

Budget Statement of the Minister for Finance at the
sitting of Parliament on Monday, 9th March, 1970

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(To be checked against delivery and embargoed until then)

Sir,

I beg to move that Parliament approves the financial policy of the Government for the financial year 1st April, 1970 to 31st March, 1971.

This being the first Budget Statement of the new decade, it seems appropriate on this occasion to do a review of our economic performance during the past decade. This was the decade which the United Nations christened "The Decade of Development". For us in Singapore, it was a turbulent decade during which momentous changes took place. Singapore entered the 1960s as a British colony with self-governing powers in domestic affairs. We later achieved independence as part of independent Malaysia, only to be expelled from the Federation after two years. On August 9th, 1965, the independent Republic of Singapore was created.

I propose to confine my review of the decade to Singapore's economic performance. I was engaged for most of the decade in a Ministry which was charged with the responsibility for economic development and planning in Singapore. It is not altogether possible for me to escape bias, either in treatment or emphasis, in this account of the Republic's economic growth. No doubt some future economic historian will cover the same ground and will probably see events in a somewhat different light. He will also treat the subject more exhaustively than is possible in a Budget address.

I propose to conduct this review of Singapore's economic development in the 1960s in two ways. The first is

to compare the positions as in 1959 and 1969, taking two snapshot pictures, so to speak, of the main economic terrain. Secondly, I will try to trace developments through the different phases of the decade, in a kind of motion picture presentation, if I may be permitted to extend the analogy.

First, the snapshot pictures. Singapore's Gross Domestic Product in 1959 was \$1,968 million. The Gross Domestic Product is the value of goods and services produced within the geographical area of the Republic. They include the value of foodstuffs produced by our farmers, the earnings of our traders and ship-owners on the entrepot trade, the value added in Singapore in the course of manufacturing operations, the earnings of retail trade, the hotel business, and other services, the value of services provided by the Singapore Government, British military expenditure, and the value of construction of new roads, houses, factories, power-stations and so on. The Gross Domestic Product is a close relative of the G.N.P., or Gross National Product, and differs from it only in that the G.N.P. includes earnings of Singapore citizens from overseas sources and excludes earnings in Singapore accruing to persons and corporations abroad. In this account, I shall use the Gross Domestic Product rather than the Gross National Product since calculation of the latter is subject to greater uncertainty.

By 1969, the G.D.P. had increased from \$1,968 million by nearly $2\frac{1}{2}$ times to \$4,833 million. This represents a compound rate of increase through the decade of 9.4% a year. We have therefore surpassed the United Nations target for the Decade of Development of 5% annual growth. At the same time, our performance was well below that of some other economies such as

Japan, South Korea in recent years, and Hong Kong.

The doubling of the G.D.P. during the 1960s was not due to discoveries of natural resources as these are virtually absent. It was the result of the growth of trade, on the one hand, and the growth of industry, on the other, with tourist development providing a small but welcome increment. In other words, it was largely the result of greater human effort. Associated with growth of the G.D.P. has been a much faster rate of capital investment in the Republic. The accounting aggregate representing capital investment - Gross Domestic Capital Formation in the terminology recommended by statisticians of the United Nations - increased from \$150 million in 1959 to \$919 million in 1969. Total investment increased at more than twice the rate of the domestic product, a compound annual rate of 19.8% during the decade. In 1959, total investment amounted to 7.6% of the G.D.P. and this increased to 19.0% ten years later. Ploughing back an increasing part of our domestic output is essential to sustaining our growth momentum and we should continue to increase this percentage. We are still a long way behind Japan which invests more than 30% of its income.

Since much of investment was in industrial machinery and equipment, industrial output naturally expanded. Industrial output is sometimes defined as the output of the manufacturing, construction and utilities sectors. Their combined output increased, as one would expect, at a faster rate than the G.D.P. The compound rate of growth for 1959-1969 was 16.2% as against 9.4%, the overall economic growth rate. Manufacturing industries grew at 17.1% a year, construction at 17.9% and public utilities at 10.2%. In value terms, the industrial sector's contribution to the

G.D.P. rose from \$256 million in 1959 to \$1,154 million in 1969. Employment in the manufacturing industry as determined in the annual census of manufactures covering establishments employing ten workers or more, increased from 25,199 to 87,128. Of these latter, no less than 35,000 were employed in pioneer industries in 1969. There were, of course, no pioneer industries in 1959.

Entrepot trade also seems to have flourished during the decade though, as we shall see later, there were many ups and downs. There was an increase in total cargo handled at the Port of Singapore from 14.2 million freight tons in 1959 to 37.7 million freight tons in 1969. The number of ships increased from 9,584 to 16,531. Passenger arrivals at the beginning of the decade totalled a mere 163,000 and increased to 546,000. Economic growth of these proportions must naturally be reflected in the financial structure of the Republic. There was a substantial expansion during the decade in the commercial bank deposits, from \$816 million to no less than \$2,745 million. The Central Provident Fund balances standing to the credit of members increased from \$120 million to \$632 million. Government revenue benefited from expansion, increasing in a decade from a paltry \$275 million to \$934 million. Despite expansion of output, volume of trade and total investment, as well as money supply, there was a marked absence of inflationary pressure. The consumer price index as at mid-1969 stood at 110.9 with mid-1960 providing the base-mark of 100.0. In a world where inflation plagues many countries, both rich and poor, an average annual increase of 1% in consumer prices over a decade is not a common experience.

Economic growth has had beneficial effects on social conditions. One of the results of improved standards of living has been a substantial decline in the rate of population growth. Infantile mortality rates declined. School enrolment and expenditure on education increased substantially. Newspaper circulation nearly

troubled. Housing Board flats and shops increased from 23,019 to 106,418. Happily, increase in crime and violence, a contemporary phenomenon in many cities in both the developed and under-developed world, did not afflict us. Armed robbery and housebreaking cases numbered 3,125 in 1959 compared with a reduced figure of 2,010 in 1969.

For the convenience of Members, as well as for the record, I am circulating statistical tables which set out in compact form the facts, a narrative of which would be long, tedious and possibly incomprehensible. Five of these tables relate to matters I raise in this statement. The others cover the field in much greater detail and provide the background of data on which I base my main observations. The first table summarises the points of comparison I have been making.

Table 1. Basic Economic and Social Statistics, 1959 & 1969

	<u>Unit</u>	<u>1959</u>	<u>1969</u>
<u>National Economic Aggregates</u>			
Gross Domestic Product	\$ million	\$1,968	\$4,833
Gross Domestic Capital Formation	"	150	919
<u>Trade and Transportation</u>			
Total imports and exports	\$ million	7,349	10,984
Cargo handled	million freight tons	14.2	37.7
No. of ships cleared	No.	9,584	16,531
Passenger arrivals, sea and air	thousand	163	546
<u>Industrial Sector</u>			
Manufacturing, value added	\$ million	170 ^a	827
Construction	"	40	208
Utilities	"	46	120
Employment in Manufacturing Industry	No.	25,199	87,128
Employment in Pioneer Industries	"	Nil	35,000
Labour Ministry returns of Workmen, Clerks and Shop Assistants	"	166,747	239,452

	<u>Unit</u>	<u>1959</u>	<u>1969</u>
<u>Financial Statistics</u>			
Commercial Bank Deposits	\$ million	816	2,745
Central Provident Fund	"	120	632
Official Overseas Assets	"	336	2,445
Consumer Price Index	mid-1960 = 100.0	-	110.9
<u>Social Statistics</u>			
Population	million at mid-year	1.58	2.02
Annual Births,	thousand	62.5	44.7
Infantile Mortality Rate,	per thousand	36.0	21.0
Rate of Annual Population Increase	%	4.1%	1.5%
School Enrolment	thousand	305	511
Expenditure on Education (including capital expenditure)	\$ million	63	175
Daily Newspaper circulation	copies	119,970	311,500
No. of Housing Board flats and shops	No. in existence year-end	23,019	106,418
Armed Robbery and Housebreaking	cases	3,125	2,010

