

Ethnicity, Economic Development and Occupational Change in Singapore, 1957 – 1980

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ABSTRACT

The writer has reformulated the theory of economic development and community adaptation to partially test it on two communities (the Malay and Chinese) in Singapore. The study postulates that when the tolerance threshold (due to economic disparity between ethnic groups) is breached the political structures of the multiethnic society would activate political and other processes to redress the increasing disparity. The theory assumes a situation of gradual economic improvement but the improvement is faster with the economically dominant group.

ABSTRAK

Penulis telah menggubal semula teori pembangunan ekonomi dan penyesuaian komuniti untuk mengujikannya terhadap dua masyarakat (Melayu dan Cina) di Singapura. Teori ini mengandaikan apabila tingkat toleransi terjejas (berbangkit dari jurang ekonomi antara kaum) struktur politik di dalam masyarakat berbilang bangsa akan merangsangkan proses politik dan lainnya untuk membasmikan jurang itu. Teori tersebut menganggap terdapatnya pertumbuhan ekonomi tetapi pertumbuhan ini adalah lebih pesat bagi kelompok dominan.

INTRODUCTION: THEORETICAL ISSUES

Weber argued long ago that the Protestant ethic was an important contributory factor to the rise of industrial capitalism in northwestern Europe. In a comparative study of Japan and Thailand, Ayal (1963) argued that some cultures were more conducive to economic development than others. Firstly, Ayal postulated that for a culture to be conducive to economic development it must stress hard work, deferred gratification, capital accumulation and acceptance of innovation as well as confer a rightful place for the businessman. Secondly, it must emphasise goals which can only be realised through economic growth. The goals may be military power or social welfare for the people. In an anthropological study of two

Indonesia towns, Geertz (1962) observed that some cultures seem to produce more entrepreneurs than others.

In a multiethnic society, the culture of one group may be more conducive to capital accumulation than that of another group. If the cultures of a multiethnic society are so differentiated, over a period of time, the level of capital accumulation of one group will be higher than that of another group if they are left to themselves. Economic development presents differential opportunities to different individuals and groups. Some groups with a more "predisposing" culture and more accumulated capital are better able to seize the opportunities and thereby benefit from them than other groups. In the absence of governmental and other group intervention on behalf of the economically disprivileged group(s), economic development programmes are likely to widen the economic disparity between ethnic groups. The economic benefits of economic development, under conditions of nonintervention, are unlikely to be evenly shared among individuals and ethnic groups.

As the economic disparity between ethnic groups increases, the threshold of tolerance of intergroup inequality will be breached. The threshold of tolerance is postulated to be a function of the core values of a culture. A culture which stresses material success and possessions and predisposes its members to vicarious comparison with others is postulated to have a lower threshold of tolerance than a culture which stresses contentment and the purging of material desires. Intergroup tension will increase with widening disparity beyond the threshold of tolerance. The cultural theories of Weber and Ayal do not take into consideration the role of governmental and other group intervention. It is postulated here that at about the time when the tolerance threshold is breached, the political structures of the multiethnic society will activate political and other processes to "redress" the increasing disparity. An important process is government-sponsored upward social mobility of the economically disprivileged group(s) as an end and as a means to political stability. This so-called positive discrimination appears in many forms. Very often educational access and success for the economically disprivileged group(s) and occupational status allocation become issues and means for the eventual reduction or elimination of intergroup disparity in incomes and wealth.

Some governments pursue this policy more aggressively and successfully than others. The degree of success is a function of many intervening variables. Some of these are: the support of the policy by the various ethnic groups, the ability of the ruling party to stay in power, the rate of economic growth and the stage of economic development.

A policy of positive discrimination may take one of two forms. First, the benefits of economic growth may be re-distributed in favour of the economically disprivileged group at the expense of the economically dominant group(s). If this policy is adopted, one consequence is likely to

be slower economic growth. Second, the benefits of economic growth may be re-distributed more in favour of the economically disprivileged group while the economically dominant group(s) achieve(s) a slower rate of economic achievement. The second policy is likely to succeed only if the rate of economic growth is "high" enough for such re-distribution.

The first policy is likely to generate resistance by the economically dominant group(s). The political structures and processes will be activated with uncertain political outcomes. This paper will not delve into these complicated issues. The second policy is likely to be more acceptable and accepted as a "realistic" mode of adaptation for "redressing" the economic disparity between communities for long-run stability.

A policy of positive discrimination will activate political structures and processes. These processes and political outcomes will affect the ability of the ruling party to maintain power and control. These are complicated issues which cannot be delved into in this paper whose focus is more limited. Factors such as the numerical distribution of the ethnic groups in the population, their concentration in some regions of the country, their divided or undivided support for the ruling party and its policy of positive discrimination, the number and strength of popular support by members of various ethnic groups are some pertinent intervening variables that affect the ability of the ruling party to maintain power.

