Contrary to popular impressions, the pace of urbanization in contemporary developing countries is no more rapid than were the patterns of a century ago in the West (Preston, 1979). While it is true that most third world cities are growing very rapidly - often at rates of two or three percent per annum - the pace of population growth in rural areas has been almost as rapid. This results in only moderate increases in the relative urban share of the total population in most developing countries. The dynamics of urbanization and its relationship to social and economic change can only be revealed by intensive historical studies of individual countries during the process of development.

Peninsular Malaysia is a most interesting case for analysis of urban change. Except for the city-state of Singapore, Peninsular Malaysia has been the most successful of Southeast Asian countries in terms of socio-economic development, especially since Independence in 1957. Yet, it comes as a surprise to learn that the rate of change in urbanization in Peninsular Malaysia slowed down during the post-Independence era of the 1960s, a period of much more sustained economic growth and diversification than the preceding pre-Independence era. While there were some unique political factors (the "Malayan Emergency" and a major resettlement program) that accelerated urban-ward movements during the early 1950s, these events are only part of the explanation for the changing pace of urbanization.

Another issue that draws attention to the study of urbanization in Peninsular Malaysia is the present government's explicit goal to "restructure Malaysian society so that the present identification of race with .... geographical location is reduced and eventually eliminated" (Malaysia, 1973:61). In a plural society

* The research reported in this paper has been supported by a research grant (Social Change and Ethnic Inequality in Malaysia) from the United States National Institute of Mental Health.
with significant socio-economic divisions that closely parallel ethnic communities, urbanization is seen as a primary stepping stone toward the achievement of a more integrated society. The Malay community comprises more than half of the population and dominates the polity, even though they remain largely rural and agrarian. Making up somewhat more than a third of the population, the Chinese are disproportionately located in urban areas and have a more substantial foothold in the established commercial sector (largely small scale retailing) and in the emerging industrial and tertiary sectors.

In this paper, we examine these aspects of urbanization in considerable depth, not only as an analysis of Malaysian trends and ethnic differentials, but also as a potential contribution to the comparative study of social change and urbanization. The analysis extends our earlier research (Hirschman, 1976; Hirschman and Yeoh, 1979) with an explicit focus on individual towns as units of analysis in the study of urban growth. We test regression models of urban growth, using characteristics of towns at the initial time point as predictors. The models are estimated for the total town population and separately for the three ethnic groups for both the pre-Independence period (1947-1957) and the post-Independence era (1957-1970). Before the analysis of urban growth, we present a brief introduction to Malaysian society and review recent urbanization trends.

**Brief Overview of Malaysian Plural Society.**

Peninsular Malaysia, also known as West Malaysia and formerly as Malaya, consists of the eleven states of Malaysia located on the mainland of Southeast Asia. Malaysia was formed in 1963 as the federation of the then independent (since 1957) Malaya and the three British colonies of Singapore, Sabah, and Sarawak. The latter two are sparsely settled states on the island of Borneo. Singapore left Malaysia and became an independent state in 1965. Because of the lack of comparable data prior to 1970 and quite different patterns of historical development, our analysis is limited to Peninsular Malaysia.

In 1970, Peninsular Malaysia had a population of 8.8 million, of whom 53 percent identified as Malays, 36 percent as Chinese, 11 percent as Indians, and less than 1 percent of other ethnic groups (Department of Statistics, 1972:27). Considered the indigenous population, the Malay population are descendents of migrants who came from central Asia about 2,000 years ago. The Malay community
has absorbed a considerable number of immigrants from nearby Sumatra and Java up through the 20th century. The majority of Malaysian Chinese and Indians are second and third generation Malaysian residents, whose parents and grandparents migrated from China and India during the latter half of the 19th century and the first three decades of the 20th century. Initially drawn as cheap labour for the tin mines and rubber plantations of the colonial economy, many Chinese and Indian immigrants and their children subsequently entered the urban economy as petty merchants. As a conscious part of colonial policy, ethnic divisions in residence and economic activities were reinforced, and Malays were encouraged to remain in their traditional village environment, apart from the modernizing urban society.

At the time of Independence in 1957, there were substantial socio-economic disparities between the ethnic communities in terms of education, occupational structure, and income. Many of these inequalities can be traced to differences in urban-rural background and the consequent differential exposure to opportunities for achievement (Hirschman, 1975a; Hirschman, 1979a). The colonial regime had adopted a paternalistic policy which favoured the Malay aristocratic elite, but did little to economically assist the rural Malay population or to bring about greater ethnic integration in the social institutions of the country (Rudner, 1979; Lim, 1973; Hirschman, 1979a).

