

Urbanization and Quality of Life Asia (1)

—Trends and Patterns of Population Growth and Urbanization—

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1. Introduction

It is generally agreed that the first urban centers appeared some five to six thousand years ago in the Near East, but their population size and density would barely be classified as a cities by present standard. Urban settlements emerged with the growth and spread of agriculture and gradually spread to most parts of the world. The growth was, however, very slow until the 19th century.

By 1800, the world's 51 million urban dwellers represented less than three per cent of the world's population. Nonetheless, urbanization has gone ahead much faster than population growth, and reached proportions far greater during the last century and a half than at any previous time in world history. The rise from roughly 15 million urban dwellers in 100 A.D. to about 51 million in 1800 represents an average annual growth rate of 0.06 per year. From 1800 to 1900 the growth was from 51 million to 224 million or an average annual rate of 1.5 per year. By 1950 approximately 733 million lived in urban places and showed an average annual growth rate of 2.4 per cent over those 50 years. Furthermore, since 1950, the urban population has increased at a much higher rate than ever before. Between 1950 and 1990, urban population grew from 733 million to 2.2 billion, or an average annual rate

of 2.8 per cent. By 2025 roughly 5.1 billion or about 60.6 per cent of the world's population may be inhabitants of urban areas (Table 1. 1).

This recent increase in the urban population is a distinctively new phenomenon in human history.

Table 1. 1. Urban Population A. D. 100 – 2025

Year (A. D.)	Urban Population million	Average Annual Growth Rates (%)
100	14.7	
361	13.8	-0.02
622	15.5	0.04
1000	17.1	0.02
1200	19.2	0.05
1350	19.7	0.01
1500	24.0	0.13
1600	32.8	0.31
1650	32.1	-0.04
1700	37.7	0.32
1750	40.9	0.16
1800	51.2	0.44
1850	80.3	0.90
1900	224.0	2.05
1950	732.6	2.32
1690	1,030.4	3.41
1970	1,374.2	2.87
1980	1,770.1	2.53
1990	2,260.3	2.44
2000	2,916.5	2.54
2010	3,736.6	2.47
2025	5,118.6	2.09

Source: Between A. D. 100–1950, John V. Grauman, *Orders of Magnitude of the World's Urban Population in History*. Population Bulletin of the United Nations, Vol. 8 (1976), pp. 16–33. Between 1960–2025, United Nations, *World Population Prospects 1988*. New York: United Nations, 1989. Serial No. ST/ESA/S/A/106.

And the social, economic and political role of urban populations will undoubtedly dominate the world outlook (Hauser, P. et al. 1982).

Despite certain broad commonalities, there is not one but several paths being taken by urbanization, and both the causes and the human consequences differ along these paths. The developing countries' present urbanization is similar in many respects to the nineteenth century urbanization in Europe and in North America. Rural-urban migration, high density urban clusters, social heterogeneity, inadequate economics infrastructure, and social stress are common factors in both developed and developing nations' social transformation.

There are, however, quite different patterns and process of urbanization between developed and developing countries. The differences arise because of the different mixtures of world-wide technological change, national ideologies, planning powers, and cultures. In combination, such ingredients have created significantly different forms of urbanization in which there are divergent human consequences.

Each major region of the world has been experiencing a distinctive urbanization process. For our study we shall focus on Asia¹⁾, which consists mostly of developing countries with the exception of Japan. Asia is quite different from other parts of the developing world in at least the following ways. First, Asia has an unusually large and densely settled population. For example, the total population in India and China has no parallel in other regions of the world. Their total population comprises about two-fifths of the world's total population. In 1990, Asia as a whole contained over 60 per cent of the world's total population. Overall, Asian population density is about 113/km², similar to Western Europe and more than five times that of the other

world regions (Table 1. 2).

Second, Asia has experienced lower levels of urbanization than the other less developed regions. Asia is and will remain the least urbanized area in less developed regions. Asia, as a whole, was 30 per cent urbanized in 1990, with 29 per cent in East, 29 per cent in South east Asia and 28 per cent in South Asia. By 2025 Asian urbanization may reach only 53 per cent; East Asia 49 per cent, Southeast Asia 54 per cent and South Asia 53 per cent. This contrasts with Latin America's urbanization. In 1990, Latin America was 72 per cent urbanized, and it is projected to reach 85 per cent urban by 2025. Latin America's level of urbanization is anticipated to become very close to that of more developed regions. Africa's urbanization is similar to that of Asia, but it is growing faster. In 1990, Africa had 35 per cent urban and may reach 58 per cent urban in 2025. This means, among other things, that Asia's densely packed richly productive rural and agricultural hinterland will play an important role in overall national development, and will continue to have a greater impact on urban development than we can expect to see in other developing regions.

Furthermore, Asian countries have a living heritage of rich urban history of over two thousand years. Based on the surveys of Chandler and Fox (1974), as early as 430 B. C., nineteen of the world's 25 largest cities were located in Asia. Until the Industrial Revolution in the West, the world's 25 largest cities list was dominated by Asian cities. Further, Asian cities have typically been political, economic and cultural centers together substantial land masses. They reflect a long and strong urban tradition rather than the outposts of Western industrial life that mark so much of urbanization in Africa and Latin America. It was the industrial revolution, with its transformation to the use of fossil fuels, that produced modern urbanization. Although it began in the West, it is now the dominant emerging locational condition of all the world. Asia is following the rest of the world in becoming increasingly urbanized, but it is following more slowly than other regions, and its history gives the process a distinctive flavor. Nonetheless, with its massive population base and rapid development, Asian urbanization will once again come to dominate the world's urbanization. According to the United

Table 1. 2. Population Density in 1990

Region	Population Density*
Africa	21
Latin America	22
North America	13
Oceania	3
Europe	102
Asia	113

* People Per Square Kilometers
Source: United Nations. (1988)

1) In our study we use Asia in a limited sense. We shall include East Asia, Southeast Asia and South Asia.

Nation projection (1982), 14 of the 25 largest urban centers will be in Asia in 2000.

This rapid growth of Asian cities has already produced problems in housing, employment, and social services which strain government resources, often beyond the limits available. And the magnitude of urban problems has raised questions of maintaining an acceptable quality of urban life for the rapidly growing millions of habitants.

This present paper will focus on the examination of the urbanization pattern during the period of 1950 to 1990. The pattern of urbanization will be examined for the world as a whole, between developed and developing regions of the world, and between major regions of the world. Since this study focuses on Asia, this region will be examined in some detail to identify both common and distinctive aspects of Asian urbanization.

Thus, the following sections will be divided as: 1) the process of total population²⁾ growth between 1950 and 1990 will be described. 2) the process of urban population³⁾ growth for the same period will be described. These examinations will provide understanding of recent global trends in total and urban population growth. 3) we will examine the different regional trends of urbanization. 4) We examine the process of Asian urbanization by dividing the Asian region⁴⁾ into three sub-groups. Finally, we will examine the degree of urban population concentration, using a primacy index.

This study adopts each country's own definition of urban locality. There is as yet no standard criterion of urban definition generally in use. Although the most common criterion is size of the locality, the minimum size accepted by countries varies from one country to another. This creates a problem of comparability between countries.

2. World Population Growth: 1950–1990

Table 2. 1 presents the estimates and projected total population of the world by major geographic regions between 1950 and 1990. In 1950, the world population was estimated at 2,522 million, which increased to 5,315 million in 1990. This was a total growth of 111 percent. This growth was not, however, evenly divided throughout the world.

Table 2. 1. Total Population*, 1950–2000

REGION	1950	1960	1970	1980	1990
WORLD	2522866	3030168	3712253	4468015	5315873
MDCs	832425	944851	1049273	1136406	1205193
LDCs	1690441	2085317	2662979	3331609	4110680
AFRICA	172277	215961	279630	373223	504869
ASIA**	1256049 (1339674)	1527641 (1621737)	1937436 (2041767)	2385590 (2502397)	2877945 (3001402)
Latin America	165365	217649	285127	361756	448096
Middle East & North Africa	94230	120971	156828	206055	273418

Source: 1. *World Population Prospects 1988*, United Nations, New York, 1989. 2. Since Taiwan is not a member country of the United Nations, the figures are drawn from the Yearbook of Taiwan, 1980.

* Population = thousand

** Figures in parenthesis include Japan.

Between 1950 and 1990, total population in the more developed countries (MDCs) increased from 832 million to 1,205 million. For the 40 years, this represents a total growth of 44 percent or 0.9 percent average annual growth. In the less developed countries (LDCs), on the other hand, the total population increased from 1,690 million to 4,110 million in the same period revealing a total growth of 143 percent. For the 40 years, this represents a total growth of 143 percent or 2.2 percent average annual growth.

Within the less developed regions of the world, between 1950 and 1990, the African population increased most rapidly from 172 million to 504 million

2) The countries included in this study are listed in Appendix A.

3) The definition of the urban population differs from country to country and within the same country definitions change over time. In this study we use data from the United Nations' publication (*United Nations. World Population Prospects. 1988*. New York: United Nations, 1989. Instead of imposing uniform definitions on all countries, the United Nations adopts national definitions of urban.

4) We include only 25 countries in this analysis, due to lack of data for others. These countries are grouped into three sub-regions: East Asia (The People's Republic of China, Hong Kong, Japan, Mongolia, The Democratic People's Republic of Korea, The Republic of Korea, and The Republic of China. Southeast Asia (Myanmar, Democratic Kampuchea, Laos, Malaysia, The Philippines, Singapore, Thailand, and Viet Nam); South Asia (Afghanistan, Bangladesh, India, Iran, Nepal, Pakistan, Sri Lanka, and Maldives)

(adding 330 million), for a growth rate of 193 percent. The Middle East/North Africa showed the second most rapid population increase, from 94 million to 273 million (adding 180 million) between 1950 and 1990. This was a total growth of 190 percent. Next to the Middle East/North Africa, Latin America showed rapid population increase, from 1,256 million to 2,877 million (adding 275 million), for a growth rate of 165 percent. Finally, the Asian region showed the least rapid population increase among the less developed regions. The population in the Asian region increased from 1,256 million to 2,877 million (adding 1,600 million), for a growth rate of 129 percent between 1950 to 1990. Thus, larger total populations grow at slower rate. Asian total growth for the four decades was 129 percent, compared with 193 percent for Africa, 190 percent for the Middle East/North Africa and 190 percent for Latin America.