The success of a policy of positive discrimination is mediated by the "stage" of economic development. If before economic parity is achieved the economy has reached a "stage" such that increased capitalisation is needed for maintaining its viability and competitiveness in the international market place, it is postulated here that the economic disparity will once more widen between ethnic groups. This is due to two intervening variables which may be termed as the spread and depth of wealth. The spread and depth of wealth is unlikely to be even among communities. The economically dominant group has more wealthy individuals and families than the economically privileged group. The wealth of some of these wealthy individuals and families may be many generations deep. Wealth may be passed on from generation to generation.

When the economic reaches a "stage" when more capitalisation is needed such as increased automation and computerisation, the economically dominant group which has greater spread and depth of wealth is better able to adapt to and benefit from such re-structuring of the economy and industries. When this happens the economically disprivileged group will lag behind due to its narrower spread and shallower depth of wealth accumulated over a relatively short period of time before and during the period of positive discrimination.

ARE – STATEMENT OF THE THEORY

Figure 1 is a graphic representation of my theory. Two ethnic groups, Chinese and Malays in this case study of Singapore, are represented by C

and M respectively. Line C-C in Figure 1 is used to represent the cultural predisposition to accumulate wealth of the Chinese community. Line M-M is used to represent the same for Malays. Historically the Chinese migrated to Singapore and other parts of Southeast Asia almost single-mindedly to accumulate wealth. This economic motivation was both strong and urgent in the sense that the Chinese migrants hoped and wanted to get rich quickly so that they could return to China to enjoy the fruits of their hard labour. Their dream was to be realised within a person's life time. The Malays felt no such strong need nor such urgency in accumulating wealth.

Most of the Chinese came to Singapore with little more than what they wore on their bodies. They often were crammed in squatter houses or cubicles in two- or three-storey shop houses in China town. As *sin keh* or new guests of the colony they received subsistence wages for part of their wages were expropriated by labour merchants who brought them over at their expense. In comparison the Malays were much better off in terms of living conditions in the early decades of the previous century.

Because of the above historical circumstances of the two communities, line C-C is situated below line M-M initially at t_1 , i.e., at the time of early, massive immigration of the Chinese in the previous century. Line C-C rises more steeply than line M-M to represent the greater rate of capital accumulation of the Chinese relative to the Malays. At some unrecorded point in time, t_2 , the two lines meet. The meeting of the two lines represents the reaching of economic parity between the two communities as the Chinese collectively improved over an extended period of time in their level of living through hard work and enterprise.

From that point onwards the two lines diverge and the economic disparity between the two groups increases over time. Line C-C then rises above line M-M, indicating that the Chinese increasingly overtake the Malays, who since then became or become an economic minority in Singapore.

As the economic disparity nears the threshold of tolerance, the sensitive system-monitoring political structures will be the first to sense it. Political processes will be activated to bring about a reduction or elimination of the disparity. Depending on the various intervening variables mentioned above, the time it takes to bridge the disparity, therefore, varies.

Through governmental intervention on behalf of the economically disadvantaged group, the self-help of the group concerned and successful contest mobility as well as sponsored mobility assisted by nongovernmental groups, the disparity will be reduced over a period of time, the length of which will vary. Figure 1 shows line M-M bending upwards at time t_3 . The convergence of the two lines represents narrowing of the economic disparity between Chinese and Malays in Singapore. The gradient of the upward bending M-line denotes the speed of closure: the steeper it bends upwards the shorter the time parity is reached.

If the economy re-structures in terms of increasing capitalisation such as automation or technological progress at a time when parity is not reached, it is hypothesised that the disparity will widen again. This idea is graphically represented by the downward bending of the M-M line at time t_4 .

Two points need to be stressed. First, the theory postulates *relative* disparity between groups. It does not assume that the economically disadvantaged group remains stagnant. Instead it assumes a situation of gradual economic improvement is relatively slower compared with the economically dominant group. The focus of this theory is limited to intergroup conditions of relative deprivation.

Second, successful intervention by the government as well as self-help through contest and sponsored mobility imply some changes in those values and norms of the economically disadvantaged group which is related to economic activities, educational aspirations, money, profits, material possessions and so forth. These values and norms are reinforced by a significant upward mobility in the level of living and correlated lifestyles. The convergence of the two lines also implies cultural convergence between the two ethnic groups.

