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Education, employment and migration in Papua New Guinea

J.D. Conroy



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Series editor E.K. Fisk

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Educational expansion, together with the introduction of monetary economic activity, has had a profound impact on the pre-literate agricultural subsistence societies of Papua New Guinea. Experience in other areas of the underdeveloped world, especially Africa, suggests the probability of a common sequence of events occurring in such societies. This monograph elaborates a model of educational expansion and unemployment in Papua New Guinea, and presents empirical evidence to support the hypotheses suggested by the model.

The writer attempts to explain the rapidly growing social demand for formal education in Papua New Guinea, and the related phenomena of rural-urban migration by the educated and unemployment in urban areas. Complex interrelationships exist between education, employment, income and prestige, and an understanding of these interrelationships is necessary if solutions are to be found for some of the most pressing economic and social problems facing Papua New Guinea today.

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Foreword

Since 1967, when I first became aware of it, the 'school leaver problem' in Papua New Guinea has changed in status from something at which educational administrators scoffed to a major object of public concern. One advantage of taking so long to write this study (the result of tardiness rather than conscious design) is that I have been able to observe the unfolding of events and to commence a longitudinal survey of a group of school leavers which may assume more importance and interest in future years.

Much of the material in this monograph has been previously published in preliminary form. Papers have appeared in the *Economic Record*, *Oceania*, *Manpower and Unemployment Research in Africa*, *Melbourne Studies in Education*, *Search*, the *Journal of the Papua New Guinea Society*, *The Papua New Guinea Journal of Education*, *Yagl-Ambu*, various published collections of Waigani Seminar papers, and in *Alternative Strategies for Papua New Guinea*, edited by Anthony Clunies Ross and John Langmore and published by Oxford University Press. However, since these widely-scattered pieces were conceived of as part of a whole, I have taken the opportunity to revise and incorporate them with new material into a single study as I originally intended.

Personal considerations of education, employment and migration led me to begin the study at La Trobe University and to finish it at the University of Papua New Guinea. Over the years a great many of my colleagues at both universities provided stimulus and helpful suggestions which have influenced my work. My principal debt is to Bill Stent, who suggested the topic in the beginning and guided my early research efforts. He has continued to be intimately associated with the study since I left La Trobe. I hope Bill will consider the end result worthy of the immense amount of time and effort he has expended on my behalf.

In Port Moresby Anthony Clunies Ross assumed the role of supervisor. I am grateful for his encouragement, and for his patient and detailed comments on work in progress. John

Langmore has also been a helpful critic over the years, while Christopher Selby Smith of the ANU has been a generous and helpful correspondent. During study leave at La Trobe in 1973 I was greatly assisted by Bob Powell, whose advice on statistical analysis and computing problems considerably influenced the final shape of Chapters 6 and 7.

While engaged in fieldwork in Papua New Guinea I have been helped by many people associated with the National Education System, administrators, teachers and students. The latter group, particularly, have cheerfully provided the raw material for this study, and have continued to answer my questions over the years. I hope that Papua New Guineans in future will consider this study, and others like it, a legitimate and worthwhile activity. My original fieldwork in 1968 was made possible by a generous grant from the Myer Foundation, under its Asian and Pacific Fellowship scheme.

This monograph is dedicated to Janet, my wife, and to Nicole, Simon, Joshua and Jonathan, my children.

Port Moresby

J.D. Conroy

September 1976

Chapter 1

The unfamiliar economic setting

The problems of affluence ... are less intractable than those of grinding poverty, and the opportunity of starting up the income ladder from a point a number of steps up from the poverty line justifies the most careful study of the unfamiliar economic setting from which the opportunity derives.

E.K. Fisk

European imperialism came late to the island of New Guinea, and the end of the colonial era has been correspondingly delayed. Melanesians share the colonial experience of other peoples in newly-independent nations, and it is instructive to draw on that common experience in analysing the impact of formal Western education on Papua New Guinea. But before parallels are drawn with other colonial societies it is necessary to understand those factors which differentiate this young nation. Given that every underdeveloped country is different, what are some of the distinctive features of Papua New Guinea?

Permanent settlement by Europeans has extended over a century, but contact with many areas is much more recent. The existence of the substantial Highlands populations was not discovered until the 1930s and administrative control, the *Pax Australiana*, dates from only the 1950s among certain major concentrations of people. This is partly the result of physical environment. Topographic anarchy creates problems for transport and communications which are extreme by almost any standard, resulting in a degree of reliance on air transport which is probably without parallel in the Third World.

The extensive development of air transport facilities is, in turn, an aspect of two other distinctive and interrelated

features of Papua New Guinea, at least in the recent past - the overwhelming physical presence of Europeans and massive injections of external financial assistance. While the number of entrenched *colons* is quite small (and leaving aside the somewhat larger group of Chinese) there is a circulating population of European short- and medium-term residents which is extremely large by colonial standards. In colonial Africa, of the countries which are now independent, only Northern Rhodesia (Zambia) had a larger proportion of Europeans than Papua New Guinea had at the apogee of foreign influence in 1971 and 1972. It is probably true to say that at that time only in countries such as New Caledonia, Angola and Rhodesia, where independent indigenous governments still appeared a remote possibility, did Europeans form a larger proportion of total population than in Papua New Guinea.¹ The presence of so many foreigners, with their wealth and technology, has had potent demonstration effects in influencing the aspirations of Melanesians. These aspirations in turn have determined their responses to the opportunities for economic and social mobility presented by the introduction of formal Western education, a subject discussed in subsequent chapters.

¹ At the time of the 1971 census of Papua New Guinea (when the non-Melanesian population was close to its historic maximum) expatriates of European origin formed about 2% of the population; in broad terms, about 50,000 in a population of 2.5 million. Similarly rough calculations for Africa in 1955, at the close of the colonial era, yield the following proportions of European population: Northern Rhodesia 3.1% (including Asians, 3.4%), Kenya 0.9% (with Asians, 4.0%), Tanganyika 0.3% (with Asians, 1.5%), Uganda 0.15% (with Asians, 1.2%), Belgian Congo 0.8%, French West Africa 0.5%, Gold Coast 0.2%, Nigeria 0.05% (ILO 1962:665). The Dutch population in Indonesia reached its peak in 1930, at 0.4% of the total (Palmier 1962:33). However, in Papua New Guinea the expatriate population began to run down dramatically in 1973 with the approach of self-government and independence. From a peak of 55,487, in August 1971 (at the height of construction activity on the Bougainville Copper Project), the non-indigenous population fell to an estimated 39,050 in April 1974 (Papua New Guinea 1973c:3; 1974a:3). Further reduction has occurred since, though at a much reduced rate.

The size of the expatriate population was largely related to the volume of Australian aid, which in the period 1945-73 amounted to a sum of the order of \$A1500 million. Australia's commitment to Papua New Guinea constitutes the major portion of its foreign aid program, and the transfer of resources has been considerable, both in absolute terms and on a *per caput* basis. Thus in 1969-70 non-military grant aid to Papua New Guinea averaged \$A49 per head of its population. This is a level of external assistance exceeded only in the overseas territories of France and perhaps certain Pacific dependencies of the United States.

Population and resources

The man/land ratio throughout most of Papua New Guinea is quite low, and population pressure on resources is, in general, slight. According to R.T. Shand

the balance between subsistence output and population is almost universally favourable. With few exceptions, individual families can meet their subsistence needs with resource inputs well within available supplies, and most have had a reserve both of land and labour available for development purposes (Shand and Treadgold 1971:57).

This situation moved E.K. Fisk to coin the term 'subsistence affluence' to describe the standard of living in the traditional subsistence economy.

This is a condition in which population pressure on land resources is relatively light, productivity per unit of applied labour (as distinct from available labour) is very high and most subsistence agriculturalists are able to produce as much as they can consume (with satisfaction) of their main essential requirements, and to sustain an adequate level of living by their traditional standards, at the cost of as little as fifteen or twenty hours labour a week (1971:368).

Under these circumstances, the level of output is limited more by demand than by the availability of resources. Thus there is a 'potential surplus concealed within the subsistence sector' in the form of a surplus of labour (Fisk 1962:467-8). This is not to be confused with the labour surplus sometimes thought to exist in overpopulated

countries where the marginal productivity of agricultural labour is very low (W.A. Lewis 1954), for under 'subsistence affluence' the marginal product of labour is strongly positive. Given adequate incentives, the surplus resources within the subsistence sector could be applied to increasing the production of traditional staples, to the growing of new cash crops, or to investment in labour-intensive public works projects.

Pace Jones (1970), Fisk does not imply that this labour is available at zero opportunity cost. He distinguishes between the labour applied to providing subsistence at customary levels, and energies expended in other 'activities' of subsistence cultivators (Fisk 1970:26). The extent to which people will be willing to reduce their involvement in other traditional activities which are a source of satisfaction in favour of monetary sector activities will depend on the incentives offered them.

The U.N.D.P. *Report on Development Strategies for Papua New Guinea* (Faber *et al.* 1973) contains several disparaging references to subsistence affluence, although it is not clear whether the writers are critical of the concept itself or merely of attitudes based on misunderstanding of the concept. Thus they assert that 'failure to maximise pecuniary gain tends to be construed as "lack of motivation", which is in turn [*inter alia*] attributed to "subsistence affluence"' (1973:94). However, one of the principal merits of the concept has been to show that economic rationality, rather than lack of motivation, explains the behaviour of 'affluent' subsistence cultivators in a variety of situations. There is never any suggestion of insufficient motivation in the face of suitable incentives. A proper appreciation of the Fisk model is incompatible with any 'obsession with an assumed general "lack of motivation"' (Faber *et al.* 1973:94). Subsequent chapters of this monograph are devoted to demonstrating the existence of a high degree of economic motivation among Melanesians, while assuming that subsistence affluence is a basic parameter in the present state of the Papua New Guinea economy.

There is no contradiction inherent in the fact that "'subsistence affluents" may have enough for their private needs, but they want more public expenditure' (Faber *et al.* 1973:94). As Shand says,

local political demands for resources have not been couched in terms relating to difficulties of maintaining an existing traditional standard of living ... they have been based rather upon the desire for an elevation of living standards beyond those available and previously acceptable in traditional society, and upon the provision of opportunities for this purpose (Shand and Treadgold 1971:57).

Furthermore, when the Faber Report declares that 'we should not let talk of "primitive affluence" divert attention away from the considerable problems of subnutrition which are occasioned by an inadequately balanced diet' (Faber *et al.* 1973:98), less than justice is done to the Fisk model. There 'affluence' was simply defined as a situation in which nutrition was adequate by traditional standards (Fisk 1971: 368), rather than by any externally-applied yardstick. Indeed the case for the prevalence of 'subnutrition' in the subsistence sector of Papua New Guinea is not clearcut. Another observer has pointed out that 'nutrition is but one component of a much more comprehensive system involving a number of other needs' and that, therefore, 'it is the system as a whole that can be judged healthy or unhealthy, not a part-function of the system such as nutrition' (Hipsley 1973:118). Thus, 'it is possible to live with dignity, purpose and enjoyment as a low-energy user, for example as a Melanesian, or as a high-energy user, for example as an Australian, provided that our basic needs are met' (1973:117). This argument is not motivated by any belief in the moral superiority of rural, agrarian societies. Many people in high-energy-using societies are coming to suspect the existence of limits to growth, for severely practical reasons. Some idea of what Hipsley means by 'basic needs' is conveyed by the following passage, enthusiastically quoted by Ivan Illich (1973:298). Discussing the view that nutritional standards which fail to maximise human growth rates are inadequate Hipsley declares that

where a group of people reproduce and transmit to a new generation an adequate culture to ensure a continuing life for the group, it would be difficult to argue from evidence of submaximal growth alone, that the growth was unsatisfactory (1973:124, emphasis in original).

Fisk's model provides many valuable insights into the

Papua New Guinea economy and its problems. For example, J.E. Isaac has remarked that the high supply price of labour from the affluent subsistence sector imperils the existence of expatriate-owned plantations producing export crops in competition with low-wage foreign producers (TPNG 1970:16). As will be shown, the model has implications for the nature of urban unemployment and the development of urban 'informal sector' economic activities. It is also basic to the writer's discussion of urbanization and rural development policies in Chapter 10.

The nature of urban unemployment

Urban unemployment has had a prominent place in recent discussions of economic and social change in Papua New Guinea. While many, though not all, commentators regard it as a serious problem, nobody is really sure of its magnitude. Quite apart from the physical difficulty of counting the unemployed, there are also serious problems of definition. What does 'unemployment' mean in the context of urban areas in Papua New Guinea?

Observers from the fully monetized and affluent economies may attempt to categorize unemployment in less developed countries according to familiar Western criteria. Unemployment is seen as either voluntary or involuntary, the former being a situation where people are unwilling to accept work at the prevailing wage rate, and the latter occurring when people willing to work for the going wage are unable to find employment. A voluntarily unemployed worker presumably has a supply price (the price that would induce him to offer his labour) above the prevailing market wage, and his idleness is not regarded as a serious economic problem. By contrast the Keynesian economic revolution was primarily directed at solving the problem of involuntary unemployment in advanced Western economies.

In the orthodox Western framework, involuntary unemployment is further subdivided according to the circumstances responsible for the unemployment. The first category is demand deficiency unemployment, caused by inadequate aggregate demand for the output of labour, and remediable by orthodox policies designed to stimulate the level of economic activity. In less developed countries, however, the scope for employment creation through fiscal and monetary policies of this type is extremely limited, since the under-utilization of labour resources is more likely to be due to shortages of

complementary resources; such unemployment is due to the state of underdevelopment itself and falls into the second category: structural unemployment.

Structural unemployment also includes situations where the unemployed are unable, for a variety of reasons, to fill job vacancies available. Idle workers may lack the necessary skills, as is the case in Papua New Guinea where surpluses of labour at lower skill levels coexist with shortages at skilled and professional levels. Or the distortion may be geographical; surpluses of labourers exist in urban areas while at the same time rural plantations find labour difficult to recruit. This may not be a good example, however, since many of the urban unemployed have ignored opportunities to be recruited for plantation work, while some are 'deserters' from plantations located near urban centres. If one assumes them to be economically rational then presumably the plantation wage is below the supply price of this group of workers.

A third category is frictional unemployment, which covers workers who have left one job and are canvassing the opportunities available to them. They may be regarded as moving between jobs, although the time which this process takes will depend on the nature of the labour market in which they are located, particularly with respect to the availability of information to job-seekers. The more literate the workforce and the more centralized the process by which job vacancies are registered and publicized, the less this category of unemployment should be. Where, as in Papua New Guinea, the majority of urban job-seekers operate through informal channels and personal contacts, it is likely that a significant proportion of the unemployed will fall into this group.

Seasonal unemployment occurs where certain work is concentrated at a particular time of the year, and is often associated with the harvesting or processing of particular crops. It is particularly important in those less developed countries where there are landless labourers and a marked seasonal rhythm in the agricultural cycle. It is not important in Papua New Guinea where the conditions described do not exist. There is some movement of labour to plantations at the time of coffee and cocoa 'flushes' but the workers concerned return to the subsistence sector when their services are no longer required.

Gunnar Myrdal is extremely critical of the application of this framework of analysis to the economies of South Asia. In a section of his *Asian Drama* entitled 'The unsuitability of Western concepts of employment and unemployment' he declares that 'South Asians dismissed from jobs in the organized segment of the economy simply cannot afford the luxury of "unemployment"' (Myrdal 1968:1118). He is referring to that section of the urban workforce employed in occupations to which minimum wage legislation applies, or which is affected by trade union pressures or the hiring policies of government or large national and international corporations. This 'organized' sector constitutes a labour market in itself, characterized by excess supplies of labour at practically every level, especially in countries where overexpansion of educational facilities has led to overproduction of skilled workers. As Myrdal puts it, persons dismissed from such jobs are subject to

a pressure of economic distress for some form of work participation that, however small its social contribution, blunts the full force of open unemployment. Underlying the suppression of open unemployment of a Western type is also the institutional structure of economic activity in South Asia. Retreat into traditional agriculture is only one of the possible safety valves. Another is to be found in the multitude of more or less casual economic activities in urban areas (Myrdal 1968:1120).

Thus there is another urban labour market outside the 'organized segment'. Harberger makes a similar distinction between the 'protected' and 'unprotected' sectors of the urban workforce, arriving at similar analytical conclusions (Harberger 1971:563 ff.).

Myrdal's analysis is quite inappropriate to the employment situation in Papua New Guinea. He emphasizes the 'push' of rural poverty and overpopulation as factors causing rural-urban migration in South Asia, with the implication that many people have no option of returning to their rural homes. This is clearly not the case for any significant proportion of internal migrants in Papua New Guinea. Moreover, visitors with experience in other developing areas are struck by the almost total absence of an 'unprotected' urban sector (Faber *et al.* 1973:25). The coverage of minimum wage legislation has been virtually complete, up until recent times,

in determining the incomes of urban workers.² The indigenous service sector is embryonic and petty trading activities of urban residents are largely confined to the sale of produce in town markets by peri-urban cultivators. There have been few signs of the growth of a class of self-employed urban hawkers and craftsmen and even the internal food market is small and ill-developed. In Port Moresby, the principal urban centre, the production and distribution of local food-stuffs are marginal to the activities of the 'organized' sector which retails predominantly imported produce.³

Writing of Uganda, Caroline Hutton makes a further distinction between visible underemployment and disguised underemployment (Hutton 1966). The former refers to involuntary short-time or part-time working. The only example of this which occurs to the writer concerns a few casual stevedores in Papua New Guinea ports. Certainly it is not a common occurrence. Disguised underemployment relates to situations where excessive numbers of workers are engaged in a particular activity, with the consequence of low productivity and earnings. This description carries the implication that surplus labour could be removed from the activity in question without reducing the overall level of output. The concept is applied to the operations of workers in the informal 'unprotected' sector of towns, and to family cultivation in rural areas of population pressure where the marginal product of labour is thought to be very low or even zero.

As was pointed out previously, there is relatively little economic activity in urban areas of Papua New Guinea outside

²For example, domestic servants are specifically excluded from urban wage legislation but enjoyed *de facto* parity with minimum-wage earners before the substantial minimum-wage increases of 1972-75. This group may form the nucleus of an emerging 'unprotected' sector as their average earnings lag behind urban wage awards.

³This is not to say that there has been no development of urban indigenous enterprises. However, the extent of government involvement in nurturing and regulating their activities quite clearly places them within the 'organized' sector. The operations of indigenous building contractors are the most important example, while PMV or *bisniskar* operators are another.

the 'organized' sector, so that disguised underemployment cannot be said to exist in this form. Moreover, the marginal product of labour in traditional agriculture is, in general, strongly positive and the low inputs of labour per worker observed in this sector are entirely voluntary, reflecting for the most part the lack of adequate incentives to increase agricultural output. This proposition is explored in greater detail in Chapter 10.

For these reasons the concept of underemployment which appears so frequently in the literature of economic development seems to have little relevance to Papua New Guinea. From the viewpoint of society the problem is one of open unemployment, confined to urban areas, and involving certain social costs. The urban unemployed, both voluntary and involuntary, make demands on urban infrastructural facilities and on their employed kin to whom they look for support, quite apart from the real loss of output associated with their absence from a productive subsistence sector.

However, from the viewpoint of the individual, only involuntary unemployment is an economic problem. The voluntarily unemployed are free to pursue their own welfare goals. In modern Western society, where the concept of the 'undeserving poor' has largely disappeared, it is assumed that few members of the workforce will normally choose to remain idle at any given time. The writer chooses to make the same assumption about urban workers in Papua New Guinea. To verify such an assumption would require careful study of the behaviour of rural migrants who form the bulk of the unemployed in urban areas. Ethnocentrism may blind the Western observer to the processes of labour market exploration and acculturation and lead to his overestimating the extent of voluntary unemployment in a given situation.

Ross Garnaut has attempted to categorize unemployed urban dwellers in a manner suited to Papua New Guinea conditions (1972). They are 'voluntary', 'trapped', 'hopeful' or 'dispossessed', a classification which yields a number of valuable insights. However, his definition of 'voluntary' unemployment appears to be too wide and falls into the trap described above. According to Garnaut, 'voluntary unemployed will not accept a job that is offered at a going wage rate. They are visiting town, resting before or between seeking jobs, or dissatisfied with the remuneration or type of employment that is available' (1972:54).

No one can doubt that short-term visitors to town are tourists rather than an unemployment problem. But the longer-term 'visitor' may, by degrees, move into the category of those 'resting before ... seeking jobs', and it is here that research into the motives of migrants would be valuable. It seems likely that many such people are consciously undergoing a phase of orientation and familiarization with modern sector life in the hope of finding employment within that sector. Their return to the village after an extended visit may be in recognition of failure to make the necessary mental adjustments, to acquire the necessary confidence, or to make the necessary contacts. The presence, at any single point of time, of growing numbers of such people in towns cannot be dismissed as voluntary unemployment.

Similarly, people who are 'resting ... between seeking jobs' may be involuntarily unemployed in a frictional sense. Their 'resting' may be more apparent than real, and is not to be judged necessarily by the time-span between jobs. As mentioned previously, frictional unemployment is likely to be prolonged where labour market information is disseminated more by word-of-mouth than by the printed word, and employment is typically obtained through a network of contacts rather than through employment exchanges.

Again, men who are 'dissatisfied ... with the type of employment that is available', may be behaving in an economically rational manner in refusing employment at a lower level than that for which they are qualified, since to do so could impair their employment status and earning capacity in the long run. Moreover, having one job severely limits the time which may be spent seeking another. Such behaviour is well known in the labour markets of developed economies and cannot be regarded as voluntary unemployment in the normal sense. The fact that the extended family provides support for such individuals in Papua New Guinea to an extent uncommon in Western societies merely increases the incidence of such behaviour without altering its nature. There is, of course, the probability that some men in this group have unrealistic notions of their capacity for employment at higher skill levels. However, the processes of informal skill acquisition by which many workers in developing countries advance up the occupational ladder preclude any such judgment about the group as a whole.

The purpose of this examination of Garnaut's definition of voluntary unemployment has been to pare it down to a much

narrower coverage. However, a head-count of the members of the remaining groups is likely to be quite as difficult as an enumeration of those excluded. Yet since definition must precede measurement the writer offers the following:

The voluntarily unemployed in urban areas include short-term visitors (of economically active status), those genuinely resting between jobs, and those whose supply price exceeds the wage for the occupation for which they are qualified, and who are not actively seeking other employment.

Garnaut's three remaining categories are a revealing characterization of the involuntarily unemployed. Those described as 'trapped' are a particularly important group in a country where air transport, besides being expensive, is often the only way home for a migrant. Garnaut believes that his second group, the 'hopeful', may prefer village life to urban unemployment, but that they consider waiting for a job a worthwhile investment. The writer was inclined to believe that a substantial proportion of urban minimum-wage earners also prefer village life, but have regarded their employment as a learning experience with the possibility of advancement through on-the-job training and other forms of informal skill acquisition. The balance of advantages between urban employment and village life may, however, have been decisively tipped by a series of decisions which increased urban minimum wages by almost 250 per cent in the period 1972-75. Such a change must surely increase the number of 'hopefuls' in town labour markets.

Garnaut's final group, the 'dispossessed' unemployed, 'do not have a place in the village society as an alternative to urban life, perhaps because they have been reared in town or because they have failed to fulfill obligations' (Garnaut 1972:54). To this group we might add villagers whose traditional land has become part of the urban area (Hanuabadans being the prime example) and who, like the dispossessed, are unable to retreat to the subsistence sector. Although the number of genuinely landless Papua New Guineans is probably still small, it must increase as inter-ethnic marriage and long periods of urban residence weaken the ties of migrants and their children with home areas.

It may be that the growth of a sufficiently large pool of Garnaut's 'trapped' and 'dispossessed' migrants is a necessary condition for the creation of a small-scale

indigenous 'unprotected' sector in the towns, where petty trading and service activities (which many would regard as marking a further stage of economic development) will appear. Experience gained in such 'informal' economic activities may be the basis on which wider indigenous entrepreneurial involvement in the 'organized' sector will develop. The possible use of poverty as a spur to development has been described by Fisk who suggests that the action of population growth in eroding the affluence of the subsistence sector could produce a more highly motivated modern sector workforce.

This has in places led to a reluctance to invest scarce resources in the improvement or intensification of affluent subsistence agriculture, and to a really poor subsistence population being regarded as possibly a better resource for economic development. This is an incorrect view, derived from a misunderstanding of the internal operation, and potential, of subsistence agriculture. The problems of affluence in this sector are less intractable than those of grinding poverty, and the opportunity of starting up the income ladder from a point a number of steps up from the poverty line justifies the most careful study of the unfamiliar economic setting from which the opportunity derives (Fisk 1971:378).

It seems clear that the freedom of unsuccessful migrants in the past to return to a comparatively affluent subsistence economy has limited urban economic activity almost entirely to the expatriate-dominated 'organized' sector. This is the principal reason for the non-applicability of Myrdal's model to Papua New Guinea, where rural-urban migrants can afford 'the luxury of unemployment'. In this 'unfamiliar economic setting' urban unemployment is more usefully analysed in terms of the orthodox Western criteria, with appropriate allowances for the cultural context in which the labour market operates. Furthermore, the potential for further economic development in the rural agricultural sector has implications for policies with respect to urbanization and the encouragement of urban 'informal' economic activity. These are discussed at length in Chapter 10.

Cultural factors

Certain distinctive features of Melanesian culture and personality profoundly affect the responses of Papua New

Guineans to the monetary economy and its opportunities. Of particular importance are the fluidity of the social structure and the open and competitive nature of leadership. Traditional political organization is characterized by the impermanence of political units and a lack of centralized authority. 'Such authority as does exist is most often based on personal ability ... leadership is usually achieved, almost never ascribed' (Langness 1973:153). Moreover, according to Marie de Lepervanche (1973:22):

Although leadership is everywhere achieved in competition with rivals, the nature of the competition varies. And depending on the enterprises to which male prestige attaches, the role of big-man also varies.

The big-man is the archetypal Melanesian leader, and in different societies he achieves this status through magic, oratory or gardening prowess, or perhaps by becoming a noted fight-leader. A widely observed trait of the big-man is his ability to direct the production and distribution of food-stuffs and valuables by drawing on the resources of his followers (Sahlins 1963). Marshall Sahlins offers an 'impressionistic sketch' of the big-man which shows how a caricature may capture the essence of a personality better than a more strictly accurate portrait:

The Melanesian big-man seems so thoroughly bourgeois, so reminiscent of the free enterprising rugged individual of our own heritage. He combines with an ostensible interest in the general welfare a more profound measure of self-interested cunning and economic calculation. His gaze, as Veblen might have put it, is fixed unswervingly to the main chance. His every public action is designed to make a competitive and invidious comparison with others, to show a standing above the masses that is the product of his own personal manufacture (1963:289).

Whatever path he follows to achieve his position, the big-man is concerned with maximizing his status or prestige. While human motivation is a complex and multi-faceted phenomenon, prestige is clearly one of the most significant rewards for which men can strive. In primitive societies, as in the Western world, 'the drive for prestige ... constitutes a powerful psychological factor in determining

economic no less than other forms of behaviour' (Herskovits 1940:98).

Certainly the anthropological literature on Papua New Guinea provides numerous examples to validate the notion that prestige is the primary goal of the big-man. A study of one particular society, the Motu, provides quite explicit support:

Acquiring prestige, or as the Motu put it, having a 'name' ... was traditionally the major objective of almost all Motu householders. Each man strove to gain advantage over others in a continual battle for prestige (Groves 1973:104).

Although prestige is associated with political power and also with wealth, Groves is unequivocal concerning the primacy of prestige in the triad of prestige, power and wealth. More general evidence may be found in the motives supporting the involvement of big-men in the almost universal Melanesian institution of bride-price. When men take part in the continuing round of marriage payments and receipts,

The motivating factor is not profit but prestige, for it is characteristic of Papua New Guinea that the ability to act as a channel for the flow of wealth in the form of food distribution feasts or of contributions to intergroup exchanges is everywhere a means of achieving high status (D'Arcy Ryan 1973:130).

Indeed, it is significant that in one of the classic accounts of big-man behaviour, concerning the Siuai of southern Bougainville, the ethnographer should have translated the title by which his subjects were known as 'man of renown'. This neatly encapsulates the notion of prestige as the primary attribute of a big-man (Oliver 1955).

Another specific example is to be found among the Gorokans of the Eastern Highlands. Ben Finney (1973:81) describes them as 'conspicuous investors' and as 'passionately interested in wealth and the prestige associated with wealth' (1973:11). But as to the ordering of priorities, prestige appears to come first. 'The quest for ... prestige ... is probably the most important motive to consider in understanding the Gorokan propensity to invest' (1973:80).

Further evidence is provided by Nigel Oram's discussion of the exchange relationships in which a group of urban dwellers were involved. His study concerns a Port Moresby canoe settlement, the residents of which were fully involved in the monetary economy.

Weber points out that 'economic activity is orientated to ultimate ends (*Forderungen*) of some kind, whether they be ethical, political, utilitarian, hedonistic, the attainment of social distinction, of social equality, or of anything else'. I suggest that the main goals of the residents were to play a creditable part in the system of relationships in which they were involved; and by this means to enhance their status among those with whom the relationships had been formed. They were achievement-oriented in accordance with the norms of their own society (Oram 1967:48-9).