The newly independent government of the late 1950s and 1960s sought to reduce ethnic inequality by accelerating economic growth through a laissez-faire strategy with an expanded government role in the construction of physical infrastructure and the development of human resources (education and health). In order to alleviate the urban bias of the colonial era, the independent government directed much of its developmental activities to the rural areas to aid the predominately Malay rural population. According to almost all conventional measures of development, the 1960s were years of considerable socio-economic progress, even though unemployment and income inequality and, most importantly, ethnic disparities appear to have worsened (Hirschman, 1979b; Lim, 1973; Snodgrass, 1980).

Urban Areas: Definitions and Data.

There is no official definition of the minimum size of an urban area in Malaysia. The government designates most population settlements as gazetted areas in order to confer administrative status. In both the 1957 and 1970 Population Censuses, population
data were published for each gazetted area in the country. Some of these gazetted areas were very small, including a few with less than 100 persons. There are probably many large villages, which lack both urban characteristics (retail shops, a post office, etc.) and administrative status, but whose populations number in the thousands. For localities such as villages and agricultural estates which are not designated as gazetted areas, census counts of population size are not available.

Analyses of urbanization patterns in census reports, government documents, and by social scientists have tended to use different minimum size criteria to define urban places. The 1957 Census and most research publications during the 1960s used gazetted areas with a minimum size of 1,000 to define an urban place. The 1970 Census and subsequent works, noting the ambiguity of classifying small towns and large villages, have relied upon a definition of 10,000 as the minimum criterion of an urban place. Rather than to rely upon a simple urban-rural dichotomy, in our analysis, we use a size-of-place classification of small towns (1,000-4,999), medium size towns (5,000-24,999) and large cities (25,000 or more). In the multivariate analysis of urban growth, each town is coded to its exact population size at each census.

Another recurrent problem in trend analysis of urbanization is the comparability of the universe of towns (and the boundaries of individual towns) across censuses. Not only do some towns disappear and other are born (as they are settled and recognized as a gazetted area) over time, but some towns are merged together (or separated), and almost all larger cities have grown through expansion of boundaries. Failure to control for these changes (or to at least be sensitive to the potential biases) may result in erroneous conclusions about trends in urbanization, especially regarding the association between town characteristics and urban growth. For this study, we use a data file containing a complete inventory of all towns in one or more of the population censuses of Malaya (or Peninsular Malaysia) of 1947, 1957, and 1970. Special efforts were made to match individual towns between censuses by name, and to achieve as much comparability as possible with the available information. For instance, if it was evident (from town names or from footnotes in the published census reports) that two towns recorded separately in one census were merged together in a later census, we have listed one comparable town for both census dates (by adding together the populations of the separate towns in the earlier census). The most common examples of this type were "new villages" listed individually in the 1957 Census but were subsequently merged with existing towns in the 1960s, before the 1970 Census. Other adjustments included reconciling name changes
and joining parts of a single town that were divided in the census reports because the town spanned district boundary lines. The net result was a list of 730 "comparable census towns" that existed in one or more of the censuses from 1947 to 1970 (for a listing of frequencies of comparable census towns from 1947 to 1970, see Table 1 in Hirschman and Yeoh, 1979).


Urbanization is typically defined as the proportion of the population that lives in towns above a minimum urban threshold. Comparison of urban population/total population ratios over time, using percentage point change as a summary indicator, is the standard method to measure trends in urbanization. Both intercensal periods, 1947-1975 and 1957-1970, have been the subject of several studies of urbanization trends in Peninsular Malaysia (Caldwell, 1963; Hamzah, 1962; 1964; 1965; Narayanan, 1975; Ooi, 1976; Pryor, 1973; Saw, 1972; Sidhu, 1976; Soon, 1975). We extend these earlier studies by an examination of both intercensal periods with a comparable universe of towns (which allows for an assessment of the inclusion of new towns and of the shifts of towns across size-class boundaries), and a size-of-place urban-rural classification rather than a simple dichotomy.

The proportion of a population that lives in urban areas - the level of urbanization - is a function of the number of towns and the number of people in individual towns. Over time, both of these components may change as new settlements are founded or, more likely as small places pass the minimum population threshold and are designated urban. Population gains are also registered when existing towns grow through migration and natural increase. All of these processes have occurred in Peninsular Malaysia, between 1947 and 1957 and between 1957 and 1970. In order to examine both the trend in urbanization in all towns (old and new) and population redistribution within a constant universe of towns, Table 1 presents two sets of figures on the pace of urbanization from 1947 to 1970. The top panel is based upon a variable universe of towns - all towns above 1,000 in each census year. There were 157 census towns above 1,000 population in 1947, 386 in 1957 and 409 in 1970. The lower panel computes similar urbanization ratios (urban population/total population) for a constant universe of towns for each intercensal interval. For instance, the 1947-1957 urbanization levels are based only on the 1947 universe of 157 towns, by size of the town in 1947. Similarly, the 1957-1970 figures are based upon the 1957 universe of 386 towns. The figures in this lower panel can be interpreted as the trend in population redistribution within the existing urban
### Variable Universe of Towns

