urban income compared to expected income in agriculture and (b) access to public services available to urban areas only (see Todaro, 1969; Harris and Todaro, 1970). Wages are higher in the larger urban areas, the rate of employment creation has been higher there and until now the distribution of public services has been highly skewed in favor of the largest cities. The net result has been the accelerating rate of growth of select areas at the expense of less favored regions (see B. Renaud, 1973).

If we focus on the wage differential, the 1967 and 1970 wage surveys confirm the overall trends. The wage level is the highest in the more industrialized areas and, in addition, we have a dualistic structure internal to each industry where the larger establishments have higher wages. These large establishments are found in the larger cities. Preliminary investigation indicates that the average nominal wage level by city declines with city size as is the case in other countries. The wage level in both agriculture and in industry has been rising in the sixties, but the wage gap has been increasing because of the record performance of the modern sector. Consequently, migration flows have been the strongest for the large export cities.

#### 5.5. Current Directions of the Korean Urbanization Policy

By the end of the sixties it had become abundantly clear that urbanization patterns had to be modified: the heavy concentration of all the dynamic forces of new industries, educational facilities, government services and public overhead had set into motion accelerating distortions.

While the constraints of growth requirements led to priorities in favor of the export-manufacturing sector, a series of policy decisions have been made in favor of population redistribution.

##### a) *Saemaul-Undong* (New Community Movement)

The movement of rural renovation has many aspects and ramifications and its economic

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of companies from more advanced countries, (3) Licensing agreements with foreign firms, (4) Turnkey projects, (5) Technical Assistance by consultants, (6) Salesmen of modern equipment, (7) Formal education.

(18) These indicators were compiled by OTAM-Metra International in their report on Regional Physical Planning (June 1971). This particular analysis was performed by Bryan Massam,

objectives are highly desirable from the viewpoint of urbanization. While it is obvious that the level of urbanization will continue to rise, it is also clear that its rate during the sixties would have been more moderate if the rural sector had not been so neglected. The program implies a much needed redistribution of social investment to the lowest income group and lagging regions, but it is not possible at this time to evaluate its influence on migration. Much of the income expectations of rural residents depends on the agricultural price policy and the government is not very anxious to face rapidly rising prices<sup>(19)</sup>

b) *Industrial dispersion and factory relocation*

As a means of reducing the concentration of manufacturing activities in the Seoul region, the government is contemplating the removal of a large number of factories for the dual objectives of reducing pollution and providing employment in other smaller localities. The plan would consist in government offers to buy the land and the structures to encourage relocation. Owners who refuse to move would be charged a heavy tax. From a strictly economic viewpoint several issues are involved: i) If pollution control is desired what should be taxed is the level of pollution discharged. If taxation cannot reduce pollution to acceptable levels through a change in the manufacturing process, forced relocation will simply mean a spatial redistribution of pollution. ii) Studies made in other countries indicate that relocation (as opposed to expansion with a new branch at a different location) is an extremely costly process with an impact lasting over several years. In such a case a share of national output would be wasted. In particular, many medium-and small-scale firms require the flexibility of the Seoul metropolitan market to survive. The absence of urbanization economies in smaller cities would lead to a large number of business failures.<sup>(20)</sup> Many of them require the facilities only found in Seoul to survive, particularly the new innovative firms.<sup>(21)</sup> Since most inputs are now imported, factories in Korea are strongly market oriented and they can relocate only under that constraint.

c) *Dispersion of state-run firms*

One of the conspicuous factors in the location of activities in the Seoul area is the concentration of government services in Seoul. Efforts at decentralization are planned in the form of relocation of large state-run firms to the provincial cities where they have

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(19) Assistance to villages is supposed to take three cumulative forms: (1) For "Basic Villages" (18,500) the government will provide assistance on farm roads and irrigation projects; (2) for "Assistance Villages" (14,500) support will be given to electrification, and social and educational projects; (3) for "Self-sufficient Villages" (2,100) the government will also help raise income levels through small-scale manufacturing. The present objective is to have an industrial plant in each *myon* or *ŭp* (770 units) by 1976 (*Korea Times*, November 14-16-17, 1972, January 6, 1973). Such a project entails a significant risk of investment dilution and waste depending on how it is managed; previous experiences with the management of local branches of NAACF (the agricultural cooperatives) are indicative of the problem.

(20) See Raymond Vernon, "External Economies", in *Metropolis 1985* for a description of the importance of the New York market to small-scale firms.

(21) See the statistics of the Bureau of Patents, Ministry of Commerce and Industry. 2 Space limitations do not permit a more comprehensive discussion of the constraints limiting an industrial dispersion policy in Korea. This problem is examined in Renaud (1974).

their main operations, and the relocation of government training centers out of Seoul. But this dispersal policy is subject to constraints that are quite similar to those of the private sector.

d) *Support of small-and medium-scale firms*

The lopsided growth of the largest cities is partially due to the weakness of the domestic provincial markets served mostly by small firms. Most of these firms depended until August 1972 on the private money markets for financing. Following the financial reform, new programs must be devised to stimulate the activities of the small-scale urban sector which is a major source of employment. Assistance to this major sector of the urbanization process is not a top priority of the Korean government

e) *Modification of the distribution of educational and social services*

One of the major factors behind migration to the cities in addition to income expectation was the extremely strong desire for education which is available in its highest form mostly in Seoul. The net effect of the recent restrictions placed on the choice of school according to residence is not clear at present as far as migration is concerned. A more positive move is the plan to differentiate the system of provincial universities according to the comparative advantage of their regions.<sup>(22)</sup>

f) *"Local Tax Law" and the "Resident Tax" as a tool to control urban expansion*

In a recent revision of the "Local Tax Law,"<sup>(23)</sup> a "Resident Tax" aimed at curbing the expansion of population in major cities was introduced. The tax per household would be 2,000 wons per year in Seoul, 1,000 wons in cities over half a million, 500 wons in smaller cities and 300 wons for *gŭn* residents. Because wage levels and long term income expectations are much more sharply differentiated the tax should not have much effect on migration, if any. As a charge for the the use of the public facilities available at different locations, the tax is more appropriate because Seoul residents benefit from a much higher level of services. However, other sources of revenues for local government units are more desirable because the household tax, like all head taxes is regressive and falls most heavily on the poor.