In the nature of things, statistical information, which deals with social and economic phenomena susceptible to enumeration, does not and cannot describe the qualitative and non-numerical improvements that have taken place in our society. There is greater social cohesion, more social discipline and self-reliance, pride in performance and achievement in the face of adversity. These are the intangible yet supremely important factors for progress of any society. By our common endeavours and achievements, we are slowly acquiring an identity of purpose and in this way building up a sense of belonging and nationhood. The rootless, migrant and parvenu values, where each is out for himself, attitudes so prevalent at the beginning of the last decade, are giving way

to more positive group values of a self-reliant people, determined to build an enduring future for themselves in this part of the world. In the final analysis, it is on the firm framework of these values rather than on steel and concrete structures that economic progress is to be achieved and sustained. Max Weber was the first, but he will not be the last, to detect in particular societies the close interaction between ethical systems and the modernising process which enables economic transformation.

I will now trace in outline the development of the economy during the decade. Singapore's economic development can be conveniently grouped in three periods - pre-Malaysia, during Malaysia, and post-Malaysia. Since the most relevant economic statistics are given in terms of calendar years, the three phases of Singapore's economic development may be considered in calendar year periods as follows:-

- i) 1959-63
- ii) 1964-65
- iii) 1966-69.

It should be remembered, however, that economic trends sometimes transcend two or more periods. This results from anticipation of future development, as for instance, in the years 1962 to 1963, when several industrial projects were started in Singapore in anticipation of a Common Market in Malaysia. Further, the lead time needed to see a project off the ground - the interval between the moment a decision is taken and the completion of the project - often occupies a period of several years for large scale projects.

Economic Development, 1959-63.

The pre-Malaysia period was dominated by political events. Several of the more discerning observers knew in 1959 when general election was won by a People's Action Party that

behind the anti-colonial solidarity, was a deep ideological division between a Democratic Socialist faction and a pro-Communist faction. It was a matter of time before the two groups were forced to bring their differences into the open as they contended for political supremacy. The policy of the Government, which consisted of the democratic socialists, was determined more by the immediate political necessities than by long term needs of economic development. The pro-Communists broke off from the P.A.P. and their United Front forces fought the P.A.P. in the Anson bye-election in July of 1961. They joined issue on the Government's policy to negotiate a merger with Malaya to form Malaysia. All this is familiar history. But events of such traumatic impact inevitably leave their mark on the economy as I shall shortly demonstrate.

Meanwhile, despite the political pre-occupation of the Government, the Economic Development Board was established in August 1961. It was charged with the duty of promoting the growth of industries in Singapore. At the same time, the former Singapore Improvement Trust was absorbed in a more effective agency named the Housing and Development Board. While the creation of new industries, by its nature requiring a substantial lead time, could not show quick results, Government action in improving the social services produced swift and tangible benefits in the pre-Malaysia period.

Immediate action was taken to extend and improve the education system. School enrolment both at primary and secondary stages increased rapidly. Primary school enrolment increased from 266,625 to 336,163 between 1959 to 1963; secondary school enrolment from 48,723 to 84,425.

The Housing and Development Board suffered some initial troubles under the former mayor of Singapore. After his replacement, the Board soon got into stride and showed dramatic progress. The number of flats and shops built each year was as follows:-

1959	-	1,611
1960	-	1,682
1961	-	7,320
1962	-	12,230
1963	-	10,085

Because industries took long in getting started and because there was little expansion in entrepot trade earnings during this period - the growth rate was a mere 4.5% per year - the substantial housing programme launched by the Housing Board undoubtedly helped to sustain economic expansion during this period. The finance to pay for this had to be obtained by civil service pay cuts and tax increases, measures which did not increase the Government's popularity rating. During this period, the Gross Domestic Product increased from \$1,968 million to \$2,684 million. This represented a compound rate of 8.1% a year.

As a result of Housing Board building programme, the construction industry prospered in the second half of the period, generating the following output:-

1959	-	\$40.0 million
1960	-	\$41.9 million
1961	-	\$56.0 million
1962	-	\$70.0 million
1963	-	\$94.7 million.

The construction industry during this period increased at 24.0% a year. The impetus came mainly from Government action in the housing field. Increase of public sector investment during this period was at a compound annual rate of 27.5%. The present rate, between 1965-69, has been 10.5% growth a year, a more moderate pace.

The political in-fighting between the Communist United Front (C.U.F.) and the P.A.P. resulted in a large number of strikes called by the C.U.F. as part of its attempt to coerce the Government. The number of man-days lost in strikes was as follows:-

1960	-	152,005
1961	-	410,891
1962	-	164,936
1963	-	388,219

The defeat of the Communist United Front in the Referendum of August 1962 followed by subsequent security action against them, restored a measure of industrial peace. In 1964, strikes accounted for loss of only 35,908 man-days. In 1969, the figure was 8,512.

During a period when unemployment was heavy, trade union irresponsibility on such a massive scale was hardly conducive to industrial investment. The following figures of employment in the manufacturing industries as recorded in the annual census of manufactures shows that the industrial sector was virtually stagnant between 1959 and 1962 and registered only a small increase in 1963:-

1960	-	26,697
1961	-	26,837
1962	-	27,924
1963	-	35,256

Employment in pioneer industries, the first of which went into production in 1961, increased from 241 workers to 2,654 in 1963.

It was not easy to get started. The domestic market was small, as it still is today. Wages were then high compared to other Asian countries such as Hong Kong, Taiwan and South Korea. On top of all this, a near- endemic situation of management-labour conflict arose out of the show-down between the democratic and pro-Communist forces. Despite these handicaps, the government proceeded with its development plans with a confidence few believed justified. In September 1961 earth-moving operations commenced when the first bull-dozer moved into Jurong. By the end of 1962, 1,100 acres of prepared land had been levelled by cutting down hills and filling swamps. By the end of 1963, 1,800 acres had been prepared. 24 million cubic yards had been moved in the process. Jurong, as of December 1963, had only two factories in production to show for this mountain of labour. They were the National Iron and Steel Mills and Pelican Textiles. Between them, they employed 90 workers.

Economic Development, 1963 - 65

Singapore's entry into the Federation of Malaysia in September, 1963 was preceded by many months of negotiations. While the political arrangements in the new Federation were agreed to without difficulty, negotiations on financial arrangement and over the structure of the common market proved unexpectedly long and difficult. In the end, a compromise solution was found literally at the eleventh hour in London. Our membership of the Malaysian Federation proved to be short-lived. The reasons for the sudden separation of Singapore from Malaysia are now past history, as are the events which led to it. So far as Singapore's economic development is concerned, hopes for a Malaysian Common Market had led to some anticipatory investment in 1963. However, the proclamation of the new Federation was greeted by unexpectedly strong reaction from the Soekarno regime of Indonesia. Confrontation was declared, and with it the curtailment of our entrepot trade with Indonesia.