It is postulated that rising incomes and the corresponding changes in lifestyles will lead to and index normative changes. When income rises to a

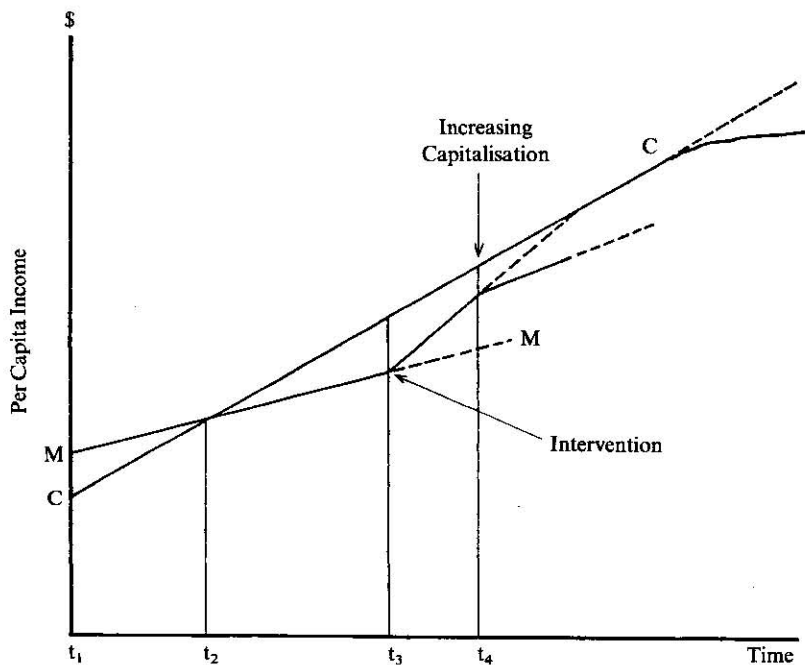


FIGURE 1: A theory of economic development and community adaptation.

level of affluence the curve of labour supply will bend backwards as leisure becomes more valued. This idea is represented by the downward bending of line C-C. This idea is raised here for intellectual stimulation only and will not be discussed in this paper.

PARTIAL TESTING OF THE THEORY: THE CASE OF SINGAPORE

Singapore was a British colony since 1819. In 1959 Singapore achieved self-government under the People's Action Party (PAP) government with Britain in control of foreign affairs, internal security and labour affairs. According to the 1957 census of population 70.6 percent of the total labour force of 472 thousand persons were in tertiary industries (i.e., commerce, transport, storage, communications, and personal and professional services), 20.6 percent were engaged in secondary industries (manufacturing, building, construction and utilities) and a mere 8.8 percent were employed in primary industries (agriculture, forestry, hunting, fishing, mining and quarrying). Unemployment in the 1950's was very high, ranging between nine to 12 percent of the labour force. When the PAP came into power it immediately planned to industrialise since the tertiary sector of the economy was too large to be expandable and the island state had (and still has) very little land.

However, barely four years in power, the PAP government then sought independence from Britain through a partial merger with the Federation of Malaya (which was independent in 1957), Sabah and Sarawak in 1963 when the Federation of Malaysia was formed. An important reason for Singapore's membership in Malaysia was the intended formation of a Common Market which would create more jobs for Singapore. For very intricate reasons which space here does not permit discussion, Singapore then became an independent state separate from Malaysia in 1965. Three years later Britain made a unilateral declaration to withdraw its forces from Singapore in 1968 instead of later as was previously agreed. The consequence of the pull out was an estimated 30,000 to 40,000 workers in the British bases were thrown out of work at a time when unemployment was very high. For a labour force of slightly more than 600,000 that was a cruel blow to a young state. Singapore suddenly realised its vulnerability and the danger of dependence on a metropolitan power. Considering the multiplier effect, the British withdrawal meant more than that many unemployed.

Singapore swung immediately into remedial action. Due to limited land and limited natural resources and declining entrepot trade as neighbouring countries attempted then to bypass Singapore as a middle man and to trade directly with America and Europe, the PAP government pressed on to industrialise on an urgent basis. It was an all out effort,

beginning in 1968. The educational system was transformed and technical subjects were made compulsory to all boys and onehalf of the girls in Secondary 1 and 2 so as to prepare them for blue-collar work when they graduated in a few years time. Base workers were re-trained for industrial occupations. Technical and engineering education, accountancy and business administration were established or expanded to cope with the impending industrialisation.

A mere two years later in 1970 according to the census, 29.8 percent of the labour force were employed in secondary industries, compared with 20.6 percent in 1957. In 1975 those employed in secondary industries rose to 32.0 percent. Such dramatic structural change of the economy leads to occupational changes with consequences for differential adaptation by ethnic groups in multiethnic Singapore. This is discussed as follows.

The ethnic composition of Singapore has remained very stable from 1921 – 1980 according to censuses of population (see Table 1). The latest 1980 census shows that 76.9 percent are Chinese, 14.6 percent Malays, 6.4 percent Indians and 2.1 percent others.

It is postulated that the Chinese are more enterprising than Malays. This difference may be indexed by three indicators: female participation in the labour force, employer: employee ratio and percent of labour force in managerial occupations of the two communities. Censuses and labour force surveys conducted between 1957 and 1980 repeatedly show a higher rate of Chinese female participation in the labour force than Malay female. For instance, in 1980, 35.9 percent of the Chinese labour force was female, compared with 35.2 percent of the Malay labour force.