## VI. CONCLUSION

In this paper we have examined long-term trends in the Korean urbanization process. Recent development models, particularly the study made by Kelley, Williamson and Cheetham, provide an economic framework to study how the legacy of the Japanese colonization period affects the current pattern of urban growth. An examination of the parameters of the dualistic structure indicates that Korea did not experience under the Japanese the structural shifts that the theory predicts for an endogenously induced urbanization-industrialization process. Urbanization took place but interaction between the

(22) For example, Pusan National U. would specialize in mechanical industries, Kyongbuk National U. in electronics, Cheju U. in livestock, fishery and tourism.

(23) March 3, 1972.

Korean rural-traditional sector and the Korean urban-industrial sector was blocked for the benefit of the Japanese metropolitan economy. The dual impact of the Japanese withdrawal and of the Korean War led to the collapse of this unstable urban system into an extreme case of overurbanization. Thus, it can be argued that an effective *endogenous* process of urbanization was delayed under the Japanese and begun in 1955 under new conditions for South Korea.

## APPENDIX

### Unadjusted Data on the Size Distribution of Korean Cities, 1915—1970

The tables presented in the appendix cover the years 1915—1920—1925—1930—1935—1940 for the Japanese period and 1949—1955—1960—1966—1970 for South Korea only in the postwar period. This data raises questions of comparability which are not of decisive importance in the context of the present discussion. The reader should be aware that administrative changes in territorial boundaries have occurred at repeated occasions. A significant number of *ũps* have been incorporated into other cities and do not appear in the listing. The data for 1915 and 1920 is based on official estimates and not on census information. For further comments on data quality refer to E. Yu and H. H. Seok (1971) and Y. Chang (1966).

Note:

1. The data from 1949 to 1966 in South Korean cities and *ũps* are obtained from "Municipal Year Book of Korea, 1966" and "Municipal Year Book of Korea, 1969" issued from Local Department, Ministry of Home Affairs, R.O.K.
2. The data from 1915 to 1940 are obtained from "The Statistic of the Japanese Governor General's Office in Korea, 1915, 1920, 1925, 1930, 1935, and 1940."
3. The index in 1935 and 1940 is that of *bus* and *ũps*.
4. The index in 1915, 1920, and 1925 is that of *bus* and major localities whose number of population is greater than 5,000.
5. The index in 1930 is that of *bus* and *myons* which became *ũps* in 1935,