The national economic aggregates show the results of the factors I mentioned - Indonesian confrontation, the abortive common market with Malaysia, the financial arrangement between the States and Federal Government. Of the three periods in the 1960's, the years we spent in Malaysia showed the lowest growth rates of Gross Domestic Product, a mere 6.5% annual rate. This was due to the substantial decline of our entrepot trade by some 16.8% as trade relations with Indonesia were severed. As a result, earnings on the entrepot trade declined from \$441 million in 1963 to \$306 million in 1965. Further, agriculture and fishing, never noted for rapid growth,

showed a decline of 2.5%. This was the result of night curfews imposed in Singapore waters for security reasons, which adversely affected the livelihood of fishermen. On the other hand, there was a very large increase in the value of military services, as one would expect. British military expenditure increased by 27.7% in 1964 and again by 25.9% in 1965. In absolute terms, this meant an annual increase from \$323 million in 1963 to \$519 million in 1965. This was sufficient to make good entrepot losses, taking two years together. But the year 1964 was a particularly bad year, the decline in entrepot earnings was much greater than the increase in British military expenditure. Accordingly, the Gross Domestic Product for that year showed the least increase of the decade, a mere 0.5%. But for increased British military expenditure, there would have been a substantial decline. The Gross Domestic Product for the two years we were in Malaysia were:

1964	-	\$2,700 million
1965	-	\$3,043 million

Despite Indonesian confrontation, total investments continued to expand and at a brisk rate too. Gross capital formation increased at an annual rate of 20.6% running at \$421 million and \$476 million in 1964 and 1965 respectively. The manufacturing industry forged ahead in spite of poor trading conditions and deteriorating relations between the Singapore and Malaysian Governments. Manufacturing, construction and utilities showed a combined average of 16.2% annual growth during Malaysia as compared with 14.7% in pre-Malaysia. Employment in the manufacturing industry

increased moderately, some 14.2% a year. The increase of employment was about 10,000 over the two years, the 1965 census of manufactures giving a total of 46,020 employees for 1965 as against 35,256 two years earlier. The Labour Department work force figures also showed an increase of about the same amount, 1965 being 188,701 as against 178,787 for 1963. It is apparent that the manufacturing industry were providing the main new job opportunities. But these never reached the proportions which would reduce unemployment significantly.

The onerous terms of the financial agreement under which we entered Malaysia resulted in a decline of our overseas assets for the only time in the decade. Our overseas assets which stood at \$748.4 million at the end of 1963 were reduced to \$631.0 million at the end of 1965.

Economic Development, 1966 - 69

I now turn to the last period under review, the years as an independent sovereign state. On the morning of August 9th, 1965, I was in my office in Fullerton Building brooding over the enormous problems facing the country and the Government. The problems of the future loomed in awesome and intimidating proportions. Here we were, an island trading outpost, with its economic hinterland in other countries, a vulnerable arrangement as confrontation had shown. Our token defence forces were manned mostly by citizens of another country. Even the water we drank had mostly to be imported. We had no natural resources other than a diligent and enterprising people. At 10.00 a.m. news of the separation was announced over the Radio. It was greeted by the firing of crackers in Chinatown. I thought this a light-

hearted response to a grave situation.

Two years later, in my Budget Statement of December 1967, I was able to say "After two years of independent existence, the Republic of Singapore continues not only to survive but also to flourish, to the surprise of many observers."

This account of the final period of the decade will describe how our economy grew in the last four years and will attempt to give the reasons for such growth.

In the post-Malaysia period, Singapore's Gross Domestic Product increased at a compound ^{annual} rate of 12.3% as compared with 6.5% during Malaysia and 8.1% pre-Malaysia. Trade, industry and tourism provided the main thrust to our economic growth in this period. The result of robust economic expansion on the Government's finances was gratifying. Annual revenue increased from \$508 million to \$934 million last year with but minor adjustments in taxation rates.

The reasons for expansion during this period stemmed from external as well as domestic sources. As regards the first, what undoubtedly helped most was the strong position of the economies of the United States, Europe and Japan. Notwithstanding recurring monetary crises during the last three years of the decade, the 1960s saw what was virtually a long sustained boom among the rich nations. One after another, they reached conditions of full employment and had to depend for further expansion either on imported labour as happened in the case of Germany and to a lesser extent Britain, or they had to move some of

their manufacturing operations abroad, as happened particularly with the United States and to a lesser extent, Japan.

We were also assisted by conditions in Hong Kong where, as a result of growth at an extremely fast rate, tight employment conditions became apparent in the last two or three years. Hong Kong, whose wage levels used to be substantially below that of Singapore, ceased to be a provider of labour to foreign investors at cheaper rates than Singapore.

Then, of course, the end of confrontation brought about a resumption of Indonesian trade. This gave our first year on our own the main impetus to economic growth.

Outside conditions were favourable. But this by itself did not ensure our prosperity if we were unprepared to make the effort required to take advantage of our opportunities. Fortunately, the institutions which were established as early as 1961 had developed in experience and expertise. I am, of course, referring to the Economic Development Board which was the Government's main agency for promoting industrial growth. Industrial estates at Jurong and elsewhere had provided a wide range of industrial sites to meet every conceivable demand of industry. The Development Bank was amply supplied with funds and the E.D.B.'s overseas promotion officers improved in skill and efficacy in their efforts to attract large corporations to the Republic.

Last, but by no means least, the Employment Act passed in August, 1968 with the support of the National Trades Union Congress, gave an impressive demonstration of the will of the people to overcome all obstacles to make

temporary sacrifices the better to secure the future for themselves. Perhaps more than anything else, the Employment Act projected an image of Singapore among substantial potential foreign investors, of a disciplined and rational people upon whom they can depend for the success of their investment enterprises.

With these favourable external and internal influences, except for the year 1967, the economy moved ahead briskly. The Gross Domestic Product increased substantially, details of which are set out in Table 2.

Table 2. Gross Domestic Product at Factor Cost 1966-69

	<u>(£ Million)</u>	<u>Increase</u>
1966	3,365	10.6%
1967	3,617	7.5%
1968	4,257	17.7%
1969	4,833	13.5%

The 1969 figure is based on preliminary estimates and it is likely that the final estimates would show a larger figure.

Expansion in 1966 derived its impetus principally from a resumption of trade with Indonesia as well as a general increase in world trade. In absolute terms, the earnings of the entrepot trade increased from £305.6 million to £377.0 million in 1966. The manufacturing industry provided a useful gain of some £72 million in value added, from £414.3 million to £486.8 million.

The good start the Republic made in 1966 was not sustained the following year, which registered an increase of only 7.5%. The principal reason for this was a temporary decline in world prosperity. World trade which before that

year had been growing annually at between 8.4% to 11.9% in the previous four years, showed a growth of only 5.4% in 1967. Our entrepot earnings in 1967 showed a very small increase, just over 1% on the previous year. At the same time there was a marked decline in British military expenditure from \$549.5 million to \$489.9 million. The experience of 1967 is pertinent because the two elements making for the slowing down of our growth - reduced military expenditure at the British bases and levelling off of world trade - are prospects which face us in the next few years.

The last two years of the decade were exceptionally good for Singapore. The principal thrust was an unparalleled expansion of our entrepot trade, earnings of which more than doubled. Buoyant world trade conditions during 1968-69 helped sustain our own growth of trade. World trade in these two years increased by 11% and 14%. At the same time, earnings in the manufacturing industry showed substantial increases - 19.2% in 1968 and 22.9% in 1969. The contribution of the manufacturing industries to the Gross Domestic Product reached \$827 million in 1969 compared to a mere \$170 million a decade ago. The effect of this expansion on employment will be discussed later.

Expansion of trade and industry was more than enough to offset the modest reduction in British military expenditure. In 1967 this amounted to \$489.9 million and it was reduced to \$415.4 million by 1969. We should remember that as from now British military spending will be reduced at a much faster rate. Between 1967 and 1969, quite apart from expansion

of manufacturing and trade, even the tourist trade increased sufficiently fast to offset the reduced British military spending, so that increased earnings on trade and industry actually formed net additions to the domestic product.