In 1957 there were 13,778 Chinese employers and 224,086 Chinese employees or 61.5 employers per 1,000 employees. In that year there were only 118 Malay employers and 49,565 Malay employees or 2.4 employers per 1,000 employees. In 1980 there were 37,220 Chinese employers and 656,711 Chinese employees or 56.7 employers per 1,000 employees compared with 544 Malay employers and 147,221 Malay employees or 3.7 employers per 1,000 employees. The employer: employee ratios for Chinese and Malays between 1957 and 1980 are shown in Figure 2. The huge difference between the two communities indexes quite nicely indicate the cultural difference in predisposing their members to economic entrepreneurship.

In 1957 only 1.5 percent of the Chinese labour force were administrators, managers and executives compared with a mere 0.5 percent of the Malays. In 1970 the respective figures were 1.7 percent of the Chinese and 0.3 percent of the Malays. In 1975 there were 3.2 percent Chinese and 0.2 percent Malays in these occupations. According to the 1980 census there were 5.5 percent Chinese and 0.6 percent Malays in these occupations.

These structural difference in the Chinese and Malay labour force

TABLE 1: Population of Singapore by ethnicity, 1871 – 1980

ETHNICITY	NUMBER									
	1871	1891	1901	1911	1921	1931	1947	1957	1970	1980
Chinese	54572	121908	164041	222655	317491	421821	730133	1090596	1579866	1856237
Malays	26148	35992	36080	46952	58520	71177	115735	197059	311379	351508
Indians	11501	16035	17823	27990	32456	51019	68978	129510	145169	154632
Others	4890	10619	10611	14388	17445	23436	25978	28764	38093	51568
Total	97111	184554	228555	311985	425912	567453	940824	1445929	2074507	2413945
Chinese	56.2	66.1	71.8	71.4	74.5	74.3	77.6	75.4	76.2	76.9
Malays	26.9	19.5	15.8	15.0	13.7	12.5	12.3	13.6	15.0	14.6
Indians	11.8	8.7	7.8	9.0	7.6	9.0	7.3	9.0	7.0	6.4
Others	5.1	5.7	4.7	4.6	4.2	4.2	2.8	2.0	1.8	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Censuses' definitions of Indians vary, affecting the residual category of others.

Sources: Straits Settlements, Blue Book for the Year 1876 (Singapore: Government Printing Office, 1877) p.217

Straits Settlements, Blue Book for the Year 1905 (Singapore: Government Printing Office, 1906), pp. P12 and P13

J.E. Nathan, The Census of British Malaya 1921 (London: Dunstable & Watford, 1922), p. 29

C.A. Vlieland, British Malaya: A Report on the 1931 Census (London: The Crown Agents for the Colonies, n.d.), pp. 120 – 121.

M.V. Del Tufo, Malaya: A Report on the 1947 Census of Population (London: The Crown Agents for the Colonies, n.d.), p.40.

P.Arumanathan, Report on the Census of Population 1970 Singapore, Vol.1 (Singapore: Department of Statistics, n.d.), p.53.

Khoo Chian Kim, Census of Population 1980, Singapore Release No.1 (Singapore: Department of Statistics, December 1980), p. 12.