<table>
<thead>
<tr>
<th>Size of Town</th>
<th>Total Population&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Malay</th>
<th>Chinese</th>
<th>Indian</th>
<th>Number of Towns</th>
</tr>
</thead>
<tbody>
<tr>
<td>25,000 or more</td>
<td>16.1</td>
<td>22.0</td>
<td>24.5</td>
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<td>11.9</td>
</tr>
<tr>
<td>5,000 - 24,999</td>
<td>5.2</td>
<td>10.0</td>
<td>9.6</td>
<td>2.4</td>
<td>4.8</td>
</tr>
<tr>
<td>1,000 - 4,999</td>
<td>5.2</td>
<td>10.5</td>
<td>7.9</td>
<td>3.0</td>
<td>4.1</td>
</tr>
<tr>
<td>Balance of County</td>
<td>37.5</td>
<td>57.5</td>
<td>50.0</td>
<td>80.7</td>
<td>69.9</td>
</tr>
<tr>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Constant Universe of Towns Between Censuses<sup>b</sup>

<table>
<thead>
<tr>
<th>Size of Town at Initial Census</th>
<th>Total Population&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Malay</th>
<th>Chinese</th>
<th>Indian</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>25,000 or more</td>
<td>16.1</td>
<td>19.6</td>
<td>21.9</td>
<td>21.3</td>
<td>5.9</td>
</tr>
<tr>
<td>5,000 - 24,999</td>
<td>5.2</td>
<td>6.9</td>
<td>10.0</td>
<td>9.9</td>
<td>2.4</td>
</tr>
<tr>
<td>1,000 - 4,999</td>
<td>5.2</td>
<td>7.3</td>
<td>10.5</td>
<td>8.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Balance of County</td>
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<td>66.2</td>
<td>57.5</td>
<td>60.1</td>
<td>80.7</td>
</tr>
<tr>
<td>Total</td>
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<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Notes:**
(a) Others are not presented as a separate ethnic community, but are included in the Total Population.
(b) The constant universe of towns includes all those listed at the first census (by size-class), including some that had disappeared by the second census.

**Source:** Comparable Census Towns Data File, based upon Malaya, 1949:161-170; Department of Statistics, Federation of Malaya, 1959. Reports 2-12, Tables 3 and 4; Department of Statistics, Malaysia, 1972:207-203.
hierarchy. The size of town classification used in this analysis is a simple one: (1) Large Towns, those above 25,000, (2) Medium Size Towns, those between 5,000 and 24,999, (3) Small Towns, those between 1,000 and 4,999, and (4) Balance of Country, includes towns of less than 1,000 and rural areas.

(a) 1947-1957 Trends.

The 1947-1957 period was one of significant social and political change in Peninsular Malaysia (then Malaya). The British colonial administration returned in 1945 upon the end of the Japanese occupation. The reconstruction of the export-based economy and the "Malayan Emergency" were the most important developments until Independence was achieved in 1957. A rather slow economic recovery from the depressed conditions of the 1930s and the Japanese occupation of the early 1940s was aided by the 1950-51 boom in rubber prices caused by stockpiling of natural rubber by the United States during the Korean War (Stubbs, 1974). As the colonial regime was re-established, a war of national liberation ("The Malayan Emergency") was initiated by indigenous communists, primarily Chinese, against the colonial government and the management of British owned plantations and mines. In order to deny the insurgent forces a rural base of support, the colonial government resettled hundreds of thousands of rural residents into "new villages" (resettlement communities that were meant to be permanent).

Accompanying these economic and political changes was a rise in urbanization in the country. From the top panel of Table 1, the proportion of the population in towns of all size-classes rose sharply from 1947 to 1957 e.g., the proportion of the population in towns above 1,000 increased from 26 percent to 42 percent. There was a marked population increase in large towns (over 1/5 of the population lived in towns above 25,000 by 1957), but most dramatic was the virtual doubling of the populations in small and medium-size towns. Most of these gains were a result of the appearance of new towns (many of which were new villages) not of redistribution to the universe of 1947 census towns. For instance, the lower panel shows a rise of only seven percentage points in the urbanization ratio (all towns over 1,000) compared to the 16 percentage point change registered in the variable universe of towns. Most of this difference appears in the small and medium-size towns. Thus, the real jump in urbanization from 1947 to 1957 occurred in towns that did not exist (as gazetted areas above 1,000 population) in 1947. Earlier studies (Sandhu, 1964; Caldwell, 1963; and Hamzah, 1962) have pointed to the resettlement program of the colonial administration as the primary cause of urbanization during the 1947-1957 period.
Sandhu (1964: 164) reports that over 573,000 persons were relocated into 480 "new villages", which ranged in size from a few hundred to more than 10,000 population. This undertaking relocated over 10 percent of the total population of the country from scattered rural areas into compact settlements, many of which were adjacent to existing towns.