THE POPULATION OF CITIES

RANK	1970		1966		1960		1955		1949	
	CITIES	POPULATION								
1	Seoul	5,536,377	Seoul	3,805,261	Seoul	2,445,402	Seoul	1,574,868	Seoul	1,418,025
2	Busan	1,880,710	Busan	1,429,726	Busan	1,162,614	Busan	1,049,363	Busan	473,619
3	Daegu	1,082,750	Daegu	847,494	Daegu	675,644	Daegu	457,331	Daegu	313,705
4	Incheon	646,013	Incheon	528,579	Incheon	402,009	Incheonu	295,878	Incheon	256,767
5	Gwangju	502,753	Gwangju	404,459	Gwangju	315,124	Gwangj	233,358	Gwangju	158,883
6	Daejeon	414,598	Daejeon	315,830	Daejeon	229,393	Daejeon	173,143	Daejeon	126,704
7	Jeonju	262,816	Jeonju	220,944	Jeonju	188,726	Masan	129,986	Mokpo	111,128
8	Masan	190,992	Mokpo	162,491	Masan	157,547	Jeonju	124,116	eonju	100,483
9	Mokpo	177,801	Masan	155,103	Mokpo	129,667	Mokpo	113,636J	Masan	91,291
10	Suwon	170,518	Suwon	128,352	Cheongju	92,342	Gunsan	86,446	Jinju	77,473
11	Ulsan	159,340	Cheongju	124,091	Suwon	90,806	Cheongju	81,284	Gunsan	74,447
12	Cheongju	140,944	Ulsan	113,189	Gunsan	90,437	Jinju	78,295	Cheongju	64,571
13	Chuncheon	122,672	Jinju	107,253	Yeosu	87,280	Wonju	76,411	Cheju	57,905
14	Jinju	121,622	Wonju	108,998	Jinju	86,967	Yeosu	73,084	Chuncheon	54,539
15	Yeosu	113,651	Gunsan	102,829	Chuncheon	83,008	Suwon	71,991	Suwon	52,772
16	Gunsan	112,453	Yeosu	102,113	Wonju	76,990	Chuncheon	67,888	Pohang	50,681
17	Wonju	111,972	Chuncheon	100,294	Gyeongju	75,953	Jinhae	67,604	Iri	46,674
18	Cheju	166,456	Cheju	87,569	Suncheon	69,469	Iri	62,228	Suncheon	43,933
19	Jangseong	103,312	Jangseong	86,724	Chungju	68,675	Suncheon	61,647	Sangju	43,760
20	Euijeongbu	94,518	Gyeongju	85,895	Cheju	67,991	Chungmu	61,236	Chungju	41,289
21	Gyeongju	92,093	Jinhae	80,804	Jinhae	67,412	Gyeongju	60,228	Andong	41,061
22	Jinhae	91,947	Chungju	80,212	Jangseong	66,911	Cheju	60,109	Gyeongju	36,348
23	Anyang	91,876	Suncheon	79,313	Iri	65,774	Kangneung	50,991	Wonju	33,978
24	Suncheon	90,910	Iri	78,448	Pohang	59,536	Chungju	50,720	Kangneung	30,279
25	Chungju	87,727	Euijeongbu	74,798	Kangneung	58,712	Samcheonpo	50,382	Jechon	28,391
26	Iri	86,770	Cheonan	71,315	Andong	53,346	Pohang	46,233	Cheonan	26,589
27	Pohang	79,451	Pohang	66,190	Euijeongbu	51,336	Andong	45,455	Sosa	26,376
28	Cheonan	78,316	Kangneung	65,422	Gimcheon	51,164	Gimcheon	41,423	Yeongju	22,771
29	Andong	76,434	Andong	63,816	Samcheonpo	50,301	Sangju	40,988	Euijeongbu	21,816
30	Kangneung	74,489	Sokcho	63,100	Sosa	48,457	Cheonan	34,235	Anyang	20,085
31	Sokcho	73,096	Dongducheon	59,401	Chungmu	47,757	Jechon	31,605	Mukho	18,670
32	Jechon	62,249	Gimcheon	56,381	Sangju	46,595	Sosa	29,450	Jinhae	0
33	Gimcheon	62,157	Anyang	54,337	Sokcho	45,621	Sokcho	28,332	Samcheonpo	0
34	Dongducheon	60,245	Samcheonpo	53,064	Cheonan	43,809	Ulsan	26,286	Chungmu	0
35	Yeongju	58,527	Chungmu	50,513	Mukho	41,023	Euijeongbu	26,091	Gimcheon	0
36	Sosa	56,534	Mukho	49,954	Jechon	38,772	Mukho	25,656	Yeosu	0
37	Mukho	58,404	Jechon	49,883	Yeongju	32,278	Yeongju	25,161	Ulsan	0
38	Chungmu	54,947	Sangju	47,558	Anyang	31,209	Anyang	22,323	Jangseong	0
39	Samcheonpo	54,945	Yeongju	46,338	Ulsan	29,664	Jangseong	0	Songtan	0
40	Sangju	52,504	Songtan	43,910	Songtan	0	Songtan	0	Dongducheon	0
41	Songtan	51,595	Sosa	41,113	Dongducheon	0	Dongducheon	0	Sokcho	0

RANK	1940		1935		1930	
	CITIES	POPULATION	CITIES	POPULATION	CITIES	POPULATION
1	Seoul	930,547	Seoul	404,202	Seoul	355,426
2	Pyongyang	283,517	Busan	180,271	Pyongyang	136,927
3	Busan	240,033	Pyongyang	172,746	Busan	130,897
4	Cheongjin	195,414	Daegu	105,716	Daegu	101,078
5	Inchoen	180,216	Inchoen	80,420	Inchoen	63,655
6	Daegu	175,002	Mokpo	59,046	Gaeseong	49,520
7	Heungnam	128,654	Wonsan	58,409	Sineuiju	44,893
8	Wonsan	86,647	Gaeseong	54,457	Wonsan	43,060
9	Hamheung	77,183	Sineuiju	54,310	Hamheung	40,177
10	Gaeseung	72,896	Gwangju	52,674	Gwangju	89,463
11	Mokpo	69,183	Hamheung	52,684	Cheju	39,380
12	Jinnampo	68,741	Cheongjin	50,085	Jeonju	38,595
13	Gwangju	64,084	Jinnampo	48,314	Jinnampo	37,401
14	Seongjin	63,189	Gunsan	41,077	Cheongjin	33,725
15	Sineuiju	60,458	Jeonju	40,593	Mokpo	31,817
16	Haeju	60,264	Heungnam	39,092	Daejeon	27,894
17	Jeonju	55,978	Daejeon	36,379	Sangju	27,655
18	Daejeon	55,249	Cheju	36,188	Gunsan	25,961
19	Gunsan	52,923	Jinju	30,269	Masan	25,810
20	Jinju	45,677	Sangju	30,054	Jinju	25,190
21	Cheju	39,250	Sariwon	30,084	Haeju	23,716
22	Yeosu	37,313	Masan	29,858	Chungju	23,084
23	Masan	36,549	Haeju	29,668	Chungmu	22,810
24	Sariwon	35,331	Najin	28,775	Yeosu	22,469
25	Najin	34,949	Yeosu	26,873	Unggi	21,810
26	Cheongju	34,259	Chungju	25,906	Sariwon	21,639
27	Chungmu	32,218	Chungmu	22,361	Geongju	19,049
28	Dancheon	31,265	Unggi	22,473	Jinhae	18,895
29	Ulsan	31,012	Hyoryeng	21,716	Suncheon	18,497
30	Sangju	30,908	Cheongju	20,658	Iri	17,964
31	Gimcheon	30,653	Cheongju	20,248	Hyoryeng	17,569
32	Suwon	30,288	Suncheon	20,137	Samcheonpo	16,844
33	Aoji	30,065	Iri	19,807	Anju	16,688
34	Chuncheon	29,462	Bukcheong	19,756	Bukcheong	16,850
35	Pohang	28,541	Seongjin	19,349	Cheongju	16,678
36	Suncheon	27,870	Jinhae	18,291	Gimcheon	15,520
37	Bukcheong	27,663	Samcheonpo	18,278	Nanam	15,367
38	Unggi	27,618	Ganggye	18,089	Ulsan	14,903
39	Chungju	27,446	Nanam	17,869	Andong	14,687
40	Shinpo	26,994	Gimcheon	17,671	Kangneung	14,578
41	Gyeomipo	25,927	Anju	17,284	Seoncheon	16,772
42	Hyoryeng	25,761	Gyeomipo	17,255	Ganggye	18,356
43	Ganggye	25,212	Cheonan	17,155	Suwon	13,282
44	Gilju	25,053	Seoncheon	16,545	Cheonan	12,644
45	Bukjin	24,064	Kangneung	16,502	Gyeomipo	12,178
46	Andong	23,812	Ulsan	15,340	Pohang	11,791
47	Geongju	23,382	Chuncheon	14,953	Hyesan	11,488
48	Ungjin	22,899	Pohang	14,338	Seongjin	11,466
49	Iri	22,547	Suwon	13,328	Chuncheon	10,122
50	Samcheonpo	22,032	Andong	11,894	Euiju	10,042
51	Seoncheon	20,951	Hyesan	11,843	Jeongju	9,554
52	Anak	20,865	Jeongju	11,006	Aoji	0
53	Kangneung	20,520	Euiju	9,756	Musan	0
54	Jinhae	19,747	Aoji	0	Gilju	0
55	Shicheon	19,292	Musan	0	Eodajin	0
56	Yeonan	19,180	Gilju	0	Dancheon	0
57	Jaeryeong	19,090	Eodajin	0	Shinpo	0
58	Anju	18,633	Dancheon	0	Heungnam	0