This statement, and the others quoted above, reinforce the view that the 'achievement-orientation' of Melanesian society is in the direction of social distinction, status or prestige.

It is widely maintained that economic success, in a variety of forms, is the closest correlate of prestige in Melanesian society (Brown 1966:152). Moreover, it is claimed that 'the Gorokan business leader or aspiring business leader is without a doubt most interested in acquiring prestige ... and he sees commercial activity as the main way to do so' (B.R. Finney 1973:108). Again Scarlett Epstein claims that in Papua New Guinea's 'flexible traditional social system ... high value is attached to personal achievement which is measured predominantly in terms of economic criteria' (T.S. Epstein 1970:184). It is also believed that the suppression of warfare, which was formerly an important source of prestige, has channelled competitive energies into cash cropping and other economic activities (de Lepervanche 1973:25; T.S. Epstein 1968:101).

A strong positive correlation between prestige and successful economic activity, if demonstrated, would have important implications for the predictive power of orthodox Western economic analysis in the context of Papua New Guinea. This subject is explored in greater depth in subsequent chapters. It has been argued convincingly that Melanesian social structure and personality are conducive to a ready acceptance of introduced economic activities and to positive

responses to social change. The means by which leadership is achieved encourage autonomous and flexible personalities, who are likely to be adaptive under circumstances of social change. 'Big-men have often been leaders of innovative cults and modernizing development schemes, as well as movements of traditional resistance' (Valentine 1973:228).

Resource endowment, as well as social structure, is a contributing factor to the Melanesian situation.

The lands, associated with comparatively little labour input for subsistence production and capital replacement, made entrepreneurship the main limiting factor in the supply of output. These are the conditions responsible for the existence of 'primitive affluence' as described by Fisk ... A flexible social system with emphasis on achieved as opposed to ascribed social status provided the background to the exercise of entrepreneurship by capable men (T.S. Epstein 1973:84-5).

Epstein has described traditional big-men as 'the prototype for modern entrepreneurs' (1973:98), and has dubbed the Tolai of East New Britain, in particular, 'primitive capitalists' (1968). She believes that the economic orientation of big-men 'effectively preconditions traditional New Guinea societies to participate in economic growth activities' (1970:184). In part, this positive response stems from a process of 'economic one-upmanship', which is 'a desire on the part of a few enterprising men to prove themselves as entrepreneurs ... and thereby either confirm or establish their position as "big-men"' (1970:184). Hence there is likely to be considerable receptivity to new economic opportunities in Melanesian communities.

This view is supported by Ben Finney's study of Gorokan entrepreneurs (B.R. Finney 1973). He derives conclusions similar to those of Epstein and is prepared to generalize them as applicable throughout Papua New Guinea. Observable differences in levels of economic development are not so much an indication of different degrees of receptivity among particular groups as of differing resource endowments and opportunities. In particular, the history of contact with Europeans in each area offers much of the explanation of differential rates of progress. Where groups have turned to cargo cult activities to achieve advancement this is because of a lack of opportunity for economic growth due to 'either

a lack of basic infrastructure improvements or a lack of stimulus or aid from European settlers and businessmen or the administration' (1973:125). In certain areas the intrusion of the colonizing power was so disruptive of traditional social structures that a legacy of economic listlessness and cargoism remains. However, Finney dismisses as 'untenable' the view that 'the basic religious and ritual orientation of coastal New Guineans predispose them to cargo cult activities, whereas the Highlanders are relatively immune to cargo cults because of their essentially secular and pragmatic orientation'. The dichotomy is false; 'there are pragmatic coastal New Guineans and ritualistic Highlanders' (1973:138).

Corroborative evidence of a widespread propensity among Papua New Guineans to engage in entrepreneurial roles is provided by research among secondary school students. Ruth Finney analysed the content of essays in which students described what they would do with a windfall of \$1000 and concluded that a very high proportion would employ the money in entrepreneurial activities (R.S. Finney 1971). The proportion was much higher than in a comparable study of Ivory Coast students (Clignet and Foster 1966), which will be referred to extensively in subsequent chapters. Her central thesis was 'that whatever differences there may be in the business accomplishments and reputations of New Guineans [from different districts], these are better explained by inequalities in their local economic opportunities than by differences in their psychological potential to become entrepreneurs or their interest in modern economic roles' (R.S. Finney 1971:2).

The fluid social structure and generally favourable balance between population and natural resources in Papua New Guinea influence Melanesian responses to introduced economic activities and incentives. In subsequent chapters the role of education as a factor enabling Papua New Guineans to increase the extent and level of their participation in modern sector activities is discussed.

Chapter 2

A model of educational expansion and unemployment

In this chapter a model of educational expansion and the growth of educated unemployment is outlined, building upon the work of writers who have observed the process in a number of developing economies. No evidence is offered at this point for certain assertions relating to Papua New Guinea; this will be forthcoming in later chapters. The model is essentially a development of, rather than a departure from, the ideas of earlier commentators. This is at least partly because of the continuity and comparability of the experience of educational expansion in a wide variety of settings. Certainly, experience in Papua New Guinea supports the generalization of J.S. Furnivall (1956:372) that:

in tropical dependencies ... educational policy has developed along similar lines, has produced similar types of schools, has encountered similar difficulties, and has had similar results. And repeatedly these results have been directly contrary to the ends proposed. At each setback educational enthusiasts elaborate new projects, but with no better success. For the repeated failures there would seem to be one sufficient explanation: they disregard the environment.

What is it in the colonial environment which frustrates the efforts of educational reformers? According to Furnivall (1956:388) it is the single-minded view of the colonized that schools are economic institutions.

Furnivall was one of the earliest observers to make a comparative study of the impact of formal Western education on the societies of tropical colonies, drawing his examples largely from Indian, Burmese and Indonesian experience and, to a lesser extent, from Africa. Here is his description of the divergence which develops between the aims of educators and the aspirations of pupils in the colonial situation:

Schools, teachers and textbooks may try to sow the seed of Western civilization, but pupils are content to pluck the fruit. They see the fruit; they see that export crops are more profitable than food crops; that the motor car is speedier and more comfortable than the bullock cart; and ... they learn that 'education' is a way to make a living ... From the beginning of the nineteenth century, missionaries and humanitarians have expected education in the tropics to change the character of the environment, but in the event the environment has changed the character of education (1956:404).

Furnivall's view of the proper role of education was set firmly in the Western liberal intellectual tradition. While he obviously regretted the inability of this fragile plant to take root in the tropics (a viewpoint likely to be described as 'cultural imperialism' these days) this did not prevent him from shrewdly assessing the situation. 'Where schools teach children how to live, the more who go to school the better; but when they teach them merely how to make a living, the more who go to school the less they earn' (1956:376). His description of 'the cult of the certificate' and the consequences for school leavers of the growing social demand for education anticipated later comments by both Philip Foster and Sir Arthur Lewis (to say nothing of Ivan Illich).

There is a nexus between education, status, income and unemployment in less developed countries which has been described by Sir Arthur Lewis in these terms (1966:69):

When economic development starts there is an acute shortage of persons with secondary and higher education, which results in an abnormally wide gap between their incomes and the incomes of the uneducated ... The educated acquire not merely incomes but also social status far in excess of those of other people of equal abilities, so ambitious young people and ambitious parents move towards the schools. Soon the output of educated persons exceeds what the economy can take at current prices.

Lewis envisages a market solution to this problem in which the adjustment of ill-founded expectations to the realities of the market plays a central part, together with compression

of the range of wages and salaries. He takes care, however, not to minimize the painful nature of the transition:

Ultimately an economy can absorb any number of educated persons, by cutting the salaries of the educated (absolutely or relatively), and by raising the qualifications for jobs requiring some training. Employers raise their standards, and the educated lower their sights. However, this takes time, and meanwhile the market may be flooded with unemployed young people who cannot find jobs of the sort to which they consider themselves entitled, or at the salaries which they had been expecting (W.A. Lewis 1966:79).

Aspirations aroused by economic development lead school children to hold occupational expectations which become increasingly unrealistic. This theme is implicit in the Lewis analysis, but has been made explicit, with empirical evidence, in Philip Foster's *Education and Social Change in Ghana* (1965). This book is the best single guide to an understanding of what is happening to the education system in Papua New Guinea today.

Foster's analysis of the process of educational expansion in Ghana may be summarized in the following terms. In the traditional subsistence economy occupational differentiation was negligible and largely a matter of separate roles for men and women. European intrusion led to the introduction of cash cropping and the growth of extractive industries, among other commercial activities. The new occupational roles created by this process were increased by the administering activities of the colonial power, and by the growth of urban centres. Thus there came into being a complex and differentiated occupational structure which offered possibilities of social mobility and status different from those of traditional society. Foster maintains that it is 'the analysis of the relationship between education, occupation, income and social status that provides us with the significant factors determining the nature of educational development in Ghana' (1965:5). In this process the resident group of Europeans acted as a 'normative reference group', guiding the actions and aspirations of Africans seeking places in the new European-dominated occupational structure of the exchange sector. The main path of access to these jobs was through formal education.

Usually in the early stages of educational expansion the shortage of educated indigenes was so severe that bare literacy was sufficient qualification for a clerkship and a completed primary education opened up a range of employment possibilities. The rapid advancement of the first school leavers engendered expectations of similar success among children entering school and influenced the attitudes of parents. It is important to note the time-lag which this process involved. The employment expectations of school leavers were largely formed years before, when the decision to enter school was made. In the meantime, however, the realities of the labour market might have changed and these expectations no longer be attainable.

The young peoples' readjustment might be painful and lengthy, perhaps involving a period of job-seeking within the monetary sector in which a fortunate few would realize their aspirations, while a larger number would have to compromise by lowering their sights, and the remainder, perhaps the largest group, accept the disappointment of a return to the village. But this process might be long. The network of kinship and village ties extends into urban areas and the new arrival might be sustained by his kin for considerable periods without earning any income. In the meantime the numbers of job-seekers are augmented by successive waves of school leavers. New entrants to the school system react to the current labour market by adjusting the time spent on education. If junior secondary leavers meet with the success formerly gained by primary leavers, expectations are adjusted accordingly. If the provision of secondary education is inadequate for the rising level of demand, political pressures for an expansion of the system mount. In time the labour market is unable to fulfil the expectations of junior secondary leavers and pressure is applied higher up the educational ladder. It is true to say that school leavers eventually adjust their expectations to the labour market, but the adjustment is likely to take a long time and may be marked by frustration and social disruption. The more rapid the educational expansion, the more quickly expectations become unrealistic and the more explosive frustrations become. This situation, in Foster's view, 'raises questions about the degree to which an educational system can be allowed to operate in a quasi-autonomous manner in an "underdeveloped" economy' (1965:8-9).

Foster's description of the impact of educational expansion in Ghana has many parallels in the subsequent experience of Papua New Guinea, which are treated in detail in Chapter 3. Another valuable clue to the understanding of the situation in Papua New Guinea is provided by a three-stage model of educational expansion and unemployment proposed by Archibald Callaway (1963:354) on the basis of Nigerian experience. According to Callaway, between 10 and 30 per cent of eligible children are enrolled in primary schools in the first stage. Senior primary leavers are in short supply and find modern sector employment relatively easy to obtain. The second stage is reached when from 50 to 80 per cent of eligible children are enrolled, resulting in a greatly expanded output of primary school leavers. Mass unemployment begins to appear, since even vigorous economic growth in the modern sector is unable to keep up with the absolute increase in the numbers of job-seekers.

The third stage commences when universal primary education has been experienced for long enough to permit a substantial proportion of the population to undergo schooling. By this time it is hoped that the belief that primary education is merely a necessary condition for involvement in certain monetary sector activities (rather than a sufficient condition for lucrative wage-employment) will have become widespread.

The three stages described by Callaway are consistent with Foster's analysis of the process of educational expansion in Ghana, and indeed Foster has more recently employed Callaway's schema in an analysis of educational change in Africa (Foster 1968:19-20). A synthesis of their ideas yields a coherent model which is the starting point for the writer's own analysis of education and unemployment, to be presented below. From the comments of Callaway and Foster it is possible to make certain generalizations about the scope of their model:

1. It applies to colonial and post-colonial situations where the colonizers acting as a 'normative reference group' have introduced a complex occupational structure, with a corresponding hierarchy of economic rewards and differential standards of living, into a society where the bulk of the population is performing relatively undifferentiated economic roles (with a correspondingly undifferentiated pattern of rewards, levels of wealth and standards of living) in a subsistence economy. In this situation, formal Western

education in the language associated with public administration and other modern sector activities is introduced by the colonizers to the colonized.

2. The model is applicable when rapid educational expansion occurs, commencing from a situation where a small proportion of children in the relevant age-group is enrolled in primary schools and where an even smaller proportion of the adult population is literate. Clearly the Callaway/Foster model is patterned on experience in sub-Saharan Africa, but it appears to the writer to be equally applicable in Papua New Guinea.

Before building on this model to analyse the implications of educational expansion in Papua New Guinea it is necessary to acquire some more conceptual baggage which will be needed on the way. Foster's research in Ghana (1965) employed a distinction between the occupational aspirations and expectations of school leavers, in an attempt to avoid the confusion which had marred earlier studies of occupational choice. Questions about employment intentions tend to elicit responses which are a mixture of fantasy and realism unless they are framed with the distinction between aspirations and expectations clearly in mind. Aspirations refer to an ideal career, chosen without regard to the likelihood of its being attained. Expectations, on the other hand, refer to a realistic career choice, dictated by the student's assessment of the realities of the labour market, and of the difficulties of further progression through the school system. Foster collected data concerning both aspirations and expectations and in comparing the two drew certain conclusions about school leaver unemployment in Ghana which are discussed below. With this distinction in mind it is now possible to consider an elaboration of the basic Callaway/Foster model which may shed further light on the process of educational expansion and the growth of unemployment.

A model applicable to Papua New Guinea

The prestige of occupations, as perceived by school leavers, is a major influence on their aspirations, their expectations and their behaviour in the labour market. These notions are implicit in the much-discussed role of education systems as vehicles for status-mobility, a role nowhere more crucial than in the less developed countries. In Chapter 1

the proposition was advanced that Melanesian achievement behaviour is directed at maximizing prestige in the traditional context, and that this pattern appears to carry over to entrepreneurial activity in the monetary economy. In what follows it is assumed that occupational prestige is the major consideration influencing the career choice of school leavers in Papua New Guinea, occupational prestige being understood as 'the chances of deference, acceptance and derogation associated with the incumbency of occupational roles and membership in occupational collectivities' (Goldthorpe and Hope 1972:26). This is not to be understood as constituting a non-economic theory of labour market behaviour, since the writer's focus on occupational prestige assumes a close and positive relationship between prestige and income in the minds of school leavers. This assumption will be discussed in Chapter 6 below. Sir Arthur Lewis (1966:69) has suggested that social status influences the behaviour of school leavers, and this variable will be incorporated formally into the analysis in this chapter.

It follows that occupational aspirations will be primarily related to the perceived hierarchy of occupational prestige. If prestige were the only determinant of aspirations, it might be presumed that students would opt for a quite narrow range of highly-ranked occupations. Their range of choice would depend upon the degree of social consensus concerning the occupational prestige hierarchy. However, despite evidence of quite substantial consensus on occupational prestige rankings in many societies (Hodge, Treiman and Rossi 1966), aspirations are likely in fact to range over a broad spectrum of occupations. Thus a study of senior secondary students in the Ivory Coast concluded that their 'occupational aspirations ... tend to follow the profile of occupational [prestige] rankings and are clustered in the top half of the scale' (Clignet and Foster 1966:148). Similar findings relating to secondary students in Papua New Guinea will be presented below. This evidence indicates that other factors also influence the ideal choice of career. The school leaver's aspirations are likely to be modified by his interests and personality, and tempered by his self-perception, an estimate of his personal capabilities in the performance of various occupational roles. Other factors likely to affect the career horizons of school children include their sex and the educational level they have attained. In the Ivory Coast study it was observed that 'female choices tend to reflect European stereotypes concerning the types of occupation appropriate for women' and that 'the further a

student goes in the system, the higher is his level of aspiration' (Clignet and Foster 1966:129, 137). Both these remarks may be shown to apply to Papua New Guinea. With respect to the latter, it may be hypothesized that there is a level of aspirations typical of each level of the education system.

If the school leaver's aspirations are defined as an ideal choice of career, his expectations are supposed to be a realistic choice, influenced by his assessment of labour market conditions. His expectations represent an even more constrained choice of occupation, based primarily on aspirations but modified to the extent that he is aware of market realities and also modified by self-assessment of his ability to compete with other workers for particular jobs.

The behaviour of an entrant to the labour market is related directly to his expectations of that market. To the extent that his initial expectations are unrealistic, his behaviour will be modified by experience. While a school leaver continues to hold unrealistic expectations of his employment prospects he will remain unemployed. The speed of adjustment of expectations will be influenced by income relativities, that is, by the wage differentials accorded occupations at various levels of the occupational hierarchy. The wider these differentials, the longer an economically rational job-seeker should be willing to spend in unemployment, rather than accept lower-paid work. The level of unemployment among a given group of workers will fall as the unemployed revise their expectations and accept jobs at lower levels.¹ In the extreme case this may entail acceptance by the worker of the necessity of his returning to the subsistence sector where, by definition, unemployment does not exist.² However, unemployment of the educated will persist in the monetized

¹That the experience of unemployment does lead to lowered expectations has been shown in Nigeria (McQueen 1969).

²According to Joan Robinson, 'An economy consisting of self-supporting families each working their own land must always enjoy full employment, since each individual is free to work as long as he considers the real reward he obtains a sufficient inducement for his efforts' (1936:225). This certainly applies to Papua New Guinea at present since the marginal product of labour in subsistence agriculture is clearly positive and comparatively few people, even in the modern sector, are without land rights.

sector of the economy as successive annual cohorts of school leavers enter the labour market. Moreover if income differentials between levels in the occupational hierarchy are sufficient to encourage individuals to endure lengthy periods of unemployment in the hope of eventually finding one of the better-paid jobs, and if the level of wage-employment continues to grow, the result will be secular growth in the absolute numbers of unemployed.³ This tendency will be more pronounced if, as is likely, each successive cohort of school leavers is larger than the one before it. On the other hand, positive government action to compress the range of wages and salaries would speed the adjustment of expectations and the reduction of unemployment.

The relationship between the employment aspirations and expectations of school leavers appears likely to change systematically during the three stages of educational expansion. It seems reasonable to assume that career aspirations of children at each level of the education system will remain relatively stable throughout. On the other hand job expectations are influenced by perceptions of the realities of the labour market (including the rate of unemployment and the structure of relative incomes) and, as market conditions change, this will be translated into changes in expectations (albeit with a significant time-lag).

In the early stages of educational expansion, when graduates of the primary schools are enjoying success in the labour market, there is likely to be little difference between aspirations and expectations. Moreover, the quite small numbers of secondary students will have even higher aspirations and expectations than senior primary students, and with excellent reason. The success of school leavers in gaining modern sector employment sows the seed for the explosive growth of the social demand for education which precedes the second stage. The experience of mass unemployment which follows gradually forces a downward revision of expectations among school leavers during the second stage.

³ It is assumed, following Todaro (1969), that for a given wage structure and a given number of jobs there is an equilibrium level of unemployment. If relative wages remain unchanged, growth in the numbers of unemployed will, paradoxically, be directly related to growth in the number of job opportunities. This is one of the most interesting conclusions of the Todaro model.

It will occur at the primary level first, under the twin pressures of the rising entry standards demanded by employers and the falling probability of selection for secondary education (despite rapid growth in the absolute numbers of secondary students). In time unemployment among secondary leavers will force a downward revision of their expectations as well, until at the advent of stage three a clear gap between aspirations and expectations will be general throughout the school population, reflecting an awareness of the fact that, however many are called, few are chosen.

In 1968 the primary education system in Papua New Guinea appeared to be nearing the end of Callaway's first stage. The previous decade had been a period of dramatic expansion, with enrolment in English language primary 'T' schools rising from perhaps 13 per cent of the eligible age group to about 50 per cent, despite rapid population growth.⁴ However, the problems of urban drift by rural school leavers and educated unemployment in urban areas were beginning to appear. A survey by welfare officers indicated that in early 1968 youth unemployment was a significant problem in Port Moresby (TPNG 1968c), while an examination by the writer of unemployment records (Conroy 1970) indicated that young literates were over-represented among rural-urban migrants, and hence were an important sub-group of the urban unemployed. So far as secondary leavers were concerned, the situation was quite different at that time, with the output at Form Four inadequate to supply the input demands of a wide range of post-secondary training institutions, as well as the demands of employers. For secondary leavers, the end of stage one still appeared some time away.

In 1968, as the first stage of expansion of the primary system drew to a close, the writer surveyed the occupational aspirations and expectations of final year students in primary, secondary and vocational schools. The results of this survey are reported in Chapter 8, but some of the findings will be indicated at this point. In many respects the results correspond quite closely with those of the Ivory Coast study by Clignet and Foster (1966). In both countries students' levels of aspiration are clearly related to their educational attainment. In Papua New Guinea there is

⁴Calculated by the writer from data in Fry (1970), Tables 6 and 12. The 1958 school-age population was extrapolated from the 1968 figure assuming an annual growth rate of 2.5%.

considerable consensus between groups with different educational and regional backgrounds on the prestige ranking of occupations, a finding which is discussed in Chapter 6. The aspirations of Form Four secondary students were clustered in the upper levels of the prestige hierarchy, those of senior primary students in the middle range of the hierarchy, while the aspirations of vocational centre trainees were clustered in the middle and lower ranges of the prestige hierarchy.

So far as occupational expectations of students were concerned, in 1968 there was little difference between these supposedly realistic career choices and the aspirations expressed by children, at all educational levels. So far as primary and vocational students were concerned (and in view of the worsening prospects for employment of lower level school leavers) this indicates an unrealistic perception of the state of the labour market, due perhaps to a time-lag in the flow of information. The expectations of primary leavers may have been based on the information available to their parents six or seven years previously when the decision to enter school was taken. On the other hand, a close correspondence between aspirations and expectations of Form Four leavers was to be expected, given the extremely favourable labour market conditions, discussed above, for secondary leavers in 1968.

Writing in 1968 Philip Foster placed Ghana and Uganda among the African nations which had passed well into stage two of Callaway's model of educational expansion (Foster 1968:19-20). Evidence was available from these two countries of a widening gap between the employment aspirations and expectations of secondary students as labour market conditions became more difficult. Foster's own research in Ghana was the first to focus attention on the distinction between employment aspirations and expectations; in 1959 he conducted a survey which demonstrated a wide gap between the two in the minds of final year students in Ghana's middle schools. Somewhat akin to British secondary modern schools, these institutions provided the bulk of post-primary education, as well as offering extremely limited opportunities of access to the small academic secondary system (Foster 1965:206-8).

In 1961 Foster also attempted, rather unconvincingly, to show a similarly wide gap between aspirations and expectations among students in the terminal year of the academic secondary schools. It would be surprising if such a wide gap existed,

since limited opportunity for further progression through the system was a comparatively recent development in these schools, in contrast to the situation in middle schools which had for a longer period been regarded as terminal for virtually all students. It seems likely that selective academic secondary schools in Ghana in 1961 were still passing through Callaway's first stage of development. However, it is clear that by the end of the decade the second stage was quite firmly established.⁵

In Uganda in 1966 Form Four secondary students distinguished clearly between the occupations to which they aspired and those which they expected. According to Silvey, 'a quarter of the students aspire to professional jobs for which a university degree is essential and a further one in five would like scientific or technical posts at graduate

⁵When Foster conducted a pilot survey in 1961 with senior secondary students using the questionnaire which had been successful in middle schools, he discovered that these students made little distinction between aspirations and expectations. Foster took this as evidence of 'confusion and parallelism' in their responses. To avoid this result he required respondents in the actual survey to state their expectations on the assumption that they would fail to gain entry to further education. He then reported as evidence of realism among the interviewees that 'virtually no students believe it will be possible for them to enter professional or semi-professional employment'. This is hardly surprising, since he had by assumption denied them the university entrance necessary for such occupations (Foster 1965:280). A more reasonable interpretation of what Foster took to be 'confusion and parallelism' in the responses to his pilot survey is that senior secondary students had not yet adapted their expectations to a situation in which opportunities for further education were rapidly diminishing. This interpretation is supported by the absence of 'confusion and parallelism' in the responses of his middle school sample. In other words, the middle school system had entered stage two, but the academic secondary schools had not. The onset of the second stage in the secondary schools occurred during the 1960s. A survey conducted between 1969 and 1971 revealed a marked gap between aspirations and expectations of secondary students without resorting to the device employed by Foster in 1961 (Boyd and French 1973).

level'. But on the other hand, 'pessimism marks their expectations about the jobs they feel they will in fact obtain. Only 2% feel confident that they will achieve a graduate level professional training - as many as expect to be subsistence level cultivators. Teaching (at a lower level than they would hope), clerical work, and the military and police services are believed to be the biggest gainers from the harsh realities of the employment market' (Silvey 1969:9-10).

The writer is not aware of any studies of the aspirations and expectations of senior primary students directly comparable with his own in Papua New Guinea, so that prediction of future trends at this level must be made by analogy with the studies in Ghana and Uganda quoted above. The evidence cited has been confined to these countries because of the dearth of studies with a methodology directly comparable with that of Foster in Ghana, and with that employed by the writer in Papua New Guinea. However, experience in much of Africa tends to support the following generalizations:

1. During the first stage of educational expansion, social and occupational mobility experienced by the graduates of the schools will encourage and justify a situation in which the occupational expectations of school leavers are quite as high as their aspirations. Changing labour market conditions, together with a time-lag, due to the slow dissemination of labour market information, will cause employment expectations to become increasingly unrealistic as the first stage draws to a close. It is suggested that the primary education system in Papua New Guinea was approaching the end of this stage in 1968. The prospect of surpluses in the output of secondary leavers by about the middle of the 1970s (discussed in Chapter 3) suggests that the secondary system may reach the end of stage one about ten years behind the primary system - perhaps by 1978.
2. The second stage of educational expansion will be marked by a widening gap between the aspirations and expectations of those who complete the various levels of the school system. Aspirations may be lowered somewhat by the experience of a more difficult labour market, but the major impact will be upon expectations, which will become increasingly more in keeping with labour market realities. This process is presently under way in the primary system in Papua New Guinea, where it has the

effect of stimulating the social demand for post-primary education, in a manner which will be discussed below.

3. The process of adjustment of expectations will occur sequentially, commencing at the bottom of the educational pyramid among primary school leavers and proceeding eventually to the highest levels. The end of stage two probably occurs when graduates of the secondary schools are fully informed about labour market realities. At the same time some decline in the social demand for education may occur, leading to absolute reductions in enrolments at the primary and secondary levels.⁶
4. It is not suggested that stage three ushers in an era of peace, harmony and labour market equilibrium for the outputs of all levels of the education system. It is well known that tertiary graduate unemployment is a problem in a number of developing countries, where the capacity of the economy to absorb high level manpower has proved quite limited once the initial demand for indigenous bureaucrats and managers to replace foreigners has been satisfied. Moreover the rising social demand for higher education renders politically hazardous any attempt to dismantle or decelerate the educational machine. On the other hand wealthy countries appear to be experiencing mass social demand for tertiary and even post-graduate education, and graduates in these countries may find it increasingly necessary to adjust their expectations in a manner analogous to the West African school leavers described by Sir Arthur Lewis.

The social demand for education

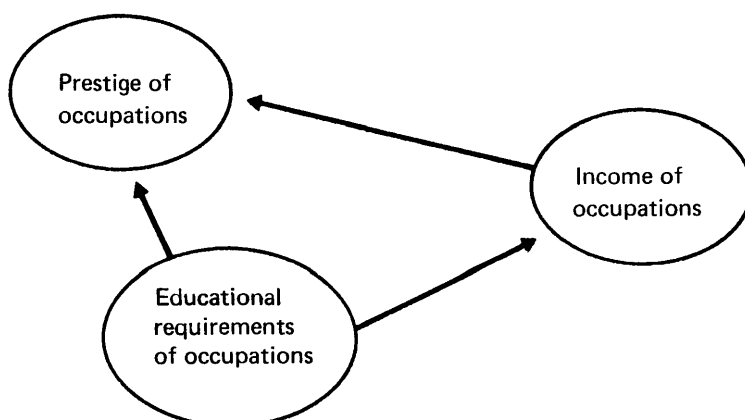
The social demand for education is the aggregate of the demands of private individuals, and an explanation of the determinants of the social demand must depend on an examination of the motives of individuals seeking education. It

⁶ Thus in Ghana, primary school enrolment fell each year between 1965 and 1970, in spite of rapid growth of the school-age population. In the Western region of Nigeria the process appears to have extended to the non-academic 'secondary modern' schools (Peil 1971, Hinchliffe 1970). There is also some evidence of declining demand in Tanzania. See Sabot (1972:36).

is customary to distinguish between consumption and investment motives for demanding education (Schultz 1963:38) and the writer further proposes to distinguish between psychic and income motives. As will become clear, the distinction between the first two concepts does not correspond precisely to that between the latter pair; the terms 'investment' and 'income' are not completely co-extensive. The discussion has so far centred on monetary aspects, explaining the demand for education in terms of the money income benefits from employment, to which education is assumed to lead. Chapter 5 seeks to establish that the private demand for education in Papua New Guinea is motivated primarily by income considerations, both monetary and non-monetary. A full discussion of other motives for demanding education is also postponed to that chapter.