Earlier I had referred to total investment which increased throughout the decade not only in absolute terms but also as a proportion of the gross domestic product. The increase in total investment was especially marked in the post-Malaysia era. The figures are given in Table 3.

Table 3. Gross Domestic Capital Formation, 1966-69

	Total Investment (£ Million)	Percentage of G.D.P.
1966	473.3	14.1
1967	518.3	14.3
1968	735.9	17.3
1969	918.5	19.0

There are certain interesting features about the growth of investment during this period quite apart from its size. The first is that the fastest increase occurred in the private sector. The figures between public sector and private sector investment are given in Table 4.

Table 4. Public and Private Sector Investment, 1966-69

	Public Sector (£ Million)	Private Sector (£ Million)	Total (£ Million)
1966	239.6	233.7	473.3
1967	224.9	293.4	518.3
1968	300.9	435.0	735.9
1969	322.4	596.1	918.5

The increase during the period in private sector investment from £234 million to £596 million, an increase of 156%, compares with £239 million to £323 million in the public sector, or a mere 35% growth in the public sector over three years. This is as it

should be. It reflects the response of private enterprise to the growing social maturity, to the N.T.U.C.'s success in promoting labour responsibility and to Government's policy on wage stability and industrial incentives. All these created a favourable general investment climate.

There was an interesting development in 1968 and 1969 which calls for attention. The statistics on capital formation give separate figures in respect of expenditure on machinery and equipment, transport equipment, that is, ships, aircraft and vehicles mainly, and buildings and works. The figures for the period under review are given in Table 5.

Table 5. Components of Gross Capital Formation, 1966-69

	<u>Machinery & Equip- ment</u>	<u>Transport Equipment</u>	<u>Buildings & Works</u>	<u>Total</u>
	(\$ Million)	(\$ Million)	(\$ Million)	(\$ Million)
1966	204.2	20.7	248.4	473.3
1967	208.7	23.4	286.2	518.3
1968	283.6	106.4	345.9	735.9
1969	400.7	116.6	401.2	918.5

A striking feature about the table is the sharp increase in 1968 in expenditure on transport equipment. The explanation lies in the substantial purchases of ships and aircraft in these two years. Purchases of ships in 1968 amounted to \$30.2 million and in 1969 to \$56.5 million. This development fits into the general picture of sharp increases in entrepot trade during these two years against the background of burgeoning world trade. In 1969, purchase of ships included the four ships purchased by the Republic's newly-established national shipping line, the Neptune Orient Lines.

The ships accounted for in these figures did not include, as far as could be ascertained, ships registered under the flag of convenience terms provided for in the revised Merchant Shipping Ordinance revised towards the end of last year. Future calculations of Gross Capital Formation would have to draw a distinction between Singapore registered ships whose beneficial owners are residents in the Republic and those registered for flag-of-convenience purposes. This distinction is by no means easy to make in all instances.

As regards aircraft purchases, the Malaysia-Singapore Airline's aircraft renewal and expansion programmes commenced in 1968, when deliveries of the new Boeings took place. New aircraft delivered in 1968 and placed in the Singapore Registry were valued at \$59.4 million. In 1969, \$37.7 million worth of new aircraft were delivered. Half of the new M.S.A. fleet carry Malaysian registration and these were not included in the above figures.

The other noteworthy feature of the investment process in these four years was the large but regular increases on expenditure on buildings and works. As against this, expenditure on machinery and equipment remained level during 1966 and 1967 and took two large steps in 1968 and 1969. This reflects the recent increase in the rate of industrialisation with which most of us are familiar. This increase is also reflected in employment figures, to which I now turn.

In the Budget Address of 5th December, 1967, after quoting figures of employment as reported in the annual census of manufactures, I made the following observations:-

"It is a sobering thought that with all

the prodigious efforts put in, and the vast amounts of money and resources which the government had been channelling towards increasing the growth of the manufacturing industries, all that has been achieved is 5,000 net increase in employment in these industries each year. The rate of increase is clearly inadequate to meet our needs."

Happily, performance since then has improved and I give the following employment figures in the manufacturing industries from 1966 to 1969 :-

1966	51,272
1967	56,762
1968	72,603
1969	87,128

In the last two years employment in the manufacturing industries has been increasing at an annual rate of around 15,000.

This is more in keeping with what we need. In fact, taking into account that the stepped-up employment in industry coincided with the intake of national servicemen into the Armed Forces, the result had been tight labour market, more especially in the professional and skilled grades, where shortages in certain lines were acute.

Finally, I want to deal with the very rapid increase in our official overseas assets which grew from £631 million in 1965 to \$2,445 million at the end of 1969. An increase of this proportion, four times in four years, is not a common

occurrence in the monetary history of nations. This growth in our overseas assets was not due to financial wizardry. It was firstly the result of institutional changes in note issue arrangements after independence, secondly, the consequence of the financial policies we followed as an independent republic, and thirdly, the reflection of the rapid economic growth just described.

There are three components to the increase of our overseas assets. The first is the establishment of our own currency and the transfer of assets from the old Malayan Currency Board to our own Currency Board when the old notes were exchanged for new. The assets of the Currency Board at the end of 1969 amounted to \$645.37 million. The second element arose out of a large increase in commercial bank deposits. As a result of economic expansion, favourable balance of payments and, possibly, some inflow of 'hot money', bank deposits more than doubled since 1965, increasing from \$1,222.0 million to \$2,745.3 million in 1969. The government sold Treasury Bills to commercial banks and the holding of such bills at the end of 1969 was \$500.13 million compared with \$23.07 million at the end of 1965. As the proceeds of Treasury Bills were invested abroad, this had the effect of neutralising a good part of the increase in bank deposits .. and in this way, helped to avert possible inflationary pressure. The remainder, some \$696 million, represented the accumulation of annual government surpluses since 1965 as well as those of the statutory authorities to the extent that they invested these in government securities.

In ordinary circumstances, it is not necessary to hold

such large assets overseas, which is really tantamount to investing our money abroad instead of investing it in the Republic itself. However, for reasons which I shall go into later, these assets may come in useful when possible economic trends in the next three years may require us to run down these assets from their present rather high levels.

This seems the right note on which to end this narrative of the decade. We started it with a grave and persisting problem of unemployment fueled each year by successive floods of post-war babies coming of age. Our difficulties were compounded by irresponsible actions of trade unions manipulated for political ends. We sought a solution in a common market in Malaysia that proved a dead end. Throughout the decade there was a persistent search for practical solutions, a patient building of institutions and infra-structure, a generous allocation of funds, an accumulated collection of talented staff. In the end, it paid off. It is imperative that we should never, either through extravagance or carelessness, fritter away all that we had so laboriously built up. We must build on the foundation of the accumulated experience of the decade and ensure that progress and prosperity will continue to higher levels of consolidation.

Before I turn to suggest some policies that could help to achieve this, I wish to turn to the more mundane and immediate task of the budget.

Estimates of Revenue and Expenditure 1970-71

I now turn to the estimates of revenue and expenditure for the financial year 1970-71. Following the practice introduced last year, I have presented to Parliament two Treasury papers, one on the Ordinary Estimates and the other on the Development Estimates. These explain the reasons for increased expenditure, and forecast revenue yields in the forthcoming financial year. The Treasury papers also deal with revenue and expenditure performances in 1969. It is not necessary for me to enter into the minutiae of itemised allocations of money to heads, subheads and items of expenditure nor need I go through the yield forecast of different classes and items of revenue.

It is only necessary for me to set out in broad outline the policy adopted by the Government in framing the budget for the forthcoming financial year and to draw attention to some of the more significant expenditure items both in the Ordinary and the Development Estimates.