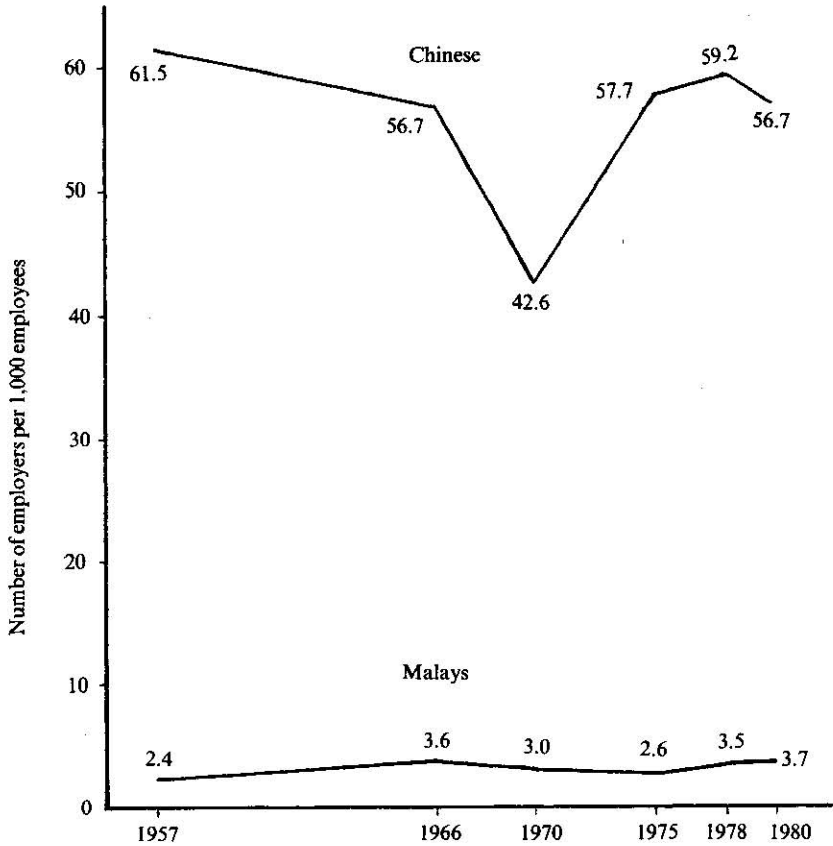


FIGURE 2: Number of employers per 1,000 employees by ethnicity, Singapore, 1957 – 1980.

structures support the postulated gradients of the C-C and M-M lines in Figures 1 denoting differences in favour of the Chinese.

To further understand the occupational adaptations between the two communities to the re-structuring of the economy and the rapid economic growth in Singapore since independence, occupations are categorised and ranked by mean monthly income (see Table 2). These occupations are then grouped into four “occupational classes” in the Weberian sense of differential life chances and prestige. Occupational class 1 or OC1 consists of administrators, managers, executives, professionals and technicians. OC2 consists of clerical and sales workers. OC3 comprises production, transport, storage, communication and service workers and labourers. OC4 consists of a structural changes of the Chinese and Malay labour forces by occupational class between 1957 and 1980 are shown in Figure 3.

Figure 3 shows that the structural disparity in OCI between Chinese and Malays increases steadily from 1957 to 1980. The disparity is a relative one: the size of OCI among the Malays in 1980 was higher than that in 1957. However, the peak for Malays was in 1957.

The disparity in OC2 of clerical and sales workers decreases slightly between 1957 and 1980 with the smallest disparity found in 1975.

TABLE 2. Occupations by monthly income, Singapore, 1966, 1975 and 1980

Occupation	1966		1975		1980	
	Mean*	Rank	Mean	Rank	Mean	Rank
Administrators, Managers and Executives	\$1041	1	\$1230	1	\$2116	1
Professionals and Technicians	677	2	726	2	1304	2
Clerical Workers	439	3	416	3	521	4
Salespersons	315	4	380	4	575	3
Production, Transport and Communication Workers	233	5	292	5	414	5
Service Workers	229	6	286	7	378	7
Agricultural Workers, Fishermen and Quarrymen	179	7	289	6	406	6

* Both proprietary and employee incomes.

Sources: Ministry of National Development and Economic Research Centre, *Singapore Sample Household Survey*, 1966, Report No. 1, Singapore, Government Printing Office, 1967, Table H.84, p. 289.

Ministry of Labour and National Statistical Commission, *Report on the Labour Force Survey of Singapore 1975*, Singapore, Ministry of Labour and National Statistical Commission, 1976, Table 47, p. 92.

Khoo Chian Kim, *Census of Population 1980, Singapore, Release No. 7 Income and Transport*, Singapore, Dept. of Statistics, 1981, Tables 15-16, pp. 52-55.

The disparity in OC3 between 1957 and 1980 increases from about 16 percentage points to about 23 percentage points. In contrast to OC1 and OC2 where Chinese have consistently higher percentages than Malays, OC3 favours the Malays in terms of percentage of the labour force engaged in it.

OC4 decreases in proportion from 1957 to 1980 for both communities, falling from about ten percent for both Chinese and Malays to about 2.5 percent for both groups.

These trends of occupational changes show that Chinese outpace Malays in the higher two occupational classes while Malays outpace the Chinese in the lower OC3 and OC4. Since occupations are ranked by mean income these data indicate changes in economic disparity between the two communities which merit closer examination.