The resettlement programme was primarily directed at the Chinese community. Many Chinese farmers did not have legal claim to their land; they had turned to subsistence agriculture in remote unsettled areas in order to survive the hardship years of the Depression and Japanese occupation. Labeled as "squatters", rural Chinese could be legally evicted from their farms by the government. The rationale of the colonial government was the expressed fear that many rural Chinese supported (or were coerced to support) the communist insurgents in the jungle. According to Sandhu, 86 percent of the new villagers were Chinese. Overall (top panel), the percent of Chinese in rural areas (less than 1,000) dropped from 57 to 27 percent from 1947 to 1957. Only 14 points of this 30 percentage point change was the result of redistribution to existing (1947 Census) towns, the balance went to new towns. Of course, the resettlement programme added to the urbanization in "old towns" by encouraging voluntary movement to these areas and through the creation of "new villages" that were part of or adjacent to existing towns.

In contrast, the net urbanization shift among Malays and Indians was relatively modest, especially within the 1947 universe of towns. The proportion of Malays in all urban areas (above 1,000) rose by eight percentage points from 1947 to 1957, but only three percentage points of this shift was directed to established towns. For Indians, the comparable figures were seven and three percentage points. For all three ethnic communities, urbanization levels rose in large, medium, and small towns.

The uneven pace of urbanization from 1947 to 1957 significantly widened the urban-rural gap between the Chinese community and the rest of the population, especially Malays. In 1947, based upon a size criteria of 5,000 or more, 35 percent of Chinese were in urban areas compared to 29 percent of Indians and 8 percent of Malays in 1947. By 1957 the comparable figures were 55 percent of Chinese, 35 percent of Indians, and only 14 percent of Malays.
(b) 1957-1970.

The first 13 years of Independence coincided with the second intercensal interval under consideration. In general, these were years of moderate economic expansion, under the newly independent government which sharply increased spending for education, health, and physical infrastructure in the form of roads, bridges, and irrigation projects (Ness, 1964; 1967). The entire economy grew, led by the manufacturing sector, which increased from a miniscule 9 percent share of Gross Domestic Product in 1957 to 15 percent in 1970 (comparable figures for the experienced labour force are 6 percent in 1957 and 10 percent in 1970, Hirschman, 1976:448,449). The government had no explicit aims to encourage urbanization. In fact, the most celebrated government programme of the 1960s was the Federal Land Development Authority (FELDA) which created numerous land development schemes throughout the country to provide land and economic opportunities for landless villagers, primarily Malays.

In contrast to the 1947-57 period, the pace of urbanization from 1957-70 was very slow indeed (for prior studies of urbanization during this interval, see Pryor, 1973; Ooi, 1976:Chapter 6; Saw, 1972; Narayanan, 1975; Soon, 1975; and Hirschman, 1976). Even for the variable universe of towns in the top panel of Table 1, increases in the level of urbanization can be clearly observed only in the largest size-category of towns, those above 25,000. Percentage point gains were negligible in the medium size-class and were actually negative for Chinese. The percentage of the population in small towns (1,000-4,999) declined for all ethnic communities.

Holding constant the universe of towns by size-class in 1957 (lower panel of Table 1) reveals that a good share of the modest trend toward urbanization from 1957 to 1970 was due to a shift in the number of towns across size-class boundaries. There was a net reduction in the proportion of Chinese in towns of all size-classes within the constant universe of 1957-1970 towns. With an urban definition of towns above 5,000, there was only a three percentage point gain in urbanization for Malays from 1957 to 1970, and a two percentage point gain for Indians. These are real changes, but hardly what would be expected given the economic growth and social change which occurred during this period.

These basic findings would not be altered, if Singapore, the neighbouring city-state with two and one-half million population, were included as part of the urban population (Hirschman, 1976).
There has been a moderate amount of migration to Singapore (Hirschman, 1975b), but not enough to register a significant difference in the percentage point change of the urbanization ratio from 1957 to 1970. It is important to note that slow urbanization does not necessarily imply slow urban growth. In fact, most urban areas have been growing at fairly rapid rates from 1957 to 1970 (over two percent per year), but the rural areas have been growing just as fast. The result is only a miniscule change in the proportion urban.

From 1975 to 1970, Malays and Indians increased their share in urban areas relative to Chinese, but the absolute ethnic gap remained very wide. The 1957 figures (for towns above 5,000) showed that 55 percent of the Chinese population were urban as compared to 14 percent for Malays. By 1970 the gap showed little change - 57 percent of the Chinese population were urban and 18 percent of Malays. For cities above 25,000, the 1957 Chinese and Malay figures of 37 percent and 9 percent urban increased to 41 percent and 12 percent. Even with larger relative gains in Malay urbanization, the absolute differences were as wide as ever.