RANK	1925		1920		1915	
	CITIES	POPULATION	CITIES	POPULATION	CITIES	POPULATION
1	Seoul	302,711	Seoul	250,208	Seoul	241,085
2	Pyongyang	109,285	Busana	73,855	Busan	60,804
3	Busan	103,522	Pyengyng	71,703	Pyongyang	45,793
4	Daegu	72,127	Daegu	44,707	Daegu	37,240
5	Inchoen	53,593	Gaeseong	36,763	Gaeseong	36,668
6	Gaeseong	44,646	Inchoen	36,490	Inchoen	31,264
7	Wonsann	33,538	Wonsan	27,585	Wonsan	22,413
8	Hamheug	30,905	Jinnampo	21,491	Jinnampo	22,331
9	Jinnampo	27,361	Hamheung	18,425	Hamheung	16,373
10	Mokpo	25,762	Mokpo	16,701	Masan	16,145
11	Sineuiju	23,187	Masan	16,165	Haeju	15,993
12	Masan	22,081	Jeonju	15,939	Chungmu	13,755
13	Gwangju	21,037	Gwangju	15,507	Jeonju	13,562
14	Gunsan	21,027	Chungmu	15,085	Mokpo	12,782
15	Jeonju	20,977	Haeju	14,437	Anju	12,219
16	Cheongjin	20,583	Gunsan	14,138	Jinju	11,610
17	Chungmu	19,334	Sineuiju	18,798	Gunsan	10,965
18	Haeju	17,289	Jinju	12,654	Gwangju	10,575
19	Jinju	17,148	Cheongjin	11,214	Suwon	9,015
20	Jinhae	16,711	Suwon	9,908	Bukjin	8,092
21	Samcheonpo	14,744	Hyoryeng	9,444	Bukcheong	7,843
22	Sariwon	14,058	Euiju	8,971	Cheju	6,780
23	Hyoryeng	12,775	Gimcheon	8,410	Hyoryeng	6,624
24	Gimcheon	12,647	Cheju	8,181	Sangju	6,618
25	Ulsan	12,106	Sangju	8,048	Seuncheon	6,609
26	Nanam	11,800	Anju	7,678	Ganggye	6,567
27	Cheongju	11,789	Bukcheong	7,599	Cheongjin	6,484
28	Euiju	11,146	Nanam	7,228	Gimcheon	6,379
29	Bukcheong	10,379	Ganggye	6,786	Hwangju	6,114
30	Suwon	10,374	Sariwon	6,642	Sineuiju	6,110
31	Gyeomipo	9,719	Bukjin	6,476	Daejeon	6,041
32	Sangju	9,639	Seoncheon	6,304	Andong	6,009
33	Anju	9,638	Daejeon	6,218	Euiju	5,741
34	Seongjin	9,597	Yeosu	6,109	Ulsan	5,702
35	Suncheon	9,012	Geongju	5,996	Jaeryeong	5,658
36	Daejeon	9,001	Jaeryeong	5,975	Anak	5,613
37	Iri	8,467	Ulsan	5,905	Geongju	5,590
38	Bukjin	8,301	Anak	5,774	Nanam	0
39	Yeosu	8,012	Seongjin	5,532	Aoji	0
40	Anak	7,935	Suncheon	5,530	Unggi	0
41	Hwangju	7,598	Andong	5,392	Musan	0
42	Andong	7,360	Cheongju	5,279	Seongjin	0
43	Pohang	7,156	Aoji	0	Gilju	0
44	Shicheon	7,017	Unggi	0	Eodajin	0
45	Geongju	6,993	Musan	0	Hyesan	0
46	Jeongju	6,605	Gilju	0	Dancheon	0
47	Jaeryeong	6,467	Eodajin	0	Shinpo	0
48	Cheju	6,444	Hyesan	0	Heungnam	0
49	Chungju	6,372	Dancheon	0	Jangjeon	0
50	Chuncheon	5,816	Shinpo	0	Gojeo	0
51	Kangneung	5,737	Heungnam	0	Manpo	0
52	Unggi	5,545	Jangjeon	0	Jeongju	0
53	Jancheon	5,377	Gojeo	0	Baekcheon	0
54	Jangyeon	5,101	Manpo	0	Shuncheon	0
55	Aoji	0	Jeongju	0	Sariwon	0
56	Musan	0	Baekcheon	0	Gyeomipo	0
57	Gilju	0	Shuncheon	0	Shicheon	0
58	Eodajin	0	Gyeomipo	0	Chuncheon	0