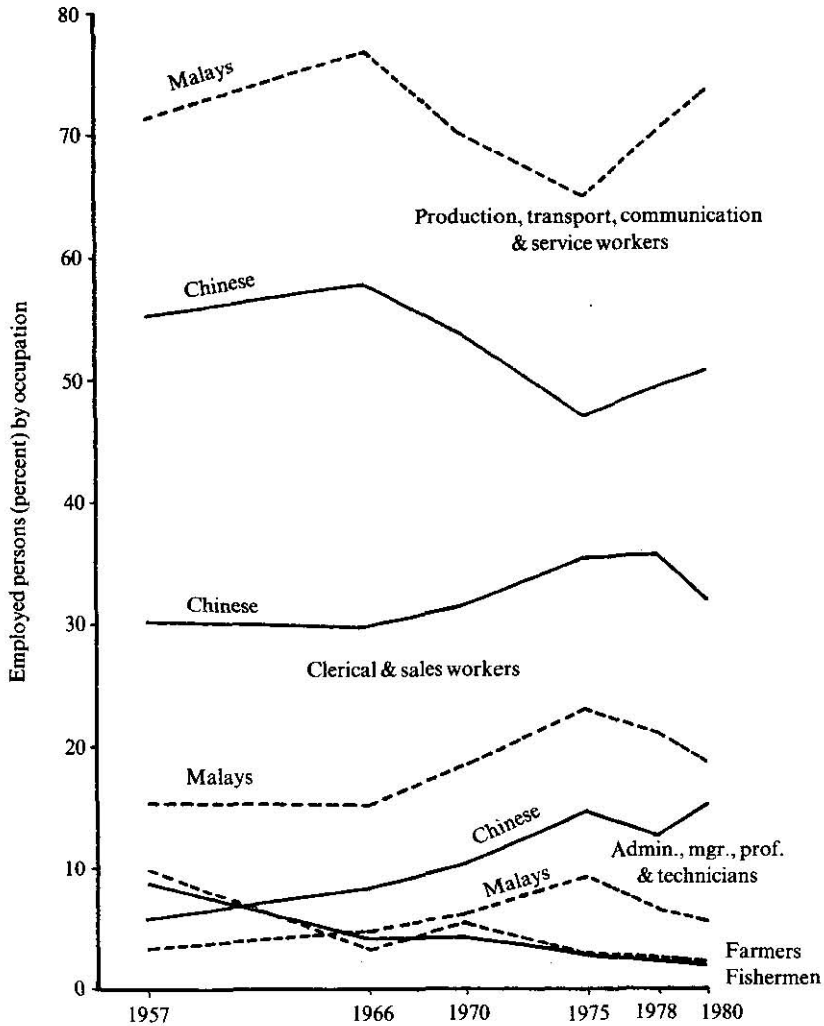


FIGURE 3. Employed persons (percent) by occupation and ethnicity, Singapore, 1957–1980

Table 3 and Figure 4 show the labour force structures of the Chinese and Malays by industry for 1957–1980 at six points in time. Table 3 also shows the structural disparity in each of the three industries between Chinese and Malays. For instance, it shows a 6.1 percentage points difference in the primary industries between Chinese and Malays. This difference drops to a mere 1.5 percentage points in 1980. Similarly there was a disparity of 10.2 points in the secondary sector of the economy in favour of the Chinese. By 1980, 45.9 percent of the Malay labour force were in this sector compared with 36.5 percent of the Chinese. The disparity was in

favour of the Malays as indicated by - 9.4 percentage points (Chinese percent minus Malay percent).

The Dissimilarity Index (DI) may be used to summarise the overall structural disparity in the various industries between the two communities. The DI varies from 0 to 100, where 0 denotes no structural dissimilarity and