The recent large total population increases that have been taking place in the less developed regions of the world are striking. Projected total population growth continues to be much greater in the LDCs than in the MDCs. According to the United Nations projection, by the year 2000, the world's population will reach 6,251 million, increasing to 8,466 million by the year 2025 (United Nations, 1989). The most alarming feature of the extraordinary growth is that this is taking place in the world's poorest countries and regions, those in which the pace of development is less progressive. Projections do, however, provide some relief from rapid growth.

As it is shown in Table 2. 2 the overall rate of population growth has been declining since 1970, although the absolute number was still growing. The population growth rate in MDCs reached its

peak in the decade of 1950s (1.3 percent) declining to 0.6 percent by 1990. The less developed regions were expected to reduce their population growth rate from peak points of 2.4 percent in the decade of 1960s to 2.1 percent by 1990. But due to their large population base, they still added about 1,447 million to the world's population from 1970 to 1990. They will also add approximately another 900 million during the decade 1990 to 2000.

Among the less developed regions, Africa reached an annual rate of growth of 2.9 percent in 1970s, which was the highest in the world. And Africa's rate of growth was expected to reach 3.0 percent during 1980s. This was again the highest in the world. Without question, this rapid growth rate has become a major obstacle for the region's economic development. Latin America reached its peak of growth rate in the decade of the 1960s (2.7 percent), with a lower rate of growth of 2.1 percent by 1990. Asia was expected to reduce its growth rate from a peak point of 2.4 percent in the 1960s to 1.9 percent by 1990. But because of the demographic dominance of China and India, the two most populous countries in the world, it still added 940 million to the world population from 1970 to 1990. The Middle East/North Africa was expected to increase its growth rate up through 1990. By the year 1990, it had the second highest growth rate in the world, with 2.8 percent.

In summary, Latin America's population growth rate peaked earliest among the LDCs and has been declining since the 1960s. Asia followed, with a peak in the 1960a, and showed continued decline since then. Africa and the Middle East/North Africa stand out for the continued rise in the growth rates through 1990.

3. Urban Population Trends: 1950-1990

Urbanization has become a dominant pattern of this modern period, with urban growth rates outpacing even the high population growth of the LDCs. Table 3.1 details the estimated and projected urban population of the world by major geographic regions between 1950 and 1990. Between 1950 and 1990, the world total urban population increased from 736 million to 2,275 million. This was a total growth of 209 percent, almost twice the rate for the total population (111 percent). Like the total popula-

Table 2. 2. Average Annual Growth for Total Population

REGION	1950-60	1960-70	1970-80	1980-90
WORLD	1.8	2.0	1.9	1.7
MDCs	1.3	1.0	0.8	0.6
LDCs	2.1	2.4	2.3	2.1
AFRICA	2.3	2.6	2.9	3.0
ASIA*	2.0 (1.9)	2.4 (2.3)	2.1 (2.0)	1.9 (1.8)
Latin America	2.7	2.7	2.4	2.1
Middle East & North Africa	2.5	2.6	2.7	2.8

* Figures in parenthesis include Japan.

Source: *World Population Prospects 1988*. New York: United Nations, 1989.

Table 3. 1. Urban Population*, 1950–1990

REGION	1950	1960	1970	1980	1990
WORLD	736765	1036725	1383088	1781094	2275680
MDCs	447619	571338	698861	798196	875684
LDCs	289146	465387	684227	982898	1399996
AFRICA	19868	31919	53021	91829	160134
ASIA**	177625 (219688)	287889 (346699)	405421 (479715)	559335 (648330)	774877 (869914)
Latin America	68664	107333	163333	236764	324144
Middle East & North Africa	22795	37897	61743	93878	139242

* Population = thousand

** Figures in parenthesis include Japan.

Source: 1. *World Population Prospects 1988*, United Nations, New York, 1989. 2. *The Yearbook of Taiwan*, 1980.

tion growth, urban growth has not been evenly distributed either in proportion or absolute numbers.

Until 1970, the total urban population of the more developed regions was greater than that of the less developed regions. With 448 million, the more developed regions had 158 million more urban dwellers than the less developed regions in 1950. By 1960 the MDCs surplus had shrunk to only 14 million in 1970. After 1970 the LDCs urban population overtook that of the MDCs. In 1980 the less developed regions had 184 million more urban dwellers than the more developed regions and in 1990 the LDCs surplus rose to 524 million. By the year 2000, according to the United Nations estimates, the urban population of the less developed regions will be almost double that of the more developed regions; and by the year 2025, it will be almost four times as large as that of the more developed regions.

Within the less developed regions, in 1950, Africa had about 19 million urban inhabitants, Asia 177 million, Latin America 68 million and the Middle East/North Africa 22 million. Forty years later 1990, all showed substantial increases. The African urban population grew to about 160 million; the Asian to 772 million, the Latin American to 324 million, and the Middle East/North Africa to 139 million. As with total population, the larger urban population grew at slower rates. Asian average annual urban growth rates for the four decades was 3.7 percent, compared with 3.9 percent for Latin America, 4.6 percent in the Middle East/North Africa and 5.3 percent in Africa.

The level of urbanization in these less developed regions in 1990 is still relatively low com-

pared with that of the more developed regions. The tempo of urbanization process, however, is very rapid. It took only 20 years, from 1950 to 1970, for the less developed regions to more than double their urban residents and they will double again between 1970 and 1990. Such extremely rapid urban growth, due to both natural increase and in-migration, is the most significant demographic phenomena of the modern times. As Davis (1965) observed of the process of urbanization in the more developed countries, it was clear that modern urbanization is best understood in terms of its connection with economic growth. The present LDCs' rapid urban growth, however, raises some concerns about whether urbanization will outstrip and possibly even obstruct economic development. In fact, these concerns were clearly indicated in the 1989 population enquiry conducted by the United Nations. The data showed that the majority of the LDC governments are unsatisfied with their countries' spatial distribution, and are seriously concerned about urban congestion, poor housing, lack of basic services, health and education problems, as well as employment, and so on. Urban problems have become one of the most urgent and crucial questions related to development (United Nations, 1989).

As shown in Table 3. 2. in 1950, of the total world urban population approximately 60 percent lived in the developed regions. Twenty years later, in 1970, approximately 50 percent of the urban population lived in the more developed regions, and another 50 percent of the urban population lived in the less developed regions of the world. By 1980, the less developed regions had more than half of the

Table 3. 2. Urban Population Shares by World Major Regions

REGION	1950	1960	1970	1980	1990
WORLD	100%	100%	100%	100%	100%
MDCs	61	55	51	45	39
LDCs	39	45	49	55	61
NORTH AMERICA	15	14	12	11	9
EUROPE	40	35	33	29	25
AFRICA	3	3	4	5	7
ASIA*	24 (30)	28 (34)	30 (35)	32 (37)	34 (39)
Latin America	9	10	10	13	14
Middle East & North Africa	3	4	5	5	6

* Figures in parenthesis include Japan.

Source: *World Population 1988*. New York: United Nations, 1989.

world's urban population, with 5 percent in Africa, 32 percent in Asia, 13 percent in Latin America, and 5 percent in the Middle East/North Africa. By 1990, the less developed regions together are projected to hold about 61 percent of the world's urban population, with 7 percent in Africa, 34 percent in Asia, 14 percent in Latin America, and 6 percent in the Middle East/North Africa.

It is not only the increase in absolute number of urban population that is of concern but also the growth of city size. Table 3. 3 shows the 25 largest cities in the world in 1960, 1980, and 2000. Since urban definition varies from country to country, the precision of the ranking is, of course, questionable. Nevertheless, these rankings and population size of cities clearly show one of the important aspects of today's urban growth. In 1960, only 4 out of 25 world's largest cities had populations of 10 million or more, which can be called mega-cities. Only 1 of these 4 cities, Shanghai was in the less developed regions. Further, only 11 out of 25 largest cities in 1960 were in the less developed regions: Shanghai, Beijing, Buenos Aires, Tianjin, Calcutta, Mexico City, Rio de Janeiro, San Paulo, Cairo-Giza, Greater Bombay, and Jakarta. And among these 11

cities, six were in Asia. In 1980, 7 out of the world's 25 largest cities had become mega-cities, with populations of more than 10 million. Among these 7 cities, 4 were in the less developed regions: Mexico City, San Paulo, Shanghai, and Buenos Aires. Among the 25 largest cities, the share in the more developed countries dropped from 14 to 10: Tokyo-Yokohama, New York-NE New Jersey, London, Los Angeles-Long Beach, Rhein-Ruhr, Paris, Osaka-Kobe, Moscow, Chicago-NE Indiana, and Milan. Fifteen were in the LDCs and nine of these were in Asia, which appears to be regaining its pre-1800 great city dominance.

It is projected that by the year 2000, there will be 22 mega-cities in the world, seventeen of which cities will be in the less developed regions, and 12 of the 25 will be in Asia: Tokyo-Yokohama, Calcutta, Greater Bombay, Seoul, Tehran, Shanghai, Delhi, Jakarta, Karachi, and Bangkok. Not only the number of cities, but also the size of population of these cities is frightening. Furthermore, it is of concern that the number of mega-cities is increasing in economically less developed regions of the world.