In Chapter 7 the elements of education, income and occupational prestige are linked together in such a way as to illuminate further the motives for demanding education. The essentials of the analysis are presented here in a simple model, which is abstracted from a multivariate study of the determinants of occupational prestige in Papua New Guinea, using data from a sample of secondary students. Figure 2.1 traces out causal relationships, but co-efficients estimating the strength of these relationships are omitted.

Figure 2.1



The income of occupations (comprising money income and non-monetary 'fringe benefits') is the major determinant of the prestige of occupations, as perceived by secondary students. In turn, there is an extremely strong causal link between income of occupations and the educational requirements of occupations, in the minds of students. This finding supports the belief that the private demand for education in Papua New Guinea is motivated primarily by investment considerations relating to income benefits.

The educational requirements of a job are also seen as directly lending it prestige, but the causal link is much less strong than that between income and prestige. The direct link between education and prestige is quite distinct from the influences on prestige which operate via income. The achievement of a particular education level and the job that goes with it may be assumed to yield a stream of prestige to the 'investor' over time, a psychic benefit quite separate from the stream of income benefits which primarily influences his demand for that level of education.

In addition to those benefits which accrue over time, 'purchasers' of education may also be influenced by its present psychic or consumption value. The enjoyment experienced by a student during his education will obviously vary considerably from individual to individual. For some individuals this consumption benefit may even be negative, so that their 'purchases' of education will be less than would be indicated by income and prestige (that is, investment) considerations. Research by the writer, discussed in Chapter 5, indicates considerable variation among Papua New Guinean school children in their subjective valuations of the present or consumption benefits of education, and while the writer personally believes that the aggregate influence of this factor on the private demand for education is positive, further discussion of this subject will be postponed to Chapter 5.

To return to the income benefits of education: it has been said that 'in Africa - as elsewhere - the more educated you are the less likely you are to be unemployed; and that, if employed, the more educated you are, the more you are likely to earn' (Rado 1972:464). Equally is this true of Papua New Guinea, as will become evident in subsequent chapters. Some evidence of the better employment chances of the educated is available (Conroy and Vines 1973). Moreover, as in most developing countries in the late colonial and

early independent periods, the education system is the primary avenue for social and occupational mobility. There is a tendency to classify jobs by educational level, and for employers to use education as a personnel selection device, since 'lacking cheap and reliable selection methods and aptitude tests of their own, they may assume that, in a buyer's market for most types of labour, raising the minimum educational qualification for a job will reduce applications to a manageable number, at little cost to the employer' (Rado 1972:465). Reder (1955:205-8) also described educational qualifications as a 'rationing device' used by employers when faced with an oversupply of labour. The importance of government and public utilities as employers of educated labour reinforces the tendency to select by the objective criterion of schooling. Hence it seems that for one seeking wage employment, 'it may be in the individual's interest to acquire, not education as such but a little more education than the majority of his fellow job-seekers' (Rado 1972:465). Clearly it is not in his interest to acquire any less than the majority of his competitors!

An income-oriented explanation of the social demand for education would emphasize the importance of wage-rates paid on the basis of various levels of education, compared with one another and with the wage-rates earned by persons without education, and with the incomes of both educated and uneducated persons in self-employment. Also relevant would be a comparison of the probabilities of remaining unemployed at each level, a circumstance which effectively reduces average earnings. The costs, both monetary outlays and opportunity costs, of attendance at each level of education would also enter into the calculation. In short, the data requirements are those for the calculation of private rates-of-return to expenditures on education which (whatever may be the practical shortcomings of their near neighbour the social rate-of-return as a guide to public policy) are often revealing as an explanation of observed behaviour in the markets for education and labour.

Emil Rado, in his 'Explosive Model' of educational expansion (1971) emphasizes the tendency for rising unemployment (and falling private returns) at a particular level of education to operate increasingly to transform that level from a terminal phase of education to an intermediate one. This occurs because of the maintenance of private returns to further education beyond the level in question, which is possible because the growth of educated unemployment is a

sequential process which commences at the bottom of the educational pyramid. Thus demand for further levels of education will increase, but since the completion of prior (privately unprofitable) levels is a prerequisite for further education, there will be no slackening in the rate of growth of demand for any level of education.⁷

Rado's explanation may be clarified by considering three points additional to his own stated argument. First, while increasing unemployment among school leavers at a particular educational level will reduce private money returns it also reduces the opportunity cost of schooling at the next level of education, thereby encouraging a larger proportion of students to progress. Moreover, increasing unemployment at one level of education implies a general slackening in labour markets for the output of all lower levels, implying higher unemployment rates and hence lower opportunity costs of progression through those levels of the system. Recognition of the inverse relationship between unemployment and opportunity costs of school attendance increases the plausibility of Rado's model.

Second, Rado's account of the transformation of a privately unprofitable level of education from a terminal to an intermediate stage becomes more intelligible by considering the 'option value' embodied in the successful completion of any level of education. The option value is a measure of monetary gains to be expected from the completion of higher levels of education, after deducting the opportunity cost of educational expenditures necessary for those higher levels of education. The option value depends on private rates of return to further education, adjusted for the probabilities of entering and completing higher levels (Weisbrod 1962: 161-7). With appropriate data the option value of a particular level may be calculated, as may the private rate-of-return to the level in question. These elements are incorporated in a quantifiable model of the social demand for education which is outlined in Appendix A.

Third, the education/income/prestige relationship spelt out in the diagram above, which introduced an important psychic motive for undergoing schooling, may also be employed

⁷Rado does not discuss the possibility of an absolute decline in the demand for schooling, as contemplated in stage three of the writer's model (see also footnote 6 above).

to support the Rado model. It will be remembered that returns to a given level of education fall when employers upgrade the educational requirement for a particular occupation. However, the effect of this upgrading will be to increase the prestige of that occupation *vis-à-vis* other occupations for which the entry requirements are unchanged, and especially *vis-à-vis* those for which there is no formal educational requirement (of which self-employment in agriculture is the principal example). Thus the student intent upon gaining a particular occupation may be induced by prestige considerations to extend his education, even though the entry requirement for that occupation has been raised at a constant wage-rate. Moreover, given that entry requirements for all forms of wage-employment are likely to rise over time, the effect must be to devalue the relative prestige of self-employment, which will hardly be accounted a benefit of educational expansion by those who believe that school leavers should be encouraged to return to agriculture. The model developed in Chapter 7 indicates that the direct prestige effect is less powerful than the income effect. Still the fact remains that, at constant relative income levels between wage-employment, on the one hand, and self-employment in agriculture and informal business activities on the other, rising educational requirements for entry to the former will tend to diminish the relative prestige of the latter. Hence the behaviour of job-seekers will be influenced and the supply of labour available to employers will be greater than would otherwise be the case. So also will the social demand for education at all levels be greater.

Chapter 3

The expansion of formal education

Groups of Natives all over the Territory ... were pressing for the establishment of schools. They seemed to believe that the very fact of the provision of schools, particularly by the Government, would open the road to their early sharing in certain of the material benefits of this country.

W.C. Groves, second reading speech,
Education Bill 1952

What follows is in no sense a full account of the growth of the formal education system; rather it applies the model of the preceding chapter to the relevant circumstances of educational expansion in Papua New Guinea. In addition, educational policies which have contributed to the present level of human resource development, with all that this implies for the formulation of future policies, are reviewed.

The first stage of the Callaway/Foster model commences when enrolment in primary education constitutes anything from 10 to 30 per cent of the eligible age-group and the social demand for education increases, triggering rapid increases in educational output which alter the balance between demand and supply in the labour market. But before this first stage there is unlikely to be excess social demand for education. Typically, in the early colonial situation, education systems have expanded painfully and slowly through the efforts of missionaries, and have been plagued by indifference, absenteeism and high dropout rates among students. According to Philip Foster,

the emergence of exchange activities and the consequent creation of a more complex occupational structure in most cases was an essential precondition for educational development ... public pressure for

schooling did not develop until the requirements of a nascent modern economic structure made a few years of schooling functional in essentially economic terms (1971:20).

Accounts of educational policy in the territories of Papua and New Guinea before the Pacific war have pointed, with some justice, to the lack of concern for education shown by successive Australian governments (Colebatch 1967; D.J. Dickson 1970, 1972). On the other hand, there is no evidence of excess social demand for education, since economic and social conditions combined to prevent schooling becoming 'functional' in economic terms for Melanesians. Economic stagnation and racial prejudice severely limited the employment opportunities of educated Papuans and New Guineans in the prewar period (D.J. Dickson 1970:32-6, 1972:319-22). School leavers were willing to be employed, as evidenced by a particularly piquant anecdote from the recollections of a District Officer:

Young men used to come into Port Moresby, with their precious certificate encased in a bamboo tube, only to discover with dismay and some resentment that no one wanted to make use of their hard-won educational accomplishments (D.J. Dickson 1970:34).

Opportunities were few in either territory. An American observer remarked that in New Guinea, 'positions which might well be filled by natives are reserved for men from the ranks of Australia's unemployed' (Reed 1943:188).

During World War II, however, this old order was swept away, and its re-establishment in the postwar period was rendered impossible by the growth of new attitudes among both Papua New Guineans and Australians. With respect to the former, a Lutheran missionary recalls that 'the display of goods from overseas during the war had created in the population a new motivation for education, including a desire to learn English' (P. Ryan 1972:335). Australians felt a sense of obligation to the people of Papua New Guinea, who had been heavily (and involuntarily) involved in the Pacific war. This inspired the postwar government of Australia to introduce a 'new deal' for the indigenous people (D.J. Dickson 1972:323), promising greatly expanded government responsibility for their welfare, particularly in the fields of education, health and economic development.

The mere provision of resources for education would not guarantee rapid expansion of the system in the absence of adequate social demand. However, social demand was stimulated by broad changes in the economy and society. A United Nations visiting mission reported that, 'with the expanding economy and the great increase in administrative, educational and welfare services since the war, there arose a similar expansion in the demand for the services of New Guineans at every level of skill, training or education' (United Nations 1962:64). A former Director of Public Health recalls that some Administration departments 'were unable to compete in the race between the Department of Education and the Department of Public Health to recruit better school leavers' (Gunther 1970:83).

The remark by the first Director of Education which prefaces this chapter is evidence of the rising social demand for education in the postwar period, a phenomenon attributed by him to economic motives. In the same speech Groves also related how

over and over again, the Department has been embarrassed by the presentation of a *fait accompli* in the way of a set of buildings for school purposes and for the accommodation of Native teachers, before we are able to provide the resources of staff to open the schools (TPNG 1952:126).

Foster's analysis of the impact of educational expansion on Ghanaian society, summarized in the preceding chapter, appears to have many parallels in the subsequent experience of Papua New Guinea. Schooling becomes obviously functional in economic terms when shortages of educated workers qualify the barely literate for clerical employment. As late as the end of the 1950s many a subdistrict office in Papua New Guinea employed clerks with only three or four years' schooling, and the normal point of recruitment for teachers-in-training was Standard Six, the terminal year of primary education. A major problem in the few post-primary schools was the loss of able pupils through 'poaching' by administration and private employers. 'To fill its needs one department may lower its educational qualifications by one standard to get ahead of other departments. Private employers ... draw candidates away from the Administration by offering higher wages' (United Nations 1962:63). Lacking the example of older students who had achieved higher education, many young men were induced to accept the

short-term gains of immediate employment.¹ Even as recently as 1966 the population census revealed that 2380 Papua New Guineans, who in terms of formal education could only be classified in manpower category E (unskilled), were occupying clerical/administrative positions (Beltz 1970a:53).

The 1960s saw a marked expansion in the provision of education and a corresponding rise in the entry standards demanded by employers for all occupations. The growth rate of the national stock of educated manpower was enormous (understandably, considering the small base from which the growth proceeded). The situation is illustrated most dramatically in Table 3.1, which compares the balance between primary school population and monetary sector workforce in Papua New Guinea and in an Australian state with a similar seven-year primary course. The figures are for a period very close to the end of the first stage of primary expansion (in terms of the Callaway/Foster model) in Papua New Guinea.

Table 3.1

Primary enrolments and workforce, Queensland and PNG

	Queensland in 1966	PNG in 1967
Primary school enrolments	253,953	199,893
Workforce	664,869	141,111

Sources: Commonwealth of Australia (1967a, 1968), Department of Education (1967), Bureau of Statistics (1967).

So blunt a comparison ignores important differences: for example, the Papua New Guinea workforce count excludes cash croppers and subsistence farmers, and not all primary school leavers seek wage employment. However, the juxtaposition of the totals emphasizes how rapidly wage employment in Papua New Guinea needed to grow in order to absorb any substantial

¹A quite similar decision faced the first graduates of the University of Papua New Guinea in the early 1970s: whether to accept employment immediately or undergo postgraduate training.

portion of the primary enrolment subsequently seeking work. Furthermore, the Australian children will be absorbed into the Australian workforce over almost two decades, since some at least will remain in the educational 'pipeline' until the 1980s and the rest for shorter periods according to the length of their education. The overwhelming majority of Papua New Guinean students, on the other hand, have short educational careers and might attempt to enter the workforce over a period of a few years. To the extent that they do, frustration and tensions typical of the African model will be generated.

Blending the cultures

A number of changes of direction in educational philosophy and planning have occurred in Papua New Guinea in the postwar era, and an understanding of these will place the discussion of present and future alternatives in context. The discussion which follows is complementary to more thorough reviews of the subject (Colebatch 1967, Smith 1972), and is designed principally to focus on pressures exerted by the social demand for education on policy-makers, and factors determining the present human resource situation in Papua New Guinea.

In the early postwar period educational policies were framed without the sense of urgency which attends later policy discussion. The educational philosophy of the first director of Education, W.C. Groves, is summed up in the phrase coined by F.E. Williams (1935) and enthusiastically adopted by Groves: the need for a 'blending of the cultures'. As Groves put it,

I believe that the Native peoples of this Territory have their own distinctive pattern of culture which contains very valuable elements which should be given recognition in the educational pattern provided for them, an education, in other words, related to the people's own culture and environment, and designed to adjust their way of life to those new requirements and circumstances which result from the impact upon them of influences from outside (TPNG 1952:124).

Such a process might take a long time, but few doubted that Australia had time.

This thesis being accepted, 'one of the first needs was to relate the teaching program to the everyday life of the Native people in their village communities; in other words, to give a rural and village bias to the teaching program'. Groves reported with satisfaction that he believed the government had 'largely succeeded in demonstrating to the native people that the type of approach referred to is ultimately in their best interests. We have done a good deal of propaganda to that end; and the propaganda is bearing fruit' (TPNG 1952:125).

That propaganda should have been necessary is not surprising. Groves' own testimony concerning the rising social demand for education has already been quoted, and it is clear, from the perspective of the 1970s, that he did not appreciate the extent and nature of the expectations which indigenous people held for education. His successor as Director of Education, Roscoe, encountered pressures from local communities which showed a concern for the quality of education (emphasizing academic and secular aspects) which could not be deflected by propaganda or persuasion. Geoffrey Smith (1972:326-7) quotes two telling instances of indigenous reaction to the proposals of policy-makers. In one case, parents of children attending a school with a 'rural and village bias', located in an agriculturally progressive area and regarded as a model of its kind, complained bitterly that agricultural work was interfering with the quality of formal education at the school. In another case, parents requesting the establishment of a government school received the answer that mission facilities were already available to their children, to which their reply was, succinctly, *tok bilong God, tasol*.²

Groves' policy was one of gradualism, in keeping with the general policy of 'uniform development' which guided Australian actions in Papua New Guinea during the 1950s. As the Australian Minister for Territories explained in 1951,

self government cannot come until the two races in New Guinea have solved that major problem of living and working together ... the problem cannot be finally solved until the native peoples have advanced to a point where a large majority of them can, in fact, participate in management of the life,

²'They only teach us about God!'

industry, and politics of the country. That is a long way ahead. It may be ... more than a century ahead ... (Hasluck 1951).

Consistent with the policy of uniform development and with the long time-span of Australian planning was the desire to avoid cultivation of a native elite, which, in turn, accounts for the limited development of post-primary education during the 1950s. Limited numbers of students were sent to Australia for secondary education from 1955 (Lee 1967). Moreover, according to Smith (1972:324), 'by 1955 Groves believed that priority could be given to the secondary level to support the training of soundly educated teachers, but in that year a policy directive from Hasluck ... reaffirmed the priority for primary education'.

The 'blending of the cultures' with its emphasis on rural and village activities was a failure. It failed because Papua New Guineans refused to accept it. G.T. Roscoe, who became Director of Education in 1958, quoted the example of the Chimbu leader who told him, 'We want our children to be exactly like you'. Pressure for the increasing formalization and up-grading of rural education came from the people themselves. 'The concept of the blending of the cultures is not being accepted by the native people' (Roscoe 1959:4). In 1959 Roscoe initiated the policy of requiring registered 'T' schools to teach spoken and written English from the commencement of schooling and the first detailed plans for the achievement of universal primary education in English. He was also concerned to develop lower-level technical training. 'Something is needed for primary pupils who do not advance beyond standard IV before attaining the age of adolescence'. His plans for these people, and the subsequent developments, provide another example of the pressures exerted on the school system by Papua New Guineans. He proposed a network of Local Government Technical Schools

in which boys will be trained, not with modern machinery, but in the use of simple hand tools which are likely to be available in the native community. It is hoped that they will not crowd to the townships but will stay among their own people and improve the standard of housing, furniture and general comfort ... I would also like to see a low level course of agricultural training provided in association with the technical training (Roscoe 1959:6).

Within a few years these schools had changed into Junior Technical Schools, providing higher level technical training than Roscoe had envisaged, and leading to apprenticeships for the best pupils. By 1964 there were twenty-five such schools, as well as a few lower level technical schools which operated in the manner originally intended by Roscoe. However, as one observer put it, 'due to pressure from the local people there is a tendency for these schools to grow into Junior Technical Schools' (Richardson 1964:9). Thus another attempt to integrate education into the fabric of traditional life was rejected by the people.

The 1961 plan

The last clear expression of the concept of uniform development of the education system came with the announcement in October 1961 of a plan to secure universal primary education by 1975. Colebatch (1967) has emphasized the importance of external pressure from the Trusteeship Council of the United Nations during the 1950s in motivating Australian attempts to extend primary education. At the post-primary level little progress had been made, but the plan provided for increases in secondary and technical training.

It is instructive to compare 1961 enrolment figures with the planned enrolments for 1967, and with the actual enrolments achieved in 1967 (Table 3.2).

Even assuming that the 1967 target for primary enrolments was unrealistic, it is evident that a change in educational priorities occurred after publication of the plan in 1961. The new emphasis on technical training and the over-achievement of the secondary target are in contrast with the shortfall of the goal of primary expansion. The failure to achieve the target for teacher training is consistent with the reduced emphasis on primary education, and permitted a general improvement in the educational standard of teacher recruits.

Colebatch maintains that this change of priorities was part of a general policy shift, in response to a series of external stimuli, towards accelerated development in place of the uniform development of the 1950s. Educational policy was influenced by the United Nations visiting mission of 1962 (United Nations 1962), which demanded crash programs to

Table 3.2

Enrolments, actual and planned, 1961 and 1967

	1961	1967 (plan)	1967 (actual)
Primary (exempt and 'T' schools)	189,574	350,000	238,186
Post-primary and secondary	4,564*	10,000	11,300
Technical	662	2,000	3,208
Teacher training	636	2,000	1,215

* This figure included 2,100 adult students studying through the Auxiliary Training Branch of the Administration.

Sources: Commonwealth of Australia 1961a, 1961b, 1967b.

train an indigenous elite, and by the report of the World Bank Survey team, presented to the Australian Government in 1964 (IBRD 1965). This recommended a shift in emphasis towards secondary and technical training. Finally the Currie Commission in 1964 repeated the emphasis of the two previous reports on post-primary education and added a strong recommendation for the establishment of an autonomous university (Commonwealth of Australia 1964).

Perhaps, as has been suggested by Dickson (1969), Colebatch has not given sufficient emphasis to internal pressures which contributed to the 'change in focus' of education policy. Pressure from the indigenous people forced the revision of policies proposed by Groves and Roscoe. Pressure for the expansion of secondary and technical education must have been applied by the people to district inspectors in the field and through them to the policy-makers in Canberra and Konedobu. A particular example of local-level pressure on educational decision-makers (concerning the Enga people and the New Guinea Lutheran Mission in the Wabag area) is discussed in Chapter 5.

By 1966 the Papua New Guinea education system had been diversified by the establishment of the University and the Administrative College, the introduction of a diploma course at Vudal Agricultural College, and the admission of indigenous students to the Forestry School at Bulolo. The Papuan Medical College had produced its first diplomates while the Institute of Higher Technical Education at Lae and the Secondary Teachers' College at Goroka were preparing to admit students in 1967. This diversification and extension of tertiary education went far beyond the intentions of the 1961 plan and, much more than the expansion of secondary and technical education, came from external pressures.

The structure of the educational 'pyramid' in 1968 reflected the changes in policy which have been described. The broad base of this pyramid represented almost 37,000 primary 'T' school entrants, while at Standard Six level the pyramid was narrower, representing the 14,000 or so who presented for the primary final examination. On the next level were fewer than 8000 students who had been admitted to secondary and technical training, some 5700 in Form One classes at high schools and another 2000 in vocational and junior technical schools. Closer to the apex were fewer than a thousand students at Form Four level, the senior year of secondary school. At the apex were the very small numbers enrolled in tertiary institutions, including approximately one hundred in the university preliminary year. The small numbers at tertiary and senior secondary levels reflected the previous neglect of post-primary education. If the 1961 plan had been implemented, of course, the pyramid would by 1968 have been even broader at the base, and the numbers of students at post-primary levels would have been correspondingly smaller.

Thus in 1968, when the primary system had reached the end of the first stage of educational expansion, the educational pyramid reflected changes in policy which had occurred during the 1960s. Its shape represented an uneasy compromise between an earlier policy of primary expansion and avoidance of elites, and more recent (and belated) expansion of post-primary training. As a result, Papua New Guinea was to experience critical shortages of high- and medium-level indigenous manpower during the period of transition to self-government, ending in 1973. These shortages were to be matched by growing surpluses of job-seekers at lower levels.

The decision to shelve the 1961 scheme for rapid progress towards universal primary education permitted an improvement in the quality of teacher recruits, with the gradual phasing-out in government colleges of the 'A' course (which consisted of a single year of training after completion of Form One secondary). In its place the 'B' (Form Two plus two years training) and 'C' (Form Three plus two years) courses grew in importance. However the quality of teaching, both in government and mission schools, continued to suffer from the basic educational limitations of the teaching force - limited proficiency in English and mathematics and lack of background in natural science (L.J. Lewis 1968).

Mission 'T' schools employed 4000 indigenous teachers, over a quarter of whom were 'permit' staff who had completed only Standard Five or Six primary and were without professional training. Most of the remainder had the minimum 'A' certificate qualification (Fry 1968:29). Perusal of the 1968 *Schools Directory* reveals that approximately 48 per cent of indigenous teachers employed in government schools had only 'A' certificate training, the last of whom were trained as recently as 1967 (Department of Education 1968a). The quality of the education offered in Papua New Guinea's primary schools was reflected in the high rates of repetition and dropout by students. Wastage rates, while difficult to calculate, were certainly high. The preparatory grade intake into 'T' schools in 1961 exceeded 40,000, while the Standard Six enrolment in 1967 was slightly more than 12,000 (Commonwealth of Australia 1961b, 1967b). When allowance is made for the fact that some students repeated one or more years, it is clear that 'minimum-time' progression through the primary system was attained by less than 30 per cent of the cohort which commenced school in 1961.

In a situation such as that of Papua New Guinea during the 1960s, quantitative expansion of the education system was clearly competitive with qualitative improvement. Given an allocation for education expenditures, inputs of teaching staff and capital equipment into the system could be varied in terms of quantity and quality up to the limit of the budgetary constraint. Expansion of the teaching force was competitive with attempts to improve its professional preparation, and with the provision of educational equipment.

Emphasis by educational authorities on quantitative expansion, while partly explicable in terms of the social

demand for primary education, also reflects the influence of what one observer has called 'an educational development ideology ... giving preeminence to the role of education as a motor of economic progress' (Cox 1968:314). Forceful action by UNESCO in the propagation of this ideology, according to Robert Cox, 'found ready allies in the national ministries of education in the developing areas who could make use of this external pressure in addition to that of domestic groups toward a policy of educational expansion' (1968:313). Regional conferences were held by UNESCO in Karachi (for Asia), Addis Ababa (for Africa) and Santiago (for Latin America) between 1960 and 1962, which set ambitious targets for educational expansion in those continents. Intellectual support was provided by the 'revolution' in economic theory, which Mark Blaug (1968:11) dates as having commenced in 1960 with a paper by Theodore Schultz, titled 'Investment in human capital' (Schultz 1961). Another source of impetus was the Ashby Report, which recommended 'massive, unconventional and expensive' increases in educational expenditure in Nigeria (Federal Ministry of Education 1960:41) and was widely regarded as a model for developing countries.

The ideology was applied to Papua New Guinea by the Deputy Director-General of UNESCO in these terms:

In developing countries like India, Indonesia, the Philippines and this Territory, education promotes economic development first and foremost by acting on their socio-cultural infrastructure. It influences the social and cultural conditions and institutions, their large mass unemployment and under-employment, their land tenure systems which do not promote productivity, their institutions for spreading knowledge, promoting innovations and widening choices, their local and central structures for self-government; and, in the case of this Territory, education can also contribute to expanding the monetary sector and to progressively diminishing the subsistence sector ... the action of education in changing and developing the infrastructure is in these countries of decisive importance (Adishesiah 1965:12-13).

Educational administrators in Papua New Guinea were willing to adopt the language of the economist where it appeared to strengthen their claims on the Territory budget. An official

publication (Department of Education n.d. [1969] quoted with approval the following statement:

Probably no other type of investment, public or private, will produce a greater return per unit of outlay than investment in health and education. A generally literate, vigorous and skilled people are not so spectacular or tangible a symbol of progress as a hydro-electric plant or a steel mill, but their value is infinitely greater.

The fact that the economic research on which such claims were based related almost exclusively to the most developed countries, and was itself the subject to bitter debate amongst economists, did not prevent a rather uncritical reliance on some of the more spectacular, and quotable, claims of the 'human capital' school in material circulated by the Department of Education (1968b). The influence of both the UNESCO 'ideology' and economic theory were evident in the decision of a national conference of educators that

Since there is an urgent need to expand primary educational facilities and since education is an essential factor in economic growth, we resolve ... that there is an absolute need for greater assistance to ensure the expansion of primary education (TPNG 1967a:13).

On the other hand, this line of argument may also have been influenced by the existence of pressures against the expansion of the primary system. Control of the growth of primary enrolments had been suggested in general terms by the Currie Commission (Commonwealth of Australia 1964), and, more specifically, by the World Bank mission (IBRD 1965:296). These suggestions were embodied in a public statement on economic planning and policy (TPNG 1967b:32) tabled in the House of Assembly about a month before the conference of educators whose resolution is quoted above.

The resolution itself was an expression of what the writer has previously described as the 'catalyst' view of the role of education in economic development (Conroy 1972a). The catalyst thesis, which urges the broad-fronted expansion of education, underpinned the 1961 plan, setting a target date of 1975 for the achievement of universal primary education. The remarks of Adiseshiah, quoted above, are a good example of the catalyst argument applied to Papua New Guinea.

Another enthusiastic proponent of the catalyst viewpoint during the 1960s was Adam Curle, an influential theorist in the field of educational planning for developing societies. He argued that the task of education was to create a 'new class' to transform traditional society. His conception was not elitist; the new class must be large and grow rapidly, and could only be created by massive educational effort. Curle was aware of the dangers inherent in rapid expansion from a small base, especially the rapid implementation of mass primary education programs.

To double primary enrolment without matching growth at secondary level - which would be more apt to generate development - means flooding the market with primary leavers who feel that their status as educated men ... entitles them to a salary and status which they have no chance of obtaining (Curle 1963:90).

It seems fair to comment that unless the matching growth of secondary education does stimulate economic development, the problem of unemployment among school leavers will only be postponed, to appear later in a more intractable form. Curle summed up the basic problem in these words: 'what can be done to increase rapidly a country's capacity to absorb the number of persons necessary to its development?' (1963:92). The circularity in this statement reveals the stumbling block of massive programs of educational expansion and the 'catalytic' arguments which sought to justify them.