The policy this year follows the same lines as those laid down at the last Budget. The needs of defence are taken as given datum. What remains of anticipated revenue yields is distributed to the other sectors of the Government service. As was the case last year, care was taken in limiting expenditure on the social services to the most essential functions. Consequently, the increase of expenditure on the social services is the smallest of the four main functional divisions. There is a 9.3% increase from \$292.0 million in 1969 to \$319.2 million.

The economic services that are essential to the maintenance of the momentum of growth were provided with

adequate funds. Taken as a group, the money voted for this division increased by no less than 25.1% from \$87.1 million for 1969 to \$109.0 million in the next financial year.

Actually, the real increase is far less than this, as certain expenditures that used to be financed out of the Development Estimates are, in the coming financial year, charged to the Ordinary Estimates.

Defence and internal security take the largest portion of the budgetary cake, no less than 31.7%. The money to be supplied to Defence has long been pre-determined by the revised Defence Plan which I described in detail in last year's Budget. The defence plans had to be revised when the British Government advanced the date of the closure of their bases to 31st December 1971.

There is a substantial increase of \$52.1 million in respect of statutory expenditure. This is due principally to additional provisions for interest payments and sinking fund contributions. An increase of \$1.5 million results from pension increases due to the salaries consolidation exercise carried out last year.

I will now comment on major expenditure changes in respect of each Ministry. The Prime Minister's Ministry is provided with additional sums to pay for new posts in the Corrupt Practices Investigation Bureau, an expense which none of us will grudge. However, there is a reduction of \$158,120 for the Basic Economic Conversion Department as a result of more accurate assessment of the needs of that department. The Prime Minister's Ministry accordingly shows a small reduction in total allocation.

The Ministry of Science and Technology requires new posts under its plan of re-organisation, to provide for

effective economic and statistical evaluation as well as to determine the needs of industry with greater precision.

The Ministry of Finance is provided with a substantially enlarged vote, \$173.7 million as against \$137.9 million in 1969. Of the increase of \$35.8 million, \$10 million result from increasing the transfer to the Development Fund from \$30 million to \$40 million. An additional \$2.0 million goes to purchasing a new electronic computer and \$1.8 million is set aside for the Population Census next June. A sum of \$12.3 million represents grants to the Economic Development Board and its subsidiary agencies. This expenditure was formerly paid out of the Development Estimates, a practice which I consider erroneous. There is also a new item under Contributions and Charitable Allowances, a sum of \$3.1 million being our contribution to the ASEAN Fund. The Housing Board subsidy is to be increased by \$3.6 million next year.

There will be staff increases in the Ministry - 21 new posts in the New Industry Department, 12 new posts for the new Overseas Investment Section, 14 new posts in the Banking and Control Units of the Commissioner of Banking and 7 new posts to look after Government's rented properties. Customs and Excise are to be provided with 74 new posts to cope with increased work at the Singapore Airport, at the Port Authority and Free Trade Zone and elsewhere. Inland Revenue is to be given a substantial increase consequent on the creation of 105 new posts. 52 new posts go to the Anti-Evasion Unit recently established with the assistance of the American Inland Revenue Authorities. 47 new posts are created for the Property Tax Division. Both Inland Revenue and the Property Tax Department have long suffered from staffing deficiencies and an effort must be made at improvement.

The Ministry of Foreign Affairs is given an additional \$2.3 million, its vote increasing from \$8.9 million in 1969 to \$11.2 million in 1970 - 71, a 25.6% increase. Salary consolidation and normal salary increment account for \$547,790. The requirements of 44 new posts to man overseas establishment as well as headquarters cost \$262,640. New and increased allowances add up to another \$527,570. Additional travelling expenses, diplomatic bag service, etc., take a further \$380,000. An additional sum of \$129,450 has to be provided to the Mission in Manila while other existing Missions will cost \$444,100 more.

The Ministry of Education has been given a 9.3% increase, or \$14.9 million. The education vote increases from \$159.1 million to \$174.0 million the next financial year. A total of 380 new posts are provided of which 367 are in the Technical Education Department. In addition to 367 new staff, the Technical Education Department will have a further 843 posts transferred to it from the General Education Department. Such is the magnitude of the shift in priorities from academic to technical education.

Annual increments and consolidation of salaries to teachers in the Government Service amount to \$5.7 million. Grants to aided-schools increased by \$5.0 million as a result of salaries consolidation and annual increments.

The four institutions of higher learning, Ngee Ann College, Nanyang University, Singapore Polytechnic, and the University of Singapore receive an increase in grants by an amount of \$3.9 million.

The Ministry of Communications which looks after policy on essential services to the economy by way of air, sea communications as well as postal and telecommunication services, receives a modest increase of \$825,000 or 1.9%. Civil Aviation gets a large part of this, by way of new staff and facilities. A sum of \$150,000 is to pay for public utility charges which will be incurred as a result of the new cargo complex at the Airport; the instrument landing systems and the taxi-way and approach lights. New baggage handling equipment, including four tractors and eleven trolleys will cost \$65,500. There are also staff increases in the Meteorological Services, the Postal Services, and the Telecommunications Department and the Marine Department. Demand for all these services increase with economic growth and it is the policy of the Ministry to maintain high standards of efficiency.

The increased allocation to the Ministry of the Interior and Defence I have already referred to and no further elaboration is required. Apart from the expansion of the armed forces, it is also necessary to strengthen the Immigration Service. At the same time, the Ministry had found it possible to delete a total of 508 posts mainly of Police grades, thereby securing a saving of \$1.1 million.

Expenditures by the Ministries of Culture and Social Affairs have been kept within bounds. They show a reduction in expenditure of \$425,000 and \$1,172,000 respectively. The saving in Social Welfare is principally due to a decrease of \$1.45 million needed by way of public assistance and the

tuberculosis treatment allowance. No doubt this is the result of better housing, more employment and a better health environment.

There is little change in the Ministry of Labour. The closure of the Second Industrial Arbitration Court, made possible by improved labour-management relations, provides adequate savings to meet annual increments and some small staff increases.

The Ministry of Law and National Development gets a modest increase of \$3.0 million, or 6.7% on 1969 vote of \$44.6 million. Primary Production continues to expand its staff and services. The abattoir at Jurong needs more staff and so does the Car Parks Division. The Fisheries Section of Primary Production has been given \$909,730 as back payment of rent to the Jurong Town Corporation for the Jurong Fishing Port and Central Auction Market. But the main increases required by the Ministry of National Development are in respect of public works. An additional \$0.4 million has been provided to keep government offices, buildings and grounds in good condition as well as to maintain properties taken over from the British Armed Forces. There is a small saving from the present policy of dismantling public standpipes and providing domestic water supply direct to homes.

The Ministry of Health gets a substantial increase of \$6.4 million. More than a third of this, however, represents annual increment of salaries and other additional payments to staff. However, there will be an increase in the volume of services provided. 121 new posts will be supplied to the Public Health Division of the Ministry, 68 to be deployed in environmental health, 33 in school health services and the rest

elsewhere. More money is also to be spent on public cleansing, maintenance of drains in the catchment areas, supervision of hawkers and such like services. 110 new refuse vehicles have been or will soon be supplied to the Ministry and they will require an increase of \$240,810 on maintenance expenditure. A substantial increase in anti-mosquito activities will cost \$754,140. The years ahead will see further expansion in environmental health control. There is likely to be very substantial capital and recurrent expenditure on garbage disposal. New policies are being developed in the Ministry not only to improve on existing services but also introduce new ones, particularly to combat the growing menace of air and water pollution. The experience of other countries and other cities indicates that we are well advised to take measures in advance of the deterioration to such proportions that remedies become very costly. A committee is investigating and indentifying those areas of medical specialisation in which Singapore could achieve pre-eminence by providing available medical expertise with the latest in equipment and facilities.