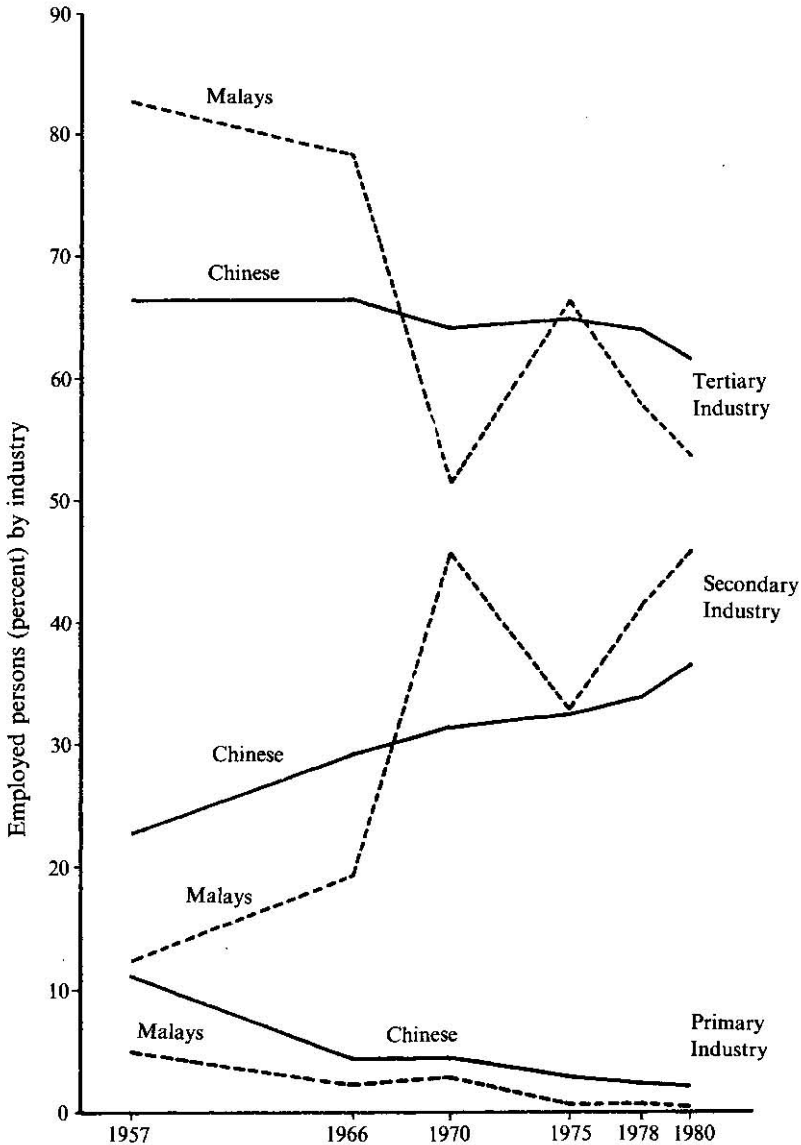


FIGURE 4: Employed persons (percent) by industry and ethnicity, Singapore, 1957 - 1980

TABLE 3: Employed persons (percent) industry and ethnicity, Singapore, 1957-1980

Industry	Singapore																			
	1957			1966			1970			1975			1978			1980				
	C	M	C-M	C	M	C-M	C	M	C-M	C	M	C-M	C	M	C-M	C	M	C-M		
Primary @	11.1	5.0	6.1	4.4	2.4	2.0	4.5	2.9	1.6	2.9	1.6	2.9	0.8	2.1	2.3	0.7	1.6	2.0	0.5	1.5
Secondary	22.6	12.4	10.2	29.2	19.3	9.9	31.4	45.6	-14.2	32.4	32.4	32.4	32.9	-0.5	33.9	41.4	-7.5	36.5	45.9	-9.4
Tertiary	66.3	82.6	-16.3	66.4	78.3	-11.9	64.1	51.5	12.6	64.7	66.3	-1.6	66.3	-1.6	63.8	57.9	5.9	61.5	53.6	7.9
DI +			16.3			11.9		14.2			2.1		7.5							9.4

Note: C = Chinese, M = Malays, C-M = Chinese-Malays

@ Primary = Agriculture, mining quarrying, forestry, fishing and hunting

Secondary = Manufacturing, building, construction and utilities.

Tertiary = Commerce, finance, insurance, transport, storage, communications and services.

$$+ DI \sum \text{Dissimilarity Index} = \frac{\sum |P_i - P_j|}{2}, \text{ where } \sum = \text{sum of}$$

// = ignore the algebraic sign (- or +)
 P_i = percent of group i (e.g., Chinese) in a given industry

P_j = percent of group j (e.g., Malays) in a given industry as for group i .

100 denotes complete dissimilarity. If the Chinese labour force structure by industry is identical to that of the Malays, DI equals 0. If 100 percent of the Chinese are in tertiary industries while zero percent of the Malays is in tertiary industries, then DI equals 100.

Table 3 shows that the DI falls from a high point of 16.3 to the lowest point of a mere 2.1 between 1957 and 1975. From 1975 to 1980 the DI increases from 2.1 to 9.4. A DI of 9.4 means that if 9.4 percent of the Malay labour force were to be shifted out of secondary industries to primary industries (1.5 percent) and tertiary industries (7.9 percent), the Malay labour force structure would be identical to that of the Chinese.

The economic re-structuring between 1957 and 1975 has redistributed the Chinese and Malay labour forces so much so that by 1975 there was hardly any structural difference: the labour forces were integrated by industry. Industrial integration does not necessarily mean equality. While Chinese and Malay workers may work side by side in factories, warves, shops and banks, there may be occupational class difference such that the manager and engineer may be Chinese while the workers may be Malay.

The 1970's often showed double digit economic growth, except 1972 and 1973 which saw negative growth rates due to rapid increases in the prices of petroleum. Singapore's GDP and GDP per capita showed similar trends. Economic success led to shortages of labour from unskilled to skilled workers and professionals, who came as guest workers on work permits and professional passes. From about 1975 when the economy recovered from the oil crises the rising labour costs gradually led management to automate to cut down on labour costs and the government to implement policies of encouraging the establishment of capital-intensive industries. This initial trend came to a head in end-1979 when the government openly stated its intention for upgrading the technology of the economy, calling its policy the "second industrial revolution" in Singapore which is expected to be achieved by about 1990. Consistent with this general economic trend the DI by industry begins to rise again from 1975 showing increases in structural disparity again between the Chinese and Malay labour forces.

Table 4 shows the occupational class structures of the Chinese and Malay labour forces from 1957 to 1980, and the DI's between these years. The DI rises from 17.3 in 1957 to 18.9 in 1966. As mentioned earlier Singapore became independent in 1965, separate from Malaysia. One major reason for the separation was the radical difference between the ethnic relation policies between Singapore and Malaysia. After separation the Singapore government was deeply interested in economically uplifting the Malays in Singapore. The Malay community was to be assisted through contest and sponsored mobility. Free education was granted to Malays who cared (or care) to seek it from primary school to university.