THE TABLE OF GROWTH RATE

Cities	1966—1970		1960—1966		1955—1960		1949—1955	
	in Term	Yearly						
Seoul	45.493	11.373	55.609	9.268	55.272	11.065	11.061	1.843
Busan	31.543	7.886	22.975	3.829	10.797	2.158	121.563	20.260
Daegu	27.759	6.940	25.435	4.239	47.736	9.547	45.784	7.631
Incheon	22.217	5.554	31.484	5.247	35.879	7.174	15.232	2.539
Gwangju	24.303	6.076	28.349	4.725	32.039	7.008	46.874	7.812
Daejeun	31.273	7.818	27.681	6.280	32.488	6.498	36.652	6.109
Jeonju	18.951	4.738	17.071	2.845	52.056	10.411	23.513	3.920
Masan	23.139	5.785	-1.551	-0.255	21.203	4.241	42.286	7.064
Mukpo	9.422	2.356	25.314	4.219	14.107	2.821	2.257	0.376
Suwon	32.852	8.213	41.347	6.891	26.135	5.227	36.419	6.070
Ulsan	40.798	10.200	281.503	46.917	12.851	2.570	0.000	0.000
Cheungju	15.999	4.000	34.382	5.730	18.604	2.721	25.883	4.814
Chunuheun	22.312	5.578	20.824	3.471	22.872	4.454	24.476	4.079
Jinju	13.397	3.349	23.468	3.511	10.948	2.190	1.061	0.177
Yeusu	11.299	2.825	16.995	2.832	19.424	3.895	0.000	0.000
Gunsan	9.359	2.340	13.702	2.284	4.617	0.923	16.117	2.686
Wunju	7.667	1.917	35.080	5.847	0.758	0.152	124.844	20.814
Cheju	21.568	5.392	28.785	4.799	13.113	2.623	3.636	0.634
Jangseung	19.127	4.782	29.611	4.935	0.000	0.000	0.000	0.000
Euijeungbu	26.364	6.591	45.703	7.617	96.757	19.251	19.586	3.266
Gyeongju	7.216	1.804	13.090	7.182	26.109	5.222	65.698	10.950
Jinhae	13.790	3.448	19.866	3.811	-0.284	-0.057	0.000	0.000
Anyang	69.085	17.271	73.656	12.276	40.169	8.034	11.143	1.857
Suncheon	14.622	3.655	14.170	2.362	12.688	2.538	40.320	6.720
Chungju	9.369	2.342	16.799	2.800	35.400	7.080	22.841	3.807
Iri	10.608	2.652	19.269	3.211	5.702	1.140	33.370	5.553
Pohang	20.035	5.009	11.176	1.863	28.774	5.755	-8.776	-1.463
Cheunan	9.817	2.454	62.786	10.464	27.965	5.593	28.756	4.793
Andung	19.772	4.943	19.627	3.271	17.360	3.472	10.701	1.784
Kangneung	13.859	3.465	11.429	1.505	15.342	3.028	68.404	11.401
Sukchu	15.841	3.960	38.313	6.386	61.023	12.205	0.000	0.000
Jechon	24.790	6.198	28.657	4.776	22.673	4.535	11.874	1.887
Cimcheon	9.084	2.271	11.369	1.895	23.516	4.703	0.000	0.000
Dungducheon	1.421	0.355	0.000	0.000	0.000	0.000	0.000	0.000
Yeungju	26.305	6.576	43.559	7.260	28.286	5.657	10.496	1.749
Susa	37.509	9.377	-15.156	-2.526	64.540	12.908	11.654	1.942
Mukho	12.912	9.228	21.756	3.626	59.916	11.983	37.418	6.236
Chungmu	8.778	2.194	5.771	0.962	-32.012	-4.602	0.000	0.000
Samcheunpo	3.545	0.886	5.493	0.915	-0.161	-0.032	0.000	0.000
Sangju	10.400	2.600	2.067	0.344	13.680	2.736	-6.335	-1.056
Songtan	17.486	4.371	0.000	0.000	0.000	0.000	0.000	0.000