The interpretation of most earlier studies has assumed that rural to urban migration was the major factor responsible for trends in urbanization. Thus, the rapid urbanization from 1947 to 1957 is attributed to the resettlement programme of the early 1950s and associated flight from remote areas (Narayanan, 1975; Hamzah, 1962). The slow-down in urbanization from 1957 to 1970 is attributed to a low level of rural-urban migration, due primarily to a lack of job opportunities in urban areas (Narayanan, 1975; Hirschman, 1976). We agree with this general assessment, but acknowledge that it ignores the possible confounding effects of differential natural increase and the expansion of urban boundaries.

One important factor that may have inhibited urbanward migration was the lack of strong push factors out of rural areas in Malaysia. In spite of declining rubber prices over the years, the production of many rubber smallholders in rural areas has increased through replanting with higher yielding varieties (the government sponsored replanting programme is financed through an export tax on rubber). This expanded output has maintained a moderate level of cash income for many rural families. Although there has been a significant drop of employment in the rice sector, smallholding rubber has held a steady share of employment over the postwar era (Hirschman, 1979b). Coupled with a lack of job opportunities in cities, this factor may have restrained some of the potential rural to urban migration. In fact, rural to rural
migration may be the primary mechanism for population redistribution from places of surplus labour to places of opportunities. Most noteworthy in this regard is the number of FELDA Schemes, or state sponsored agricultural (rubber and oil palm) resettlement schemes opened up to landless farmers (primarily Malays) during the 1960s.

One of the primary sources of urban job creation has been government employment, mostly after Independence in 1957. Perhaps the largest growth in government employment has been in the armed forces and the police. This would have primarily affected Malays, and this may account for their above average increase from 1957 to 1970. The sizeable amount of Chinese emigration to Singapore and elsewhere from 1957 to 1970 (Hirschman, 1975b) was probably selective of Chinese from urban areas. This loss coupled with probably very low urban fertility among the Chinese, may have accounted for their relative decline in urbanization from 1957 to 1970.

Analysis of Urban Growth.

Urbanization does not sweep over the country as one even development; it is the aggregate summary of varied population changes in many individual towns and cities. Even as urbanization has proceeded slowly, most Malaysian towns have been growing rapidly - though the rural areas have grown at almost the same pace. But there is considerable variance in the growth of towns as well. During the last intercensal period, some towns grew at average annual rates of over four percent, while others barely grew at all and some even experienced population loss (Hirschman, 1976). To understand the urbanization process as a whole, we need to examine these differential patterns of urban growth and to explore the factors which may account for them. To do this, we shift the focus of our analysis to individual towns with the dependent variable being the average annual growth rate for the two intercensal periods: the last decade of colonial rule (1947-1957) and the post-Independence period (1957-1970).

The universe of towns is restricted to those towns which existed and had at least 1,000 population at the initial census ($T_1$) and which were still recorded in the second census ($T_2$). For the 1947-1957 period this universe consists of 154 towns, and for the second period the universe of eligible towns is 360. Only towns above 1,000 (at $T_1$) are included because of the questionable status of the many very small settlements and of the large percentage changes caused by small absolute shifts in these places. By only considering towns that existed at both the first and second census
(for each interval), we exclude urban growth in towns that appeared or disappeared during the intercensal interval. As shown in Table 1, a considerable share of urbanization, especially during the 1947-1957 period, was due to an increase in number of towns. Thus by definition, our analysis is limited to a search for the factors that account for the relative differences in town growth within a constant universe of towns.

The set of independent variables used to predict urban growth is limited by extent of detail in the published 1947 and the 1957 Census reports. Nonetheless, it is possible to construct several indices that tap some important predictors of urban growth: (1) town size at $T_1$, (2) administrative status, (3) ethnic composition, and (4) "new village" status. These variables have been discussed as potentially important determinants of urban growth in Malaysia and elsewhere.

Initial population size has been identified as one of the most important variables, both theoretically and empirically, in the study of urban growth. Larger cities have generally experienced faster rates of growth than smaller towns, especially in developing countries (Mookherjee, 1973; Goldstein and Goldstein, 1978). The positive association between town size and subsequent growth is explained by the relative opportunities for expansion in towns with an established infrastructure. Not only are the government and the private sector most likely to invest resources in locations with the largest labour pool, and the most diversified institutional framework, but cumulative inertia usually favours expansion in larger urban areas. On the other hand, the attraction of growing markets and cheaper labour in smaller towns could cause a shift in investment which would reverse the association between town size and growth.

Administrative status of towns is indexed by two variables: state capitals and district headquarters. There are eleven state capitals and 70 administrative districts in Peninsular Malaysia in 1970. Not all of the district headquarters were above the minimum size of 1,000 in 1947 and 1957. (Towns below the minimum size of 1,000 population are excluded from our analysis). Almost by definition, towns designated as administrative centres are the location of government offices, as well as related central services such as post offices, hospitals, police stations, and schools. Other factors being equal, we would expect a positive association between administrative status and urban growth, especially of the Malay population. With the commercial sector traditionally dominated by Chinese, the government (especially the police and armed forces)
has been the primary source of urban employment for Malays. Thus, administrative status may be an indication of government employment which would attract Malay urbanward migration (Hamzah, 1966:485).