With the advantage of hindsight, a recent observer has described the educational policies of UNESCO during the 1960s as 'extraordinarily naive' (Fischer 1970:ix), while Philip Foster is on record as describing the Ashby Report in Nigeria as 'one of the most wrong-headed pieces of advice given on educational policy to any African government over the last decade' (Foster 1970:261). Even earlier, in a review of academic discussion of the benefits of literacy in developing countries, Mark Blaug commented that 'the literature is still rife with facile generalizations and gross exaggerations of what may be achieved by the extension of reading and writing' (1966:399). An example of the style is provided by J.K. Galbraith: 'Nowhere in the world ... is there an illiterate peasantry that is progressive. Nowhere is there a literate peasantry that is not' (1964:80).

But Papua New Guinea provides examples of illiterate peoples who display a willingness to adapt to change and take advantage of new economic opportunities. The spread of indigenous cash cropping in Highlands districts, among people whose first contacts with Europeans are recent and who have scarcely been influenced by formal education, is an effective rebuttal of Galbraith's view. In a study of ten Eastern Highlands business leaders who appeared to be following a traditional big-man role in the exploitation of modern economic opportunities, Finney describes them as having 'a significantly higher degree of formal school and work experience than is general among Goroka men of their age' (B.R. Finney 1968:400). The low standard of formal education among Gorokan adults will be appreciated from the fact that five of these big-men had no schooling, and the sixth only a single year. Without wishing to deny the significance of formal educational experiences for the four remaining leaders, it seems reasonable to state that formal education has not been a catalytic agent in the significant economic growth that has occurred among the Gorokans.

Finney places emphasis on the existence of 'favourable pre-conditions' in the Goroka district as explanatory factors. These include transport, communication and agricultural extension facilities provided by the Administration (B.R. Finney 1969), all of which, in terms of their claims on resources, are actually competitive with the extension of formal education. This is not an argument for the neglect of education, but it does illustrate the folly of the catalytic view which singles out schooling for emphasis in development planning. Speaking in Port Moresby in 1965, Adiseshiah declared that 'the breakthrough that developing countries are looking for, the key to their development, is to be found in education' (1965:13). However, the comment of another observer is particularly striking:

The tendency to exaggerate the determinative role of one particular variable among a number of interrelated variables is common in the social sciences, and is most marked in special efforts to give high visibility to a previously under-emphasized variable. The recent 'rediscovery' of education illuminates this propensity with great clarity (Coleman 1965:521).

A more balanced view of the role of education in economic development is provided by John Vaizey:

an education plan should be conceived of as part of a general economic program for raising the economic level of a community: both because education has to justify its claims to national resources in competition with social services, like health, and investment in physical capital, and because experience has shown that growth requires an integration of all aspects of economic and social life if individual projects and plans are to come to their full fruition (Vaizey 1965:341-2).

This is not a view likely to appeal to those who, holding a catalytic view of the role of education, employ a distant planning horizon and regard unemployment and social disruption due to educational expansion as short-term and necessary costs. Others who, like Vaizey, are less certain of the benefits of broad-fronted educational expansion, or who are inclined to discount future benefits heavily against present costs, believe that planning should be guided more closely by manpower requirements, at all levels of the system.

The conclusion of the first stage of primary educational expansion in 1968 coincided with the commencement of the five-year Development Program (TPNG 1968a) in Papua New Guinea. In this Program the manpower requirements approach to educational planning was explicitly adopted. While projections pointed to the probability of substantial shortages of high and medium level indigenous manpower during the period 1968-73, increased unemployment among younger school leavers was also expected (TPNG 1968a:92). Consequently, the planned expansion of primary enrolments, at 3.3 per cent per annum, was set at a rate merely sufficient to match the growth of the school-age population.

On the other hand, secondary and technical enrolments were programmed to increase at almost 12 per cent annually, while enrolments in vocational training centres were to treble over the plan period to 1973. These one-year technical training courses for Standard Six leavers were to be expanded in the belief that 'vocational training of various kinds will assist in providing employment opportunities' (TPNG 1968a:103). Supply (of semi-skilled workers, in this case) was expected to create its own demand.

Internal reorganization of the primary system was also planned to effect substantial increases in the coverage of the schools despite a slowly growing budgetary allocation.

In the period 1968-73 the preparatory grade was to be gradually phased out, reducing the primary course from seven to six years, and thus increasing the possible coverage of eligible children by a given teaching force by one-sixth, or nearly 17 per cent. An alternative, the one in fact pursued, was a combination of more limited primary expansion, the lengthening of courses for teachers-in-training, and the withdrawal of many older teachers for in-service training. The resulting improvements in the quality of education contributed to marked increases in the retention and progression rates of primary students during the Program period, a process which was assisted by the fact that primary students were now generally younger than during the earlier years of primary expansion. The net result was a marked increase in the 'throughput' of the system, in terms of numbers of Standard Six leavers, despite the fact that total primary enrolments grew very slowly, for reasons discussed below. If the decade before 1968 (during which, it will be remembered, the capacity of the primary system increased from 13 to 50 per cent of eligible children) had been a period of educational 'widening', the years after 1968 were devoted largely to 'deepening' the coverage of the schools.

Impetus to improving the quality of education was provided by the recommendations of the Weeden Committee (Advisory Committee on Education 1969), which drew the blueprints for the unified National Education System established by the Education Ordinance of 1970. As Geoffrey Smith has pointed out, the legal structure of the unified system, which incorporated both administration and mission schools and established a single National Teaching Service, has an inbuilt emphasis on quality rather than quantitative expansion (Smith 1971b:59).

With the creation of the National Teaching Service in 1970 the primary system entered a phase of markedly rising unit costs per student. Incorporation of mission schools into the national system greatly increased the burden on central government finances without any expansion of enrolments. Indigenous mission teachers had formerly subsidized educational expansion by accepting salaries much below those of comparably qualified Administration staff, but were now to be placed on the same salary scales as their government colleagues. Then followed a period, not concluded yet, during which, having become eligible for promotion, the mission teaching force would gradually spread over the incremental scale in accordance with qualifications and

experience, while the aggregate costs of primary education rose faster than enrolments.

Realization of this fact, together with growing unemployment among primary leavers and the rising tide of social demand for secondary education, led to substantial modification of enrolment targets during the period of the Program. A mid-Program review revised the targets for primary enrolments downwards by about 10 per cent and for secondary and technical enrolments upwards by almost 14 per cent (TPNG 1971:85), claiming that the latter 'have a more direct effect on economic development'. In justifying this further expansion of post-primary schooling it was stated that, 'considerable expansion in enrolments above previous levels will be necessary to meet the short term requirements of localization and the underlying requirements in terms of skilled manpower for economic growth' (TPNG 1971:86).

However, as early as 1970 the Director of Education had warned of impending unemployment among secondary leavers (McKinnon 1970:14), an eventuality which the revised education program made even more likely than before. No hint of this possibility is contained in the mid-Program review, although some published material in the report of the Committee of Inquiry into Higher Education (1971:28) raises further doubts. Using data which appear to have been excised from the published version of the mid-Program review, the Committee disclosed manpower projections that the supply of labour at class C (skilled) level between 1971 and 1976 would exceed requirements by 10,712 persons. 'But', the Committee pointed out, 'many of the people included in the supply for class C will have only the requisite high school qualification and will lack the specific skills needed for employment in skilled occupations' (1971:28). Those affected will be secondary leavers at Form Three and above, as well as dropouts from higher institutions.

The difficulty is a structural one, with shortages of trained workers on the one hand and surpluses of trainable school leavers on the other. The mid-Program review discussed the former without mentioning the latter, an omission of which the most charitable thing to be said is that it was not conducive to the informed public discussion of educational policy which the Education Ordinance of 1970 was framed to encourage. The bottleneck appears to lie in post-secondary training institutions and in the slow growth of apprenticeships for skilled trades. The supposed link between secondary

education and economic growth is tenuous indeed in the absence of facilities for fitting school leavers (who for most purposes are trainable rather than trained) for employment.

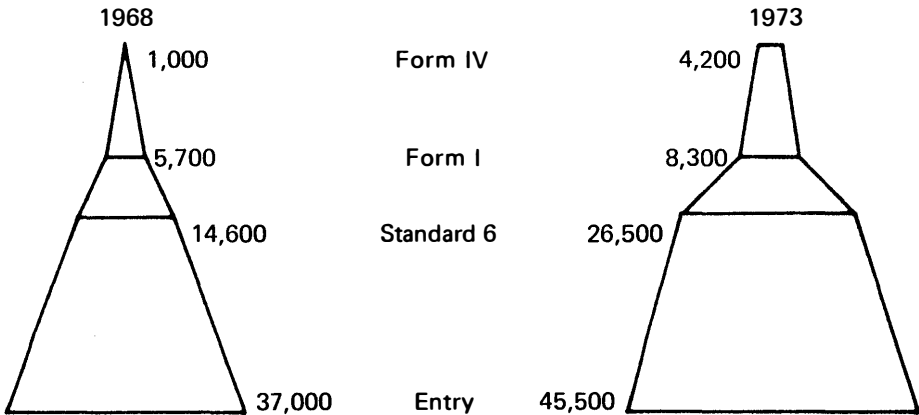
At the next lower level, class D (semi-skilled), the Committee reported a projected shortfall of 5361 workers. Secondary leavers willing to revise their expectations will seek jobs at this level, but overall there is still an apparent surplus and some may be forced to compete with physically mature illiterates for class E (unskilled) jobs. Income differentials between jobs at classes C, D and E are sufficient to encourage some, with the assistance of employed kin, to spend extended periods seeking jobs at the higher levels. The probability that this situation, which was apparent by 1974 or 1975, will become unmistakable after that, leads the writer to suggest, in terms of the model presented in Chapter 2, that the secondary system in Papua New Guinea will reach the end of the first stage of expansion by about 1978. Proposed further expansion of secondary schooling, discussed in Chapter 11, strengthens the conviction that the second stage of the model will be apparent by the close of the decade.

The second half of the Program period, to mid-1973, was marked by an intensification of the pressures of social demand, pressures which were facilitated by the decentralized organizational structure of the new National Education System. In disadvantaged areas there was pressure for expanded primary schooling while in districts already well served by primary schools the demand was for more secondary schooling. In these latter areas, of which the Gazelle peninsula of East New Britain is the best example, pressure resulted from the disappearance of opportunities for the direct employment or further training of all but a minority of primary leavers. On the Gazelle, Papua New Guinea's first 'self-help' secondary school run by indigenous people appeared, following the precedent of Kenya's *Hararabee* schools. In the educationally-disadvantaged Highlands the sequence of demands had been telescoped to the point where the pressure was for simultaneous expansion at both levels. Highlands politicians were acutely conscious of the head-start gained by Coastal and Islands people in the educational race. The political difficulties caused by educational inequality, and the search for alternative, non-formal, educational options are discussed in Chapter 11.

Figure 3.1 illustrates the structural and quantitative changes which occurred during the Program period. By 1973 the educational pyramid had become relatively less broad at the base, reflecting a larger proportion of enrolments in senior primary and secondary schools. Gross primary enrolments increased at an annual rate of only 1.5 per cent during the Program period, well below the rate of population increase (Papua New Guinea 1973a:33). On the other hand improvement in progression rates had almost doubled the size of the Standard Six class. The progression rate from preparatory class to Standard Six for the period 1966-72 was almost 60 per cent,³ compared with less than 30 per cent for the period 1961-7. This, together with reduction of the length of the primary course by one year, had increased the coverage of the system to a degree greater than suggested by gross enrolment figures. Roughly 50 per cent of primary age children were in school and 60 per cent of the eligible age group were admitted to the first primary class (Department of Education 1973:3).

Figure 3.1

Enrolment patterns, primary and secondary schools



Scale: 1mm = 1,000 pupils. Enrolment numbers are rounded.

Source: Papua New Guinea (1973a:33).

³Calculated from data in Papua New Guinea (1973b:Table 2c).

At secondary level considerable 'blocking-up' had occurred in senior forms. Enrolment at Form Four increased four-fold over the Program period, while enrolments at Forms Five and Six totalled almost 600 students, compared with negligible numbers in 1968 (Papua New Guinea 1973a:33). On the other hand the 'gate' admitting primary students to the high schools had become relatively more narrow. Whereas the 1968 first form class represented about half the cohort of primary leavers, those entering high school in 1973 formed only one-third of the eligible group; pressures for expansion of the secondary system mounted accordingly.

Chapter 4

Migration and education: a framework for analysis

The concept of 'investment in human capital' was applied by Theodore Schultz (1961) to a number of categories of expenditure designed to increase the productive capacity of human beings. While most attention has been directed to the role of education as such an 'investment', Schultz also included expenditures on internal migration in his conceptual framework.

Economic growth requires much internal migration of workers to adjust to changing job opportunities. Young men and women move more readily than older workers. Surely this makes economic sense when one recognizes that the costs of such migration are a form of human investment. Young people have more years ahead of them than older workers during which they can realize on such an investment. Hence it takes less of a wage differential to make it economically advantageous for them to move, or, to put it differently, young people can expect a higher return on their investment in education than older people. This differential may explain selective migration without requiring an appeal to sociological differences between young and old people (Schultz 1961:17).

To this one might add that, if the educated have a greater propensity to migrate than the uneducated, and receive greater income benefits than the uneducated from migrating (contentions which are discussed below), simple economic, rather than sociological, reasoning will also suffice to explain the educational selectivity of migration.

The first study in which the migration process was treated as an investment decision and analysed in a framework of costs and returns was by Sjaastad (1962). Whether or not to migrate is a private investment decision in which the

potential migrant chooses the alternative which maximizes the present value of his expected future income stream. Money costs, the out-of-pocket expenses of migration, are relevant, as are opportunity costs, 'earnings foregone while travelling, searching for, and learning a new job' (1962:84).

With respect to money returns, Sjaastad distinguished between geographic and occupational mobility, and pointed out that migration customarily involves both. He maintained that 'migration cannot be viewed in isolation; complementary investments in the human agent are probably as important or more important than the migration process itself' (1962:92). The educated migrant, equipped with a measure of 'complementary investment', is better able to make the occupational shift and to acquire new skills, and hence will anticipate higher returns than an uneducated migrant. Discussing this possibility, Sahota (1968:225) spoke of 'the increased capacity and option of an educated individual to learn still more'.

Applying Sjaastad's neo-classical costs and returns framework to the analysis of migration from the American South, Samuel Bowles concluded that 'the pattern of geographical mobility of workers may be explained as if individuals considered the benefits and costs of moving in the context of a general investment problem' (Bowles 1970: 361, emphasis added). Bowles employed what might be called the as if methodology. The rationale of this approach to the study of economic decision-making has been explained by Friedman and Savage (1948) in these terms:

The hypothesis does not assert that individuals explicitly or consciously calculate and compare expected utilities ... rather ... in making a particular class of decisions, individuals behave as if they calculated and compared expected utility and as if they knew the odds. The validity of this assertion does not depend on whether individuals know the precise odds, much less on whether they say that they calculate and compare expected utilities or think that they do, or whether it appears to others that they do, or whether psychologists can uncover any evidence that they do, but solely on whether it yields sufficiently accurate predictions about the class of decisions with which the hypothesis deals (Friedman and Savage 1948:298, emphasis in original).

This is recognizable as the pragmatic method of positive economic investigation with which Friedman's name is often associated. It is basic to the private investment model of internal migration, to the model of Todaro (1969) discussed below, and also to the private investment model of educational expenditures which is outlined in Chapter 5.

As an addendum to the discussion of the private investment model of internal migration, reference should be made to the role of the 'migrant stock' in the destination region. This stock consists of people who have previously migrated from a particular district and who are a source of support for subsequent migrants from the same region. Uncertainty and risk aversion reduce the attraction of income gains in a distant region, but relatives and friends living in that region can reduce uncertainty by providing information about wages and job prospects, can increase the probability of finding employment by providing a network of contacts, and can lower the money and psychic costs of migration by caring for the migrant on arrival and during his period of job-seeking. Thus the significance of the migrant stock variable in the multiple regression studies by Greenwood (1973) and Levy and Wadycki (1973) is consistent with its probable importance in affecting the costs and returns which figure in the private investment model of migration. In Chapter 9 evidence is advanced of the important role played by the migrant community of Gulf District people in Port Moresby in facilitating the townward migration of young school leavers.

A model of rural-urban migration which is complementary rather than competitive with the private investment calculus hypothesized by Schultz and Sjaastad is that proposed by Michael Todaro (1969). In common with Sjaastad, his emphasis is on the 'expected' income differential between origin and destination. Thus migration rates depend upon 'the differential between the discounted streams of expected urban and rural real income ... expressed as a percentage of the discounted stream of expected rural real income' (Todaro 1969:141).¹

¹However, in his original statement of the model Todaro was content to avoid the present value problem by assuming that migrants have a one-period time horizon, 'probably a more realistic formulation in terms of actual decision making in less developed countries' (Todaro 1969:143).

An important feature differentiating the model from that of Sjaastad is Todaro's allowance for the probability of unemployment in determining the migrant's expected urban income. This, and the fact that it is concerned with rural-urban, rather than inter-regional migration, shows it to be formulated expressly for the conditions and problems of less developed countries. In most underdeveloped countries a large proportion of the urban workforce is either openly unemployed, or engaged in low-income activities outside the modern 'enumerated' sector where the relatively high wage-rates which attract rural migrants are paid.

As a result, when analysing the determinants of urban labour supplies, one must look not at prevailing real income differentials as such but rather at ... the income differential adjusted for the probability of finding an urban job ... this probability variable acts as an equilibrating force on urban unemployment rates (Todaro 1969:138).

Thus a positive differential between the urban wage rate and rural incomes implies, with a constant urban demand for labour, an equilibrium level of unemployment. Expansion of the urban employed workforce, at a constant real wage rate, induces further rural-urban migration since the probability of finding employment has risen. Hence the result of increasing employment in the high-wage 'enumerated' sector is an increased absolute level of urban unemployment. Similarly, increases in the level of urban real wages, by increasing the differential, justify a higher absolute level (and rate) of unemployment for a given level of employment.

Todaro acknowledged the existence of an 'urban traditional' sector which encompasses 'all those workers not regularly employed in the urban modern sector, i.e., the overtly unemployed, the under-employed or sporadically employed, and those who grind out a meagre existence in petty retail trades and services' (Todaro 1969:139n). But according to Keith Hart, 'the probability of migrants gaining urban employment, once we look outside formal opportunities, is not summarized by the number of enumerated wage-jobs divided by the estimated total of job-seekers' (Hart 1971:38-9). Members of the 'informal' or 'unenumerated' sector, while hoping to gain high-wage employment, are not without sources of income in the meantime. Thus Turnham commented with respect to the Todaro model that 'earnings in the urban traditional sector ... could well influence separately the migrant's decision'

(Turnham 1971:110), while another critic said of it that 'employment in the urban traditional sector is regarded ... as if it provided no income whatsoever' (Frankman 1972:2). Todaro's attempted rebuttal of this charge is not convincing (1972:50) and one must conclude that failure to incorporate satisfactorily informal sector earning opportunities dulls the clarity and precision of his model. It is essentially a two-sector approach to what is, in most underdeveloped countries, a three-sector situation.

Frankman also took Todaro to task for assuming that all migrants employ identical discount factors over an identical planning horizon.

What of the migrant who attaches greater importance to the opportunities for his son's improved economic and social situation rather than his own or the migrant who is willing to forgo higher immediate earnings in rural employment in order to acquire skills for which training is available only in urban areas? (Frankman 1972:1).

Despite Todaro's dismissal of these instances as mere 'anecdotes' (1972:49), it is clear that if any substantial proportion of the migrant population has such motives for urban residence the predictive power of a model based solely on expected income differentials (with fixed discount rate and time horizon) is reduced. Migration to take advantage of superior educational facilities for one's children occurs in Port Moresby (Smith 1971) as well as in other major urban centres in the third world, while some New Guinea Highlanders leave their coffee gardens to acquire skills that will later be employed in rural areas (Salisbury and Salisbury 1970).

All this is not to deny the power of the fundamental proposition of the model, which is that a self-regulating mechanism governs the relationship between urban unemployment (however defined) and the inflow of rural migrants seeking high-wage employment in the modern urban sector, such that unemployment will tend to an equilibrium level.

John Weeks sees the concept of 'unemployment' as generally irrelevant and misleading in an urban context, but regards the Todaro model as 'a general theory of migration', which may be applied, *inter alia*, to

the special case where the enumerated sector is so large as to eliminate alternative sources of income, leaving disappointed job seekers unemployed. The special case can be seen as more relevant to the relatively more developed and industrialized poor countries, such as in Latin America, and most appropriate to the rich countries (Weeks 1971:20, emphasis in original).

Thus, in the special case, open unemployment occurs because the enumerated sector is so large that it swamps any informal sector activities, which may therefore be ignored. Weeks might have added that the circumstances of the special case could apply to any country, rich or poor, where the unenumerated sector is so small that it may be ignored for practical purposes. As was argued in the introductory chapter of this monograph, Papua New Guinea has, at this present stage of its development, an urban informal sector of negligible proportions and a genuine problem of open urban unemployment. In this sense, then, it finds itself in the unfamiliar company of Latin America and the rich countries. Thus problems of rural-urban imbalance in Papua New Guinea may properly be analyzed in terms of two sectors, which appears to give Todaro's model a special relevance since it was argued above that his is a two-sector approach in a (largely) three-sector underdeveloped world. The failure of the Todaro model satisfactorily to incorporate urban informal sector earnings into the calculation of his 'expected income differential' cannot invalidate the predictions of the model in circumstances where these earnings are negligible by comparison with income in the modern high-wage sector. The Todaro model is thus likely to be more applicable to Papua New Guinea than to most other underdeveloped countries.

Education and migration

Convincing evidence of the positive influence of education on rates of outmigration is available for Ghana (Caldwell 1968), Kenya (Rempel 1970) and Tanzania (Sabot 1972), which three studies are described by Byerlee (1972:4) as the best conducted in this field on the African continent. Caldwell's results are particularly convincing, being based on a large-scale rural sample survey with sufficient data to permit control of variables. Not only does propensity to migrate in Ghana rise markedly with educational levels of

potential migrants, but certain other observed propensities are explicable in terms of the influence of education. Thus the deterrent effect of distance is at least partly owing to the fact that 'the more distant villages tend to be less affected by the inroads of education and other socio-economic change' (Caldwell 1968:375). The investigation revealed that propensity to migrate varies directly with size of the village of origin, but this, in turn, is largely explained by the positive correlation between village size and access to educational facilities. It was also observed that, while net migration flows are from poorer to richer areas, within areas of net outflow propensity to migrate increases with the income of households. One explanatory factor is that 'the better-off households are more likely to send their children to school and keep them there longer' (Caldwell 1968:275).

Furthermore, although men have a greater propensity to migrate than women, Caldwell explained this entirely in terms of education. 'The education differential [between the sexes] ... appears to explain the whole sex differential amongst those currently planning migration at the time of the survey' (Caldwell 1968:376). Similarly he related the swelling tide of rural-urban migration in Ghana to the expansion of formal education. 'The education differential by age can explain the whole of the historical change in propensity for rural-urban migration'. Finally, he made the very strong claim that 'an administration could, with a time-lag, substantially influence the volume of rural-urban migration by providing more or fewer education facilities' (Caldwell 1968:376). While Caldwell was largely content to settle on education as a causal variable, the economic implications of his findings were not lost on J.B. Knight (1972:220):

if higher incomes enable rural people to acquire more education and hence to derive more economic benefit from migration to the towns, if higher incomes encourage rural people to face the costs and risks of migration, and if rural-urban migrants raise rural incomes by means of transfer payments, Caldwell's finding that rural household incomes and the propensity to migrate are positively related supports rather than contradicts an economic interpretation of migration.

Education is explicitly introduced into the migration models of Sjaastad (1962) and Bowles (1970) who discussed the effect of education on the private profitability of migration. Their conclusions are reviewed above, and are broadly consistent with Jolly's statement that:

Given the pattern of job opportunities existing in many countries, educated persons usually increase their earnings by migration proportionately very much more than less educated persons. Where this is so, higher rates of migration amongst educated persons would be entirely consistent with a general desire to earn higher incomes without any resort to special explanation in terms of particular characteristics of educated persons (Jolly 1971:123).

Michael Todaro has also incorporated education as a variable in a subsequent formulation of his model (1971a), using Rempel's data for Kenya (Rempel 1970). He noted that in Kenya the propensity to migrate is a positive function of the potential migrant's educational level, that the incomes of urban migrants are similarly a positive function of their education, and that the probability of securing urban salaried employment varies directly with educational attainment. Consequently, the propensity to migrate of the educated is entirely explicable in terms of the disparity between their expected urban and rural incomes, a disparity which increases with the educational attainment of the potential migrant.

Rado's contention (quoted previously in Chapter 2) that 'the more educated you are the less likely you are to be unemployed; and that, if employed, the more educated you are, the more you are likely to earn' (Rado 1972:464) is also borne out by the research of Sabot (1972) in Tanzania. Sabot provided data which appear to support both the private investment model of migration and the complementary Todaro thesis, as well as demonstrating conclusively the 'selectivity' of migration by education level.

Sabot's data show negative selection of the uneducated among migrants to urban areas in Tanzania. This means that among migrants from particular regions living in urban areas, those without formal education are under-represented by comparison with their proportion of the population in the region of origin. On the other hand there is positive selection of the educated, those with schooling being

over-represented by comparison with their home populations.² Moreover the degree of positive selection increases with the level of education, so that the propensity to migrate is a positive function of educational attainment.

By reference to cross-sectional age-education data, Sabot concluded that the degree of selectivity with respect to education has been changing over time. Positive selection of the educated has been decreasing, while negative selection of the uneducated has increased. Thus, 'while the education of migrants has been improving, the rate of migration of the rural population with education has been declining' (Sabot 1972:9). However, the overall rate of rural-urban migration has been rising, since the expansion of the formal education system has been sufficiently rapid to overcome the decreasing positive selection of the educated.

Sabot explained the changing pattern of educational selectivity by reference to the pattern of private returns to education. Earnings in urban Tanzania are positively related to levels of education, income differentials between levels are substantial and the probability of gaining employment increases with education. These facts are sufficient explanation of the positive link between educational level and propensity to migrate, since expected returns to migration rise with the educational level of potential migrants.³ They cannot, however, explain the fact

²Overall there are, proportionately speaking, 2-1/2 times as many migrants with education as there are educated people among the rural population 14 and over. Conversely, there are, once again in proportionate terms, only half as many people without any education among migrants relative to those among the 14 and over rural population' (Sabot 1972:8). Migration is non-selective with respect to some characteristic when the migrant population is the same as the origin region population with respect to that characteristic.

³The argument is strengthened by observing that opportunity costs of migration in rural areas are no greater for the educated than the uneducated since, 'within agriculture there is no tradition of differential rewards to education', nor can school leavers gain preferential access to choice plots of land in the same way that they gain preferential access to highly paid urban jobs. Thus 'given the structure of the urban labour market [they] have a relatively greater incentive to migrate' (Sabot 1972:25).

that positive selection of educated migrants has been decreasing over time. The key to this phenomenon is a rising probability of unemployment at all educational levels. Associated with this (in fact, the other side of the same coin) is the rise of minimum educational requirements for particular jobs, leading to the 'filtering down' of entrants to the workforce. Entrants at a given educational level are forced to accept lower paid jobs than previous cohorts of entrants, with consequent reductions in private returns to education, and in incentives for townward migration by rural school leavers. The increasing negative selection of uneducated migrants is in reaction to increased competition from the educated for jobs at the bottom of the wage/skill hierarchy.

The process of labour market adjustment described by Sabot is in conformity with the model of educational expansion and unemployment outlined in Chapter 2. The 'filtering down' of school leavers through the levels of the workforce is the result of the 'rationing' process by which employers allocate jobs in a situation of labour oversupply - the raising of minimum educational requirements. 'This rationing system', said Sabot, 'only worked because the expectations of school leavers were flexible' (1972:35). Moreover,

not only are Tanzanians adjusting their expectations when considering potential returns to migration, they are also adjusting their behaviour to the new and lower expectations of returns to education. Throughout Tanzania there is for the first time a significant proportion, approximately 12% nationwide, of empty seats in primary classrooms (Sabot 1972:36).

Falling social demand for primary education and changing patterns of educational selectivity among migrants in Tanzania may be seen to conform with predictions derived from the private investment model (as proposed by Schultz and Sjaastad) and the Todaro model of migration.⁴ They are also

⁴So also may Sabot's conclusion that 'differentials in the rate of migration ... by sex, by receiving town, and over time are all consistent with differentials in the money returns to migration', where 'money returns' incorporate an adjustment for the probability of gaining employment (Sabot 1972:38).

in conformity with the writer's model of educational expansion and unemployment in Chapter 2, which, although patterned explicitly on formulations by Callaway and Foster, incorporates the basic behavioural assumptions of Schultz and Todaro.

Chapter 5

The private demand for education: consumption or investment?

Few indeed are the poor countries whose authorities have firm control over the supply of educational facilities; more often than not it is the private ... rate of return that drives the system forward.

Mark Blaug

In Papua New Guinea, as in many other developing countries, the social demand for education greatly exceeds the capacity of existing facilities, at primary and secondary level. This mounting social demand for education is a political and economic reality which must be taken into account in educational planning. Whereas educational planning in most of the more developed countries simply takes the form of attempting to forecast social demand in order to provide the necessary facilities, this is not an appropriate planning procedure in Papua New Guinea. Because of the need to satisfy urgent manpower requirements and because of constraints imposed on the education system by the limited financial and physical resources available for expansion, the objectives and methods of planners must be quite different from those in more developed countries.