THE TABLE OF GROWTH RATE

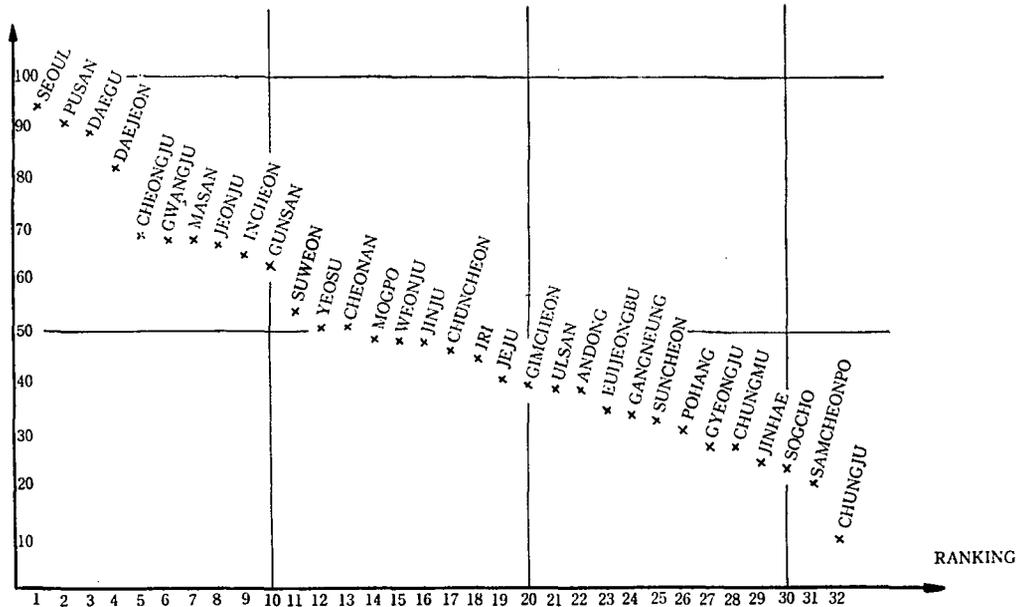
Cities	1935—1940		1930—1935		1925—1930		1920—1925		1915—1920	
	in Term	Yearly	in Term	Yearly	in Term	Yearly	in Term	Yearly	in Term	Yearly
Seoul	130.218	26.044	13.723	2.745	17.614	3.483	20.984	4.197	3.784	0.757
Pyongyang	64.124	12.825	26.159	5.232	25.293	5.059	52.413	10.483	56.581	11.316
Busan	33.151	6.630	28.248	7.650	25.961	5.192	40.169	8.034	21.464	4.293
Cheungjin	286.171	57.234	48.510	9.702	63.849	12.770	83.547	16.709	72.949	14.590
Inchuen	124.093	24.819	26.337	5.267	18.765	3.755	46.870	9.374	16.716	3.343
Daegu	65.540	13.108	4.589	0.918	40.139	8.028	61.333	12.267	20.051	4.010
Heungnam	229.106	45.821	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Wansan	48.345	9.669	35.646	7.129	28.392	5.678	21.581	4.316	23.076	4.615
Hamhsung	46.641	9.328	31.005	6.201	30.002	6.000	67.734	13.547	12.533	2.507
Gaeseong	33.860	6.772	9.970	1.994	10.917	2.183	21.443	4.289	0.259	0.052
Mokpo	17.168	3.434	85.680	17.116	23.504	4.701	56.254	10.851	30.660	6.132
Jiwampo	38.140	7.628	29.178	5.836	36.695	7.389	27.314	5.463	-3.762	-0.752
Gwangju <sup>n</sup>	21.661	4.332	33.477	6.695	87.589	17.518	35.661	7.132	46.638	9.328
Seungjin	226.575	45.315	68.751	13.750	19.475	3.895	73.482	14.696	0.000	0.000
Sineuiju	11.320	2.264	22.325	4.465	91.892	18.378	67.684	18.537	125.826	25.165
Haeju	103.128	20.626	25.097	5.019	37.174	7.435	19.755	3.951	-9.729	-1.946
Jeonju	37.901	7.580	5.177	1.035	83.987	16.797	31.608	6.322	17.877	3.505
Daejeon	51.871	10.374	31.837	6.367	206.566	41.313	44.787	8.951	2.930	0.586
Gunsan	28.838	5.768	58.226	11.645	23.465	4.693	48.727	9.745	28.937	5.787
Jinju	50.904	10.181	20.163	4.033	46.898	9.380	35.514	7.103	8.992	1.798
Cheju	8.461	1.692	-8.106	-1.621	511.111	102.222	-21.232	-4.246	20.664	4.133
Yeosu	40.710	8.142	19.600	3.920	180.442	36.088	31.151	6.230	0.000	0.000
MaSan	22.409	4.482	15.864	3.137	16.888	3.378	36.598	7.320	0.124	0.025
Sariwon	17.637	3.527	38.796	7.755	53.927	10.785	111.653	22.331	0.000	0.000
Najin	21.456	4.291	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cheungju	65.239	13.848	22.144	4.429	40.580	8.116	123.319	24.664	0.000	0.000
Chungmu	40.930	8.186	0.224	0.045	17.979	3.596	28.167	5.633	9.669	1.934
Dancheon	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Ulsan	102.164	20.433	2.932	0.586	23.104	4.621	105.013	21.003	3.560	0.712
Sangju	2.841	0.568	9.867	1.973	183.795	36.759	19.769	3.954	21.608	4.322
Gimcheon	73.465	14.693	13.859	2.772	22.717	4.543	50.380	10.076	31.839	6.368
Suwon	127.251	25.450	0.346	0.069	28.032	5.606	4.703	0.941	9.096	1.981
Auji	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Chuncheon	97.031	19.406	47.728	9.546	74.037	14.807	0.000	0.000	0.000	0.000
Puhang	99.058	19.812	21.601	4.320	64.771	12.954	0.000	0.000	0.000	0.000
Suncheon	38.402	7.680	8.866	1.773	105.249	21.050	62.966	12.593	0.000	0.000
Bukcheong	40.023	8.005	18.655	8.781	60.420	12.084	36.584	7.317	-3.111	-0.622
Unggi	22.894	4.579	3.040	0.608	263.327	58.665	0.000	0.000	0.000	0.000
Chungju	5.933	1.187	12.225	2.445	262.272	62.454	0.000	0.000	0.000	0.000
Shinpu	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Gyeumipo	50.432	10.086	41.526	8.305	25.801	5.060	0.000	0.000	0.000	0.000
Hyoryeng	18.627	3.725	23.604	4.721	37.526	7.505	35.271	7.054	42.572	8.514
Ganggye	39.377	7.875	35.437	7.087	0.000	0.000	0.000	0.000	3.335	0.667