Development Estimates, 1970 - 71

The Development Estimates provide for a sum of \$438.5 million. This is roughly divided in two equal portions - one of \$215.6 million for expenditure on government development projects, while a sum of \$222.9 million is set aside for loans to statutory authorities and government-owned companies.

The major part of direct government expenditure is spent by the Ministry of Law and National Development. The budget provision for this Ministry is \$95.65 million. The major schemes administered by this Ministry include the Bedok reclamation scheme, the Kallang Basin reclamation scheme, construction of roads and bridges, drainage and flood alleviation schemes, as well as sewerage works.

The Bedok reclamation scheme has been proceeding well, some 1,000 acres having been recovered from the sea at a cost of \$43 million so far, and another \$11 million will be required in 1970/71. The second phase of this large land reclamation scheme will cover 125 acres of land between the Singapore Swimming Club to the end of Tanjong Rhu. A further 165 acres along Nicoll Highway will also be reclaimed at a total cost of \$24.9 million, of which \$8.3 million is expected to be spent in 1970/71.

The Kallang Basin reclamation scheme is 80% complete, 399 acres of land having been reclaimed, at a cost of \$22.9 million. A further \$2.6 million is required next year to reclaim the remaining 93 acres.

Urban renewal is expected to cost \$15.6 million in 1970-71. The first phase, rebuilding in Crawford, Sepoy Lines and Havelock constituencies on 270 acres of land has been completed with the construction of 2,500 flats and 800 shops. Another 950 flats and 97 shops are nearing completion. The Urban Renewal Department will need \$1.9 million by way of salaries and wages while another \$½ million will go as government's contribution to the United Nations State and City Planning project.

Primary Production is forging ahead with ambitious development schemes costing \$2.5 million. Animal husbandry projects will cost \$1.0 million. This includes a revote of \$300,000 for completion of the Jurong abattoir, and \$500,000 for the pig and poultry training and research institute. Among agricultural projects, work has started on developing hydroponics farming, while the farm licensing and collection of agricultural statistics accounts for \$150,000. Fisheries will be provided with more than \$½ million. Most of it is for training of fishermen. It is to be hoped that this massive injection of funds into the agricultural sector will result in an improvement on the anaemic performance of 2.9% annual growth in the last decade, the lowest growth rate of any sector.

Expenditure on roads and bridges is expected to amount to \$13.3 million. Drainage and flood alleviation will cost \$4.2 million. This includes the cost of completing the first phase of the Bukit Timah flood alleviation project for a sum of \$2.3 million. The total cost of this phase, which will drain flood waters from the Bukit Timah Canal to the Ulu Pandan River through a canal which runs into a tunnel cut under a hill, amounts to \$6.84 million, spent over four years. Canals and subsidiary drains in various parts of the Island will be lined with concrete and, with minor drainage schemes, will cost some \$1.9 million.

Sewerage development continues apace, and a sum of \$12.1 million is provided under Head 97 for this. Major sewerage projects are under construction at the Kallang Basin, Serangoon, Jurong, Thomson Road, Urban Renewal North, Urban Renewal South, Bartley Road and Upper Changi Estate. In addition to these nine major schemes which cost \$7.2 million, there will be three major sewage treatment and disposal works for extension or construction at a cost of \$3.2 million. There will also be miscellaneous projects costing \$1.7 million. Most of these schemes will see completion in the financial year 1971-72.

The Ministry of Health will be spending \$2.6 million on Public Health services. \$1.6 million will be spent in buying 55 new refuse-collecting vehicles. New cleansing and night-soil depots will be established at a cost of \$678,000. There will also be development of hospital services costing nearly a million dollars.

The Ministry of Communications has important development projects under way. The passenger terminal at Paya Lebar will be redeveloped at a total cost of \$5 million, of which \$3 million will be spent in 1970-71. It is expected to be completed by the end of next year. The existing jet and terminal parking aprons will be extended to relieve congestion, at a cost of \$1.3 million. Improvements to taxi-ways, apron areas and

airfield drainage will require another \$1 million. The Government proposes to extend the runway now 11,000 feet long to 13,200 feet long. It will also construct a new cargo terminal and a new hangar large enough to accommodate the Boeing 747. Only token provisions, however, have been entered in the coming financial year.

The star item in the Ministry's development programme is undoubtedly the earth satellite station for which some \$10 million will be required. It is also necessary to buy additional teleprinter machines and telex machines, demand for which has exceeded supply by a wide margin. The national auto telex exchange will be improved and new micro-wave radio bearers for the main trunk system will be introduced. The total bill for all these is expected to be \$15.2 million.

The meteorological services will be provided with up-to-date equipment, including wind-finding radar and a replacement for the storm-warning radar.

The Ministry of the Interior and Defence will need \$51.4 million, mostly for works and buildings and land acquisition, to house the new defence units.

The Ministry of Education will be provided with \$22.1 million for development projects of which there is a long list. Most of these projects are for the advancement of technical education. The Technical Education Department of the Ministry has introduced workshops in academic schools so that all secondary school students will have some experience of workshop practices. In addition, the conversion of academic schools into academic-cum-technical schools and conversion of the old vocational schools into industrial centres are proceeding as scheduled. Four vocational institutes are under construction or extension and a new one at MacPherson will soon commence construction.

A new Court building will be erected at Havelock Road to house 55 odd rooms, chambers for judges and magistrates, waiting-rooms, witnesses' rooms and other paraphernalia required for the administration of justice. The cost of the building is expected to amount to \$6.4 million.

I now come to the loan portion of the development programme. The Housing & Development Board will be provided with a loan of \$100 million to finance its accelerated building programme. Hitherto, the annual loan provision stood at \$50 million. Jurong Town Corporation has some \$50 million set aside and this money will pay for reclamation of swamp land at the old West Coast Road, the extension of Jurong Wharf, construction of workers' flats and social amenities.

The National Stadium, the foundation-stone of which I was privileged to lay a fortnight ago, will be offered a loan of \$7.8 million. It is intended to form a Corporation to run the Stadium. The income to repay this loan, as well as future loans, will come from two sources. First, the profits of Singapore Pools Limited and, second, the takings at the gate of the Stadium, which one hopes will exceed the cost of maintenance.

The government has embarked on a number of enterprises in the business field, including a shipping line, a ship-building yard, a ship-repair yard, a small arms plant and a development bank. These require loan finance and a sum of \$65.1 million has been set aside for this purpose.

The Jurong Town Corporation has been charged with the duty of developing Blakang Mati, soon to be renamed, and has commenced work. Further tourist attractions will be developed on islands in Jurong Lake. Money for these projects required in the coming financial year is estimated at \$8.9 million.

Taxation Policy

This concludes my observations on the Ordinary and Development Estimates. Before I go on to discuss possible future courses our economy may take, I should say a few words on taxation policy. The government's policy in recent years has been to depend on fast economic expansion and improved tax administration to produce increased revenue rather than raise rates of taxation to higher levels or introduce new taxes. Last year, some minor tax increases as well as new taxes were announced to meet the rising needs of our defence build-up. 1969 revenue increased by \$131.5 million over 1968. The yield of these revenue measures was \$30.4 million while economic expansion contributed most of the balance of \$101.0 million.

Treasury estimates of tax yields, as set out in the Estimates and explained in the Treasury paper, indicate that increasing yields, resulting from economic growth, will be adequate to meet expenditure increases. I therefore do not propose to raise new taxes, apart from the recent increase in tobacco duties to bring them in line with Malaysia. Singapore is a lightly taxed country. Tax revenues amount to about 13% of G.N.P. In other countries they are much higher, as much as 30% or more of G.N.P. in some instances. So long as we maintain a robust rate of economic expansion and maintain government expenditure to essentials, we need not emulate their example.