The ethnic structure of a town may also affect the relative growth rate of specific ethnic communities. While most towns have a Chinese majority, there is considerable variance in ethnic proportions, with Malays forming the majority in some towns (Sidhu, 1976; Hirschman and Yeoh, 1979). Earlier analysts of urbanization in Malaysia have discussed the potential links between ethnic composition and ethnic growth rates in towns (Caldwell, 1963; Hamzah, 1966). Chinese dominance of urban institutions may limit employment opportunities for Malays if there are family, clan, and linguistic preferences in hiring. Conversely, a larger share of Malay population (and participation in the urban economy) might be a base for greater expansion of Malay opportunities which attracts Malay migrants. This hypothesis assumes that ethnic proportions of the population are a rough index of dominance in or influence over urban employing institutions.

Our last independent variable is the "New Village" status of individual towns. As noted earlier, hundreds of new villages were created by the colonial government in the early 1950s as resettlement centres for rural residents, largely Chinese, who might be supporting (either voluntarily or unwillingly) the insurgent forces. Because these settlements were created without regard for the development of an urban economy (most new villagers continued to work in agricultural activities), we might expect considerable out-migration to other towns (or back to rural areas after the end of the Emergency, see Saw, 1972 on this point). In our analysis, we encounter a measurement problem in the classification of new villages. Many new villagers were created adjacent to existing towns to which they were subsequently merged in the 1960s. Our "comparable towns" data file only contains new villages that were so identified in 1957 and did not merge (or share a common name) with an adjacent town. Only 22 such "new villages" can be identified in our 1957-1970 data file of 360 towns (it is not a variable in the 1947-57 analysis). These 22 "new villages" are a small subset of those originally in this status, and the generalization of any findings to all new villages is problematic. Nonetheless, it does provide an assessment of new villages which have retained their status and are not adjacent to other towns.

All of the variables in our analysis are presented in Table 2, which contains means (or proportions) and standard deviations for both intercensal periods, and the correlation matrix of all variables.
<table>
<thead>
<tr>
<th></th>
<th>TOT-GROWTH</th>
<th>M-GROWTH</th>
<th>C-GROWTH</th>
<th>I-GROWTH</th>
<th>POP-T</th>
<th>STATE CAP</th>
<th>DIST HQ</th>
<th>NEW VILLAGE</th>
<th>(1947-57) Mean or Proportion (S.D.)</th>
<th>1957-70 Mean or Proportion (S.D.)</th>
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<tr>
<td>STATE CAP</td>
<td>-0.01</td>
<td>0.03</td>
<td>-0.01</td>
<td>-0.02</td>
<td>0.85</td>
<td>0.33</td>
<td>-0.05</td>
<td>0.04</td>
<td>0.06</td>
<td>0.07</td>
</tr>
<tr>
<td>DIST HQ</td>
<td>0.03</td>
<td>0.07</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.28</td>
<td>0.30</td>
<td>-0.12</td>
<td>0.18</td>
<td>0.24</td>
<td>0.38</td>
</tr>
<tr>
<td>NEW VILLAGE</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>(% M-T)</td>
<td>-0.27</td>
<td>-0.26</td>
<td>-0.24</td>
<td>-0.33</td>
<td>-0.09</td>
<td>0.06</td>
<td>0.20</td>
<td>--</td>
<td>-0.94</td>
<td>-0.18</td>
</tr>
<tr>
<td>(% C-T)</td>
<td>0.23</td>
<td>0.20</td>
<td>0.18</td>
<td>0.37</td>
<td>0.03</td>
<td>-0.99</td>
<td>-0.33</td>
<td>--</td>
<td>-0.92</td>
<td>-0.11</td>
</tr>
<tr>
<td>(% I-T)</td>
<td>-0.11</td>
<td>0.18</td>
<td>0.15</td>
<td>-0.08</td>
<td>0.12</td>
<td>0.02</td>
<td>0.24</td>
<td>--</td>
<td>-0.29</td>
<td>-0.11</td>
</tr>
</tbody>
</table>

Notes and Definitions:

(a) 1947-57 N = 154 and 1957-70 N = 360. The universe of towns for each intercensal interval consists of all towns censused at both \(T_1\) and \(T_2\), with a population above 1,000 at \(T_1\).
(b) Average Annual Growth Rate expressed as a percentage, for the total town population, Malay town population, Chinese town population, and Indian town population.
(c) Population size in thousands for \(T_1\), the first census, and \(T_2\), the second census.
(d) The capital cities of the eleven states of Peninsular Malaysia.
(e) The district headquarters of administrative districts of Peninsular Malaysia.
(f) The towns designated as new villages in the 1957 Census. This category excludes new villages that merged with other towns at a later date.
(g) The percentage of the total town population which is Malay or Chinese or Indian as of \(T_1\), the first census.
Town growth is computed as the average annual growth rate, computed by the formula: \( r = \ln \left( \frac{P_2}{P_1} \right) + t \), and is presented for the total population and for all three ethnic communities. The initial population (\( \text{POP-T}_1 \)) is the census count, rounded to the nearest 1,000. Ethnic composition is measured by three variables: Percent Malay (\( \% \text{M-T}_1 \)), Percent Chinese (\( \% \text{C-T}_1 \)), and Percent Indian (\( \% \text{I-T}_1 \)), at the initial census. The three administrative status variables: State Capital (\( \text{STATE CAP} \)), District Headquarters (\( \text{DIST HQ} \)), and New Village, are scored as dummy variables (1 = status, 0 = absence of status). The correlations for the 1947-57 interval are presented below the diagonal and the 1957-70 period are above the diagonal.

As towns are the units of analysis, the growth rates represent unweighted averages of individual town growth rates. In prior studies (Hirschman, 1976; Hirschman and Yeoh, 1979), growth rates for size-classes of towns have been weighted by the population of each town. Because of this fact, the average growth rates in Table 2 cannot be compared with the other studies.

Average town growth rates slowed considerably during the second interval, from above five percent per year during the colonial era to somewhat above one percent per year during the 1960s. From 1947 to 1957, the average town Chinese growth rate was the highest of any ethnic community (though only slightly above the Malay rate), but was the lowest during the post-Independence era.

With few exceptions, the correlations between town growth and the independent variables in Table 2 are fairly low. Initial population size is only slightly associated with growth, generally negative in the first period and slightly positive in the second. The administrative status variables are weakly predictive of growth during the 1957-70 period. Ethnic composition has the strongest effects on the urban growth of any community, although the pattern is not consistent. Percent Malay and Percent Chinese are almost perfectly negatively correlated with each other (\(-.92\) in 1947 and \(-.94\) in 1957), while Percent Indian is weakly related to both.

In order to assess the direct effects of each of these independent variables on growth, we now turn to a multiple regression analysis of urban growth on the independent variables. Using the same data file of towns (above 1,000 population at \( \text{T}_1 \)) we regressed average annual growth on five independent variables: \( \text{POP-T}_1 \), \( \text{STATE CAP} \), \( \text{DIST HQ} \), \( \% \text{C-T}_1 \), and New Village (for 1957-70 only). Separate regression equations were computed for the growth rates of the total town population and of each ethnic group for both intercensal periods. Only Percent Chinese was used to index ethnic composition because of
its high correlation with Percent Malay (alternative ethnic groups were used in preliminary analysis, but the results are essentially the same as reported here).

Table 3 presents the unstandardized regression coefficients of the independent variables in separate equations for each ethnic group (Total, Malay, Chinese, Indian) of urban growth for both the colonial era (1947-57) and the post-Independence period (1957-70). Because we have the complete universe of observations, statistical tests of significance do not have their conventional interpretation. As a guide to the strength of effects, standard errors are reported below each coefficient, and asterisks are added when a coefficient is twice its standard error. In all cases the explanation of variance is rather modest, indicating that many significant predictors of town growth are not included in this set of independent variables.

In none of the equations is initial population size of any significance. Knowledge of the population of a town gives little prediction for subsequent growth in either period. Administrative status, indexed both by state capitals and district headquarters, has a consistently positive effect on town growth in both periods, ranging from a .5 to 2.1 percentage point boost in the annual growth rate. The district headquarters variable has the strongest effect on the average Malay town growth, but the state capital effect is highest for Chinese urban growth in the 1947-57 period. A good share of the effect of administrative status may be due to increases in government employment, but there are probably spillover effects on private sector expansion as well.

The single strongest variable is ethnic composition; Percent Chinese (which is almost the inverse of Percent Malay) as a very positive effect on town growth for all ethnic communities (least for Chinese) during the 1947-57 period, and also for the 1957-70 period (except for Malays). For Malay growth, the results are contrary to the expected relationship. Malay urban growth was negatively correlated with Percent Malay during the first period and uncorrelated with ethnic composition during the second period. It appears that any interpretation of Malay migration as a movement primarily directed to areas of Malay settlement is untenable.