Regional differences in the average annual growth of total urban populations are shown in

Table 3. 3. Twenty-five Largest Agglomerations in the World Ranked by Population Size, 1960, 1980, 2000

1960			
Rank	City	Country*	Population (in millions)
1.	New York /NE New Jersey	United States	14.2
2.	London	United Kingdom	10.7
3.	Tokyo/Yokohama	Japan	10.7
4.	Shanghai	China	10.7
5.	Rhein-Ruhr	Federal Republic of Germany	8.7
6.	Beijing	China	7.3
7.	Paris	France	7.2
8.	Buenos Aires	Argentina	6.9
9.	Los Angeles/Long Beach	United States	6.6
10.	Moscow	U. S. S. R.	6.3
11.	Chicago/NE Indiana	United States	6.0
12.	Tianjin	China	6.0
13.	Osaka/Kobe	Japan	5.7
14.	Calcutta	India	5.6
15.	Mexico City	Mexico	5.2
16.	Rio de Janeiro	Brazil	5.1
17.	Sao Paulo	Brazil	4.8
18.	Milan	Italy	4.5
19.	Cairo/Giza	Egypt	4.5
20.	Greater Bombay	India	4.2
21.	Philadelphia	United States	3.7
22.	Detroit	United States	3.6
23.	Leningrad	U. S. S. R.	3.5
24.	Naples	Italy	3.2
25.	Jakarta	Indonesia	2.8

Table 3. 3. (Continued)

1980			
Rank	City	Country*	Population (in millions)
1.	Tokyo/Yokohama	<u>Japan</u>	17.7
2.	New York / NE New Jersey	United States	15.6
3.	Mexico City	Mexico	14.5
4.	Sao Paulo	Brazil	12.8
5.	Shanghai	<u>China</u>	11.8
6.	London	United Kingdom	10.3
7.	Buenos Aires	Argentina	10.1
8.	Calcutta	<u>India</u>	9.5
9.	Los Angeles/Long Beach	United States	9.5
10.	Rhein-Ruhr	Federal Republic of Germany	9.5
11.	Rio de Janerio	Brazil	9.2
12.	Beijing	<u>China</u>	9.1
13.	Paris	France	8.7
14.	Osaka / Kobe	<u>Japan</u>	8.7
15.	Greater Bombay	<u>India</u>	8.5
16.	Seoul	<u>Republic of Korea</u>	8.5
17.	Moscow	U. S. S. R.	8.2
18.	Tianjin	<u>China</u>	7.7
19.	Cairo/Giza	Egypt	6.9
20.	Chicago/NE Indiana	United States	6.8
21.	Jakarta	<u>Indonesia</u>	6.7
22.	Milan	Italy	6.7
23.	Manila	<u>Philippines</u>	6.0
24.	Delhi	<u>India</u>	5.9
25.	Banghdad	Iraq	3.9
2000			
Rank	City	Country*	Population (in millions)
1.	Mexico City	Mexico	25.8
2.	Sao Paulo	Brazil	24.0
3.	Tokyo/Yokohama	<u>Japan</u>	20.2
4.	Calcutta	<u>India</u>	16.5
5.	Greater Bombay	<u>India</u>	16.0
6.	New York / NE New Jersey	United States	15.8
7.	Seoul	<u>Republic of Korea</u>	13.8
8.	Tehran	<u>Islamic Republic of Iran</u>	13.6
9.	Shanghai	<u>China</u>	13.3
10.	Rio de Janerio	Brazil	13.3
11.	Delni	<u>India</u>	13.2
12.	Jakarta	<u>Indonesia</u>	13.3
13.	Buenos Aires	Argentina	13.2
14.	Karachi	<u>Pakistan</u>	12.0
15.	Dhaka	<u>Bangladesh</u>	11.2
16.	Cairo	Egypt	11.1
17.	Manila	<u>Philippines</u>	11.1
18.	Los Angeles/Long Beach	United States	10.7
19.	Bangkok	<u>Thailand</u>	10.7
20.	Osaka / Kobe	<u>Japan</u>	10.5
21.	Beijing	<u>China</u>	10.4
22.	Moscow	U. S. S. R.	10.4
23.	Tianjin	<u>China</u>	9.1
24.	Paris	France	8.7
25.	Banghdad	Iraq	7.4

*Country which is in bold type is located in the less developed regions and country which is underlined is located in Asia.

Source: United Nations. *Urban and Rural Population Projections 1950-2025: The 1984 Assessment*. 1986.

Table 3. 4. For the world as a whole, the urban population peaked at an average annual rate of about 3.4 percent in the period of 1950-60, declining to about 2.5 percent in the period of 1980-90. Urban populations in the more developed regions were growing at an average rate of about 2.4 percent in the period 1950-60, declining steadily to 0.9 percent in the period of 1980-90. Urban populations in the less developed region, however, were growing at an average rate of about 4.8 per cent in the period 1950-60, declining only to 3.5 percent in the period of 1980-90. These global figures conceal significant regional variation, however, especially within the less developed regions. On the one hand, in Asia, Latin America, and the Middle East/North Africa, the average annual growth rates for the urban population has been declining since 1960. As in total population growth, Africa's average annual growth rate for the urban population has been increasing constantly. Since 1960s, this region's average annual growth rate for the urban population has risen steadily from 5.1 percent to 5.6 percent in the 1980s.

4. Urbanization

Table 4. 1 shows levels of urbanization between 1950 and 1990. Here, urbanization is defined as the proportion of population living in urban areas. Weighted averages are used for this section when we consider regional pattern of urbanization. Later, when the patterns of urbanization in Asian countries are examined, both weighted and unweighted averages will be used.

For the world as a whole, 29 percent of the population lived in urban places in 1950 and this is expected to reach approximately 43 percent in 1990.

Table 4. 1. Average Annual Growth Rates for Urban Population

REGION	1950-60	1960-70	1970-80	1980-90
WORLD	3.4	2.9	2.5	2.5
MDCs	2.4	2.0	1.3	0.9
LDCs	4.8	3.9	3.6	3.5
AFRICA	4.7	5.1	5.5	5.6
ASIA*	4.8 (4.6)	3.4 (3.2)	3.2 (3.0)	3.3 (2.9)
Latin America	4.5	4.2	3.7	3.1
Middle East & North Africa	5.1	4.9	4.2	3.9

* Figures in parenthesis include Japan.
Source: *World Population Prospects 1988*,
New York: United Nations, 1989.

thus in this 40-year period, the world urbanization has increased by 14 per percentage points. As with other conditions, urbanization is not evenly distributed around the world.

In the more developed regions, a little over 50 per cent of the total population already lived in urban areas in 1950 and three quarters (73 percent) are estimated to live in urban areas by 1990. Between this 40 year period, the more developed region's urbanization rose by 19 percentage points. In the less developed regions, the level of urbanization was only 17 percent in 1950. By 1990, however, the proportion is expected to double to 34 per cent. In more developed regions, even though their urbanization process has been slowing down in recent years, urbanization has become the dominant condition. Cities in the less developed regions are now also confronted with problems new to their human experience, as well as all the old problems: urban infrastructure, food, housing, amenities, employment, health, and education; all in new and accentuated forms.

Among the less developed countries, there is significant regional variation in both levels and trends of urbanization. As shown in Table 4. 2, in 1950, Africa was the world's least urbanized region, with only 12 percent of its population living in urban areas. By the year 1990, however, a third of all Africans will be living in urban places. In other words, Africa will still remain at a very low level of urbanization, with almost two-thirds of the total population living in rural areas. In fact, Africa, with Asia, will be sharing the lowest level of urbanization in the world. The speed of urbanization, however, is very rapid in Africa. Between 1950 and 1980, the proportion of people living in urban areas doubled, and it only took another 10 years to add 7 percent-

Table 4. 2. Percentage Urban*, 1950-1990

REGION	1950	1960	1970	1980	1990
WORLD	29	34	37	39	43
MDCs	54	60	66	70	73
LDCs	17	22	25	29	34
AFRICA	12	15	19	25	32
ASIA**	14 (16)	18 (21)	21 (23)	23 (25)	27 (29)
Latin America	42	49	57	66	72
Middle East & North Africa	24	31	39	46	51

* All figures are calculated by weighted average
** Figures in parenthesis include Japan.

age points to the total population to urban areas.

In Asia, only 14 percent of total population lived in towns and cities in 1950, slightly ahead of Africa, but substantially behind the other less developed regions. Thirty year later, in 1980, still less than 25 percent of Asian people were living urban places. Even in 1990, it is estimated that only 27 percent of total population will be living in urban areas. In fact, Asia's level of urbanization will be the lowest among the world major regions in 1990. The tempo of urbanization in Asia is somewhat slower than that of Africa. Between the period of 1950 and 1980, Asia added only 9 percentage points to its urbanization. In fact, the tempo of urbanization in Asia is the slowest among the less developed regions.

Latin America was already the most urbanized region among the less developed regions in 1950, and by 1970, over half of total population already lived in towns and cities. The level of urbanization in Latin America has come close to that of the more developed regions by 1980 (66 per cent) and it is estimated that the level of urbanization in Latin America and in the more developed regions will be identical in 1990 (72 percent). The tempo of urbanization in Latin America has been substantial. Between 1950 and 1990 this region has become 71 percent more urbanized.

The Middle East/North Africa was the second most urbanized region among the less developed countries in 1950, and will retain that rank in 1990. This region was 24 per cent urban in 1950 and has increased to 46 percent in 1980, adding 22 percentage points to its urbanization between 1950 and 1980. It is estimated that a little over 50 percent of total population will be living in urban areas in 1990.

Here, we must discuss the general picture of urbanization in Asia. Since Asia is the most heterogeneous of all regions in the world, average figures sometimes conceal significant variation within Asia. For this reason, a more detailed treatment will be given for Asia in the following section.

5. Asian Urbanization

This section will be organized in the following manner. First, the process of urbanization in Asia as a whole will be examined. Then, we shall examine

the sub-regions: East, Southeast and South Asia. Finally, urbanization in the constituent countries in each of the sub-regions will be examined.

Tables 5. 1, 5. 2, and 5. 3 indicate changes in size of the urban population, its average annual growth rate, and the level of urbanization in the those subregions. Tables 5. 4, 5. 5, and 5. 6 show the urbanization levels of each country in the subregions.

As Table 5. 7 indicates, the total urban population in the selected countries of Asia was about 220 million in 1950, and increased to 870 million in 1990. This is a total growth of 295 percent. There is certainly regional variation within Asia in terms of this urban growth.

East Asia had 117 million urban population in 1950. By 1990 approximately 408 million East Asians

Table 5. 1. Urban Population*: Asian Regions

REGION	1950	1960	1970	1980	1990
Total	219688	346699	479715	648330	869914
East	116542	204324	274393	341540	407705
Southeast	26937	39487	57894	86479	127973
South	76209	102888	147428	220311	334236

Source: 1. *World Population Prospects 1988*, New York: United Nations, 1989. 2. *The Yearbook of Taiwan*, 1980.

*Population = thousand

Table 5. 2. Average Annual Growth Rates of Urban Population 1950-1990

REGION	1950-60	1960-70	1970-80	1980-90
WORLD	3.47	2.92	2.57	2.48
MDCs	2.46	2.20	1.33	0.92
LDCs	4.88	3.92	3.70	3.60
Asia Total*	4.50	3.54	3.45	3.41
East* Asia	6.70 (5.61)	3.91 (2.95)	2.33 (2.19)	2.13 (1.77)
Southeast Asia	3.82	3.83	4.01	3.92
South Asia	3.00	3.60	4.02	4.17

*Figures in parenthesis include Japan.

Note: East Asia figures excluding China are 1950-60=3.57, 1960-70=3.02, 1970-80=2.52, 1980-90=1.73

Source: *World Population Prospects 1988*, New York: United Nations, 1989.