TABLE 4: Employed persons (percent) by occupation and ethnicity, Singapore, 1957–1980

Occupation	1957			1966			1970			1975			1978			1980		
	Chin	Mal	Ch-Ma	Chin	Mal	Ch-Ma	Chin	Mal	Ch-Ma	Chin	Mal	Ch-Ma	Chin	Mal	Ch-Ma	Chin	Mal	Ch-Ma
1*	5.9	3.4	2.5	8.4	4.9	3.5	10.4	6.2	4.2	14.6	9.2	5.4	12.6	6.5	6.1	15.2	5.6	9.6
2	30.2	15.4	14.8	29.7	15.2	14.5	31.5	18.4	13.1	35.4	23.0	12.4	35.7	21.1	14.6	32.1	18.6	13.5
3	55.2	71.3	-16.1	57.7	76.6	-18.9	53.7	69.9	-16.2	47.0	64.8	-17.8	49.3	70.0	-20.7	50.6	73.4	-22.8
4	8.7	9.9	-1.2	4.2	3.3	0.9	4.4	5.5	-1.1	3.0	3.0	0.0	2.4	2.4	0.0	2.1	2.4	-0.3
D**	17.3			18.9			17.3			17.8			20.7			23.1		

- *1 = Administrators, Managers, Executives, Professionals and Technical Workers.
 2 = Clerical and Sales Workers
 3 = Production, Transport, Communications and Service Workers and Labourers.
 4 = Agricultural Workers, Fishermen and Quarrymen.

** DI \sum Dissimilarity Index = $\frac{\sum |P_i - P_j|}{2}$, where \sum = sum of

- // = ignore the algebraic sign (- or +)
 P_i = percent of group j (e.g., Chinese) in a given occupational group
 P_j = percent of group j (e.g., Malays) in a given occupational group as for group

Bursaries and scholarships were (and are) liberally granted to Malays admitted to institutions of higher learning. To qualify for the bursaries and other grants, Malay students have to pass their annual school examinations without favour.

Between 1966 and 1970 the DI dropped from 18.9 to 17.3. There was hardly any change in the DI between 1970 and 1975. The DI then rose to 20.7 in 1978 and then to 23.1 in 1980. The late 1970's marked the beginnings of economic re-structuring, phasing out labour-intensive industries and the establishment of capital-intensive industries. At this point of economic development the Malays with their newly acquired wealth and skills appear unable to seize the new opportunities and risks to their benefits. This is consistent with the gradual rising of the DI's from about 1975 (see Figure 5).

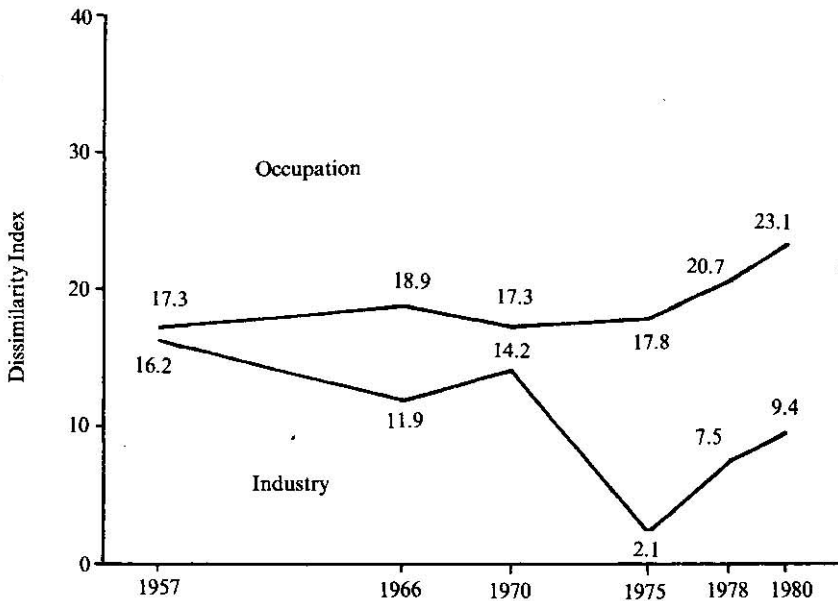


FIGURE 5: Structural dissimilarity between the Chinese and Malay labour forces by industry and occupation, 1957 to 1980, Singapore.

It must be stressed that the rising disparity since about the mid-1970's is only relative. The sample household survey of 1966 and the annual labour force surveys since 1975 show income distribution by ethnic group and occupations. These data show that Malay incomes are rising, not stagnating or falling. But Chinese incomes rise faster: hence the relative disparity.

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