The social demand is the aggregate of the hopes and aspirations of parents and children throughout the country; it is the summation of the private demand for education. In order to understand the phenomenon which is the social demand it is necessary to study the motivations of the individuals concerned, or at least to seek samples of opinion which may help in an assessment of the forces at work. What are the objectives which people seek in demanding education for themselves and their children? Are these objectives in harmony with the centrally-determined objectives which educational planners seek to attain? If the objectives of

planners and people are in conflict rather than in harmony there is every possibility that frustration will be mutual. National goals will be more difficult to achieve and private hopes less likely to be fulfilled. This chapter sets out to explore the motives behind the private demand for education.

Much has been written about 'investment in education' and the contribution of education to economic growth. The enthusiastic claims of the 'human capital' school of economists have become somewhat more muted and the enormous amount of research devoted to this subject in recent years has probably uncovered more problems than it has solved. This chapter has nothing to say on the subject of macro-economic or aggregate 'investment' in education; rather it is concerned with the microeconomic question of the private demand for education and with whether the individual's decision to 'purchase' education is an act of consumption or investment.

The private-investment model of educational expenditures

The concept of private educational expenditures as acts of investment bears the implication that, as with other forms of investment, a comparison may be made between costs and benefits and a rate-of-return to the investment outlay calculated. The model assumes that individuals weigh the costs associated with undergoing a particular stage of education against the incremental income benefits expected from the successful completion of that stage, and compare the internal rate of return thus calculated with the yield of the best alternative investment option. The model postulates

the existence of a rational educational calculus according to which students or their parents act as if they were equalizing rates of return on all possible investment options available to them (Blaug, 1970:171, emphasis in original).

Consideration of whether people actually make the calculations and judgments implied by the model is not strictly relevant; the as if methodology, discussed in the previous chapter, is applicable here as well. (Even so, in Chapter 6 evidence is advanced that school children in Papua New Guinea possess accurate knowledge of income relativities, which would assist them in making the calculations and decisions

implicit in the model.)

The relevant costs are those incurred by the student and his family, including money outlays for fees, books and uniforms as well as the income foregone by him, the opportunity cost of his school attendance. The benefit consists of the increment to his post-tax income derived from successfully completing the level of education in question; this information is normally calculated from cross-sectional age-earnings data which are classified by education levels. The internal rate-of-return which makes the lifetime stream of net income benefits equal to zero is the yield on the educational investment (Blaug, 1970:54-60).

The calculation is closely related to that for social rates-of-return, except that for the social rate the relevant costs are all those incurred in educating the student, whether by the family, the educational authority, or government. Similarly the relevant benefit is the gross (pre-tax) increment to income.

Much criticism is levelled against rate-of-return calculations (Shaffer, 1968; Balogh and Streeten, 1968:385-90; Vaizey, 1972:62-78), which are alleged to fall down on a number of counts. Thus the calculation is thought to omit the consumption benefits of education, to be incapable of measuring externalities resulting from education, to rely on the assumption (especially untenable in developing countries) of a perfectly competitive labour market, and to be marred by multicollinearity between education and other variables affecting earnings.

It may be possible to avoid the first charge by denying the consumption benefits of education (Blaug, 1968:228-9), and some evidence is offered below suggested that these benefits are not highly valued in Papua New Guinea. But the other criticisms, however valid they may be with respect to social rates-of-return, have no bearing on the usefulness of private rates as an explanation of the social demand for education, and as an explanation of student preferences for particular courses of study.¹ Thus externalities (or non-private costs and benefits) are by definition irrelevant to

¹Rates-of-return to post-secondary training courses in Papua New Guinea have been calculated (PNG, 1972) and, while the social rates are at best an equivocal guide to resource

private rates-of-return. The assumption of competitive labour markets, while necessary to the marginal productivity theory of distribution and hence to the validity of the social rate-of-return as a guide to resource allocation, is not necessary in the case of private rates. If (as may occur in a developing country) the educated are paid in excess of their marginal product, rates-of-return to education will be correspondingly inflated. These signals, transmitted back to the education market, will influence the social demand.

Finally, there is the multicollinearity problem - the objection that other variables (such as ability and social class) also affect future earning capacity, and that the separate contribution of education cannot be identified. The most effective answer to this (apart from saying that education is more likely to be decisive in a developing country) (Knight, 1967:254-8), is to point out that students are not aware of the multicollinearity problem, and that if they identify education as the variable responsible for higher life-time earnings, the social demand for education will be accordingly influenced. Even if those who are less able or of the wrong social class are deluding themselves, their demand for schooling will still be felt.

Private benefits of schooling

T.W. Schultz places the private benefits of schooling in three 'conceptual boxes'. The first box bears the label 'present consumption value' and contains the current satisfactions gained by students during their education. The second is labelled 'future consumption' and holds the long-term stream of satisfactions gained by the educated person who is assumed able to enjoy pleasures denied others. On the third box is emblazoned 'future producer capability' and inside we find the life-time stream of additional income that accrues to the educated worker. If it were possible to apportion educational expenditures accurately between the

1 (Continued)

allocation, the private rates provide a thoroughly plausible explanation of student behaviour which appears to verify the as if methodology and the assumption of economic rationality among Papua New Guineans. This subject is discussed at greater length in Chapter 11.

three boxes, outlays on the first could be labelled consumption.² In the second and third cases educational expenditures are classified as investment, since they yield a stream of benefits over time, whether measurable (as in the case of future income) or immeasurable (in the case of long-term consumer satisfaction) (Schultz, 1963:38).

It is also useful to distinguish between the income and psychic benefits of education which accrue to individuals. The former consist of a measurable stream of benefits, in the shape of money income and 'fringe benefits', which results from the achievement of a particular level of education. Thus in Papua New Guinea the money value of benefits, such as housing provided by employers, paid recreation leave and leave fares, constitutes a considerable increment in the gross incomes of the educated. Money income and fringe benefits are explicitly incorporated in a quantifiable model of the social demand for education which is set out in Appendix A. Again in Chapter 7 evidence is presented concerning the strength of these two variables in determining the private demand for education in Papua New Guinea.

The psychic benefits of education are those which Schultz places in his first two boxes, and consist of the present and future satisfactions thought to derive from the educational experience. However, Mark Blaug seriously doubts whether the psychic benefits of education are as real as most writers suppose. He contends that 'the current consumption of education ... may have negative utility for the average student'. As for long-term consumer benefits, Blaug remarks that 'there is an extraordinary consensus on the positive psychic benefits of education, but it is a consensus of educated people whose taste for learning has been affected by the learning process itself'. Blaug is not convinced that students, as a group, are parties to this consensus.

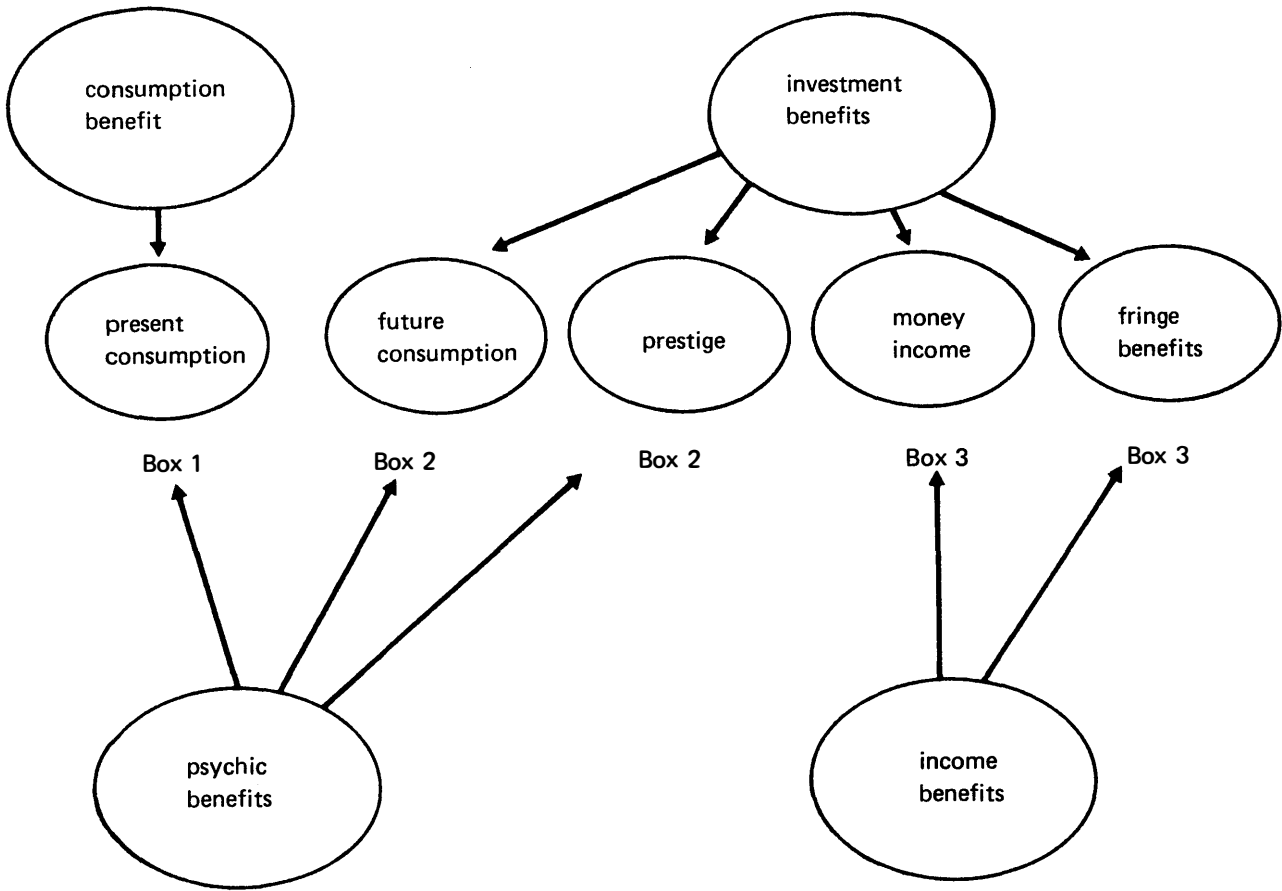
²It is not possible to allocate educational costs between consumption and investment in any satisfactory way. Discussing the essentially complementary nature of these two facets of education, Bowen shows that 'society does not really have the option of ceasing to make expenditures on the consumption aspect of education ... without simultaneously curtailing expenditures on the investment aspect'. This is because efforts to disentangle the two encounter 'a joint cost problem in which essentially the same inputs are transmuted simultaneously into two end-products (professional preparation and pleasure)' (Bowen, 1968:89).

He is concerned with the *ex ante* motives for education decisions, rather than with *ex post* rationalizations. In short, Blaug suspects that the first two boxes may be empty (1968:228-9). It could be argued that decisions to 'invest' in education are generally made by parents rather than children. However, one may doubt the extent to which parents of a less-educated generation are motivated by psychic considerations of the type discussed by Schultz and Blaug in deciding to give children educational advantages greater than they themselves experienced. This doubt applies *a fortiori* in the educational expansion of a less developed country such as Papua New Guinea, where parents, the majority of whom are quite uneducated, press with growing urgency for educational provision.

With respect to the present consumption benefits of education, evidence is offered below that considerable variation exists in the valuations which children in Papua New Guinea place on the enjoyment of schooling. With respect to the future stream of consumption benefits, neither Schultz nor Blaug mentions the possibility that these could include the status or prestige derived by an individual from his attainment of a particular educational standard. However, where persons achieve prestige by reason of educational attainment it seems reasonable to count this as a continuing benefit of educational expenditure, of the type found in the second Schultz box.³ Evidence is offered both in this chapter and in Chapter 7 that children in Papua New Guinea regard educational achievement as an important source of prestige, and hence this must be accounted a benefit of educational expenditures which is sought by Melanesians. Figure 5.1 presents the taxonomy of benefits discussed so far in the form of a diagram.

The role of parents in educational decision-making is seen by John Vaizey as an 'insuperable' problem in formulating a private-investment model of educational expenditures. 'The ambiguity [that parents must be assumed to make investment decisions on behalf of children] is, of course, fatal to the argument' (Vaizey *et al.*, 1972:67). The notion of family investment raises problems concerning the nature of the unit of welfare. In a more extended discussion of this question (Vaizey, 1962:28-9), he claims that

³ Thus the anticipation of doctoral deference has sustained many a graduate student during the writing of a Ph.D. thesis.



Taxonomy of private benefits

Figure 5.1

reliance on the 'family' as the basic unit of society is not one that would readily stand up to sociological analysis; society often has a duty to encourage people to defy the family. Education, indeed, can ... be regarded as an intervention to save the individual from the family.

Here Vaizey appears to shift gear from the positive to the normative in mid-argument. It is a positive question whether, in any particular society, the family may be regarded as an economic decision-making unit, and whether it conceives itself as a unit of welfare. Whether the operation of a family welfare unit is optimal from the viewpoint of child members is another matter, but whether society ought to intervene to affect the welfare of child members is a normative question, and of no account in the present context. The case for regarding the Melanesian extended family as a unit of welfare is strong (whatever may be argued for the Western biological family) and Vaizey's objection is invalid in that context.

What then are the motives which induce Melanesian family units (at first on the initiative of parents but, as time goes by, increasingly on the initiative of the growing child) to make educational expenditures? The question may be framed as follows: what benefits do parents and children expect to flow from educational expenditures? The answer should be determined positively without any confusion about what people ought to seek from education. Of course, it is likely that the reasons for educational expenditure are complex and that both consumption and investment motives play a part. However, there is still value in attempting to decide whether one or the other is dominant.

There are two research techniques that could reveal the motives for educational expenditures. The first is to ask parents and children, whether directly or by more oblique methods. The second involves testing hypotheses about the expectations of students by observing their behaviour when they leave school. This chapter presents evidence, gathered by the former of these two methods, to support the contention that the private demand for education in Papua New Guinea is inspired predominantly by investment considerations; the demand is inspired by income benefits corresponding to those in the third of the Schultz boxes, and by prestige considerations, which are incorporated in the second of those boxes. The second method of research is employed in Chapter 8,

where the expectations of children are discussed, and in Chapter 9, where their post-school behaviour is observed.

Survey evidence

A fascinating insight into Melanesian motives for demanding education is provided by a study of the Enga people in the Highlands of Papua New Guinea (Ewald, 1968). The Enga District is the most educationally disadvantaged area in the country, in terms of the proportion of eligible children enrolled in English language schools. Ewald's work is particularly interesting, both because it is the best study done in Papua New Guinea of the educational opinions of parents, and because the Enga are a relatively unsophisticated group of people. They are subsistence farmers with a quite short history of European contact. Only 5.7 per cent of the parents interviewed by Ewald claimed literacy in the Enga language, while 2.8 per cent were literate in Pidgin. No parent was recorded as literate in English.

The Enga see educational expenditures quite clearly as an investment designed to yield wage employment. The Lutheran Mission conducts 'vernacular' schools that teach through the medium of the Enga language, but declining enrolments and the closure of schools at the time of Ewald's study threatened the survival of the teaching program. He attempted to discover the reasons for declining interest in vernacular schools by surveying the opinions of Enga parents and students. Ewald concluded that the cause was not declining interest in education *per se*; rather it derived from a growing belief that the vernacular schools could not achieve the results expected of education.

The Enga considers formal education to be a step in the road to change - the road to advancement. Any particular step in formal education should either end in the promise of satisfactory employment or further higher education (Ewald, 1968:48).

For these reasons parents wanted more emphasis on Pidgin literacy in the schools and less on Enga. Both parents and children favoured the schools operating on a day-long timetable, instead of for a few hours, as at the time of the survey. Contrary to Mission policy (but to enable students to transfer to formal English language schools), parents

wanted children to be enrolled younger.

Most parents favoured sending children to vernacular schools 'because it will help them to get work'. Among children also this was the most important reason for attendance, although chosen only by a minority. Asked 'When you are an adult, what would you like to be?' only 5.4 per cent of the children chose 'agricultural worker' from among a list of twelve occupations. The response of parents was even more extreme: only 1.6 per cent chose 'agricultural worker' as an occupation for their children. Parents seemed even more determined than children that education should lead to change. The low status of agriculture is indicated by the ranking of 'agricultural worker' as twelfth in order of importance by the children among the specified jobs. Their parents ranked the job eleventh, ahead of 'cook boy'.

The degree of sophistication of these people may be gauged from the fact that both parents and children chose 'jeep-driver' as the most important and desirable occupation, ahead of 'T' school teacher, policeman, clerk and councillor. Ewald comments on the unrealistic nature of their expectations, especially the belief that more emphasis on Pidgin literacy would open the way to employment and higher education. However, as has been shown in earlier chapters, unrealistic expectations engendered by educational expansion are common in developing countries.

It is clear that the Enga regard education as an investment and expect monetary returns. As they become increasingly aware of the shortcomings of their school system, the Enga are correspondingly less willing to invest in the education of children. Their expenditure takes the form of tuition fees and the provision of housing, land and food for teachers, as well as the subsistence income foregone while children are attending school. Schultz has remarked the fact that subsistence communities demand the labour of children from quite an early age and that this contributes to wastage in primary school enrolments. Certainly many societies in Papua New Guinea expect children to play a productive role in the village economy (Chowning, 1973:77).⁴ The lower enrolment and higher dropout rates for girls in Papua New Guinea reflect

⁴ A Bougainvillean student at UPNG wrote in a seminar paper that 'where a child of 7 or 9 is in school there is an opportunity cost foregone because even at the age of 7 or 9

the dual circumstance that boys not only have better monetary employment prospects but also lower opportunity costs of school attendance, since they are customarily less bound than girls to tend subsistence gardens.

Commenting on Ewald's study of the Enga, a Melanesian student at the University of Papua New Guinea observed that

parents can see the impact of education on those who have had some education. The sort of life lived by the school teachers, medical officers, drivers, evangelists, etc. become (*sic*) the aspiring goal of parents to get some schooling for their children. They want their children to live a similar way of life better than the one they are living ... it is the kind of job performed by the teacher, medical officer, etc. and the prestige and material wealth accruing from these jobs that are the centre of their wishes and desires (Ulufa'alu, 1973).

Educational achievement may supersede traditional modes of achievement:

Papua New Guineans see education as a means of preparing people to be somebody in the emerging new society ... even the big-man in the traditional society will acknowledge that a Papua New Guinean clerk in Port Moresby is far superior to him in material well-being (Ulufa'alu, 1973).

And, even more explicitly:

educated people are increasingly playing important roles in the communities. This urges parents to get some education for their children if they are to compete for status in the emerging new society where the criteria for acquiring bigmanship status are now different from the known traditional ones (Ulufa'alu, 1973).

4 (Continued)

the children are often asked to look after their younger brothers or sisters which means that the mother is freed to work in the garden ... if students above the age of 7 are attending school there is a loss (*sic*) to the society. Children at the ages of 13 or 14 are expected to have their own small garden which is their worths (*sic*) contribution towards the food production'.

Although 'material wealth' and prestige are seen to be closely associated, it is clear that Ulufa'alu views the latter as the primary objective of Melanesian parents, and interprets Ewald's results accordingly. Another study of parental attitudes in urban communities far along the spectrum of sophistication from the Enga emphasizes material considerations.

They simply wanted their children, particularly the boys, to have as much schooling as possible. All had confidence that the present school system would prepare their children for good jobs and a good income which in turn would ensure a better standard of living (van der Veur and Richardson, 1966:84).

This interpretation is supported by Charles Rowley who believes that in Melanesia the establishment of schools in subsistence communities 'may appear as a commitment on the part of the government ... to provide a road into the Westernized cash economy'. But later, the growth of school leaver unemployment and shortages of secondary school places 'will be regarded as a breach of faith on the part of the educational authority - and of the government'. This is because of the motives for sending children to school: 'the prime purpose of the parents will be economic ... to ensure employment for their children in the money economy' (Rowley, 1971:18-9).

The 1971 survey

In an effort to establish a ranking of possible motives for educational expenditure the writer conducted an investigation in 1971 in three contrasting districts of Papua New Guinea. The object was to interview about one hundred children in Standard Six from each district. Those who expressed the desire to continue their education beyond Standard Six were asked to rank in order of preference the following five reasons for continuing one's education.

'I want to go to school next year
because it will make my mother and father happy;
because it will help me to be a good farmer;
because it will help me to get a job;
because I enjoy going to school;

because people will respect me if I am well-educated.'⁵

Each of the five alternatives expresses a motive for entering post-primary education. They are, of course, open to a variety of interpretations. My own interpretations are as follows:

'Because it will make my mother and father happy'. It is necessary to distinguish here between the motives of the parents and the child. Whatever the reasons of his parents, if the motive of the child is simply to please them or avoid their displeasure, then his motives are those of a consumer. It is the motive of the child that concerns us here.

'Because it will help me to be a good farmer'. The benefits of being a good farmer are interpreted quite reasonably in terms of a higher future income. Hence this is an investment motive.

'Because it will help me to get a job'. This is even more clearly an investment motive, anticipating future income benefits.

'Because I enjoy going to school'. Going to school for pleasure appears to be the purest of consumption motives.

'Because people will respect me if I am well-educated'. In terms of the taxonomy of benefits outlined in this chapter, status or prestige are future consumption benefits of education, and expenditures designed to secure them are regarded as acts of investment.

The districts surveyed

The sample of students chosen for interview was purposive, no attempt being made at random selection. As mentioned above, three contrasting areas were visited. The first of these was the Orokolo Bay area of the Gulf District of Papua. This is a region from which an extremely large proportion of the population of economically-active age has migrated to urban areas, in particular to Port Moresby. Children of this

⁵ Students were prepared for the technique of ranking by practising a simple example beforehand. The five alternatives were presented in the order shown above and each was explained in simple and objective terms.

area are likely to represent the opinions of potential rural-urban migrants.

The second group of schools was located in the Eastern Highlands District close to Goroka. Children attending these schools were drawn from areas in which significant economic progress has occurred in recent years, in terms of cash cropping and other indigenous rural-based enterprises. The areas concerned were also marked by moderate population densities, so that land shortage should not have operated as a constraint on the ambitions of children.

Finally, a sample of schools in the Chimbu district was selected which draw children from areas of, by Papua New Guinea standards, extreme population pressure. The places visited had limited cash cropping opportunities and some children lived at altitudes beyond the limit at which coffee is grown.⁶

The evidence

Table 5.1 divides the interviewees between those who expressed a desire to continue their education and those who did not. It is clear that an overwhelming majority wish to continue at school, although there appears to be a difference between children from the Gulf and from the two Highlands Districts. This is of doubtful significance, however, since the Gulf survey was carried out in July, whereas the other districts were visited in November. Although absenteeism in the schools visited was slight, it seems possible that those absent in November could include students not interested in further education.

The ranking exercise was performed only by children who wished to continue their education in 1972. As described above, it involved ranking five alternative reasons for going to school in order of preference. Table 5.2 sets out the results of the exercise, showing the mean score of each alternative, classified by sex and by district. An analysis of variance was conducted on the mean scores. The null hypothesis was rejected at the 0.001 level in the case of

⁶The writer is indebted to Mr R.F. McKillop, Rural Development Officer, DASF, for advice in selecting the schools visited in the Chimbu and Eastern Highlands Districts. Schools visited are listed in Conroy (1972b).

Table 5.1

Primary sample: composition and schooling ambitions

District	Sex	Wish to continue		Don't wish to continue	
		No.	%	No.	%
Gulf	Boys	53	86.9	8	13.1
	Girls	30	85.7	5	14.3
Eastern Highlands	Boys	72	98.6	1	1.4
	Girls	27	96.4	1	3.6
Chimbu	Boys	95	100.0	0	0.0
	Girls	32	94.1	2	5.9
All	Boys	220	96.1	9	3.9
	Girls	89	91.8	8	8.2

Table 5.2

Ranking of motives for entering secondary school

District	Ranking	BOYS		GIRLS		
		Mean	SD	Mean	SD	
Gulf	Job	1.70	0.90	Job	1.87	0.91
	Respect	3.08	1.65	Respect	2.80	1.63
	Parents	3.21	1.13	Enjoy	3.20	1.45
	Farmer	3.38	1.16	Farmer	3.45	1.07
	Enjoy	3.64	1.23	Parents	3.68	1.12
Eastern Highlands	Job	2.39	0.97	Job	1.93	1.05
	Respect	2.79	1.76	Respect	2.66	1.41
	Enjoy	3.06	1.45	Enjoy	2.85	1.32
	Parents	3.07	1.32	Parents	3.44	1.29
	Farmer	3.68	1.13	Farmer	4.11	0.99
Chimbu	Job	2.04	1.12	Job	2.19	1.31
	Respect	2.93	1.59	Respect	2.75	1.44
	Parents	3.11	1.32	Enjoy	2.75	1.32
	Enjoy	3.26	1.38	Parents	3.28	1.11
	Farmer	3.67	1.06	Farmer	4.03	1.16
All	Job	2.07	1.05	Job	2.02	1.12
	Respect	3.05	1.67	Respect	2.78	1.48
	Parents	3.12	1.28	Enjoy	2.97	1.38
	Enjoy	3.29	1.38	Parents	3.51	1.18
	Farmer	3.60	1.13	Farmer	3.90	1.12

both boys and girls, indicating an extremely high level of significance in the variations between mean scores.

A very strong pattern emerges from the data, showing a high degree of agreement in attitudes between boys and girls and between districts. Leaving aside the alternative 'enjoy' for the moment, there is almost complete unanimity in ranking the other alternatives. With only a single exception the order is: 1 Job, 2 Respect, 3 Parents, 4 Farmer. The exception is in the case of girls from the Gulf District whose ranking differs only in the transposition of 'Farmer' and 'Parents'.

In every case, then, the alternative, 'because it will help me to get a job', which is quite unequivocally an expression of investment-motivation, was the most preferred alternative. In every case except one the alternative, 'because it will help me to be a good farmer' was the least favoured of the four alternatives under discussion. 'Because people will respect me if I am well-educated' was ranked second in every case, and the option, 'because it will make my mother and father happy' was preferred only to the farming alternative.

Turning now to the alternative, 'because I enjoy going to school', it can be seen that its position is more variable and tends to distort the pattern described above. In fact, when calculations were made on a school-by-school basis the variations were extreme. This option occupied every single place from first to last and appears to be related to the atmosphere prevailing in each particular school. Thus schools where learning occurs in a stimulating environment may produce pupils who rank enjoyment highly as a reason for continuing one's education. Girls appear to rate enjoyment consistently higher than boys as a reason for continuing at school. In only one school was enjoyment ranked higher by boys than girls. Of course this does not necessarily mean that boys enjoy school less than girls, but it does mean that they tend to place more emphasis on investment considerations than on the purest of consumer motives, enjoyment. Girls may view education as an enjoyable experience compared with the demands made on them by traditional society after leaving school. However, even girls view enjoyment as a secondary consideration compared with the employment possibilities opened up by education.

What is the significance of the pattern of responses that emerges from the data? The 'enjoyment' option does not form part of the pattern, for the reasons discussed, but is in any case of minor importance. The 'job' option which is clearly the most important and the 'respect' option which is next ranked are both interpreted as reflecting investment motivation for entering post-primary schooling. Pleasing one's parents, which is interpreted as a source of consumer satisfaction to the child, is ranked next. Does this reflect the belief by children that parents are indifferent whether or not they progress to higher schooling? This seems hard to believe, since there is abundant evidence in Papua New Guinea of parental pressure for the expansion of post-primary educational facilities. If pleasing one's parents is a minor consideration this may instead reflect the fact that in seeking further education children are primarily seeking to please themselves. In other words Standard Six children have clearly formulated personal goals and expectations. Finally, the 'farmer' option is the lowest ranked. This option is interpreted as being investment-motivated, but its low ranking should not be taken as indicating an absence of response to economic stimuli. Rather, it appears to reflect a belief among school children, even those from Goroka, that agriculture is a relatively unrewarding career compared with modern sector wage employment. However unrealistic their expectations may be, the fact remains that few Standard Six leavers expect to become farmers, as will be shown in Chapter 8.

In summary, then, the responses show a clear and coherent pattern of rankings in which investment motivations ('job' and 'respect') are considered most important, while consumer motivations ('enjoy' and 'parents') are of secondary importance. Least important is the investment motive 'help me to be a good farmer', probably because it is seen as promising inadequate returns.

A comparison of the data on a district basis shows that despite considerable environmental differences between districts there appears to be substantial unanimity of opinion among the children. Particularly noticeable is the low ranking given the 'farmer' option by students from the agriculturally progressive Goroka region. The attitudes of Goroka children, as interpreted by this survey, are not distinguishable from the attitudes of Gulf children whose propensity to migrate to urban areas is well documented. Nor are they distinguishable from the attitudes of children in densely

populated areas of the Chimbu District. This suggests that the formal education system overrides regional differences to establish a generally uniform pattern of aspirations among school children.