Table 5. 3. Per Cent Urban* in Asian Regions**

REGION	1950	1960	1970	1980	1990
Total	16	21	23	25	28
East	16	24	26	27	28
Southeast	14	17	20	24	29
South	15	17	19	23	27

*All figures are calculated by weighted average.

Source: *World Population Prospects 1988*, New York: United Nations, 1989.

Table 5. 4. Urban Population and Level of Urbanization: 1950-1990
East Asia

Country	1950		1960		1970		1980		1990	
	Urban Pop*	percent	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent
Total: Asia	219485	25**	346489	29**	479388	33**	647866	36**	867604	39**
Total: East	116359	39**	204161	48**	274159	54**	341222	60**	407237	64**
China	60969	10	124890	19	166970	20	203350	20	243480	21
Hong Kong	1747	89	2739	89	3534	90	4614	92	5444	93
Japan	42063	50	58810	63	74294	71	88995	76	95037	77
South Korea	4347	21	6929	28	12995	41	21678	57	31397	72
North Korea	3024	31	4231	40	6958	50	10759	60	15457	67
Mongolia	142	19	332	36	562	45	850	51	1141	51
Taiwan	4067	54	6230	58	8846	62	10976	62	15281	65

* Urban population = thousand

** Unweighted average

Source: *World Population Prospects, 1988*, New York: United Nations, 1989.

Table 5. 5. Urban Population* and Level of Urbanization: 1950-1990
Southeast Asia

Country	1950		1960		1970		1980		1990	
	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent
Total: Asia	219485	25**	346489	29**	479388	33**	647866	36**	867604	39**
Total: SE Asia	26925	23**	39450	25**	57813	25**	86367	29**	127820	31**
Myanmar	2876	16	4189	29	6190	23	8083	24	10247	25
Kampuchea	443	10	559	10	812	12	659	10	959	12
Indonesia	9871	12	14032	15	20534	17	33514	22	519759	29
Lao	127	7	173	8	261	10	431	13	758	19
Malaysia	1244	20	2053	25	2929	27	4713	34	7336	42
Philippines	5695	27	3350	30	12380	33	18052	37	26432	42
Singapore***	1022	100	1634	100	2075	100	2414	100	2702	100
Thailand	2097	10	3302	13	4750	13	8088	17	12609	23
Timor	43	10	51	10	62	10	63	11	97	13
Viet Nam	3.5	12	5.1	14	7.8	18	10.0	19	14.7	22

* Urban population = thousand

** Unweighted average

*** According to the most recent data which this table is based upon indicate that Singapore's level of urbanization is 100 percent. However, according to the United Nations (1982), Singapore's level of urbanization was 79.7 percent in 1950, 77.6 percent in 1960, 75.2 percent in 1970, 74.0 percent in 1980. And Singapore will be 75.0 percent urban in 1990.

Source: *World Population Prospects 1988*, New York: United Nations, 1989.

Table 5. 6. Urban Population* and Level of Urbanization: 1950-1990
South Asia

Country	1950		1960		1970		1980		1990	
	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent	Urban Pop	percent
Total: Asia	219485	25**	346489	29**	479388	33**	647866	36**	867604	39**
Total: South	76201	13**	102878	14**	147416	18**	220277	20**	332547	23**
Afghanistan	520	6	861	8	1503	11	2512	16	3598	22
Bangladesh	1818	4	2647	5	5073	8	9189	10	15759	14
Bhutan	15	2	22	3	32	3	49	4	81	5
India	61965	17	79414	18	109620	20	161400	23	238950	28
Iran	3937	28	6828	33	11648	41	19086	49	31066	55
Nepal	187	2	292	3	450	4	909	6	1837	10
Pakistan	6923	18	11042	22	16354	25	23936	28	39229	32
Sri Lanka	1106	14	1772	18	2736	22	3196	22	3677	21

* Urban population = thousand

** Unweighted average

Source: *World Population Prospects 1988*, New York: United Nations, 1989.

lived in urban areas. This represents the total growth of 249 percent. During the same period, Southeast Asia's urban population increased from 26 million to 127 million increasing by 375 percent. South Asia increased its urban population from 76 million to 334 million in these four decades, for a 339 per cent increase. Among these three regions, East Asia shows the slowest urban growth. Southeast and South Asia, on the other hand, reveal very similar patterns of urban growth between the period of 1950 and 1990. For the 40 years, between 1950 and 1990, these two regions' urban populations grew at very high rates.

Table 5.2 indicates the pattern of average annual urban population growth rates in the world, the more developed regions (MDCs), the less developed regions (LDCs), and in the sub-regions of Asia. Southeast and South Asia's average annual growth rates of urban population was lower than that of the LDCs in 1950-60. Then their average became very close to that of the LDCs. Between 1970-80 and 1980-90, both Southeast and South Asia's average annual growth rates were much higher than that of the less developed regions and needless to say, far above that of the world as a whole. East Asia, on the other hand, showed a very different pattern of average annual growth rates from those of Southeast and South Asia. Especially once Japan is excluded from this region, average annual growth rates of urban population became much slower than those of Southeast and South Asia, especially since 1960s.

Table 5.3. indicates level of urbanization, calculated using weighted average. For Asia as a whole, the level of urbanization in 1950 was only 16 percent. It has shown a gradual increase over the years, but even in 1980, only one-quarter of total population lived in urban places. Among the sub-regions, in 1950, the level of urbanization in East Asia was slightly higher than in Southeast or South Asia. These regional differences, however, are very small. This similar pattern is expected to continue 1990. By that year, East Asia's level of urbanization is estimated to be 28 percent, Southeast Asia being 29 percent and South Asia being 27 percent. In effect

there is a striking similarity among these three very different sub-regions.

Tables 5.4., 5.5., and 5.6. indicate the level of urbanization, calculated using unweighted average. This will show more clearly the extent of differences among individual nations' levels of urbanization. In 1950, Asia as a whole was only 25 percent urbanized, and is estimated to reach almost 40 percent urban in 1990. This, however, conceals substantial country variation. On the one hand, using unweighted averages East Asia was already 39 percent urbanized in 1950, much higher than the regional average. This region includes seven countries: China, Hong Kong, Japan, South Korea, North Korea, Mongolia and Taiwan. By 1990, most countries in this region, except China, had at least 50 percent of the total population living in urban areas; Hong Kong was 93 percent urbanized, Japan was 77 per cent, South Korea was 72 percent, North Korea was 67 per cent, Mongolia was 51 percent and Taiwan was 65 percent. The level of urbanization in China appears similar to countries in Southeast and South Asia. In fact, in China only 10 percent of the total population lived in urban areas in 1950, and still four-fifths of total population will be in rural areas in 1990. That is, most of the countries in East Asia were highly urbanized by 1990. China's immense size and low level of urbanization have a heavy impact on the weighted average. It is the individual country experience that comes into focus when we use the unweighted average.

The levels of urbanization in Southeast and South Asia, on the other hand, were both very low compared to East Asia. Southeast Asia includes ten countries: Myanmar, Kampuchea, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Viet Nam. Except for a few countries, this region is characterized as predominantly rural. Countries whose 1990 levels of urbanization were more than 30 percent in this region were Malaysia (42 percent), Philippines (42 percent) and Singapore (100 percent)⁵. The rest of the seven countries in this region were still less than 30 per cent urbanized even in 1990: Myanmar: (25 percent), Kampuchea (12 percent), Indonesia (29 percent), Laos (19 percent),

5) According to the most recent data which this study is based upon indicates that Singapore's level of urbanization is 100 percent. However, according to the United Nations (1982), Singapore's level of urbanization was 79.7 percent in 1950, 77.6 percent in 1960, 75 percent in 1970, 74 percent in 1980, and 75 percent in 1980.

Thailand (23 percent), and Viet Nam (22 percent).

South Asia is comprised of eight countries: Afghanistan, Bangladesh, Bhutan, India, Iran, Nepal, Pakistan, and Sri Lanka. This region shares a similar level of urbanization with Southeast Asia. Except for Iran, whose level of urbanization reached 55 percent in 1990, countries in this region were still at very low levels of urbanization in 1990: Afghanistan (22 percent), Bangladesh (14 percent), Bhutan (5 percent), India (28 percent), Nepal (10 percent), Pakistan (32 percent), and Sri Lanka (21 percent).

Thus although all these sub-regions showed similar overall levels of urbanization (Table 3. 10), they are composed of countries strikingly different in their urban character. Although the region contains a predominantly rural country, the People's Republic of China, East Asia is a region of wealthy developing urbanized states. Both South and Southeast Asia are more pervasively rural, with the notable exception of Singapore in Southeast Asia.

6. Urban Primacy

This section will examine a dimension of the urbanization Process that concerns the size distribution of cities within a given country. In some countries, cities grouped by size of population form a pyramid. That is there are few cities whose population are very large. Then there is a larger number of medium size cities in the center and a multitude of small cities at the base. Generally this well-balanced patterns of distribution of cities are usually found in developed countries, such as the United States, West Germany and Japan. We, however, see in this section this is not always the case. That is, in some countries in the less developed regions, we also find this well balanced pattern of distribution of cities, such as China and India.

In some countries, on the other hand, there is only one very large city and very few, if any, medium and small size cities. This city is generally called a primate city, overwhelmingly large in comparison with all other cities in the country. Bangkok, the capital city in Thailand, for example, has 56 percent of Thailand's total urban population in 1990.

This "disproportionately large" city is frequently the only city of note (Browning, 1962).

Our purpose is the following in not to examine the causes and consequences of primacy rates, however. We simply wish to use this important measure to help identify further the distinctive character of Asian urbanization. Thus we shall examine worldwide and regional aspects of the primacy rate only to help us understand better how Asian urbanization may be different from that in other world regions. We begin with a description of primacy rates, then move to the question of their relationship with the levels of urbanization.

Primacy is measured in a number of ways. The simplest and most common measure is the percent of the total urban population living in the largest city. Two other measures use the ratio of the first to the second city or the ratios of the first four cities. We use the first because it is the least demanding in data, therefore subject to less error. Further, the various measures tend to be highly correlated. We shall examine the primacy level both over time and space, using decade data for 1950 through 1990, and for the major regions of the world⁶⁾.