Gilju	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Bukjin	0.000	0.000	0.000	0.000	0.000	0.000	28.181	5.636	-19.970	-3.994
Andung	100.202	20.040	-20.105	-4.021	102.269	20.454	36.498	7.800	-10.768	-2.054
Geungju	13.737	2.747	7.922	1.584	172.401	34.480	16.628	3.326	7.263	1.453
Dogjin	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Iri	12.874	2.565	10.259	2.062	112.165	22.433	0.000	0.000	0.000	0.000
Samcheunpo	20.538	4.108	8.513	1.703	14.243	2.849	0.000	0.000	0.000	0.000
Seuncheon	26.630	5.326	20.135	4.327	0.000	0.000	0.000	0.000	-4.615	-0.923
Anak	0.000	0.000	0.000	0.000	0.000	0.000	37.426	7.485	2.868	0.574
Kangneung	24.349	4.870	13.198	2.640	154.106	30.821	0.000	0.000	0.000	0.000
Jinhae	7.960	1.592	-3.197	-0.639	13.069	2.614	0.000	0.000	0.000	0.000
Shicheon	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**Appendix Figure 1: NUMBER OF WHOLESALE COMMODITIES ON SALE IN CITIES**  
(1968)

Indicator based on the sale of 94 types of Commodities on sale in cities.  
1968 Wholesale Census

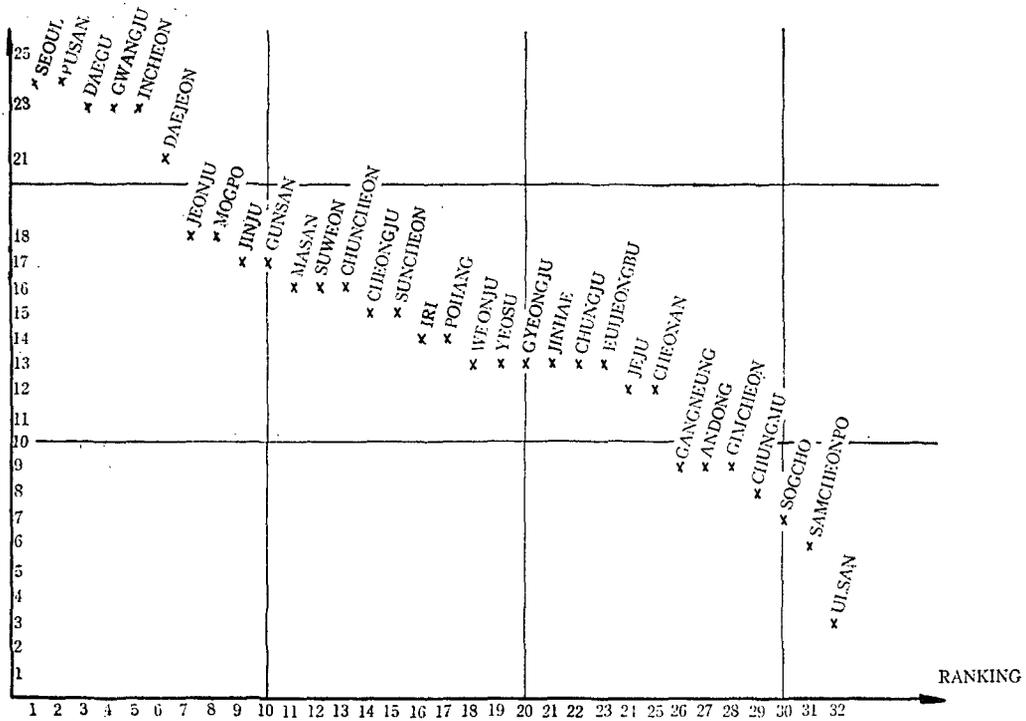
Source: OTAM-Metra International 1971 (Original Source: Commercial Census 1966)



**Appendix Figure 2 : NUMBER OF PROFESSIONS IN CITIES (1969)**

Indicator based on a sample of 24 professions (15 medical specialties+9 others)

Source: OTAM-Metra International 1971 (Original Source: Taxation Offices)