These findings require further interpretation. Recall that our original hypothesis was that growth of economic opportunities for any ethnic community (migration) in a town would vary with the ethnic proportion of the town population (which was thought to be a rough measure of dominance in employing institutions). Since the proportion Chinese in a town is a strong predictor of Malay growth from 1947-57
TABLE 3 REGRESSION ANALYSIS\(^b\) OF URBAN GROWTH ON TOWN CHARACTERISTICS, BY ETHNIC COMMUNITY: PENINSULAR MALAYSIA, 1947-1957 AND 1957-1970

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>1947-1957 Average Annual Town Growth(^b)</th>
<th>1957-1970 Average Annual Town Growth(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Malay</td>
</tr>
<tr>
<td>POP-T(_1)</td>
<td>-0.03</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>STATE CAP</td>
<td>0.96</td>
<td>1.09</td>
</tr>
<tr>
<td></td>
<td>(1.77)</td>
<td>(2.55)</td>
</tr>
<tr>
<td>DIST HQ</td>
<td>1.33</td>
<td>2.10</td>
</tr>
<tr>
<td></td>
<td>(0.80)</td>
<td>(1.14)</td>
</tr>
<tr>
<td>% C-T(_1)</td>
<td>0.06*</td>
<td>0.07*</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>NEW VILLAGE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSTANT</td>
<td>1.44</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R(^2) (Variance Explained)</td>
<td>5.3%</td>
<td>3.7%</td>
</tr>
</tbody>
</table>

Number of Towns = 154

Number of Towns = 360

Notes: (a) Unstandardized partial regression coefficients with standard errors below in parentheses.

(b) Town average annual growth rate = \(\ln(P_2/P_1) + t\), where \(P_2\) and \(P_1\) are the town populations at time 2 and time 1, respectively, and \(t\) is the length of the intercensal interval.

* Regression coefficient is twice its standard error.

Source: Same as Table 1.
and, ethnic proportions are unrelated to Malay urban growth from 1957-1970, this hypothesis is rejected. Nonetheless, the strong empirical effects of Percent Chinese on urban growth for all ethnic groups (except for Malays from 1957-1970) presents us with an anamoly that requires some speculation. An alternative explanation would be that the ethnic composition-town growth relationship is spurious, but both are related to other urban characteristics. Perhaps towns with a higher fraction of Chinese have a strong primary (agricultural, mining) or secondary industrial base in addition to the usual trading functions of towns. Such an economic structure may affect the relative growth of employment opportunities which attracts migrant and/or discourage out-migrants. This issue deserves further empirical investigation than is possible here.

The New Village variable has a very strong negative effect on Chinese growth after Independence (the positive Indian effect may reflect the low initial number of Indians in such towns). This confirms the hypothesis that the "artificial" economy of the new villages did not serve to support future growth. We expect that this finding based upon 22 new villages is true for all new villages, but cannot test this assertion with the available data.

Conclusions.

While the preceding analyses have not completely unraveled the complex fabric of urbanization trends and urban growth in post-war Peninsular Malaysia, we do have a solid account of basic patterns and changes. The complete explanation of the varied patterns and changes is far less clear.

A substantial share of the rapid urbanization during the 1947-1957 period was due to the increase in the number of towns in the urban universe (many of which were new villages or resettlement towns). After Independence in 1957, there was a slow-down in the rate of change in urbanization. The ethnic gap in urbanization widened dramatically from 1947 to 1957. With little net change in population redistribution during the 1960s, only a minimal reduction of the ethnic gap in urbanization was achieved by 1970. The vast rural-urban difference in ethnic population distribution is perhaps the most fundamental barrier to more integrated institutions in the economy and society at large.

Our study did not uncover the major causes of inter-urban variations of growth. But the negative results do address some of the conventional hypotheses that are frequently posed. Town size does
not seem to be a significant factor of urban growth in Malaysia in spite of what has been found elsewhere. Malay growth (assuming that migration is the source of inter-town variation) does not appear to be directed toward towns with larger Malay populations. Malays have increased rapidly in towns that function as administrative centres, but so have Chinese and Indians. The single most important predictor of urban growth is the percent of Chinese in the town. We suggest that this may be a spurious association, reflecting the relative availability of economic opportunities. More than any other variable, the absence of empirical indicators of economic structure and opportunities limit our present analysis. This limitation is dictated by the absence of any data on the economic attributes of individual towns in the 1947 and the 1957 Censuses. It may be possible to use some information on the characteristics of administrative districts (as a contextual influence on towns within a district) to indirectly address this question.

The slow pace of urbanization in the post-Independence period suggests that most Malaysian towns have not been centres of significant economic opportunity, at least no more so than in rural areas. Many of the government's developmental programmes have been primarily directed at rural areas, and the relatively good prices of export crops (rubber) may have restrained a good share of the potential exodus from the agricultural economy. A corollary interpretation is that the urban industrial economy was stagnant during the 1960s, at least in terms of providing expanding employment opportunities for migrants from rural areas. Unless the urban economy begins to provide much greater employment prospects in the near future, major problems may arise. Not only are the goals of social mobility and therefore of ethnic integration frustrated, but the strategy of rural agricultural development may be reaching its limits of employment absorption of the younger generations.
REFERENCES


Urbanization and Urban Growth in Malaysia