Table 6.1. shows the primacy rates for five periods for each of the 114 countries for which we have data. The most striking finding is the fact that there is interesting variation among the world major regions of the world in terms of urban primacy level. If we consider those countries with high urban primacy level, above 50 percent in 1990, eight out of 20 in Africa had above this level: Burundi (100 per cent), Rwanda (54 percent), Angola (61 percent), Central Africa (52 percent), Guinea (95 percent), Bukina Faso (51 percent), Senegal (52 percent), and Sieria Leonne (52 per cent). In Latin America four countries out of 22 had high primacy rates: Dominican Republic (51 percent), Puerto Rico (55 percent), Costa Rica (64 percent), and Paraguay (63 percent). In Asia there were six high primacy rate countries out of 22: Hong Kong (100 percent), Kampuchea (100 percent), Laos (53 percent), Singapore (100 per cent), Thailand (57 percent), Afghanistan (57 percent). The Middle East/North Africa had only three countries out of 15 with high rates: Lebanon (77 percent),

6) The unit of analysis is the nation state, and the urban population within a given state. With the emergence of a world economy, it might make sense to use larger regions, such as all West Africa, as the unit. At this point, however, we prefer to use the simpler, well established procedure based on the nation state.

Table 6.1. Urban Primacy*

Country (City)	1950	1960	1970	1980	1990	Pop. 1990 in millions
Africa						
Burundi (Bujumbura)	100.0	100.0	100.0	100.0	100.0	0.4
Ethiopia (Addis Ababa)	23.44	25.85	27.89	29.88	31.84	1.9
Kenya (Nairobi)	37.9	38.5	44.8	32.3	25.8	1.5
Madagascar (Antananadivo)	54.6	44.5	38.2	30.2	25.8	0.8
Malawi (Lilongwe)	9.0	9.4	12.6	25.2	36.9	0.5
Mozambique (Maputo)	62.2	66.2	69.5	47.3	36.9	1.5
Rwanda (Kigali)	52.0	52.0	49.9	52.5	53.6	0.3
Somalia (Mogadiscio)	15.1	18.6	22.9	25.0	26.3	0.7
Uganda (Kampala)	35.8	41.3	43.5	40.9	35.7	0.7
Tanzania (Dar Es Salaam)	26.2	34.3	43.3	26.9	18.5	1.7
Zambia (Lusaka)	12.2	16.2	21.8	21.7	21.6	1.0
Zimbabwe (Harare)	37.8	37.8	37.8	37.8	35.9	1.0
Angola (Luanda)	44.2	43.7	55.0	58.5	60.5	1.7
Cameroon (Yaounde)	6.1	9.1	13.0	14.0	15.6	0.9
Central Africa (Bangui)	18.5	25.9	35.7	47.1	52.0	0.7
Chad (Ndjamena)	33.1	35.4	37.3	38.2	40.5	0.8
Guinea (Conakry)	21.9	31.2	63.9	93.4	95.3	1.7
Zaire (Kinshasa)	7.2	12.1	23.2	24.9	21.1	3.0
South Africa (Cape Town)	10.5	9.9	10.3	9.4	8.8	1.8
Benin (Porto-Navo)	32.2	28.8	20.1	14.2	12.1	0.3
Bukina Faso (Ouagadougou)	20.8	27.8	36.5	47.7	50.9	0.4
Cote d'Ivoire (Abidjan)	20.1	24.7	29.4	33.6	35.8	2.1
Ghana (Accra-Tema)	35.3	25.1	30.0	31.8	29.7	1.5
Liberia (Monrovia)	45.4	46.2	46.1	46.3	47.0	0.5
Mali (Bamako)	19.0	24.9	32.3	38.8	36.8	0.7
Niger (Niamey)	24.2	32.4	35.7	39.4	42.3	0.6
Nigeria (Lagos)	8.6	12.5	17.7	20.4	19.1	7.6
Senegal (Odkar)	29.3	37.7	44.8	49.6	52.1	1.5
Sierra Leone (Freetown)	28.9	35.6	43.4	49.4	51.6	0.7
Latin America						
Cuba (La Habana)	39.7	36.7	33.8	28.8	27.1	2.1

Table 6. 1. (Continued)

Country (City)	1950	1960	1970	1980	1990	Pop. 1990 in millions
Latin America						
Dominican Republic (Santo Domingo)	39.2	45.7	47.0	48.6	50.9	2.2
Haiti (Port-Au-Prince)	35.4	43.2	51.7	34.5	23.2	0.5
Jamaica (Kingston)	89.7	76.6	67.8	56.7	48.7	0.6
Puerto Rico (San Juan)	51.9	51.9	44.3	51.3	55.1	1.5
Costa Rica (San Jose)	63.4	62.7	63.8	64.5	64.2	1.0
El Salvador (San Salvador)	22.9	25.1	23.1	23.5	25.4	0.6
Guatemala (Guatemala City)	45.6	40.2	35.9	39.0	43.2	0.7
Honduras (Tegucigalpa)	56.3	43.7	35.2	28.2	23.3	0.5
Mexico (Mexico City)	24.1	25.5	28.1	30.0	30.1	19.4
Nicaragua (Managua)	28.7	33.6	39.2	42.9	43.8	1.0
Panama (Panama)	38.7	55.8	47.9	39.4	34.7	0.5
Argentina (Buenos Aires)	45.8	44.1	44.2	42.3	41.6	11.6
Bolivia (La Paz)	3.2	3.2	3.1	3.2	3.5	1.3
Brazil (San Paulo)	18.0	15.1	15.1	15.3	15.9	18.4
Chili (Santiago)	37.5	39.3	39.7	41.0	41.7	4.7
Colombia (Bogota)	15.7	17.4	20.0	24.0	25.0	5.6
Ecuador (Quite)	22.0	21.0	21.0	21.0	20.3	1.2
Paraguay (Asuncion)	43.0	42.8	50.6	58.3	62.5	1.3
Peru (Lima-Callos)	37.3	36.9	37.4	39.5	41.5	6.5
Uruguay (Montevideo)	65.5	56.8	50.6	48.4	44.9	1.2
Venezuela (Caracas)	25.4	25.7	26.7	23.5	22.2	4.0
Asia						
East Asia						
China (Shanghai)	16.8	8.5	6.8	5.8	5.2	12.6
Hong Kong (Hong Kong)	100.0	94.7	96.1	97.2	100.0	5.4
Japan (Tokyo-Yokohama)	16.0	18.2	20.0	19.9	21.6	20.5
Dem. Peo. Rep. of Korea (Pyongyang)	14.9	15.2	13.3	12.0	11.7	1.8
Korea, Republic of (Seoul)	23.5	34.1	40.9	38.2	36.1	11.3
Taiwan (Taipei)						
Southeast Asia						
Burma (Rangoon)	23.2	23.3	23.1	27.0	31.0	3.2

Table 6. 1. (Continued)

Country (City)	1950	1960	1970	1980	1990	Pop. 1990 in millions
Asia						
Kampuchea (Phnom-Penh)	82.1	69.7	62.9	100.0	100.0	1.0
Indonesia (Jakarta)	17.5	19.5	21.1	19.2	18.1	9.4
Lao (Vientiane)	95.0	73.9	60.3	56.6	53.1	0.4 e
Malaysia (Kuala Lumpur)	16.7	16.7	15.4	19.6	22.9	1.7
Philippines (Manila-Quezon)	27.7	27.2	28.6	33.0	31.8	8.4
Singapore (Singapore)	93.2	74.7	75.4	100.0	100.0	2.7
Thailand (Bangkok)	64.9	65.1	65.5	58.7	56.8	7.2
Viet Nam (Ho Chi Minh Hill)	24.9	25.9	25.6	24.0	21.6	3.2
South Asia						
Afghanistan (Kabul)	41.6	41.7	33.6	40.0	56.5	2.0
Bangladesh (Dacca)	23.1	24.5	29.6	35.8	40.6	6.4
India (Calcutta)	7.2	6.9	6.3	5.6	5.0	10.3
Iran (Teheran)	26.5	27.4	28.3	29.1	29.7	9.2
Nepal (Kathmandu)	54.4	40.8	32.8	24.8	19.6	0.4
Pakistan (Karachi)	14.9	16.7	19.1	20.7	19.5	7.7
Sri Lanka (Colombo)	36.7	27.4	20.3	18.3	16.8	0.6
The Middle East / North Africa						
Iraq (Baghad)	32.0	34.7	40.2	40.2	38.1	5.4
Israel (Jerusalem)	17.9	10.2	11.3	11.6	12.1	0.5
Jordan (Amman)	21.0	30.1	33.4	36.7	36.6	1.1
Lebanon (Beirut)	70.4	62.5	62.4	72.7	77.0	1.9
Saudi Arabia (Riyadh)	7.7	10.4	14.6	18.9	21.8	2.4
Syrian (Damascus)	34.3	34.5	33.7	29.0	25.0	1.6
Turkey (Istanbul)	21.8	17.8	20.5	14.9	13.5	3.6
Yemen (Sana)	70.6	53.3	31.1	20.0	16.3	0.3
Democratic Yemen (Aden)	42.2	39.9	50.4	60.2	62.0	0.7
Algeria (Alger)	22.4	26.4	22.1	27.4	30.2	3.4
Egypt (Cairo-Giza)	37.1	37.8	38.2	37.3	34.4	9.1
Libyan (Tripoli)	55.4	56.8	54.6	56.6	57.1	1.8
Morocco (Casablanca)	30.4	32.3	28.5	27.7	26.8	3.3
Sudan (Khartoum)	31.5	30.1	29.0	31.6	35.1	2.0

Table 6. 1. (Continued)

Country (City)	1950	1960	1970	1980	1990	Pop. 1990 in millions
The Middle East / North Africa						
Tunisia (Tunis)	42.8	39.2	33.1	32.6	36.8	1.6
North America and Europe						
Canada (Toronto)	16.1	16.5	16.6	16.4	16.4	3.3
U. S. (New York)	12.6	11.2	10.7	9.3	8.5	15.7
Bulgaria (Sofia)	29.5	23.3	20.0	23.3	25.3	1.6
Czechoslovakia (Praha)	21.6	16.7	13.6	12.4	12.0	1.3
German Democratic Rep. (Berlin)	9.2	8.9	8.6	9.0	9.6	1.3
Hungary (Budapest)	47.0	45.4	41.3	35.9	32.6	2.1
Poland (Katowice)	17.6	17.0	16.2	15.2	14.7	3.6
Romania (Bucuresti)	26.1	22.0	19.6	19.2	20.0	2.3
Demmark (Kobenhaven)	41.7	39.8	35.1	28.8	26.3	1.2
Finland (Helsinki)	28.4	27.5	26.7	31.4	36.4	1.2
Ireland (Dublin)	51.8	50.9	50.5	45.9	44.2	1.0
Norway (Oslo)	46.8	50.1	24.8	22.3	21.1	0.7
Sweden (Stockholm)	16.1	14.8	16.8	20.0	22.2	1.6
United Kingdom (London)	24.1	23.9	21.4	20.4	20.1	10.6
Albania (Tirana)	33.9	27.3	26.0	26.0	26.0	0.3
Greece (Athina)	47.8	50.8	45.1	45.1	46.1	2.9
Italy (Milan)	14.2	15.1	16.0	18.1	20.1	7.9
North America and Europe						
Portugal (Lisbon)	52.2	47.3	42.5	54.3	65.1	2.2
Spain (Madrid)	10.7	12.9	15.1	15.7	16.4	5.1
Yugoslavia (Beograd)	11.0	11.1	10.7	10.4	10.2	1.2
Austria (Wine)	52.1	50.8	46.8	41.8	39.0	1.7
Belgium (Bruxelles)	12.2	12.0	11.8	10.7	9.9	1.0
France (Paris)	23.2	25.4	23.1	22.0	21.0	8.8
Germany, Federal Rep. of (Munchen)	5.6	5.1	4.5	4.3	4.4	2.3
Netherlana (Amsterdam)	10.2	9.4	9.3	7.7	7.1	0.9
Switzland (Berne)	9.3	8.1	8.3	8.0	7.4	0.3
U. S. S. R. (Moscow)	6.8	6.0	5.2	4.9	4.8	9.4

Source: United Nations. *The Prospects of World Urbanization, Revised as of 1984-85*. New York: United Nations, 1987.