The Near Future

With this glad news to the taxpayer out of the way, I turn to look at our immediate economic prospects. It is important that we should not be lulled into a sense of false security by the mild boom now going on. There are dark clouds on the horizon, and it is as well that we prepare for more difficult times. The first adverse factor affecting our economy over the next two years will be the completion of the British military withdrawal by 31st December, 1971. In the next three years, the economy of Singapore will feel the impact of a decline of British military expenditure, from \$415 million in 1969 to zero in 1972. There is likely to be a reduction of some \$100 to \$150 million for this year and a final phasing out of the remaining \$250 to \$300 million in 1971. While no longer the catastrophe we once feared they would be, declines of expenditure of this magnitude cannot but have an unpleasant impact on the economy. In 1969, reduction was estimated at some \$40 million and was hardly felt.

As regards world trade which, as we have repeatedly seen, influences our economy significantly, it is unlikely to provide the substantial impetus to growth which it did in the years 1968 and 1969. In these two years, world trade expanded at unprecedented rates, 11% and 14% respectively. There is likely to be a slowing down of world trade in 1970. The extent of this is yet uncertain.

Much of this uncertainty derives from the outlook of the U.S. economy for this year. The American economy is so large and powerful that fluctuations in its level of activity exercise a strong influence on the economies of the rest of the world outside the Communist bloc. For just over two years, the American administration,

in the last year of President Johnson and the first year of President Nixon, has been battling with the problem of domestic inflation and unsettled balance of payments position. The 1960s have seen a sustained and powerful growth of the U.S. economy, the G.N.P. increasing from US \$503 billion in 1960 to US \$932 billion in 1969. In the last four years of the decade, as the American economy approached and reached the level of full employment, inflationary pressures began to build up. These pressures became grave, when military expenditure in Vietnam was increased substantially from 1967.

With domestic price inflation there has also occurred the inevitable concomitant - a squeeze on the balance of payments. Whereas, throughout the 1950s and the first half of the 1960s, the American balance of payments on trading account invariably showed an annual surplus of anything between US \$3-5 billion a year, the last year or two has seen this reduced to very small amounts, quite inadequate to support the large overseas payments on account of American overseas capital investments, expenditure by American tourists abroad, and government expenditure, including aid finance outside the States.

Since December 1968, the Federal Reserve Board has begun a policy of severe credit restriction. Because of the strength and power of the American economy, it was only in the last few months that the tight money policy of the Federal Reserve Board has produced visible results. There have been significant reductions in the volume of industrial production, in the volume of new construction, in expenditure on consumer durables and a small increase in unemployment. Yet price inflation remains alarmingly strong, at annual rates of 5½% to 6½% in recent months.

In spite of the slowing down and even decline in several of the important economic indicators, investment plans of the large American corporations have not so far been reduced to the extent needed to dampen inflationary pressure. The demand for investable funds in the face of the tight money policy of the Federal Reserve Board has resulted in the rise of interest rates to historical heights.

Economic trends in the next twelve months in the United States are difficult to predict. The administration economists visualise a levelling off of growth measured in real terms, an increase in the rate of unemployment from a low of some 3.3% in some months last year to an average level of 4.3% this year, perhaps reaching 5.0 at the highest. They do not see any recession of significant proportions. They expect price inflation to moderate from the annual rate of some 5½% last year to around 4% to 4½% this year. They expect the economy to pick up momentum in the second half of this year.

This scenario, as set out by the administration, is probably the best development one can hope for. If events follow the course as predicted by the American official economists, then neither the world of advanced nations in Europe nor less affluent under-developed countries need fear a marked decline in their trading fortunes. GATT predicts that world trade may increase this year at between 4% to 8%. The O.E.C.D., optimistic as ever, forecasts a 10% growth. My own preference is for the GATT forecast: if the outcome is near the higher point in the GATT forecast range, there probably would be no unduly harsh impact on our economy.

However, if events take a course different from the U.S. official forecasts, it is likely to be for the worse rather than for the better. Then the negative factors created by reduced British military expenditure will be compounded. These are matters beyond our control. All we can do is to take note of possible dangers looming on the horizon and make due preparation for them. I cannot but underline my warning against the dangers of complacency.

On balance, the next three years may not be as good as the last two. Fortunately, we have accumulated sufficient fat in the good years.

The Longer-term Perspective

I now turn to the longer-term prospects, looking to the mid '70s and beyond. Unless the stability of the area is seriously upset, it is likely that we can sustain and even increase the momentum of industrial growth which we recently achieved. The Promotion Centres established by the Economic Development Board in Europe and America and Japan have gained good experience in the last few years. Unless we see a world depression developing on some scale - and the consensus among the experts is that this is an improbable eventuality - we shall see in the next few years, the fruition of many industrial projects, some of them of a size exceeding anything that we have hitherto attained. The activities connected with offshore oil exploration in the waters of the Archipelago are likely to give rise to a number of interesting manufacturing and service industries based in Singapore.

The problem we are likely to encounter between now and 1975, barring a recession of course, is to provide the large numbers and wide varieties of skills which the new industries will need. In this connection, we have had the advantage of a recent study by Dr. Albert Winsemius who led the first United Nations mission in 1960 to Singapore to advise on policies on industrial development. Dr. Winsemius is an old friend of Singapore; in 1967 he was awarded the Distinguished Service Medal. Dr. Winsemius pays regular visits to the Republic, at our request, to check on our economic health and to discern problems ahead and suggest remedies.

He completed his last visit about a month ago. His prognosis is that the shortages of skills, which we knew existed, will become increasingly serious and more acute than we had believed. For instance, his calculations indicate that despite the intention of the University of Singapore to increase the annual output of engineers from 80 to 210 by 1974,

the Republic will remain short of engineers over the next five years by between 450 to 500 each year.

As regards management personnel, the output of accountants and business management graduates will fall seriously short of requirements, the shortage, in Dr. Winsemius' estimate, coming to some 200 a year over the next three years. As regards the demand for technicians, who have to support the efforts of engineers, the position is even worse. Taking into account the large requirements of technicians in the defence forces, we are likely to be short of technicians by 1,500 to 2,000 each year over the next two years.

These estimates are based on the assumption that industrial growth, now running at between 15% to 20% a year, will be sustained over the next five years. There is no reason why this cannot be done. By 1974, the industrial work force should increase to around 247,000. Further, as much of the increases will accrue from the establishment of large industrial units rather than a proliferation of small ones, the demand for engineers, and management and technical personnel will be of a different order of magnitude from what we have been accustomed to. This, then, will be the principal difficulty which we have to overcome - not so much to attract investment into the manufacturing industries but to supply investors with skilled personnel of all grades, without which modern industry cannot operate.

Since it takes four years for an engineering student to graduate and several more years before he acquires sufficient experience to be able to work effectively in an organisation, clearly we cannot depend on local supply to meet the demand in these fields. The problem is similar in regard to management personnel and technical staff, though here local supply, if stepped up immediately, may be able to fill the gap earlier than is possible with engineers.

It is therefore necessary, as a matter of high priority, that we should relax our immigration and work permit restrictions on the inflow of personnel belonging to the categories I have described. At present, these are given entry and work permits provided they are sponsored by an employer. That is to say, they have to find work here before they are allowed the necessary permits. It would be a clear advantage to liberalise the conditions under which such people can come into Singapore, acquire permanent residence and eventual citizenship. It would be useful, for instance, if they could be allowed here for any length of time they wish so that they can do the job-hunting and, in this way, fit into the best slots available to them. This is a matter of great urgency, as it is well known that a great amount of crimping already takes place. Indeed, the Technical Department of the Ministry of Education, which has to train large numbers of artisans and craftsmen, are finding it difficult to retain their engineers and technicians who have to do the training at the Department's Industrial Training Centres, Vocational Institutes and secondary technical schools.