Conclusion

The survey did not provide a full coverage of the educational benefits shown in the taxonomy in Figure 5.1. It offers no evidence concerning the valuations students place on future consumer satisfactions (apart from prestige). However, Blaug's suspicion that all such valuations are likely to be *ex post* rather than *ex ante* must be remembered. This may be so in Papua New Guinea where students, by reason of culture and home background, appear unlikely to anticipate these benefits.

This does not mean that the second of the Schultz boxes is empty. Prestige benefits derived from educational achievement, on the evidence quoted above, are clearly an *ex ante* consideration influencing students. With respect to the first box, containing present consumer satisfactions, the evidence is not clear. There are considerable variations between schools in the valuations placed on the learning experience. While many students accord this 'benefit' a positive valuation it is also probable that others rate it negatively. The writer's suspicion that the net effect is positive cannot be verified, but in any case present enjoyment does not appear to be more than a minor motive for educational expenditures in Papua New Guinea.

Of the two dominant investment motives, income and prestige, the former emerges in the survey as of primary importance, because of the ranking by students of the 'job' alternative. This appears to be at variance with a basic proposition advanced in this monograph, that Melanesians are maximizers of prestige. Clearly formal education is seen as a source of prestige (a finding which will be reinforced by the argument in Chapter 7). However, there is a close association between income and prestige in Melanesian culture which could explain the primary ranking of the 'job' option in the survey. If income is the major source of prestige in contemporary Melanesia, then the results of the survey are consistent with the proposition that prestige is the maximand with which Melanesians are most concerned.

Chapter 6

Occupational prestige and labour market behaviour

Underdevelopment economics is a vastly important subject, but it is not a formal or theoretical subject. It is a practical subject which must expect to call upon any branch of theory (including non-economic, for instance sociological, theory) which has any relevance to it.

J.R. Hicks,
Capital and Growth

Distinction, status or prestige, achieved according to the norms of society, appear to be goals shared by some people in all societies. However, the competition for these ends is likely to be most general and intense where ascribed social status and social stratification are least effective in hindering the upward mobility of individuals. Given that Melanesian society has been described as an 'extreme model of status mobility' (R.S. Finney, 1971:36) because of the degree to which prestige is achieved rather than ascribed, a strong case can be made for regarding Melanesians primarily as maximizers of prestige in their traditional context. This case was argued in Chapter 1.

With the introduction of the monetary economy and Western economic processes into Melanesian society, the range of activities that are a potential source of prestige has been greatly increased. Ben Finney has shown that, where certain favourable preconditions exist, culturally assimilable economic activities are eagerly and successfully adopted by Papua New Guineans acting in a quasi-traditional manner to achieve leadership or 'big-man' status (B.R. Finney, 1968, 1969, 1973). Finney's studies are concerned with the emergence of Melanesian entrepreneurs in commercial agriculture, and related activities such as transport, rather than with their involvement in the monetary economy through

wage employment. Clearly, however, the complex and highly differentiated occupational structure of the expatriate-dominated modern sector also offers opportunities for status mobility to Papua New Guineans. This is especially so since recent educational expansion and political change have made their entry to the workforce possible at higher levels.

This prestige-maximizing behaviour appears to persist in the face of social change. The adoption by Melanesians of 'modern' activities in the monetary economy can be interpreted either as indicating that these activities confer more prestige than traditional ones, or that they provide avenues for status-achievement additional and alternative to traditional activities. But there is no essential change in the behavioural pattern. Thus, for modern entrepreneurs in the New Guinea Highlands, 'the exploitation of modern opportunities is not opposed to, but combines with, traditional achievement behaviour' (B.R. Finney, 1968:401).

When Melanesians seek to enter the monetary sector labour market this may be interpreted as indicating that they regard almost all modern occupations as conferring greater prestige than traditional ones. Evidence supporting this claim is presented below. To view Melanesians as prestige maximizers in the context of the monetary economy may seem an unlikely premise on which to base an economic analysis of their labour market behaviour. However, such a premise is consistent with the assumptions on which the predictive model of rational utility maximizing behaviour is based. According to Arrow (1951:404) rationality means 'behaviour in accordance with some ordering of alternatives in terms of relative desirability', which is behaviour calculated to maximize the satisfactions derived from a given set of alternatives. As Lionel Robbins has pointed out, the economic analysis of utility maximizing behaviour does not involve 'the assumption that men are actuated only by considerations of money gains and losses', but merely 'the assumption that money plays some part in the valuation of the given alternatives' (1935:98). Applying this precept to the analysis of labour markets, Robbins reminds us that 'every first year student since the days of Adam Smith has learnt to describe equilibrium in the distribution of various grades of labour in terms of a tendency not to the maximization of money gains, but to the maximization of net advantages in the various alternatives open' (1935:95-6, emphasis in original).

Thus if prestige were uppermost in the minds of labour market entrants (and if the prestige and incomes of occupations were assumed to be independent of one another) this would tend to lead to the determination of lower equilibrium wages for more prestigious occupations and relatively higher wages for those which confer less prestige. But on the assumption that money plays some positive part in the calculus employed by workers, it is still quite reasonable to predict that an increase in the wage for a particular occupation will result in an increased flow of labour to that occupation, and a reduced flow to others, whatever their relative prestige. Indeed it is only when the prestige of occupations is negatively related to their incomes, and prestige is preferred absolutely to income by workers, that a perverse supply response to changes in relative wages can be predicted. If we leave aside this unlikely combination of circumstances, it is clear that the assumption that Melanesian workers act primarily as prestige maximizers is quite consistent with the normal predictive processes of economic theory.

However, while the direction of Melanesians' responses to changing relative wage levels may be predicted with confidence, *ceteris paribus*, the degree to which they will respond (or the elasticity of labour supply) is quite another question. If the prestige and income of occupations are unrelated to one another (that is, if zero correlation exists between these two variables), and if income is of relatively little importance in the Melanesian utility function, the elasticity of supply is likely to be low when relative wage levels alter. The greater the positive correlation between income and prestige, or the more important income is as a component of the utility function, the more responsive the supply of Melanesian labour will be to wage incentives. Another factor affecting the supply response is the amount of labour market information available to workers. The more accurate their knowledge of the wage structure, the more responsive they will be to changing relative wage levels. The elasticity of labour supply is a matter of considerable policy importance, determining the extent to which incomes policy might be applied successfully to the removal of labour market disequilibria in Papua New Guinea.

In this study occupational prestige is understood as 'the chances of deference, acceptance and derogation associated with the incumbency of occupational roles and membership in occupational collectivities' (Goldthorpe and Hope, 1972:26). The data presented concern the perceptions of occupational

prestige of Papua New Guinean school children, future entrants to the labour market. Two surveys were conducted by the writer in 1968 and 1972, the first of which contacted more than 1200 students in the terminal years of primary, vocational and secondary schools. This first survey was prompted by the growing problem of rural-urban migration and urban unemployment among primary and vocational school leavers, and took place at the end of a decade during which, as described in Chapter 2, the proportion of eligible children enrolled in English language primary schools increased from about 13 per cent to 50 per cent, despite rapid population growth. This considerable educational achievement caused a drastic alteration in the balance between supply and demand in the comparatively limited market for literate workers, in a manner familiar from African experience.

The 1968 sample was frankly purposive, with no claim to randomness in a formal sense because of the difficulties of transport and communication in Papua New Guinea. At the primary school level in particular, logistic problems would render a random sample extremely expensive and time-consuming, especially since for reasons of efficiency and response-validity it was thought necessary for the writer personally to collect the data. More than fifty schools in seven of the country's eighteen districts were visited and it is felt that the wide dispersion of the samples, both spatially and culturally, together with the substantial evidence of consensus among school children which they reveal, justify some degree of generalization and application of the results to the whole of Papua New Guinea.¹

Moreover, non-adherence to the strict requirements of probability sampling appears not to invalidate studies of occupational prestige, because of the widely-observed fact of consensus within societies. An observer has summed up the situation thus:

¹The sample was drawn from the following districts: Central, Gulf, Southern and Western Highlands, East Sepik, East New Britain and Northern. The subsamples comprised 819 Standard Six primary students, 201 Form Four secondary students and 199 vocational trainees, and are described in greater detail in Chapter 8.

When industrial or western occupations are ranked, whether in a developed or developing nation, whether by males or females, whether by members of town or country environments, and whether, to a large extent, by the highly educated or the less highly educated, the hierarchy of occupational prestige obtained is very much the same (R.E. Hicks, 1968:119).

The results reported below clearly support this observation.

Following the normal procedure in such studies the writer prepared a list of 22 occupations which appeared likely to be representative of the full range of the prestige hierarchy, as well as of the indigenous occupational structure in Papua New Guinea. Students were asked to rate these occupations in terms of prestige on a 5-point scale ranging from 'very highly respected' to 'held in very low respect', with the option of scoring 'I don't know' if in doubt. This was designed to reduce the incidence of arbitrary responses. Each of the points on the scale was allocated an arbitrary weighting of from 1 to 5, and the mean prestige score for each occupation calculated, which enabled a rank ordering of the 22 occupations to be prepared. The prestige hierarchy for each group is presented in Table 6.1. Inspection of this table indicates a high degree of consensus, and this is confirmed by the coefficient of concordance, W , for the rankings of the five groups, which has the very high value of 0.945.²

Discussing the results of similar surveys in a number of countries, Ramsay and Smith concluded that

- (a) white-collar jobs are accorded higher prestige than blue-collar and agricultural work;
- (b) occupations requiring no training rank lower than those requiring manual skill and apprenticeship, while both of these are accorded lower prestige than occupations for which a high formal educational attainment is required (1960:475).

These generalizations accord reasonably well with the

²The coefficient of concordance (W) measures the degree of agreement between three or more sets of ranks (see Moroney, 1956:336-9).

rankings in Table 6.1; white-collar jobs, including Government Clerk, Primary Teacher, Radio Announcer and Office Worker, rank higher as a group than blue-collar jobs, including Mechanic, Carpenter, Painter and Driver. The two groups overlap, however, with Mechanic clearly superior to Office Worker in prestige. Indeed the two major groups of boys rank Mechanic higher than almost any of the white-collar group. Agricultural roles have a generally lower rating, with the traditional Village Gardener (subsistence farmer) very close to the bottom, while Plantation Labourer has only a marginally higher position. On the other hand, the modern Cash Crop Farmer is rated higher than a number of forms of wage employment, and Agricultural Officer is very close to the top of the prestige hierarchy in a manner consistent with Ramsay and Smith's second generalization, which is concerned with skill and qualifications.

That the prestige hierarchy is also to a large extent a skill hierarchy is confirmed by a test conducted by the writer. The 22 occupations were ranked in order according to their manpower characteristics, following procedures employed by the Papua New Guinea Manpower Planning Unit.³ This skill hierarchy proved to be strongly and positively correlated with the prestige hierarchies of the various school groups.⁴

After having rated the list of occupations according to prestige, respondents were asked to repeat the procedure, rating the same occupations on a 5-point scale from 'very high income' to 'very low income'. Mean scores were calculated in the manner described above and a rank ordering of the 22 occupations by perceived income was prepared. These rankings are shown in Table 6.2. Subsequently, an

³ Occupations are placed in manpower categories according to the following criteria: (a) Education level of workers, (b) Qualifications/Training, (c) Wage/Salary distribution of workers, (d) Job description. Local Government Councillor was excluded from the calculation since the political nature of this role precludes its classification on manpower criteria (see TPNG 1969).

⁴ The following were the rank order correlations: Standard Six boys +0.804, girls +0.721; Vocational boys +0.769; Form Four boys +0.791, girls +0.752. All R values are clearly significant at the 0.01 level.

Table 6.1

Occupational prestige rankings

Occupation	Standard Six		Vocational trainees (Boys)	Form Four	
	Boys	Girls		Boys	Girls
Doctor	1	1	1	1	1
Patrol Officer	2	4	4	3	2
Agricultural Officer	3	6	2	2	3
Government Clerk	4	2	6	10	7
Mechanic	5	11	5	12	11
Primary Teacher	6	10	9	7	9
Radio Announcer	7	5	8	9	10
Soldier	8	7	7	5	4
Local Government Councillor	9	3	3	4	6
Office Worker	10	9	11	13	12
Medical Assistant	11	13	10	8	13
Nurse	12	12	13	11	8
Policeman	13	8	12	6	5
Carpenter	14	17	14	14	15
Trade Store Owner	15	14	15	15	14
Cash Crop Farmer	16	15	16	16	16
Store Assistant	17	16	17	18	17
Painter	18	19	18	17	18
Driver	19	18	19	19	19
Plantation Labourer	20	20	20	22	20
Village Gardener	21	21	22	20	22
Cook/Houseboy	22	22	21	21	21

Table 6.2

Rankings of perceived income

Occupation	Standard Six		Vocational trainees	Form Four	
	Boys	Girls	(Boys)	Boys	Girls
Doctor	1	1	1	1	1
Patrol Officer	2	2	2	3	2
Agricultural Officer	3	4	3	2	3
Mechanic	4	6	4	6	6
Government Clerk	5	3	5	8	5
Radio Announcer	6	5	6	5	8
Primary Teacher	7	11	9	7	14
Soldier	8	10	7	10	4
Office Worker	9	7	10	12	12
Trade Store Owner	10	13	14	4	9
Medical Assistant	11	12	11	9	11
Policeman	12	8	13	11	7
Carpenter	13	15	12	13	15
Local Government Councillor	14	9	8	15	10
Cash Crop Farmer	15	17	16	16	16
Nurse	16	14	15	14	13
Store Assistant	17	16	17	17	17
Painter	18	19	18	18	18
Driver	19	18	19	19	19
Plantation Labourer	20	20	20	21	20
Cook/Houseboy	21	21	21	20	21
Village Gardener	22	22	22	22	22

independent judge, a labour economist with extensive experience in Papua New Guinea, was asked to rank the 22 occupations in terms of average earnings.⁵ His ranking, taken as the best estimate of the actual income hierarchy, was then compared with the rankings of the school groups. The results are shown in Table 6.3.

Table 6.3

Rank order correlations: 'perceived' and 'actual' income

Standard Six		Vocational	Form Four	
Boys	Girls	Boys	Boys	Girls
+0.813	+0.744	+0.781	+0.784	+0.694

Each of these R values is clearly significant at the one per cent level, and while correlations for the three male groups are all of the same order the values for females are rather lower, especially in the case of the older and better educated group. The writer doubts whether there is any substantive significance in these differences, however. Perhaps older respondents were likely to be more aware of the complexities of the income structure. An obvious example occurs in the case of Trade Store Owner, where older students with more experience of urban life might have visualized a relatively large Chinese store, while rural primary students (and the independent judge) tended to think in terms of the small village store operated by a Papua New Guinean. The most reasonable interpretation of the results in Table 6.3 is that students in Papua New Guinea are surprisingly well informed about income relativities in a wide range of occupations open to them, and that primary students do not appear less knowledgeable in this respect than more senior students. The possession by students of such accurate labour market information is likely to increase their responsiveness to changing relative income levels. In other words, this is a circumstance favouring an elastic labour supply to particular occupations. The degree of consensus across the five groups of students on income rankings

⁵Mr J.V. Langmore, formerly Lecturer in Economics, UPNG. His assistance is gratefully acknowledged.

is indicated by the coefficient of concordance, W , which has the value of 0.944.

As mentioned previously, the elasticity of supply of Melanesian labour in response to changing relative income levels of occupations will also depend upon the extent to which prestige and income are positively correlated. This may be calculated by measuring the degree of correspondence between the income and prestige rankings of the various groups. Table 6.4 sets out the R coefficients, all of which are clearly significant at one per cent.

Table 6.4

Rank order correlations: prestige and perceived income

Standard Six		Vocational	Form Four	
Boys	Girls	Boys	Boys	Girls
+0.958	+0.944	+0.973	+0.793	+0.926

With a single exception the correlations are extremely high, indicating a close association between occupational prestige and income and hence an extremely elastic supply of labour. The exception, the group of Form Four boys, is accounted for by two anomalous prestige rankings. Local Government Councillor and Trade Store Owner received prestige ranks eleven places respectively above and below the levels indicated by perceived income. Some senior secondary students may view store proprietors as an alien and exploitative group. This seems a more likely explanation than the alternative hypothesis that Papua New Guineans accord low prestige to entrepreneurial roles.⁶ Although the Local Government Councillor receives a stipend, his role is primarily political rather than occupational. The Councillor was included in the list to test the prestige accorded an authority-role which does not attract corresponding income benefits. (Other studies have included traditional authority-roles such as 'chief' to test the extent to which traditional prestige systems persist among

⁶ Strong evidence exists to the contrary. See R.S. Finney (1971:70-5).

students. The absence of such traditional, ascriptive, authority-roles in Melanesian society precluded such a test in this study.) Each group of students accorded the Councillor a higher status than appears warranted simply on income grounds, but the discrepancy was particularly marked among Form Four boys.

It may be objected that the close correspondence between rankings of prestige and income is due to the 'serial' effect of asking respondents to perform income ratings immediately after having performed prestige ratings, so that the former task influenced the responses to the latter. Such a suggestion is effectively rebutted by pointing to the close correspondence between the income hierarchy produced by each student group, and the income ranking of occupations by the independent judge. If occupational prestige in Papua New Guinea were determined entirely by criteria other than income (and by criteria uncorrelated with income), and if the serial effect had operated to prevent a free judgment of relative incomes by respondents, the results shown in Table 6.3 could not have been observed.

The high correlations shown in Table 6.4 are comparable with those reported in a survey of senior secondary students in Ghana by Foster, which inspired the present study. Foster calculated rank order correlations between income and prestige rankings of +0.92 for boys and +0.87 for girls (1965:272). A similar study in the Ivory Coast reported R values for both sexes of +0.85 (Clignet and Foster, 1966:150). Together with the results obtained in Papua New Guinea, these studies contrast markedly with results reported by Ramsay and Smith for Japanese and American high school students where R values of +0.65 and +0.52, respectively, were achieved (1960:480-1). One is tempted to the conclusion that occupational prestige is a more complex concept in economically developed countries, and that the single dimension of income influences school leavers to a greater extent in less developed economies. The writer is not aware of any comparable evidence to indicate whether students in other countries are as well informed about the relative ranking of incomes of occupations as school leavers in Papua New Guinea.

It must be admitted that the statistical procedures followed in achieving these results, involving the correlation of means, are favourable to the calculation of high coefficients. Furthermore, the rank order correlation coefficient, a statistic of relatively limited usefulness, is employed

because the data generated by rating techniques are ordinal in nature. Transformation of ordinal data to an interval scale offers a number of advantages, including the opportunity to employ all the data rather than relying on the correlation of means (Labovitz, 1970:515).

Yaukey has suggested a procedure, borrowed from psychometrics, which enables occupational prestige to be treated as a continuous variable (1955:317-23). By relating the proportion in each prestige category to the area under the normal distribution curve it is possible to calculate a value for each category in terms of standard units. This was done separately for primary, vocational and secondary students, and the procedure was repeated to permit 'standardization' of their income ratings as well.

Assigning cardinal values to the ratings in this manner permits the calculation of Pearsonian product moment correlation coefficients employing all the data. This is clearly more desirable than the rank order correlation of means employed above. The results shown in Table 6.5 involved the correlation of each individual's prestige ratings with his corresponding income ratings, and the aggregation of these correlations to provide an estimate of

Table 6.5

R² values, prestige and income

	Boys	Girls	Adminis- tration	Mission	All
Form Four	.681	.730	.686	.716	.694
N	145	56	146	55	201
Standard Six	.602	.547	.601	.530	.585
N	552	267	612	207	819
Vocational	.608	-	.608	-	.608
N	199	-	199	-	199

the association between prestige and income in each of the school groups.⁷

Taking account of all the variation in the raw data somewhat reduces the apparent degree of association between occupational prestige and income (when the results are compared with the rank order correlations shown above). However, the extent of the association still appears to be considerable, as the coefficients of determination show. Among all Form Four students 69.4 per cent of the variation between prestige ratings of occupations is explicable in terms of variations in their perceived income levels. The R^2 values for vocational and primary students are 60.8 and 58.5 per cent, respectively. The difference between the coefficients for primary and secondary students is significant at the 5 per cent level. On the other hand, there is no statistical significance in the different R^2 values for boys and girls, and for students at Administration and Mission schools, either at Standard Six or Form Four level. This suggests uniformity in the degree of association between income and prestige within each level of the education system.⁸ This is confirmed quite strikingly for the Standard Six level by the data in Table 6.6, which show R^2 values for students aggregated according to their places of residence. There is no statistical significance in the difference between the coefficients for urban and rural students, nor between any pair of coefficients calculated on a district basis. This is all the more remarkable when the diversity of the cultural groups represented in the sample is considered. The East New Britain group consisted almost entirely of Tolai from the Gazelle Peninsula, an area of considerable indigenous economic development. On the other hand, Southern Highlands students came from an area of extremely limited development and some were members of groups with less than 20 years of effective

⁷Aggregation of the data was achieved using the method suggested by J.P. Guilford (1956:325-6).

⁸Calculation of R^2 values on a school basis also reveals substantial homogeneity within the samples at each level. At Form Four level there were no significant differences between coefficients for any pair of schools. At Standard Six level only two such differences occurred (each at the 5 per cent level) which could readily be attributed to chance, given that 35 schools were involved. Some evidence of heterogeneity appears in the vocational sample, where two significant differences occurred at the 5 per cent level, among the 8 schools (and 28 pairs) involved.

Table 6.6

Standard Six students:
R² values between prestige and income, by location

District	R ²	N
Central	.575	155
Gulf	.570	262
S. Highlands	.574	139
W. Highlands	.563	53
East Sepik	.607	72
E. New Britain	.613	124
<hr/>		
All urban	.584	199
All rural	.632	620

experience of Australian administration. Generally the sample within each district formed a very small proportion of the Standard Six population, but in the case of the Gulf and Southern Highlands districts approximately 50 per cent of the eligible populations were surveyed. Despite the *caveat* arising from the purposive nature of the sample, there is impressive evidence of a uniformly high association between income and prestige in the minds of senior primary students in widely scattered and disparate areas of Papua New Guinea.

Together with the results for secondary and vocational students, these strong positive correlations suggest that prestige-maximizing Melanesians are likely to be extremely responsive to changing relative income levels in the labour market, and between the labour market and self-employment, as for example in agriculture. This conclusion is reinforced by the observed accuracy of students' knowledge of income relativities. A high elasticity of supply of Melanesian labour indicates that an incomes policy would be effective in allocating labour between alternative modes of employment, in accordance with centrally-determined priorities.

The results above are consistent with an hypothesis that income is one of the major determinants (perhaps the major determinant) of occupational prestige among school leavers

in Papua New Guinea. An alternative hypothesis is that perceived income ratings follow, as a dependent variable, from students' perceptions of the prestige hierarchy. In other words, students might be assumed to assess the prestige of an occupation and then to impute an income to it. If this were true the substantial accuracy of students' income rankings would indicate that society does, in fact, distribute income in accordance with prestige, as dictated by the prevailing value-system. But Papua New Guinea does not have a tradition-bound wage structure. There is sufficient evidence of the influence of market forces on relative wage levels to dismiss the notion that prestige, as an independent variable, dictates income levels. Prestige, and not income, appears more likely to be the dependent variable.⁹ Income (or some other variable or set of variables for which income is a close proxy) is crucial in the assessment by school leavers of the status of occupations.

The results also appear to indicate that the experience of four years of secondary schooling significantly increases the influence of perceived income on the prestige evaluations of students. The fit between income and prestige appears to be closer among secondary leavers, but whether secondary schooling plays a causal role in the process is not clear. The writer carried out fieldwork in 1972 to examine this possibility, when he retested 99 of his original Standard Six respondents (who had by that time advanced to Form Four secondary).¹⁰ Two correlations were run, the first reworking the 1968 data for this group and the second using their 1972 responses to the same questionnaire. The writer hypothesized that a significant increase in the association between income and prestige would result from the group's experiencing four years of secondary schooling, but the results of the exercise do not support that hypothesis. The group's 1968 responses yielded an R^2 value of 68.6 per cent, while in 1972 the result was actually a slight decrease to 67.1 per cent, though the difference between the two coefficients is not significant. Hence the hypothesis was rejected.¹¹

⁹A simple linear model of the form $\text{Prestige} = f(\text{Income})$ is hypothesized.

¹⁰Finding them involved visiting 8 schools in 7 districts, and was incidental to the 1972 survey reported in Chapter 7.

¹¹The coefficient for the group of 99 in 1968 (68.6 per cent) was not significantly different from that of the whole group

The evidence presented may be summarized as follows:

- (a) There is a strong association between income and prestige in the minds of school leavers;
- (b) the degree of this association was significantly greater (though only at the 5 per cent level), among the Form Four students surveyed in 1968 than among those in Standard Six primary;
- (c) for a particular group of students, four years of secondary schooling did not significantly alter the correlation between income and prestige.

The two pieces of evidence cited in (b) and (c) are contradictory. On balance, the writer is inclined to find the evidence derived from the group retested in 1972 more convincing, and to reject the notion that secondary schooling acts to increase the degree of association between income and prestige in the minds of students. It is possible that the higher correlation observed at Form Four level in 1968 (as compared with Standard Six) simply reflects senior students' better comprehension of English and hence ability to understand the survey task. Certainly the anthropological evidence suggests that a close association between prestige and income is inherent in Melanesian culture, which Ben Finney has described as 'pre-adapted' in many respects to the market economy (B.R. Finney, 1969:58).

Policy implications

Certain disequilibria exist in labour markets in Papua New Guinea which impart a more than academic interest to the supply elasticity of Melanesian labour. If, as the evidence cited above indicates, Melanesians are likely to be extremely responsive to income incentives, manipulation of the structure of incomes emerges as a potent policy option. A centrally-directed wages and incomes policy could be employed to reallocate manpower resources with strong possibilities of achieving a socially desirable distribution of labour. For example, an emerging problem (discussed in detail in Chapter 11) is the need to remedy high level manpower imbalances by achieving a desirable allocation of the best qualified school

11 (continued)

of 819 students in 1968 (58.5 per cent). Hence the subgroup may be regarded as representative of the group as a whole.

leavers between the various training institutions competing for them. The Committee of Inquiry into Higher Education in Papua New Guinea (1971) appears to have opted for the authoritarian (and possibly inefficient) solution of manpower direction. Its report gives no consideration to the use of economic incentives in the form of an incomes policy for high level manpower, although this would be clearly superior to compulsion. Given that the government is itself the employer of the great bulk of high level manpower, it seems feasible to attempt to control entry to the various professions by economic incentives and disincentives rather than by manpower direction.

A second problem concerns the substantial rural-urban migration which is occurring in Papua New Guinea, with the consequence of growing numbers of urban unemployed, among whom rural school leavers are an important subgroup. It seems reasonable to suppose that both schooled and unschooled migrants would be responsive to an incomes policy designed to alter the balance of advantages in favour of rural life and self-employment in agriculture. Among the students sampled in the writer's 1968 survey, the great majority of whom were living in rural areas, the status of Cash Crop Farmer was already higher than that of a number of forms of wage employment. The evidence suggests that an improvement in the position of this occupation on the income hierarchy would further enhance its status vis-à-vis wage employment, with corresponding effects on the aspirations of rural people, and on the rates of rural-urban migration and urban unemployment.

The significance of education as a determinant of urban drift appears to lie in its enabling young people to be informed of, and to aspire to, occupations higher up the prestige hierarchy. Moreover, in urban areas in Papua New Guinea the educated are likely to earn more, and are less likely to be unemployed, than the uneducated. It has been demonstrated in this chapter that students are well informed about the relative incomes of occupations over the full range of the prestige hierarchy. They are thus well aware of the differential economic rewards to be gained by participation at various levels in the monetary sector. Education increases the amount of labour market information at their disposal.¹²

¹² Although there is also evidence of awareness of urban wage-rates among illiterate rural people, it is confined to a

To return to the model of education and unemployment outlined in Chapter 2: it was hypothesized that, at the time of the writer's 1968 survey, lower school leavers were nearing the end of Callaway's first stage of educational expansion (Callaway, 1963:354). Evidence will be produced in Chapter 8 to show that primary and vocational students in Papua New Guinea in 1968 held employment expectations that were, in the aggregate, quite unrealistic. The painful adjustment of expectations, which the writer hypothesized as likely to occur during Callaway's second stage, had not then commenced. It will be recalled that the writer suggested that the downward adjustment of expectations which marks the second stage of the model could be speeded by a wages and incomes policy, designed to narrow the range of occupational rewards.

It might be argued that unrealistic employment expectations, resulting from imperfect knowledge of the imbalance between labour supply and demand, should be remedied directly. Perhaps the government should take action to inform rural people of the extent of unemployment in urban areas. However, while improved information flows concerning the level of urban unemployment will play some part in downgrading unrealistic expectations, it should not be thought that this measure alone will suffice to deter migrants, whether educated or illiterate. The wider the gap between urban and rural incomes, the longer the periods of unemployment an economically rational migrant should be willing to endure, and hence the greater the aggregate level of urban unemployment at any one time. This is particularly true in Papua New Guinea where the economic support of the extended family reduces the costs and uncertainties of unemployment for the rural-urban migrant. Similarly, the greater the disparity between the incomes of occupations requiring different levels of education, the longer an economically rational school leaver should be willing to spend as an applicant for the higher-paid positions. (The more so, since accepting a lower paid job not only reduces the time available for job-seeking, but may also impair his employment status and earning capacity in the longer run; Leibenstein, 1966:52, Blaug *et al.*,

12 (continued)

more limited range of occupations. Strathern reports that, in the Dei Council area near Mt Hagen, 'concrete knowledge of the scale of wages available to...unskilled workers is fairly accurate; it is expectations that wage-earners can save the greater portion of their earnings that are pitched too optimistically' (M. Strathern, 1972:32).