* Urban primacy was measured by the percent of the total population living in the largest city.

Democratic Yemen (62 percent), and Libya (57 percent). In Europe/North America only one country out of 27 countries: Portugal (65 percent) showed high primacy. That is, there are regional differences in terms of urban primacy.

On the other hand, a primacy index below 10 percent in 1990 was found in Africa in only one country, South Africa (8.8 percent). Also in Latin America, we find only one country whose urban primacy level is lower than 10 percent: Bolivia (3.5 percent). In Asia there are two countries which have low primacy levels: China (5.2 percent), India (5.0 percent). In Europe and North America, we find seven low rate countries: the United States (8.5 percent), German Democratic Republic (9.6 percent), Belgium (9.9 percent), Federal Republic of Germany (4.4 percent), Netherlands (7.1 percent), Switzerland (7.4 percent), and U. S. S. R. (4.8 percent).

Table 6. 2 shows the mean primacy rates and their ranges for 114 of the world's countries, and for the countries in each of the five major world regions. Figure 6.1. shows their distributions. The range is large, from a low of 3 percent for Bolivia to a high of 100 percent in the world's two city states, Hong Kong and Singapore, and Burundi in Africa. All regions have a wide range of primacy rates, but the more developed countries of Europe / North America show substantially less high primacy rates. Of the 11 countries with primacy rate less than 10 percent, seven are in Europe/North America. Of the 22 with rates greater than 50 percent only one (Portugal) is in the more developed region. This general observation has led some observers to hypothesize a causal connection between economic development and primacy levels.

Table 6.3. shows that the averages of primacy rates have been remarkably stable over the past four decades. The largest change was a rise of 8.6 percentage points in Africa. Next was a decline of 2.6 points in Latin America. This and the small changes in the other regions might be considered well within any reasonable margins of error. Thus all but Africa may be said not to have changed at all.

Individual countries have shown greater changes, of course. In Africa 28 countries showed changes greater than one percentage point. Less than one point can be counted no change at all. Four showed a decline of less than 10 points, and six more showed rises of less than 10 points. Thus, eleven of the 29 show no or very small change in the primacy rate. On the other hand, seven countries showed a rise of more than 20 points. Four of these, Guinea is the largest, where the primacy rate rose 73 points, from 22 to 95 percent. Three showed declines of greater than 20 points, with Madagascar showing the largest drop from 55 to 26 percent.

In Asia, 19 countries showed changes greater than one percentage point. There were two countries where primacy rates changed less than one point. Four showed a decline of less than 10 points, and seven more showed rises of less than 10 points. Thus, more than half (13 of 21) of the countries in Asia show no or very small changes in the primacy rate. On the other hand, three countries showed a decline of more than 20 points, with Laos showing the largest drop from 95 to 53 percent. No country, however, in this region showed an increase of more than 20 points. The highest increase in primacy rate is Bangladesh, from 23 to 41 points.

Table 6. 2. Primacy Rate Ranges in 1990

REGION	Mean 1990	Highest	Lowest	No. of Countries	
				<10%	>50%
WORLD (114)*	34			11	22
AFRICA (29)	39	100 (Burundi)	9 (South Africa)	1	8
ASIA (21)	38	100 (Hong Kong & Singapore)	5 (India)	2	6
Latin America (22)	36	64 (Costa Rica)	4 (Bolivia)	1	4
Middle East & North Africa (15)	35	77 (Lebanon)	12 (Israel)	0	3
Europe & North America (27)	22	65 (Portugal)	5 (U. S. S. R.)	7	1

*Number of countries

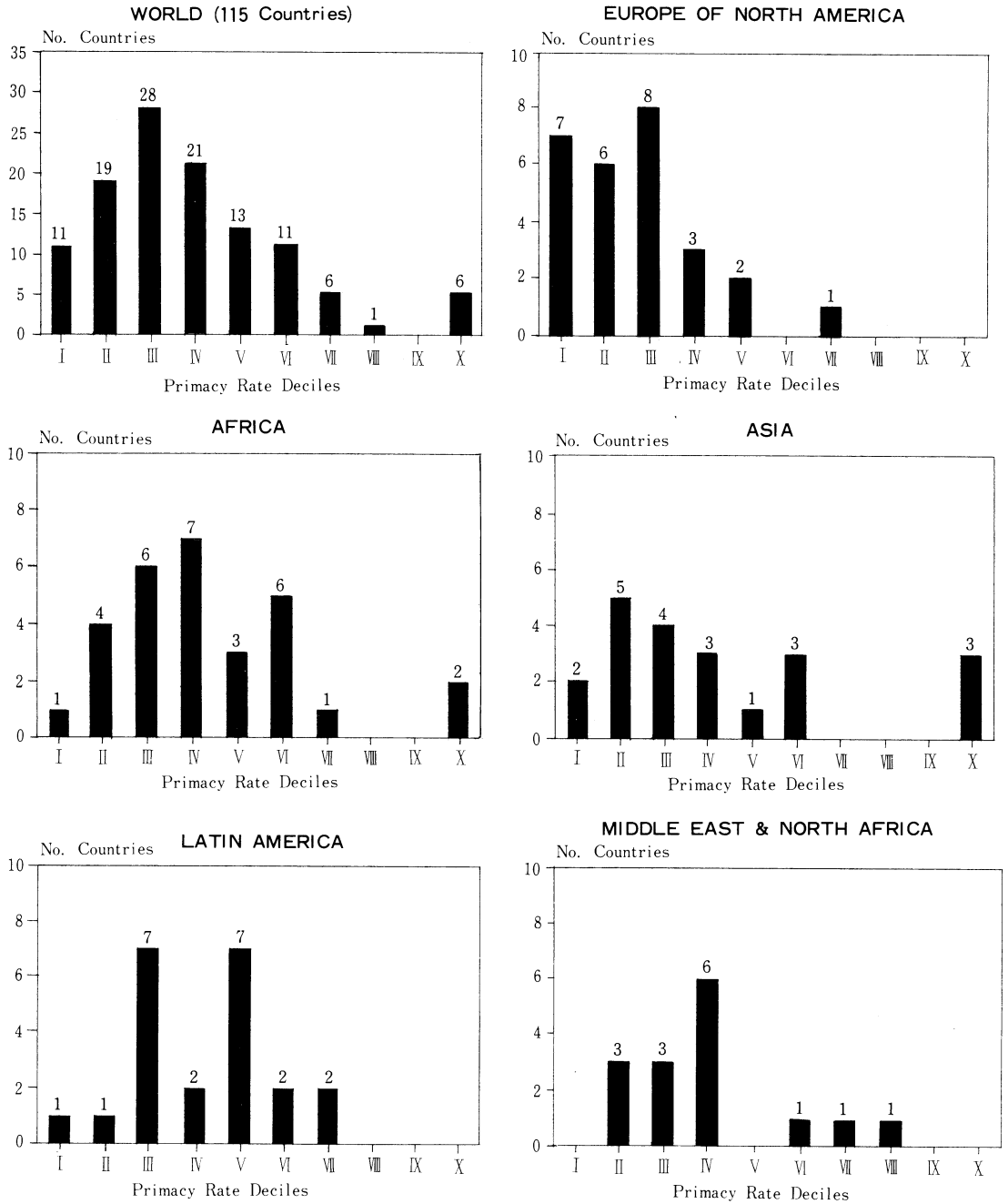


Figure 6. 1. Distribution of Primacy Rate

Table 6.3. Primacy* Rate Changes 1950-90 (percent)

REGION	Mean 1950	Mean 1990	Change	Changes						
				Decrease > - 1 % No. of Countries			Changes < ± 1 %	Increase > + 1 % No. of Countries		
				Total	>20%	<10%		Total	<10%	>20%
WORLD (114)	33.3	33.5	+0.2	53	10	36	8	53	15	25
AFRICA (29)	30.0	38.6	+8.6	9	3	4	1	19	6	7
ASIA (21)	37.3	38.0	+0.7	8	3	4	2	11	7	0
Latin America (22)	38.5	35.9	-2.6	11	3	6	2	9	9	0
Middle East & North Africa (15)	35.8	34.9	-0.9	7	1	6	0	8	5	1
Europe & North America (27)	25.1	21.7	-3.4	18	0	16	3	6	1	4

In Latin America, 20 countries showed changes greater than 1 percentage point. Six showed a decline of less than 10 points, and nine more showed rises of less than 10 points. Thus, 17 of the 22 show no very small change in the primacy rate. On the other hand, three countries showed a decline of more than 20 points. For one of these, Jamaica's primacy rate decreased 41 points, from 90 to 49 percent. In this region there is no country whose primacy rate rose more than 20 points.

In the Middle East/North Africa, all countries showed changes greater than 1 percentage point. Six showed a decline of less than 10 points, and five countries showed a rise less than 10 points. Thus 11 countries show small changes in the primacy rate. On the other hand, one country showed a decline of more than 20 points. Yemen showed a decline of 55 points, from 71 to 16 percent among these countries. Only one country in this region whose primacy rate rose more than 20 points was Democratic Yemen where it rose from 42 to 62 percent over the past four decades.