University Development

This discussion of the ways in which we should try to fill the gap between demand and supply of engineers leads me to two related subjects. The first relates to the levels of scientific knowledge and technological know-how which our future industries are likely to demand. The second concerns university development in Singapore in general as well as the output of scientists, engineers and technicians in particular.

In recent months, there has been increasing reference in public as well as private discussions to the need for Singapore to develop "science-based and technology-oriented industries". A well-known British financial commentator recently said that whenever he hears the phrase "advanced industrial technology" he

reaches for his gun. Too often this catch phrase is used in an attempt to mulct the public purse of sizeable subsidies to finance industrial research which has no hope of resulting in commercially feasible products. I have a great deal of sympathy for this position, but for different reasons. The use of the term to our industries, existing as well as potential, is often misleading. As an example, the electronics industry in America works at the frontier of science and technology. The electronic components we make in Singapore require less skill than that required by barbers or cooks, consisting mostly of repetitive manual operations.

Let us not presume that at the comparative low level of scientific and technological know-how that we find ourselves today, it is our role to train scientists and engineers who will engage in research at the frontiers of knowledge.

Ours should be the more mundane, if practical, approach. In the foreseeable future, we are likely to set up those industrial activities which require assiduous application of engineering skills and workmanship in well-developed and well-known industrial processes in which we have a natural advantage by being able to produce or import engineers, technicians, craftsmen and skilled workers capable of performing the most exacting standards of work but at a much lower cost than the advanced countries could. Even so, the limitation here is that restrictions may be imposed on the import of quite a number of these products by industrialised nations to preserve the home market for these industries. Further, not all countries would favour a policy whereby the techniques which they evolved as a result of sustained and costly research and development work are passed on to others. But within such limitations, there could be a wide field to choose from.

The practical application, even at these modest levels

of technology, requires a substantial upgrading of skills at all levels - from research scientists, engineers, technicians, skilled craftsmen - to standards beyond anything we have achieved now. It is in this sense that we should try and improve our reservoir of scientific and technological knowledge and experience.

This leads me naturally to the development of our universities which are institutions to provide the requisite people to perform these tasks. It is one of the misfortunes of Singapore that the development of our two Universities has encountered difficulties in the past which have stunted their growth. In the case of Nanyang University, the deterioration of administration prior to 1964 had allowed the control of the University virtually to pass into the hands of student activists who were manipulated by the Communist United Front. Nanyang virtually became a training ground for high echelon cadres of the Communist United Front. Government intervention as a security measure was inevitable. Since the restoration of the University's administration to more normal standards, improvements have been made and standards have been raised.

The case of the University of Singapore was different. Here, until very recently and perhaps not even then, there appeared to be a total absence of meaningful dialogue between the University and the government. The University, particularly in certain departments in the Faculty of Arts, in which expatriate staff were dominant, viewed the government not as a possible source of support and encouragement, but as a potential danger and a threat to its autonomy. Trivial incidents, which sometimes arose as a result of poor communications between the two sides, were inflated out of all proportions to their real importance. Part of the trouble seems to stem from the attitudes of some expatriate staff who have brought with them not merely a competence in their field of specialisation

but also contemporary styles and postures which may be meaningful in the context of strident anti-establishment and liberal postures. In part, these reflect trends towards permissiveness and promiscuity in the societies from which these expatriates come and to which they belong. But these are totally irrelevant to the situation Singaporeans are facing.

The growth of student population as well as the increase in expenditures of the two Universities financed from Government revenues have failed to keep pace with the expansion of the economy. Enrolment at the two Universities plus the Polytechnic and Ngee Ann grew during the decade from 9,355 to 16,214, a 73% increase compared with a 146% increase in the Gross Domestic Product.

Matters had reached such a pass at the University of Singapore that it was found necessary for a Cabinet Minister to be appointed its Vice-Chancellor. And yet, it may be that the appointment of my colleague, the Minister for Science and Technology, could be just the step required to restore a relationship of confidence between the University and the Government so that the University can develop into an institution more in tune to the needs of the society which nurtures it. There is welcome evidence that the student body and a growing part of the academic staff are becoming aware of this.

Certainly without his appointment to the post of Vice-Chancellor, it is unlikely that my colleagues and I would entertain the proposal to move the University at enormous expense from its present constricted campus at Bukit Timah to one of the most scenic sites in Singapore in the range of hills known as Kent Ridge. Since his appointment as Vice-Chancellor, it has also been increasingly apparent to the Government that the University would need more funds not only to expand existing

faculties and establish new ones, but also to increase the pay of academic staff to levels which will ensure that they will attract and retain the keenest intellects produced in the Republic.

Improvements in similar measure are also necessary at the other University, Nanyang University. Here the problem will be, for some considerable time to come, to recruit Chinese-speaking academic staff of calibre into the University. While Nanyang graduates who have returned from post-graduate studies abroad will grow in strength and numbers, there is need to recruit senior staff in various disciplines. The field of recruitment is much narrower than is the case with the Singapore University. Further, many of the best Chinese-speaking scientists and scholars available today outside of the People's Republic of China are engaged in industrial research or academic teaching in the United States of America. To attract them to Nanyang would be both a complex and expensive exercise, but some method must be found of doing this if Nanyang University were to develop in stature and repute as a centre of scholarship and research.

I have dealt at some length on University education. The subject arose out of current and projected shortages of engineers and management personnel which proper university training programmes could in course of time help to solve. But universities have a more crucial role in the development process if one takes a long term view of it. Let me set the subject in its true perspective.

We have made long and strenuous efforts to attract foreign investment into Singapore, but not because we need the money. The high level of our overseas assets shows that we have more than we can usefully spend in Singapore. We welcome foreign investors for the two things they bring with them - technology and markets. If Singapore were a large country, say, with a population of 100 million and endowed with a variety of natural

resources, the open door investment policy we pursue may not be the best long term development strategy. In such a situation we should develop an indigenous technology centred initially around the exploitation of natural resources. But this would take time, and would constrain the economy to slow growth rates for possibly several decades while universities and research institutions need to build up staff and expertise. But the pay off would come in the end and most of it would accrue to citizens of the country.

Our situation is the opposite to what I have described. An open door policy is one which at least ensures rapid growth right from the initial stage. When foreign corporations bring their expertise what we experience, as a developing nation, is a brain-drain in reverse. Naturally we pay for this. We pay in the form of profits and know-how fees remitted abroad and high salaries to foreign management and technical personnel.

This is the position we find ourselves in and it is likely to persist into the mid-seventies and in lesser extent, even after that. It would be wrong for us to resent the inflow of management personnel, engineers and technicians from abroad. On the contrary, we could regard them as blazing the trail for the new industries which we do not have the knowledge and technology to set up ourselves. We should also regard them as presenting us not only opportunities for future graduates of our Universities and technical schools but also as performing invaluable services in giving firm indications as to the lines of science and industrial technology which our Universities and training institutions should develop. Without such clear indications, Singapore might make the mistake of other developing nations in producing large numbers of university

graduates who cannot find useful employment. Having said this, I need also say that in the long term the scientific know-how and technological processes which we now borrow from abroad must in course of time develop on an indigenous base at our institutions of higher learning. This is the task which I see as deserving of high priority in the coming decade. We must make good the neglect of our universities of the past decade, when for the reasons I have explained, they did not participate in the exciting transformation of Singapore, from colony, to a State in a Federation, and then a Republic.

Sir, I beg to move.