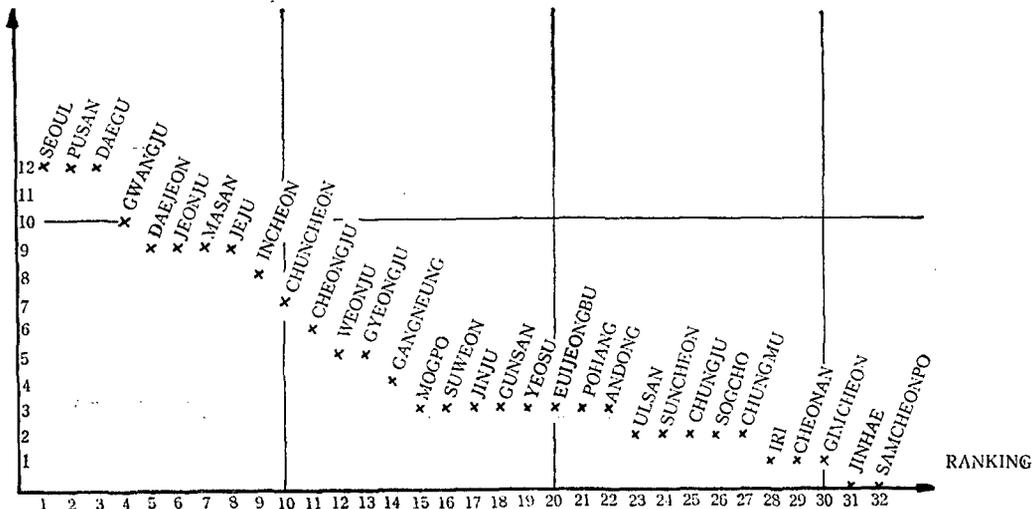


**Appendix Figure 3 : SAMPLE OF PUBLIC FACILITIES AND GENERAL SERVICES EXISTING IN CITIES (1969)**

Underlined: Provincial Capitals

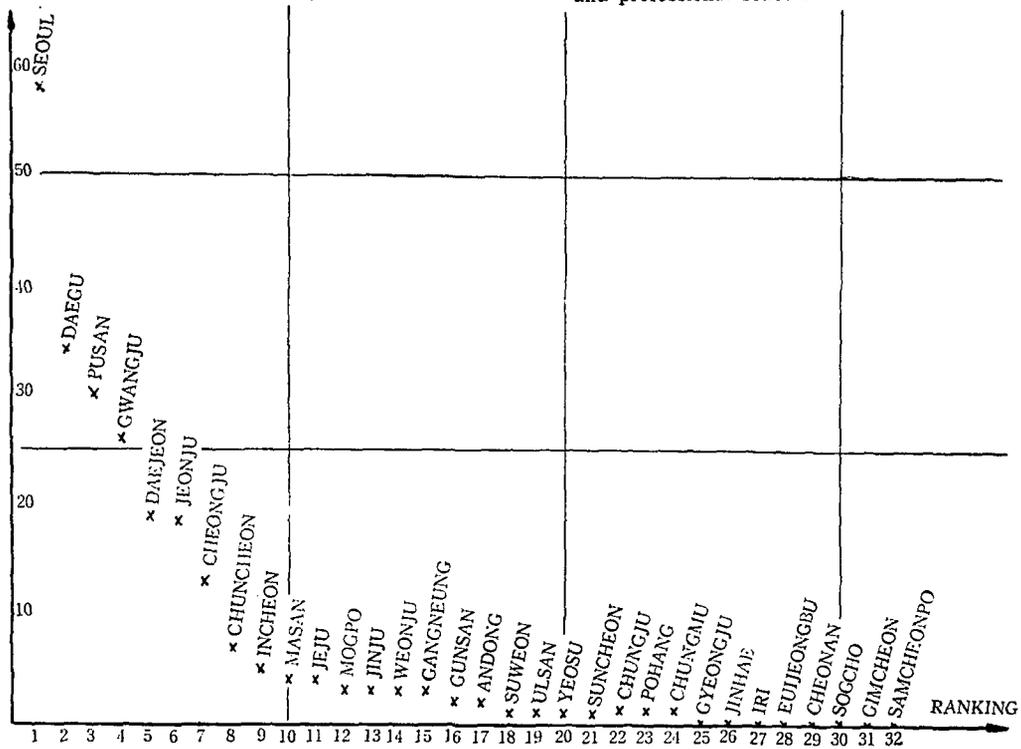
Indicator based on 12 services such as hospitals, banks, public libraries, museums, newspapers, etc.

Source: OTAM-Metra International 1971 (Original Source: Cities Statistical Year Books and Various Statistical Year Books)



Appendix Figure 4 : NUMBER OF EDUCATIONAL SUBJECTS TAUGHT IN CITIES (1970)  
(Graduate Schools—Colleges—Junior and Professional Colleges)

Indicator based on fields offered by graduate schools, colleges, junior colleges and professional schools.



INDUSTRIALIZATION AND DISTRIBUTION OF GNP IN SOUTH KOREA 1955-1970

	1955	1960	1965	1970
Agriculture, Forestry, Fisheries	47.2	41.4	38.7	25.8
Mining and Quarrying	0.8	1.4	1.8	1.3
Manufacturing	10.3	13.7	17.7	26.7
Construction	2.2	2.4	3.4	5.6
Electricity, Water and Sanitary Services	0.5	0.9	1.3	2.2
Transportation, Storage and Communication	2.0	3.0	4.0	5.4
Wholesale and Retail Trade	13.1	16.1	14.8	18.2
Banking, Insurance, Real Estate	1.3	1.7	1.6	1.6
Ownership of Dwellings	4.7	4.2	3.5	2.4
Public Administration	9.1	6.1	5.0	3.7
Services	7.2	7.8	7.3	6.4
Rest of the World	1.6	1.3	0.9	0.7
Manufacturing Ratio*	19.03	26.72	33.50	52.04
Modern Sector Ratio**	17.10	23.10	23.80	42.80

\* Manufacturing ratio: Ratio of mining-manufacturing to agriculture, forestry and fisheries.

\*\* Modern sector ratio: Share of GNP originating in mining, manufacturing, construction, transportation, utilities, banking and insurance

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