1969:238.) Rather than wait for market forces eventually to narrow the range of occupational rewards (a process which will be resisted by the growing political power of urban workers in general, and the educated in particular) there is a strong case for government manipulation of income levels at an early stage.

The relationship between urban unemployment rates and the rural-urban income differential is illustrated by the following example, which derives from H.W. Singer (1970). Singer employs the well-known rule-of-thumb (W.A. Lewis, 1964) which sets an urban-rural income differential of 50 per cent of the rural income as sufficient to attract adequate supplies of unskilled labour from the subsistence sector without creating urban unemployment.

Now if the equilibrium wage in that sense is 150 (subsistence income in farming = 100), and if the actual wage... is taken as 300... it would be rational for migrants to accept a 50 per cent employment rate, i.e., a 50 per cent unemployment rate also, in the modern urban sector and still be equally well off (Singer, 1970:2).

On this reasoning, an urban wage of 200 would justify an unemployment rate of 25 per cent of the urban workforce.¹³ Implicit in this formulation is some assumption about redistribution of income from the employed to the unemployed, permitting the latter's survival during idle periods. Of course, just such a mechanism does operate through the extended family network, though it may be doubted whether it operates so efficiently as to equalize the incomes of the employed and the unemployed. Presumably there are income advantages in actually having a job!

¹³This is not to imply that a Lewis-type 'surplus labour' model has any general relevance to Papua New Guinea, or to ignore the difficulty of measuring precisely the differential between the money values of the bundles of goods and services available to workers in the monetary and subsistence sectors (in the absence of market prices for the latter). The example above is used simply as an illustration of the (implicit) calculation involved in the decision to migrate (or to remain in town) in the face of a particular mean expectation of unemployment.

This implies that the migrant must anticipate considerable variation in his standard of living in the town from time to time. There is the distinct possibility of his real income falling below the level of rural subsistence income, perhaps for extended periods. However, where urban sector wage rates are allowed to outstrip incomes in agriculture, the prospect of a marked improvement in standard of living appeals to the gambling instincts and natural optimism of rural people. This is borne out by the assertion of Alfred Marshall that 'young men of an adventurous disposition are more attracted by the prospects of a great success than they are deterred by the fear of failure' and by Adam Smith's observation of the propensity of most men to hold an 'absurd presumption in their own good fortune'. Smith adds, pertinently, that 'the contempt of risk and the presumptuous hope of success are in no period of life more active than at the age at which most young people choose their professions'.¹⁴

This is supported in Papua New Guinea by Strathern's account of Hageners' perceptions of the town. Moresby

is felt to abound in good jobs, with wages higher and commodities cheaper than in Hagen. Painstaking messages to the contrary (for example, that Moresby is full up and there is no work), sent by migrants or brought back by visiting councillors, go mostly unheeded by those who are of the forthright opinion that if the migrant cannot stick to a good job it is his own fault (M. Strathern, 1972:32).

In view of the risk preferences of young people in rural areas, government policies to reduce urban drift and unemployment in towns must concentrate on the prizes which motivate their behaviour. This view presupposes that the decision to migrate is primarily motivated by investment considerations - by the income-benefits of urban wage-employment. The evidence presented in this chapter indicates that the flow of migrant labour in Papua New Guinea is likely to be extremely sensitive to changing relative income levels and to the balance of economic advantages between urban and rural life.

¹⁴ Friedman and Kuznets (1945:129) quote Marshall and Smith extensively on the influence of the gambling instinct on the behaviour of labour market entrants. See also their discussion, pp.127-30.

Chapter 7

The determinants of occupational prestige

The prestige accorded occupations by school leavers in Papua New Guinea appears to be closely associated with their perceptions of the incomes of those occupations. This was a major conclusion of the 1968 study reported in Chapter 6, which indicated the possibility that monetary income is the major determinant of occupational prestige. In order to test this proposition more rigorously it was decided to attempt to isolate the major determinants of occupational prestige in Papua New Guinea in order to determine the relative importance of economic and non-economic elements. The initial step was to choose the variables to be incorporated in the study. The writer was guided in this task by opinions expressed by students at four high schools in an essay on the subject 'Why are some jobs (and the people who do them) considered more important than others?' The survey was restricted to Form Four students, both because this is the terminal year of secondary education for the great majority and because the numbers of schools and students at this level made probability sampling procedures feasible.

In the study conducted by the writer in 1968 students were asked to rate a list of 22 occupations on 5-point scales with respect to the dependent variable (prestige) and a single independent variable (income). The study reported in this chapter employed seven independent variables: money income, fringe benefits (or non-money income), contribution to the development and progress of Papua New Guinea, help and service to other people, education necessary for the occupation, the extent to which the occupation offers an easy life, and power, authority or influence over other people.¹ As in the earlier study the respondents rated 22 occupations on a 5-point scale, in terms of prestige and the seven independent variables.

¹Appendix B shows how the variables were presented to respondents.

The data were collected from a 10 per cent random sample of Form Four classes throughout Papua New Guinea, each member of the student population having an equal chance of selection.² Since time was the principal constraint on the researcher all schools were arranged in three strata, on the criterion of accessibility to Port Moresby, the national capital. A non-stratified sample might easily have taken more time than was available; indeed travelling to and from the least accessible school selected took the writer four days.

Apart from its convenience, the stratification was functional in terms of the aims of the survey, since accessibility is a reasonable proxy for the degree of sophistication of the community on which the school draws. Stratification increased the representativeness of the sample by ensuring that it included the full range of 'sophistication' (used here as a shorthand term for familiarity with the modern economic system and occupational structure), a variable presumably influential in forming concepts of occupational prestige.

Within each stratum students were grouped in clusters of approximately thirty. A school with 28 Form Four students formed a single cluster (with one chance of selection) while another with 91 students formed three clusters (with three chances of selection). Using a table of random numbers a selection of 10 per cent of the clusters in each stratum was made, without replacement of clusters, but with replacement of schools. All members of the selected clusters were to be interviewed.

On arrival at the selected schools³ it was necessary (in the case of schools comprising more than a single cluster) to choose the members of the cluster for interview. Using

²The sampled population consisted of all Form Four students attending Papua New Guinea syllabus high schools. Indigenous students in multi-racial schools were excluded, as were students attending technical schools and seminaries.

³Selected schools were as follows: Stratum 1: Kila Kila (Central District), Kwikila (Central), Malabunga (East New Britain). Stratum 2: Popondetta (Northern), Rigu (Bougainville), Mt Hagen (Western Highlands). Stratum 3: Malala (Madang), Buin (Bougainville), Hagita (Milne Bay).

alphabetical class lists provided by the school a systematic selection of the appropriate fraction of the Form Four group was made. Given the nature of the survey there is no reason to suppose that the choice, for example, of every third member of an alphabetical class list would produce results different in any significant respect from a random selection.⁴

As mentioned previously, the sample comprised 10 per cent of all Form Four classes, rather than students. In fact, the 249 students interviewed comprised almost exactly 9 per cent of the student population as at March 1972.⁵ The earlier study by the writer had pointed to substantial agreement between males and females, and between students in administration and mission schools on occupational prestige rankings, so that these variables were not incorporated in the sampling scheme and no attempt was made to ensure representativeness in terms of these criteria. Generalizations in this chapter relate to the perceptions of occupational prestige by Form Four students, considered as a unitary group. Table 7.1 sets out details of the composition of the sample.

Table 7.1

Composition of sample of Form Four students

Type of school	Boys	Girls	Total
Administration	115	48	163
Mission	75	11	86
Total	190	59	249

Any occupational prestige survey employing a short list of occupations is open to the charge that the jobs chosen are not fully representative of the occupational prestige hierarchy. Such a list can best be defended if it is shown

⁴The writer is indebted to Mr K.R.W. Brewer, Director of the Survey Research Centre, Australian National University, for guidance in planning the sample survey.

⁵Calculated from data supplied by the Papua New Guinea Department of Education, Secondary Branch.

that ratings by respondents are distributed over the full range of prestige, and not concentrated at particular levels. Thus Haller and Lewis (1966:212), surveying a number of studies, made the criticism that 'most have oversampled the higher prestige end...and to some extent the lower, and have undersampled the middle range'.⁶ Table 7.2 sets out the prestige hierarchy obtained from the survey together with the frequency distribution of ratings by respondents. Despite a slight skew to the upper end of the table, the whole range of prestige appears to be adequately represented.

The rating procedure generates ordinal data which, as in the writer's earlier study, were transformed to interval data. Table 7.3 shows the rankings of the 22 occupations (together with mean scores and standard deviations) on each of the eight criteria employed in the survey. Respondents had the option of scoring 'I don't know' when uncertain of the rating of an occupation on any variable, and the proportion of non-response for each variable is shown. It ranges from 1.7 per cent for the education variable to 5.5 per cent for the fringe benefit variable. This, together with the quite low standard deviations for all variables other than 'easy life' appears to indicate sufficient consensus among respondents to justify the ranking exercise.⁷

Rank order correlations between the prestige hierarchy and the rankings on other criteria are also shown in Table 7.3. There is a negative correlation (significant at 0.05) between the prestige of occupations and the extent to which those occupations are seen as involving 'easy work under pleasant and comfortable conditions' - the easy life. On the other hand there are strong positive correlations (significant at 0.01) between prestige and the other variables, suggesting some explanatory power in the criteria chosen for the survey.

⁶The writers also comment that most studies, whether in more or less developed countries, are 'based on samples of people most of whom are living in intimate contact with complex divisions of labour' (Haller and Lewis, 1966:213). Few genuinely rural people have been sampled. This comment is not true of the present study, as is evident from the description of the sampling scheme, nor of the writer's earlier survey in 1968.

⁷A.L. Epstein (1967), in an early study of occupational prestige in Papua New Guinea, felt unable to rank occupations because of high non-response and standard deviations. He quoted 5 per cent as an acceptable figure for non-response.

Table 7.2

Rank ordering of occupations by prestige,
showing frequency distribution of ratings*

Occupations	Ratings				
	Very high	High	Average	Low	Very low
	1	2	3	4	5
Doctor	<u>89.1</u>	9.3	0.4	0.8	0.4
Agricultural officer	<u>45.3</u>	<u>44.5</u>	8.6	1.2	0.4
Patrol officer	<u>38.3</u>	<u>49.2</u>	9.7	2.4	0.4
Local government councillor	<u>18.9</u>	<u>47.5</u>	<u>27.0</u>	5.3	1.2
Soldier	13.2	<u>52.5</u>	<u>31.0</u>	2.9	0.4
Primary teacher	12.6	<u>50.6</u>	<u>36.0</u>	0.8	0.0
Policeman	9.3	<u>51.4</u>	<u>35.2</u>	3.2	0.8
Nurse	7.3	<u>41.2</u>	<u>45.3</u>	5.3	0.8
Radio announcer	6.6	<u>33.2</u>	<u>56.0</u>	3.7	0.4
Government clerk	6.9	<u>33.5</u>	<u>53.5</u>	5.3	0.8
Mechanic	4.5	<u>37.2</u>	<u>50.0</u>	7.9	0.4
Office worker	2.9	<u>29.3</u>	<u>59.0</u>	6.3	2.5
Aid-post orderly	1.6	<u>23.4</u>	<u>59.8</u>	13.9	1.2
Trade store owner	2.9	<u>20.6</u>	<u>50.6</u>	<u>23.5</u>	2.5
Carpenter	0.0	9.1	<u>62.8</u>	<u>25.6</u>	2.5
Cash crop farmer	2.1	10.0	<u>33.6</u>	<u>46.1</u>	8.3
Painter	0.4	2.1	<u>44.0</u>	<u>41.5</u>	12.0
Store assistant	0.9	2.6	<u>36.6</u>	<u>43.4</u>	16.6
Driver	0.8	0.8	<u>34.8</u>	<u>49.6</u>	13.9
Village gardener	0.4	0.8	12.8	<u>30.6</u>	<u>55.4</u>
Cook/houseboy	0.4	0.4	4.1	<u>36.3</u>	<u>58.8</u>
Plantation labourer	0.0	0.8	4.0	<u>22.7</u>	<u>72.5</u>

* Figures underlined are those which total 80% or more of ratings for each occupation.

Table 7.3

Occupational rankings

(a) Occupations	Prestige			Income			Fringes			Development		
	Rank	X	S.D.	Rank	X	S.D.	Rank	X	S.D.	Rank	X	S.D.
Doctor	1	0.57	.15	1	0.54	.07	1	0.86	.34	2	1.12	.29
Agricultural officer	2	1.02	.35	2	0.93	.33	2	1.14	.38	1	0.98	.15
Patrol officer	3	1.10	.38	3	1.09	.33	3	1.17	.38	4	1.32	.33
Local government councillor	4	1.47	.48	15	2.26	.62	13	2.15	.50	6	1.60	.43
Soldier	5	1.50	.35	7	1.66	.41	4	1.42	.49	7	1.62	.41
Primary teacher	6	1.50	.31	6	1.63	.27	6	1.56	.39	3	1.23	.31
Policeman	7	1.58	.34	10	1.82	.33	5	1.54	.41	5	1.57	.41
Nurse	8	1.71	.35	12	1.90	.35	7	1.62	.38	8	1.71	.33
Radio announcer	9	1.77	.31	9	1.70	.32	8	1.65	.36	12	2.02	.45
Government clerk	10	1.78	.34	8	1.67	.34	9	1.75	.36	14	2.06	.29
Mechanic	11	1.80	.32	4	1.51	.35	11	1.91	.39	11	1.96	.37
Office worker	12	1.91	.32	11	1.84	.32	10	1.85	.39	16	2.24	.38
Aid-post orderly	13	2.02	.29	16	2.27	.31	14	2.27	.39	13	2.02	.35
Trade store owner	14	2.11	.39	5	1.58	.56	12	1.95	.69	15	2.17	.57
Carpenter	15	2.26	.23	13	2.05	.25	15	2.31	.41	10	1.96	.42
Cash crop farmer	16	2.46	.43	14	2.25	.52	16	2.48	.66	9	1.91	.65
Painter	17	2.57	.30	17	2.46	.28	17	2.51	.31	19	2.70	.34
Store assistant	18	2.64	.36	18	2.52	.34	19	2.60	.41	20	2.82	.41
Driver	19	2.66	.30	19	2.57	.25	18	2.53	.42	18	2.68	.44
Village gardener	20	3.14	.33	22	3.41	.21	20	2.81	.88	21	3.12	.37
Cook/houseboy	21	3.23	.22	20	3.14	.24	21	2.96	.34	22	3.39	.17
Plantation labourer	22	3.34	.19	21	3.28	.21	22	3.19	.26	17	2.43	.80
% non-response		2.2			3.4			5.5			3.0	
R (with Prestige)					.826			.944			.901	

Table 7.3 (continued)

(b)												
Occupations	Rank	Service \bar{X}	S.D.	Rank	Education \bar{X}	S.D.	Rank	Ease \bar{X}	S.D.	Rank	Power \bar{X}	S.D.
Doctor	1	0.93	.01	1	0.46	.01	22	2.69	.97	3	1.05	.35
Agricultural officer	2	1.10	.16	2	0.75	.21	17	2.36	.65	4	1.15	.29
Patrol officer	5	1.41	.32	3	1.11	.26	19	2.45	.53	2	1.00	.22
Local government councillor	8	1.67	.39	15	2.24	.48	11	1.93	.56	5	1.17	.36
Soldier	6	1.47	.34	10	1.90	.27	21	2.62	.43	7	1.38	.45
Primary teacher	3	1.29	.25	4	1.40	.19	12	2.11	.49	6	1.30	.26
Policeman	9	1.70	.40	11	1.96	.22	13	2.13	.51	1	0.98	.23
Nurse	4	1.32	.24	7	1.55	.26	15	2.24	.51	8	1.77	.29
Radio announcer	10	2.01	.50	6	1.52	.25	3	1.47	.55	12	2.02	.43
Government clerk	12	2.18	.36	8	1.61	.25	8	1.73	.42	9	1.98	.28
Mechanic	11	2.05	.44	5	1.47	.38	18	2.42	.40	13	2.03	.38
Office worker	14	2.40	.41	9	1.72	.27	6	1.55	.62	14	2.19	.35
Aid-post orderly	7	1.60	.30	12	2.01	.28	10	1.89	.39	10	1.99	.23
Trade store owner	15	2.41	.66	14	2.09	.43	7	1.59	.51	11	2.02	.51
Carpenter	13	2.26	.39	13	2.07	.26	16	2.26	.46	15	2.34	.32
Cash crop farmer	17	2.46	.57	17	2.65	.32	14	2.23	.87	16	2.56	.35
Painter	20	2.77	.35	18	2.66	.28	5	1.53	.57	19	2.68	.26
Store assistant	19	2.68	.55	16	2.45	.30	2	1.34	.50	17	2.58	.34
Driver	16	2.45	.55	19	2.76	.31	1	1.34	.52	18	2.60	.34
Village gardener	22	3.14	.41	22	3.30	.06	9	1.80	1.50	21	3.01	.17
Houseboy/cook	21	2.81	.69	20	3.04	.19	4	1.51	.84	20	3.00	.18
Plantation labourer	18	2.63	.71	21	3.29	.08	20	2.47	1.10	22	3.08	.12
% non-response		2.6			1.7			1.9			2.8	
R (with Prestige)		.921			.863			-.510			.947	

The closest relationship is between prestige and the power, authority or influence attached to occupations, while money income has the lowest positive correlation with prestige.⁸ The rank order correlation coefficient, however, is a blunt instrument with little power to distinguish between the six variables which are strongly and positively correlated with prestige. Having transformed the raw ordinal data to interval data it was possible to calculate Pearsonian product-movement correlation coefficients and to employ multiple regression analysis. For each respondent, correlation coefficients were calculated separately. The problem of non-response (where an individual was unable to rate an occupation on a particular criterion) was handled by substituting the mean score for that occupation on the particular criterion. The correlation coefficients for individuals were then aggregated, using the method suggested by Guilford (1956:325-6) which resulted in the calculation of the correlation matrix shown in Table 7.4, with N = 249.

A linear multiple regression model of the form $P = f(I, F, D, S, E, L, A)$ was estimated.⁹ (Results are shown in Table 7.5.) Since the data have been standardized, the constant term is equal to zero, and the β coefficients are directly comparable. Variables appear in the order in which they were entered in a step-wise regression process, while the regression coefficients are those estimated with all variables entered. As with the rank order correlation, the sign of Ease is negative, but here it is not significant. Nevertheless there is an indication of attitudes favourable to economic development because of the inverse relationship between the prestige of an occupation and the extent to which it is perceived as offering an easy life.

⁸The prestige ranking in Table 7.3(a) correlated +0.977 with the prestige rankings of both Form Four boys and girls in the writer's earlier survey, reported in Chapter 6.

⁹P = prestige, I = income, F = fringe benefits, D = contribution to development, S = help and service to others, E = education required, L = easy life, A = power, authority or influence over others.

Table 7.4

Matrix of correlation coefficients*

	Prestige	Income	Fringes	Develop- ment	Service	Education	Ease	Power
Prestige	1.000							
Income	.799	1.000						
Fringes	.732	.756	1.000					
Development	.714	.675	.618	1.000				
Service	.692	.616	.589	.717	1.000			
Education	.789	.826	.732	.682	.668	1.000		
Ease	-.327	-.285	-.200	-.394	-.350	-.296	1.000	
Power	.769	.677	.661	.698	.690	.703	-.308	1.000

* All coefficients are significant at 0.01.

Table 7.5

Linear regression model: parameter estimates

Variable	$\hat{\beta}$	Std. error $\hat{\beta}$	R^2	R^2 change
I**	.276	.061	.638	.638
A**	.252	.051	.734	.096
E**	.164	.061	.751	.017
S**	.096	.049	.760	.009
F**	.122	.051	.766	.006
D*	.083	.052	.769	.003
L	-.031	.034	.769	.000

** Significant at 0.01

* Significant at 0.05

The model was re-estimated, retaining only those variables significant at the one per cent level, with the following results:

$$P = 0 + 0.296I + 0.275A + 0.174E + 0.132S + 0.121F$$

$$(.061) \quad (.050) \quad (.062) \quad (.046) \quad (.051)$$

This regression yields a coefficient of multiple determination, R^2 , = 0.766, which indicates a considerable degree of explanatory power in the combined effect of the variables under discussion.

In converting the ordinal data to interval data the eight variables in the model were expressed in standardized units of measurement which, as mentioned previously, makes possible direct comparison of the regression coefficients. This permits them to be employed as path coefficients in a causal path model (Nygren, 1971). As a statistical technique, path analysis does not add 'anything to conventional regression analysis as applied recursively to generate a system of equations, rather than a single equation. As a pattern of interpretation, however, path analysis is invaluable in making explicit the rationale for a set of regression calculations' (Duncan, 1966:123, emphasis in original).

As shown above, the relationship

$$(1) \quad P = f(I, A, E, S, F), R^2 = 0.766$$

includes all variables significant at the one per cent level. Thus the model incorporates five independent variables which directly affect the prestige of occupations, and their relative importance is indicated by the regression coefficient in each case. Income and Power appear to stand apart from Education, Service and Fringes in terms of the magnitude of their influence on Prestige. However, Fringes and Income are complementary aspects of 'gross' income, the command over goods and services which forms the core of that rather nebulous concept, the 'standard of living'. From the correlation matrix in Table 7.4 it appears that Income is the best predictor of Fringes. If these two variables are subsumed under the single heading of 'gross income', this combined category clearly outweighs Power, the other major source of Prestige. Fringes and Income together account for 67.7 per cent of variations in prestige of occupations, compared with the R^2 values for Income alone of 63.8 per cent, and 59.1 per cent for Power.

Thus the five variables directly affecting Prestige may be divided into subgroups of major (I, F, A) and minor (E, S) importance. This is expressed in the arrangement of the variables in the causal path diagram (Figure 7.1). Each of the three major independent variables was regressed against the other independent variables in the model (i.e. excluding Prestige). Excluding variables non-significant at 0.01, the following relationships were established:

$$(2) \quad A = f(E, D, S, F), R^2 = 0.631$$

$$(3) \quad F = f(I, A, E), R^2 = 0.629$$

$$(4) \quad I = f(E, F, D), R^2 = 0.742$$

The most important finding of this exercise was the absence of any statistically significant regression relationship between Income and Power. Hence these two variables are not linked with one another by a path coefficient in Figure 7.1. However, the three regression equations above cannot form part of a recursive system. In equation (2), where A is the dependent variable, F is an independent variable, while the situation is reversed in equation (3). The same situation occurs with variables F and I in equations (3) and (4).

The analysis can only proceed further on the basis of hypotheses concerning the direction of causation between A and F, and between F and I.

Figure 7.1
The causal path model

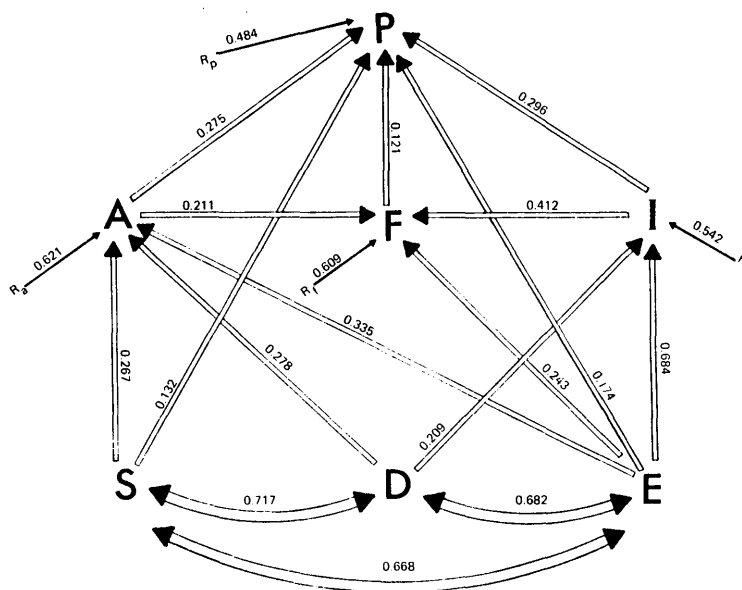


Figure 7.1 incorporates the assumption that Power (A) and Income (I) are independent variables influencing the Fringe benefits (F) attaching to particular occupations. Accordingly, the model incorporates the following relationships, in which all independent variables are significant at 0.01.

$$(2a) \quad A = f(E, D, S), \quad R^2 = 0.614$$

$$(3a) \quad F = f(I, A, E), \quad R^2 = 0.629$$

$$(4a) \quad I = f(E, D), \quad R^2 = 0.706$$

These equations, together with equation (1) above, complete the recursive system set out in the causal path model in Figure 7.1.

The causal path model

The causal path diagram is arranged in three tiers, with the dependent variable, Prestige, at the top. Causal relationships are indicated by straight arrows, and a path

coefficient on each arrow (which is the standardized regression coefficient of the independent variable) indicates the strength of the relationship.

The variables which are most important in their direct effect on Prestige form the second tier, namely, the 'gross income' of occupations and their Power (the power, authority or influence associated with occupations).

The remaining variables form the third tier of the diagram. Of these, Education and Service play dual roles. Each has a direct impact on Prestige, the force of which is indicated by its path coefficient. But Service (the extent to which an occupational role is seen as helping and serving other people) also lends Power to occupations, thereby enhancing their Prestige indirectly. Similarly, Education (the level of formal schooling associated with a particular occupation) imparts Power to occupations, as well as influencing their money Income and Fringes (non-monetary benefits associated with occupations). Hence Education also affects Prestige indirectly.

Development (the contribution of an occupation to Papua New Guinea's development and progress) has a minor and indirect influence on Prestige to the extent that it lends Power to occupations, as well as contributing to their money Income.¹⁰ The variables on the third tier are associated with one another, but no causal links are posited. The relationship between each pair of variables is indicated by a curved

¹⁰The subsidiary positions of Development and Service in the model are in direct contrast to the findings of a survey by D.J. Bowlay (1973) of the attitudes to employment of secondary school leavers in Papua New Guinea. They exhibited 'a set of values with high priority on nationalistic aims, low priority on economic or personal reward, and a middling emphasis on self-improvement' [through further education] (Bowlay, 1973:131). Only the last of these observations is supported by the findings above. The contradictory results may reflect the contrast between Bowlay's more direct method of eliciting opinions from respondents, and the oblique techniques employed by the writer. When questioned directly, Bowlay's respondents may merely have expressed the ideology of the schools where, as he explains, 'students are actively encouraged to develop a nationalistic outlook in terms of "helping the

double-headed arrow, and the strength of association is indicated in each case by a simple correlation coefficient. Also in accordance with the conventions governing causal path diagrams, a residual factor is linked with the dependent variable in each of the four equations which form the model (Nygreen, 1971:40). The residual accounts for the variation in the dependent variable which is not explained by the postulated independent variables, and is shown in each case as a path coefficient.¹¹

The major determinants of occupational prestige may thus be classified under four headings: gross income and Power, both of which appear to have traditional and modern aspects and which are analytically distinct (insofar as money Income, the major component of gross income, cannot be linked with Power by a statistically significant path coefficient); Education, which appears to be a modern and quite non-traditional source of Prestige; Service, a characteristic which probably has both traditional and modern aspects.

The education sub-model

A simplified version of the part played by education in the model was employed in Chapter 2 to explain the influence of income and prestige on the social demand for education in Papua New Guinea. A more detailed and accurate account of the crucial role of Education in the model can now be given.

It is assumed that the Prestige of an occupation is affected both directly by the Education required for its performance, and indirectly by the influence of Education on other variables. From Table 7.4 it can be seen that the

10 (continued)

country" by means of various aspects of the school curriculum and activities' (1973:131).

¹¹ Thus, from Equation (1), $P = f(I, A, E, S, F)$, $R^2 = 0.766$.

$$\begin{aligned} R^2_P &= 1 - R^2 \\ R_P \text{ (the residual)} &= \sqrt{1 - R^2} \\ &= \sqrt{1 - 0.766} \\ &= \sqrt{0.234} \\ &= 0.484 \end{aligned}$$

degree of association between Education and Income ($R = 0.826$) exceeds that between any other pair of variables, and the strength of the path coefficient in Figure 7.1 is impressive evidence of the extent to which Papua New Guinean school children associate education with monetary income benefits. Together with the strong causal link between Education and Fringes it provides weighty support to the argument that the private demand for education in Papua New Guinea is motivated primarily by an investment calculus. This is not to deny that the educational levels associated with particular jobs have a strong independent influence on occupational prestige. That is clear from the diagram and is corroborated by evidence collected by the writer in a survey of senior primary school children in 1971, discussed in Chapter 5. There is also a strong causal link between Education and Power, implying that school children regard the level of formal education required for a job as conferring a corresponding degree of power, authority or influence on the worker.