Finally, in Europe/North America 24 countries showed changes greater than 1 percentage point. However, except in one case, this change was very small. Only Norway showed a decline of more than 20 points in primacy rate over the past four decades, from 47 to 21 percent.

We can ask a number of questions about the correlates of the primacy rate to gain insight into what they mean. Here we shall raise two questions. One concerns the relationship between primacy and the overall level of urbanization. The second concerns the relationship with economic development. Each question will be addressed through the use of

simple zero-order correlation coefficients, and for some conditions we will display scattergrams to identify both outliers and significant movements over time.

6.1 Primacy and Urbanization

Table 6.4. shows the correlation coefficients between percent urban and the primacy rate for all countries and by region, for five 10-year periods, 1950-1990⁷⁾. For the world as a whole there is no relationship. Even after we take out some outliers, there is still no relationship. Thus, primacy apparently neither depends upon nor does it affect the level of a country's urbanization. For the individual regions, however, there are some interesting patterns.

First, for Europe/North America region there is a fairly strong negative relationship that does not change with time. The scattergram (Figure 6.2.)⁸⁾ does show considerable distribution away from the regression line.⁹⁾ In Europe/North America, there is a tendency for the more urbanized countries to

Table 6.4. Correlation Coefficients between Percent Urban and Primacy Rates

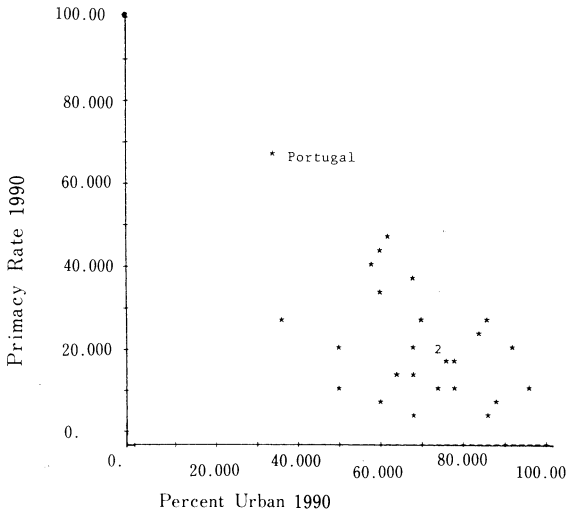
REGION	1950	1960	1970	1980	1990
WORLD (114)*	-0.3	-.12	-.18	-.16	-.15
AFRICA (29)	-.37	-.44	-.34	-.17	-.19
(Excl. outlier)	-.36	-.44	-.48	-.49	-.51
ASIA (21)	+.43	+.38	+.42	+.37	+.33
(Excl. outlier)	-.46	-.44	-.35	-.32	-.30
Latin America (22)	+0.5	-.04	-.08	-.01	+0.2
Middle East & North Africa (15)	-.22	-.25	-.27	-.19	-.09
(Excl. outlier)	-.02	+0.10	+0.01	-.01	+0.07
Europe & North America (27)	-.44	-.46	-.41	-.49	-.52
(Excl. outlier)	-.37	-.39	-.33	-.36	-.34

a. Parenthesis is number of countries in the region.

7) Since our data represent total population and are not drawn from the random sampling, the calculation of statistical significant level is not relevant.

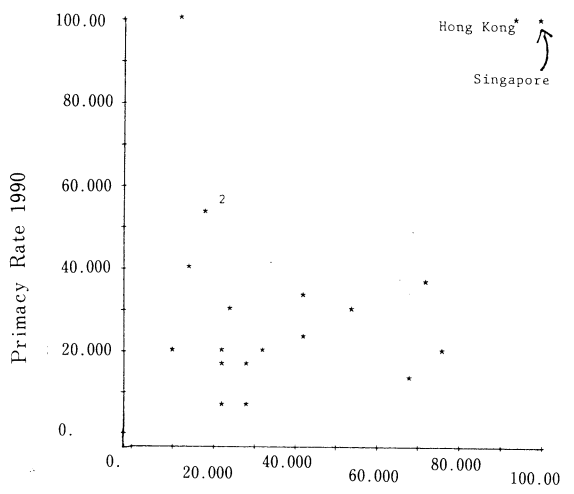
8) Since 1950's scattergram looks similar to that of 1990's, we shall present only 1990's figure.

9) Even after we take one outlier (Portugal) out, the relationship remains fairly stable.



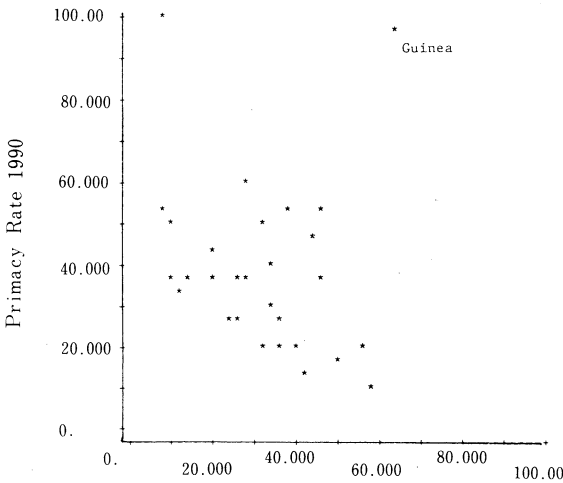
Percent Urban 1990
 $r = -.52$; excluding Portugal $r = -.34$
 See Table 3.17

Figure 6. 2. Scattergram
 Percent Urban and Urban Primacy
 North America and Europe



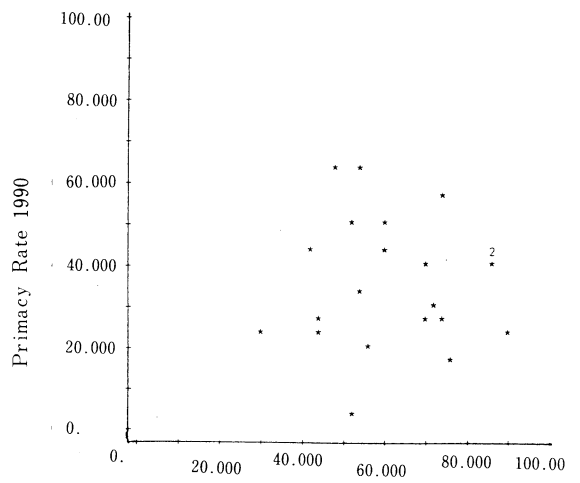
Percent Urban 1990
 $r = +.33$
 excluding Hong Kong & Singapore $r = -.30$
 See Table 3.17

Figure 6. 4. Scattergram
 Percent Urban and Urban Primacy Rate
 Asia



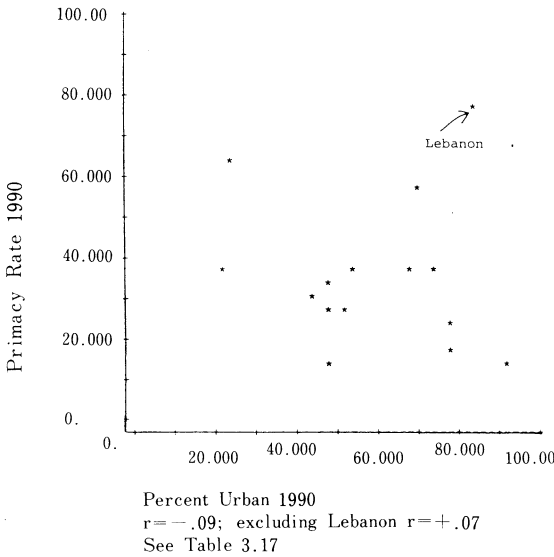
Percent Urban 1990
 $r = -.19$; excluding Guire $r = -.51$
 See Table 3.17

Figure 6. 3. Scattergram
 Percent Urban and Urban Primacy Rate
 Africa



Percent Urban 1990
 $r = +.02$
 See Table 3.17

Figure 6. 5. Scattergram
 Percent Urban and Urban Primacy Rate
 Latin America



**Figure 6. 6. Scattergram
Percent Urban and Urban Primacy Rate
the Middle East/North Africa**

have lower primacy rates. At the same time urbanization explains generally less than 25 per cent of the variance in primacy. Obviously something else is at work.

For Africa there is also a negative relationship, which lost strength over time. This is due only to the experience of Guinea, however, as can be seen in Figure 6.3. It was well within the general negative distribution in 1950 with 15 percent urban and 22 primacy rate. In the next 40 years it became substantially more urbanized, rising to over 60 percent by 1990. Apparently all, or the great majority, of that new urban population went to the capital of Conakry, however, for by 1990, 95 percent of the urban population lived in Conakry.

In the table of correlation coefficients, Asia looks different because of its strong positive relationship between urbanization and primacy. Figure 6.4., however, shows that this is due to the two city-state outliers, Hong Kong and Singapore. When we remove these from the calculation, the relationship turns negative, roughly equal in strength to that found in Africa and the developed region, and it does not change over time.

For Latin America there is no relationship between urbanization and primacy, there are no major outliers, and there is no change over time (Figure 6. 5.).

Finally, the Middle East/North Africa show a number of interesting patterns. First, Israel is the major outlier, with high urbanization and low primacy. There is a weak negative relationship in 1950, which is reduced when Israel is omitted from the calculation. More interesting, however, are the opposite patterns of change over time in Lebanon and the United Arab Emirates. Both were high in primacy but low in urbanization in 1950. By 1990, Lebanon had not changed its primacy rate, but its urbanization had risen to 90 per cent. The United Arab Emirates had also increased its urbanization level, to 78 percent, but the urban growth was more balanced among a number of cities, so that its primacy rate dropped to a mere 16 percent (Figure 6.5.).

This analysis shows first that Asia has two of the world's three major high primacy outliers in the two city states of Hong Kong and Singapore. Second, without these two, Asia's primacy-urbanization relationship is mildly negative, just as it is in the developed regions, and in Africa. Third, as other regions, this relationship has not changed significantly over time. Fourth, the levels and correlates of primacy tend to be rather stable over time for most countries. Finally, however, any overall regional relationship can be strongly affected by the position of one or two countries, and by their changes over time. And, as Lebanon and the United Arab Emirates clearly show, individual countries can take very different trajectories over time.

6. 2 Primacy and Economic Development

Table 6. 5 shows the correlation coefficients between per capita GDP, the measure of economic development, and the primacy rate for all countries and by region, for 1960 and 1980. For the world as a whole, there is no negative relationship between the

**Table 6. 5. Correlation Coefficients between
per capita GDP and Primacy Rates**

REGION	1960	1980
WORLD	-.08 (92) ^a	-.15 (96)
AFRICA	+.04 (26)	+.04 (27)
(Excl. outliers)	-.09	-.33
ASIA	+.34 (16)	+.55 (15)
(Excl. outliers)	-.14	+.14
Latin America	+.22 (20)	+.13 (20)
Middle East & North Africa	-.23 (11)	-.41 (14)
(Excl. outliers)	-.59	-.72
Europe & North America	-.40 (19)	-.45 (20)

a. Parenthesis is number of countries in the region.

level of economic development and the level of primacy, nor does the relationship change significantly over at least 20 years between 1960 and 1980.

Among world major regions, however, we find some variation in the relation. First, for Europe/North America region, as it was with urbanization, we find a fairly strong negative relationship. And this relation is substantially stable over time. When we examine scattergrams of this relation for 1960 and 1980 there is no significant outlier. Thus, in Europe/North America, we may be able to propose that primacy is negatively related to a country's level of economic development.

For the Middle East/North Africa, the level of primacy also tends to decrease with the level of economic development and this negative relationship increases in strength between 1960 and 1980. Here there are two interesting outliers one in 1960 and one in 1980, both of which have high per capita GDP and high primacy rate. Lebanon had both per capita GDP and primacy in 1960. Removing Lebanon from the calculation raises the coefficient substantially from $-.23$ to $-.59$. We also find another outlier, Libya, who had both high per capita GDP and primacy in 1980. When Libya is excluded from the 1980 calculation, the coefficient rises considerably from $-.41$ to $-.72$. Thus for the Middle East/North Africa, the relationship appears negative. Poorer countries show higher primacy than richer countries.

As it was with urbanization, Asia looks different at first glance because of its strong positive relationship between per capita GDP and primacy. Again, this is due to the two city-state outliers, Hong Kong and Singapore. When we omit these from the calculation, there is no relationship between per capita GDP and primacy, and this relation shows no change over time.

For Latin America, the relationship between primacy and level of economic development at first appears moderately positive. When we examine the scattergram, however, there is no distinctive pattern. Countries are scattered all over the distribution.

Finally, Africa shows some interesting patterns. First, Zaire is the major outlier, with both low primacy and per capita GDP. Overall there is a very low positive relationship between the GDP per

capita and primacy in 1960. Excluding Zaire from the calculation changes the sign and raises the coefficient to $-.09$. A more interesting case is that of the opposite pattern in Guinea. Guinea was both high in the GDP per capita and primacy in 1980. When Guinea is excluded from the calculation, the coefficient changes considerably from $+.04$ to $-.33$.

This analysis shows first, as it was with urbanization, Asia's primacy and economic development relationship is not clear once we remove the two city states of Hong Kong and Singapore. Second, this relation has shown relative stability over time. Finally, again as it was with urbanization, the position of one or two countries becomes very influential on overall regional relationship. As the cases of Lebanon, Libya, and Guinea clearly demonstrate, single countries' position can change radically the overall regional relationship.

7. Conclusion

In this study we have been concerned with determining whether Asian patterns of urbanization were in any sense different from the patterns in other world regions. We saw first that urbanization has become a world wide phenomenon. Urban populations are growing at about twice the rate of the total population, and soon the majority of all peoples will live in urban areas. The world is becoming more and more urbanized, as Kingsley Davis and others noted a generation ago.

We noted also that although Asia has a longer tradition of urban living than the other regions, it is today the least urbanized of all regions, and will continue to be so in the foreseeable future. Although it has by far largest number of urban dwellers, it has a lower proportion of its people living in urban areas than do the other regions. This is probably related to the high level of population density in Asia, which itself indicates a high capacity to mobilize natural resources for human sustenance. Thus Asian cities will always be surrounded by densely settled and highly productive agricultural hinterlands.

We also saw that urbanization is increasingly marked everywhere by the emergence of great megacities. There were only 4 cities over 10 million in 1950, but this number will rise to 22 by the year 2000. Megacities are on the rise, and pose a series of

difficult problems for national and urban planners. Here we also saw the return to dominance of Asia. Until 1800, the majority of the world's 25 largest cities had always been in Asia. In the 19th century, this dominance shifted to Europe/North America, the great centers of the urban industrial transformation. This remained the case as late as 1950, when the North Atlantic or industrial country cities were still in a majority among the 25 largest. By 1980, Asia had almost regained its former dominance, as 11 of the top 25 cities were located in Asia. By the year 2000, it is projected that 15 of these 25 largest cities will be in Asia.

Within Asia we found considerable difference. East Asia is the most urbanized, especially if we use the unweighted averages that give each country an equal share in determining the level, regardless of its size. Except for China, the countries of East Asia are highly urbanized. South and Southeast Asia are more similar to one another in their relatively low levels of urbanization. The notable exception of course, is the city state of Singapore.

We also examined the size distribution of cities, or the primacy rate. We used the percent of the total urban population in the one largest city of a country to measure primacy. For the most part the less urbanized and less developed countries of the Third World have higher rates of primacy than do the more urbanized and more developed countries of the North Atlantic. Only one of the 22 countries (5 percent) in Europe/North America has a primacy rate greater than 50 percent. In the less developed world 21 of the 87 countries (24 percent) have primacy rates greater than 50 percent. All the regions of the less developed world are roughly similar, here though Africa and Asia lead with almost 30 percent of their countries showing high primacy rates, while Latin America and the Middle East/North Africa show around 20 percent.

Asia shows no difference from other world regions in the relationship between primacy and the level of urbanization. Overall the relationship is a negative one. Countries with high levels of urbanization tend to show lower levels of primacy. This is generally true for all regions. Although it appeared at first that Asia was different in showing a strong positive relationship between urbanization and primacy, this was due solely to the influence of the two great city-states: Hong Kong and Singapore. When

these are removed from the calculations, Asia is no different from the other regions. Higher levels of urbanization tend to be associated with lower levels of primacy.

Much the same is true with Asia, when we examine the relationship between primacy and economic development. For the world as a whole, there appears to be no relationship between primacy and development. Again, Asia appears to run counter to this trend, showing a strong positive relationship. But that appearance comes largely from the two great city states of Asia, Singapore and Hong Kong. When there are removed from the calculation, Asia shows no real relationship. In this it is like Latin America, but not like the other less developed regions taken individually.

Europe/North America, the Middle East/North Africa and Africa show relatively strong negative relationships between primacy and development, especially when we remove outliers from the calculations. For these regions, development implies low levels of primacy. We do not know what is the causal direction, but the relationship is relatively clear and strong.

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Appendix
Appendix A. Country List

ID	Nation
1. AFRICA	
Eastern	
1.	Burundi
2.	Comoros
3.	Djibouti
4.	Ethiopia
5.	Kenya
6.	Madagascar
7.	Malawi
8.	Mauritius
9.	Mozambique
10.	Reunion
11.	Rwanda
12.	Somalia
13.	Uganda
14.	United Republic of Tanzania
15.	Zambia
16.	Zimbabwe
Middle	
17.	Angola
18.	Cameroon
19.	Central African Republic
20.	Chad
21.	Congo
22.	Equatorial Guinea
23.	Gabon
24.	Zaire
South	
25.	Botswana
26.	Lesotho
27.	Namibia
28.	South Africa
29.	Swaziland
West	
30.	Benin
31.	Burkina Faso
32.	Cape Verde
33.	Cote d'Ivoire
34.	Gambia
35.	Ghana
36.	Guinea
37.	Guined-Bissau
38.	Liberia
39.	Mali
40.	Mauritania
41.	Niger
42.	Nigeria
43.	Senegal
44.	Sierra Leone
45.	Togo

ID	Nation
2. LATIN AMERICA	
Caribbean	
46.	Barbados
47.	Cuba
48.	Dominican Republic
49.	Guadeloupe
50.	Haiti
51.	Jamaica
52.	Martinique
53.	Puerto Rico
54.	Trinidad and Tobago
Central America	
55.	Costa Rica
56.	El Salvador
57.	Guatemala
58.	Honduras
59.	Mexico
60.	Nicaragua
61.	Panama
South America	
62.	Argentina
63.	Bolivia
64.	Brazil
65.	Chile
66.	Colombia
67.	Ecuador
68.	Guyana
69.	Paraguay
70.	Peru
71.	Suriname
72.	Uruguay
73.	Venezuela
3. ASIA	
East Asia	
74.	China
75.	Hong Kong
76.	Japan
77.	North Korea
78.	South Korea
79.	Mongolia
80.	Taiwan
South East Asia	
81.	Burma
82.	Kampuchea
83.	East Timor
84.	Indonesia
85.	Laos
86.	Malaysia
87.	Philippines
88.	Singapore
89.	Thailand
90.	Viet Nam
91.	Brunei
South Asia	
92.	Afghanistan
93.	Bangladesh
94.	Bhutan
95.	India
96.	Iran
97.	Nepal
98.	Pakistan
99.	Sri Lanka
100.	Maldives

ID	Nation
4. Middle East/North Africa	
101.	Bahrain
102.	Cyprus
103.	Democratic Yemen
104.	Iraq
105.	Israel
106.	Jordan
107.	Kuwait
108.	Lebanon
109.	Oman
110.	Qatar
111.	Saudi Arabia
112.	Syrian Arab Republic
113.	Turkey
114.	United Arab Emirates
115.	Yemen
116.	Algeria
117.	Egypt
118.	Libyan Arab Jamahiriya
119.	Morocco
120.	Sudan
121.	Tunisia
5. NORTH AMERICA	
122.	Canada
123.	U. S. A.
6. EUROPE & SOVIET UNION	
Eastern Europe	
124.	Bulgaria
125.	Czechoslovakia
126.	East Germany
127.	Hungary
128.	Poland
129.	Romania
Northern Europe	
130.	Denmark
131.	Finland
132.	Iceland
133.	Ireland
134.	Norway
135.	Sweden
136.	United Kingdom
Southern Europe	
137.	Albania
138.	Greece
139.	Italy
140.	Malta
141.	Portugal
142.	Spain
143.	Yugoslavia
Western Europe	
144.	Austria
145.	Belgium
146.	France
147.	West Germany
148.	Luxembourg
149.	Netherlands
150.	Switzerland
Soviet Union	
151.	Soviet Union