The conclusions of the survey described in this chapter relate to the perceptions of occupational prestige of a highly select group of individuals (given that only a minute fraction of the population of Papua New Guinea has received post-primary education) and they relate to the status of occupations which (apart from Village Gardener) are modern in nature and involve a minority of the workforce. Little has been written about occupational prestige *per se* in Papua New Guinea¹² although there is much material available on the achievement of prestige in traditional societies, with their relatively undifferentiated occupational structures. Although 'occupation' is probably not a meaningful category for the analysis of prestige in traditional

¹²A.L. Epstein's study (1967) in Rabaul in 1960-61 showed that occupational status concepts had not crystallized sufficiently to permit a firm ranking of jobs, and revealed a degree of inter-regional variation among respondents. Hicks, in 1969, reported an apparently greater degree of consensus, and a high rank order correlation between prestige rankings (over a very short list of occupations) between New Guinea and Zambia (Hicks, 1970). A study in West Irian in 1962 found political roles to be ranked highest, but this result probably reflects the limited employment opportunities of West Papuans at the time, since no genuinely professional occupations were included in the survey list (van der Veur, 1966).

Melanesian society it seems highly likely that the attitudes, motives and personal qualities which facilitate status mobility in that context will also be operative in exploiting the opportunities for prestige achievement in the modern sector. The crucial role of formal education in gaining modern sector employment makes the attitudes of senior secondary students highly relevant, as well as providing a partial explanation of the results reported above. In what follows an attempt is made to relate these findings to the literature on prestige in Melanesia.

Prestige in Melanesian society

As was discussed in the opening chapter of this monograph, one of the distinguishing features of Melanesian social structure is the absence of any significant degree of social stratification based on hereditary or ascribed criteria. Given the diversity of the multitude of small-scale societies within Papua New Guinea, it is not surprising that observers have noted a variety of attributes and activities which lead to big-man status. Moreover, since divergent interpretations of the mode of achieving prestige within particular societies occur, it is perhaps unreasonable to expect a consensus to emerge in other than broad terms. It seems clear (to repeat a statement quoted in Chapter 1) that 'although leadership is everywhere achieved in competition with rivals, the nature of the competition varies. And depending on the enterprises to which male prestige attaches, the role of "big-man" also varies' (de Lepervanche, 1973:22).

The competitive nature of status-seeking and the importance which economic activities assume in the lives of big-men in many societies have influenced some anthropologists to regard the big-man (if one may employ the terminology thus) as a 'classificatory brother' of Economic Man. Scarlett Epstein speaks of personal achievement in Papua New Guinea as being 'measured predominantly in terms of economic criteria' (T.S. Epstein, 1970:184) and uses the term 'primitive capitalists' to describe big-men in traditional Tolai society (1968). Indeed, among the contemporary Tolai, economic criteria may be even more important, since 'part of their competitive spirit used to find expression in fighting'. But with the cessation of hostilities, 'this has now been rechannelled into the economic sphere' (T.S. Epstein, 1968:101). The positive response of Tolai big-men and their followers to economic opportunities has been a

crucial factor in the economic development of the Gazelle Peninsula.

Ruth Finney (1971) and Ben Finney (1968, 1973) also acknowledge the primacy of economic criteria in the achievement of prestige in most societies in Papua New Guinea. Moreover, the latter notes that 'economic accomplishment and political leadership were closely linked in the indigenous societies of the New Guinea Highlands...Now, after three decades of Australian control...this linkage between economic and political spheres not only persists but is expressed in modern institutions. A new generation of leaders, who achieve status in the market economy and seek elective political office, has developed in the Highlands' (B.R. Finney, 1968:394). One could infer from this that status is a function of economic success, and that the achievement of status is a prerequisite for political success, but it is not clear whether economic or political goals are dominant. The interdependence of motives is well expressed by Swift (1965:145) who states that 'prestige, wealth and power are...general human values, and...the possession of political power will be used to acquire wealth and prestige, or wealth for prestige and power, and so on' (quoted in Arndt, 1972:587-8).

With respect to the Tolai (and in contrast to Scarlett Epstein), Richard Salisbury argues the primacy of political goals. Big-men do not seem to aim for the possession of material wealth for its own sake; rather they seek the ownership and/or control of valuables for use as 'power tokens' in order 'to regulate, measure and account for the flows of otherwise unallocated political rights'. Big-men give lipservice to the Tolai 'cultural ideology' of status acquired through economic success, which serves 'as an opiate to compensate the unsuccessful for their lack of power (and wealth)' (Salisbury, 1966:114). Salisbury, Ben Finney and, for that matter, Scarlett Epstein are all agreed on the existence of a close association between prestige and political power. It seems clear, however, that Salisbury would regard an individual's political power as the best predictor of his prestige, whereas Epstein would rely on entrepreneurial achievement for this purpose.

Apart from political power, leadership may be attained less subtly, as Langness has observed, through 'sheer physical power'. He adds that

although...leaders who attain prominence through physical strength and coercion are not generally as successful as more temperate men with the ability to manipulate wealth and people, it remains true that many New Guinea societies allocate authority on the basis of raw physical power. Physical power, both in individuals and groups, is respected, valued and admired (Langness, 1973:153-4).

Hence it should be regarded as another source of prestige in Melanesia, although perhaps of declining importance in the modern context, along with prestige acquired through warfare.

Although Ben Finney (1973:137) has dismissed as 'untenable' the dichotomy between 'ritualistic' coastal people and 'pragmatic' Highlanders, a distinction is commonly drawn between modes of prestige achievement in highland and lowland societies. According to de Lepervanche, 'the skills of a Highland leader are essentially secular', with emphasis on fighting and exchange, and there is some evidence that 'energy and initiative formerly devoted to warfare is now channelled into the exchange systems' (1973:25). On the other hand, 'the emphasis on ritual expertise in general is marked in the lowlands, and prestige often attaches to the man who is skilled in ritual knowledge' (de Lepervanche, 1973:26). A particularly striking example of the latter in a modern context is provided by Nigel Oram, who describes how post-contact social change in the Hula area of Papua left 'a vacuum in leadership at the village level which could be filled by some new institution' (1971:118). The recruitment and education of an indigenous pastorate by the London Missionary Society filled the vacuum, and its members came to exercise considerable influence, both spiritual and secular, as well as enjoying high prestige. This prestige and influence appear to have been associated with a number of distinguishing factors, which included pastors' level of education, knowledge of English, and higher standard of living (due to regular, though small, cash incomes, supplemented by fringe benefits in the form of superior housing, and consumer goods and food contributed by villagers) (Oram, 1971:124-5).

The subject of one of Ben Finney's entrepreneurial case studies is a noted politician who

has earned his reputation as a business leader primarily from the service he has rendered his fellow Gorokans. His work as a DASF employee in introducing coffee throughout Goroka has contributed far more to his being known as a *bikfela man bilong bisnis* than his own personal commercial accomplishments. Gorokan business leaders are proud of their inspirational and tutelary role in promoting local economic development, a process they call *kirapim bisnis* (business development) or *kirapim ples* (local development) (B.R. Finney, 1973:86).

This account tends to support the roles played by the Service and Development variables in the model.

The preceding survey of some of the literature on prestige provides ample evidence of the importance of economic success and of personal power (in a variety of dimensions) in achieving the status of big-man in traditional society. No doubt different social groups (and individuals) place different weights on these two attributes, so that the degree of responsiveness to economic stimuli will be greater in cases where income factors predominate in the determination of prestige. However, the evidence in Chapter 6 of a uniformly high degree of association between income and occupational prestige in widely separated and disparate areas of Papua New Guinea must be recalled. The combined influence in the model of the two variables Income and Fringes, which are complementary aspects of gross income, is sufficiently strong to suggest that economic criteria will be the decisive behavioural influence.

Formal education is a non-traditional factor of some importance in contemporary Melanesia, which appears capable of lending prestige to occupations independently of its direct influence on earnings. In addition, the influence of the Service variable is supported by reference to the literature.

From a policy viewpoint the primacy of economic criteria in the achievement of occupational prestige (with consequent influence on career choices and labour market behaviour) is of considerable importance. As suggested in the previous chapter, income differentials may be manipulated to influence labour market behaviour and to correct market imbalances. The supply elasticity of labour is likely to be greater with respect to income than with respect to any other variable. Nonetheless, according to Rottenberg

(1968:57), 'it is not inconsistent with the classical model [of the labour market] for another attribute than price to operate as an allocating instrument'. But other, non-economic, variables appear to be less susceptible than income to manipulation for policy purposes.

This study has presumed a causal link between perceptions of occupational 'prestige' and the behaviour of job-seekers, based on the Melanesian propensity to maximize prestige. The existence of this link is supported, oddly enough, by the authors of a frontal attack on traditional occupational prestige studies (into which category the writer's work falls). Reviewing a number of widely-quoted surveys, Goldthorpe and Hope claim that 'the theoretical basis of these studies has often been confused, and...the occupational gradings they produce cannot be safely regarded as a valid indicator of a prestige order...conventional occupational prestige rankings are better interpreted as representing popular evaluations of the general "goodness" (in the broad sense of "desirability") of occupations' (Goldthorpe and Hope, 1972:21).

This is not the place to evaluate this claim, but if it is correct the writer has produced a ranking of occupations according to desirability rather than prestige, and has demonstrated the importance of economic criteria in determining that ranking. The link between perceptions of the desirability of occupations and the behaviour of job-seekers is even more obvious than that between prestige and labour market behaviour, and enables policy prescriptions to be offered with greater confidence.

Chapter 8

Aspirations and expectations

The private investment models of migration and educational expenditure rely on the as if methodology, rather than on any statements of intention by the individuals whose behaviour is observed. This reflects an occupational bias on the part of economists who are less inclined than 'face-to-face' social scientists to take people at their own word. There are excellent reasons for this. As Simon Rottenberg (1968: 62) points out, with respect to labour market behaviour,

no appropriate inference on the weight attached by workers to different qualities in jobs can be drawn from the replies to questions about motivations for job-taking and job-changing ... responses couched in single motivational terms have other motivations implicitly imbedded within them.

It is for reasons such as these that Mark Blaug (1968:218) finds interview data unconvincing since

it is not what students or their parents think they are doing, but what they actually do that concerns us. It is preferable to check assumptions about motives by looking at the behaviour that is predicted by these assumptions.

On the other hand, the surveys by the writer reported in Chapters 5, 6 and 7 approach the problem of motivation obliquely. Techniques of ranking, where the informant is unaware of the purpose of the exercise, are more likely to reveal a person's priorities and motives than a series of leading questions.

But it should not be thought that all direct survey evidence is inadmissible, especially in cases where objective corroboration is possible. Where *ex ante* statements of intention by informants are subsequently translated into

action, for instance, the direct survey approach is vindicated, and the action is shown to have been premeditated and purposive. In terms of the as if methodology one could hypothesize that children are induced to complete a particular level of education by the returns available from wage-employment, and that if school leavers live in areas where such employment is not available, migration to centres of economic opportunity will occur. Such an hypothesis could be formulated *ex post* and tested, as Blaug suggests, by reference to the facts, but would be enormously strengthened by *ex ante* evidence of the type described above. The purpose of this chapter is to present such evidence.

It will be recalled that in the model of educational expansion and unemployment outlined in Chapter 2 a distinction was made, following Foster (1965), between employment aspirations and expectations. The former were defined as an ideal and unconstrained choice of occupation while the latter were choices dictated by knowledge of the realities of the labour market. This distinction was applied to the Callaway/Foster three-stage model of educational expansion (Callaway, 1963, Foster, 1968) and it was suggested that a systematic relationship between aspirations and expectations would be observed during the various stages of educational expansion.

In this chapter the results of a survey of the employment aspirations and expectations of primary, secondary and vocational students is reported. The survey was carried out in the period October-December 1968, and the sample consists of those individuals interviewed for the purpose of the income and prestige study reported in Chapter 6. Details of the schools visited are contained in Table 8.1. It must be repeated that the sample was purposive, largely because of logistic problems which, especially at the primary school level rendered a random sample impracticable.¹

The interviewees comprised approximately 6 per cent of primary final examination candidates, 20 per cent of Form Four secondary candidates and 20 per cent of vocational trainees. In both the Gulf and Southern Highlands districts the writer contacted approximately 50 per cent of the eligible Standard Six primary populations. These two districts

¹Districts visited were the Central, Gulf, Southern Highlands, Western Highlands, East Sepik, East New Britain and Northern Districts.

Table 8.1
Details of schools visited

District	School	Classif-ication*	District	School	Classif-ication*	
<u>A. Primary</u>						
Central	Bavaroko	A, U	W. Highlands	Mt Hagen	A, U	
	Koke	M, U		Kokglamp	A, R	
S. Highlands	Koke	M, U	E. N. Britain	Gaulim	M, R	
	Hanuabada	M, U		Navunaram	A, R	
	Hula	A, R		Kalamanagunan	A, R	
	Mendi	A, U		Malabunga	A, R	
	Kiburu	A, R,		Gulf	Murua	A, R
	Mendi	M, R			Moveave	A, R
	Map	A, R			Kukipi	A, R
	Bela	A, R			Iokea	A, R
	Oiyarip	A, R			Miaru	A, R
	Tulum	A, R			Arehava	A, R
Erave	A, R	Ihu	A, R			
Kagua	A, R	Kerema	A, U			
East Sepik	Kubalia	A, R	Terapo		M, R	
	Balik	A, R	Moru		M, R	
	Wirui	M, R	Orokolo	M, R		
Northern	Popondetta	A, U				
<u>B. Secondary</u>						
Central	Kila Kila	A	East Sepik	Brandi	A	
	Sogeri	A		Yarapos	M	
	Bomana	M	E.N. Britain	Vuvu	M	
	Marianville	M		Kerevat	A	
Northern	Popondetta	A	Malabunga	A		
<u>C. Vocational</u>						
Central	Badili	A	East Sepik	Hawain R.	A	
S. Highlands	Mendi	A	W. Highlands	Mt Hagen	A	
	Erave	A	E.N. Britain	Vunamami	A	
Northern	Popondetta	A	Gulf	Kerema	A	

* Classification code: A = Administration, M = Mission, U = Urban, R = Rural. The U/R classification (primary schools only) is based on location and the proportion of children whose fathers were in wage employment.

present a marked contrast in certain important respects (although they have in common the fact of comparatively limited wage-employment opportunities).

The peoples of the Southern Highlands are less sophisticated than those of the other areas surveyed, and are probably as unsophisticated as any major population group in Papua New Guinea. At the time of the survey administrative control by Europeans had been established for less than two decades, and labour migration on any scale had occurred only within ten years.² On the other hand, the Gulf District has been subject to Mission, Administration and plantation influence since the late nineteenth century, and is notable not only for the large proportion of its *de jure* population absent at any time, but also for the tendency of its emigrants to concentrate in urban areas, especially Port Moresby. It was felt that concentration on these two districts would provide some test of the proposition that exposure to the formal education system overrides regional differences to establish a generally uniform pattern of aspirations and expectations among the products of the schools.

It might be thought that senior primary school children are too immature to have given any serious thought to their future occupations. Certainly one would have little confidence in the results of such a survey among Australian children of the same ages.³ However, students in Papua New Guinea are in some important respects more mature than their Australian age-peers and circumstances require them earlier to consider their career choices. No visitor who has seen children at primary boarding schools in Papua New Guinea caring for themselves with self-sufficiency will doubt their maturity relative to Australian children. Moreover, students were interviewed soon after a major external examination which served to focus their attention on future schooling and career prospects. At no point in the Australian educational system are children subjected to so severe a hurdle as the primary final examination.

Vocational trainees were included in the survey because

²In a discussion of Highlands labour movements in 1957 (Brookfield, 1960), the Southern Highlands District is not mentioned

³Mean stated ages of pupils were: Primary boys 13.96 years, girls 13.82 years; Secondary boys 17.37 years, girls 17.63 years; Vocational boys 16.02 years.

according to the projections of educational expansion in the first *Five Year Development Programme* (TPNG, 1968), these institutions were to become, in percentage terms, the most rapidly expanding sector in the education system.⁴ Designed to admit Standard Six 'dropouts', the vocational centres were established in the hope that most trainees would 'remain in rural areas to assist in communal cash cropping and business enterprises, or to apply their knowledge to village maintenance and construction' (TPNG, 1968:101). Vocational students were thus included in the survey to see whether their aspirations and expectations were in harmony with the objectives of their instructors.

The survey instrument was adapted from a questionnaire employed by Philip Foster in Ghana (1965:310). The writer's investigation was conducted in conjunction with a parallel survey by W.R. Stent in February 1968 which employed a more limited questionnaire, covered some of the same schools and provided valuable corroboration of some of the writer's results (Conroy and Stent, 1970).

A slight, but significant, methodological inconsistency in Foster's survey has already been described. Whereas Foster required his respondents to make realistic career choices on the assumption that they would fail to gain entry to the next higher level of education, no such restriction was imposed on respondents to the writer's survey.⁵

The results

One result of the investigation was to verify the existence of substantial excess demand for post-primary education in the areas surveyed. Some 83 per cent of Standard Six boys and 88 per cent of girls desired to continue at school.⁶

⁴Enrolments were projected to treble from 1700 to 5250 between 1968 and 1973 (TPNG, 1968:100).

⁵See footnote 5 in Chapter 2, which discusses Foster's argument. What Foster took to be 'confusion and parallelism' in the responses to his pilot survey (1965:280) is interpreted by the present writer as indicating that Ghana's academic secondary school system had not yet (in 1961) entered stage 2 of the Callaway/Foster model, the phase of falling employment expectations.

⁶The survey by W.R. Stent, which covered somewhat different ground and occurred before the primary final examination,

Despite the fact that fewer than 40 per cent of the 1968 cohort could be accommodated in Form One secondary in 1969, the overwhelming preference of those who wished to continue was the academic secondary stream, rather than the one-year, terminal, vocational course.

The pattern was scarcely different at Form Four level. There 77 per cent of boys and 68 per cent of girls aspired to continue to post-secondary institutions. Given the wide range of training options open to secondary leavers at the end of 1968, however, these aspirations appeared quite realistic. They are also consistent with experience elsewhere. Thus Foster remarked that

once Ghanaian students have been fortunate enough to gain access to the selective secondary schools they become committed to a continuous program of full-time studies beyond the secondary level (1965:261).

It was hardly surprising therefore that in 1968, and for several years after, employers in Papua New Guinea experienced difficulty in directly recruiting Form Four leavers.

Employment aspirations

When asked to specify an ideal occupation, students nominated more than one hundred separate jobs. In order to present the information in a more comprehensive form these occupations were classified into broad categories corresponding to those used in the manpower projections of the first *Five Year Development Programme* (TPNG, 1968).⁷

6 (Continued)

recorded an even more emphatic result; 93% of boys in his sample wished to continue.

⁷The classification is as follows (TPNG, 1968:86):

HIGH LEVEL - Class A

Professional, managerial and related workers.

This class covers the professions and administrative and executive officers in the top income brackets in both the public and private sectors. Except for top-level entrepreneurs and public servants a university degree is required.

The 'realistic' or expected occupations nominated by respondents have been similarly classified, and the two sets of job choices are set out for each school group in Table 8.2.⁸ This enables a visual comparison of aspirations with expectations to be made.

In terms of the model outlined in Chapter 2, a widening gap between aspirations and expectations should occur as the experience of unemployment forces a downward revision of the latter. No such gap is evident from Table 8.2. Rather than suggesting 'confusion and parallelism' in the responses of students, however, this reflects the stage of educational expansion reached by Papua New Guinea in 1968. In other

7 (Continued)

Class B

Semi-professional, higher technical and sub-management
 Technical officers with post-secondary diploma-type qualification. Diploma courses must be of at least two years duration. Positions requiring post-secondary education, such as teachers, and positions where a university degree is usually desirable but not essential are included in this class. Assistant managers in private enterprise.

MEDIUM LEVEL - Class C

Skilled

Trained technicians, qualified artisans, clerical workers with intermediate high school education and other positions requiring a secondary education and/or specialised training.

LOWER LEVEL - Class D

Semi-skilled

This class covers the group of workers who require a year or more of experience or formal training in order to qualify for a job. It includes low level clerical workers and various semi-skilled tradesmen, etc.

Class E

Unskilled

All occupations not elsewhere covered. The bulk of this class would consist of labourers, drivers, messengers, cleaners and similar workers. (Although not explicitly mentioned, indigenous farmers whose activities are 'wholly or mainly money-raising' are also included within Class E.)

⁸ Tables 8.2 to 8.5 are revised versions of material previously published (Conroy and Stent, 1970). Greater familiarity with the procedures of the PNG Manpower Planning Unit has enabled the writer to prepare a more accurate classification.

Table 8.2

Occupational aspirations and expectations, by manpower class

	Class	Aspirations		Expectations	
		Boys %	Girls %	Boys %	Girls %
Form Four	A	17.3	10.7	15.2	5.4
	B	46.5	44.7	43.8	40.2
	C	28.0	32.0	38.2	47.3
	D	0.0	8.9	0.0	3.6
	E	3.4	3.6	0.7	3.6
	*	4.8	0.0	2.1	0.0
Standard Six	A	5.6	3.4	5.1	3.0
	B	17.9	31.6	16.1	30.3
	C	30.4	25.5	29.4	23.5
	D	32.4	33.1	36.2	36.5
	E	11.1	5.2	11.4	3.8
	*	2.7	1.1	2.0	2.9
Vocational	A	3.5		3.0	
	B	4.0		3.5	
	C	29.9		31.6	
	D	36.3		39.2	
	E	22.2		20.6	
	*	4.0		1.9	

* Unclassifiable and illegible occupational choices. Totals may not sum exactly to 100 because of rounding.

places at other times a methodology similar to that employed by the writer has revealed a gulf between aspirations and expectations (Foster, 1965:206-8; Silvey, 1969; Boyd and French, 1973).

In Chapter 2 the writer suggested that the primary school system in 1968 was approaching the end of stage one of the Callaway/Foster model. The advent of stage two would be accompanied by falling employment expectations among primary school leavers. If this were indeed the case, a repetition of the survey described in this chapter should disclose some discrepancy between aspirations and expectations at primary level, a discrepancy which should become more marked with the passing of time. Given that the employment prospects of vocational trainees are probably little better than those of primary leavers, similar results might be expected of surveys conducted at that level.

On the other hand the prospects for employment and further training of Form Four leavers in 1968 justified a level of expectation quite as high as their aspirations. It was suggested in Chapter 2 that the secondary system might reach the end of stage one by about 1978, when surpluses of Form Four leavers would have become apparent in the labour market. Consequently one would not expect any discrepancy between the aspirations and expectations of Form Four students until after that date.

The manpower classification employed in development planning in Papua New Guinea is, in fact, a skill hierarchy. In Chapter 6 it was demonstrated that a classification of jobs according to manpower criteria was strongly and positively correlated with a classification of the same jobs according to prestige. From this it was concluded that the hierarchies of occupational prestige and skill in Papua New Guinea were, to a large degree, co-extensive. On this basis it is instructive to examine the patterns of aspiration of the three school groups, shown in Table 8.2. There appears to be a level of aspiration typical of each level of the education system, with the aspirations of senior secondary students clustered in the top half of the skill/prestige hierarchy. This accords with the findings of a comparable survey conducted in the Ivory Coast and cited in Chapter 2 (Clignet and Foster, 1966:148).

Supporting the contention that 'the further a student goes in the system, the higher is his level of aspiration (Clignet and Foster, 1966:129), the aspirations of senior primary students are clustered somewhat lower, in the middle of the skill/prestige scale. Unlike vocational trainees, these students have prospects of further progression through the education system, whereas vocational centres offer a low-level terminal course. Consequently, the aspirations of vocational trainees are clustered in the middle and lower sections of the skill/prestige hierarchy. While it is true that (as suggested in Chapter 2) occupational aspirations in Papua New Guinea are related primarily to the prestige hierarchy, it is also clear that one's level of educational attainment is a major constraint on the expectation of maximizing occupational prestige.

Tables 8.3, 8.4 and 8.5 classify occupational expectations at the three levels in greater detail, and some characteristics of students' expectations can be discussed briefly. At the Form Four level, boys anticipated gaining a wide range of professional (class A) occupations, but girls confined themselves to the medical profession. Among sub-professional jobs, boys opted for a wide range of government employment while private enterprise occupations and teaching were of minor importance. On the other hand, among girls teaching was a major choice at both class B and class C levels. In general, the finding of the Ivory Coast study that 'female choices tend to reflect European stereotypes concerning the types of employment appropriate for women' (Clignet and Foster, 1966:129), holds good for Papua New Guinea. The pattern is repeated among Standard Six girls, with emphasis on nursing, teaching, typing and clerical occupations.

Among the minority of Form Four boys who opted for class C (skilled) occupations, it is significant that skilled trades were quite as important as clerical work. Nor does this represent an uneasy compromise with the realities of the labour market - the same pattern is evident from the group's employment aspirations. Although it is sometimes alleged that school leavers in developing countries disdain trade occupations in favour of clerical employment, this does not appear to be true of Papua New Guinea. At Standard Six level fully 34 per cent of all boys aspired to trade and technical occupations at levels C (skilled) and D (semi-skilled), while 31 per cent actually expected to find such employment. This is very much the most preferred class of

Table 8.3

Form Four employment expectations

	Administration (%)		Mission (%)		All (%)	
	Boys	Girls	Boys	Girls	Boys	Girls
A: Medical	2.4	10.0	0.0	2.8	2.1	5.4
Other professional	12.7	0.0	47.4	0.0	13.1	0.0
B: Medical	1.6	20.0	5.3	11.1	2.1	14.3
Teaching	3.6	20.0	10.6	15.3	4.5	17.0
Mainly government	30.2	15.0	10.6	5.6	27.6	8.9
Mainly private	6.3	0.0	0.0	0.0	9.6	0.0
C: Medical	0.0	5.0	0.0	2.8	0.0	3.6
Teaching	3.5	20.0	10.6	15.3	4.5	16.9
Clerical	11.9	10.0	0.0	33.3	10.3	25.0
Mainly government	7.1	0.0	0.0	0.0	6.2	0.0
Mainly private	0.0	0.0	0.0	2.8	0.0	1.8
Trades, technical	11.1	0.0	5.3	0.0	10.3	0.0
Self-employed	0.8	0.0	0.0	0.0	0.7	0.0
Uniformed services	7.1	0.0	0.0	0.0	6.2	0.0
D: Medical	0.0	0.0	0.0	0.0	0.0	0.0
Typing	0.0	0.0	0.0	5.6	0.0	3.6
Shop assistants	0.0	0.0	0.0	0.0	0.0	0.0
Mainly private	0.0	0.0	0.0	0.0	0.0	0.0
E: Domestic	0.0	0.0	0.0	0.0	0.0	0.0
Missions	0.0	0.0	0.0	2.8	0.0	1.8
Mainly private	0.0	0.0	0.0	0.0	0.0	0.0
Farming, etc.	0.0	0.0	5.3	2.8	0.7	1.8
Unclassifiable	1.6	0.0	5.3	0.0	2.1	0.0
Illegible	0.0	0.0	0.0	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0

Totals may not sum exactly to 100 due to rounding.

Table 8.4

Standard Six employment expectations

	Administration (%)		Mission (%)		Urban (%)		Rural (%)		All (%)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
A: Medical	2.1	2.1	3.1	3.9	3.1	7.1	2.1	1.0	2.4	2.6
Other professional	3.1	0.0	1.5	1.3	4.7	1.4	2.1	0.0	2.7	0.4
B: Medical	0.0	6.3	0.0	7.5	0.0	6.1	0.0	6.8	0.0	6.7
Teaching	8.3	18.4	6.6	15.6	5.1	12.2	8.8	19.6	7.9	17.6
Mainly government	6.2	7.9	5.4	0.0	7.8	7.1	5.4	5.1	6.0	5.6
Mainly private	2.1	0.5	2.3	0.0	5.4	0.0	1.2	0.5	2.2	0.4
C: Teaching	8.3	18.4	6.5	15.6	5.0	12.1	8.7	19.5	7.9	17.6
Clerical	1.8	1.3	1.4	1.6	1.0	1.4	1.9	1.4	1.7	1.4
Mainly government	0.9	0.5	0.8	7.8	0.8	2.9	0.9	2.5	0.9	2.6
Mainly private	0.0	1.1	0.0	1.3	0.0	4.3	0.0	0.0	0.0	1.1
Trades, technical	13.4	0.0	22.7	0.0	19.0	0.0	14.6	0.0	15.6	0.0
Self-employed	0.5	0.5	0.0	0.0	0.8	0.0	0.2	0.5	0.4	0.4
Uniformed services	3.0	0.0	2.9	0.0	1.9	1.4	3.2	0.0	2.9	0.4
D: Medical	4.2	19.5	1.5	22.4	1.6	18.2	4.2	20.6	3.6	19.9
Clerical/typing	6.0	11.3	4.8	15.3	2.9	17.2	6.6	10.8	5.7	12.5
Shop assistants	2.1	3.7	1.5	1.3	2.3	2.9	1.9	3.0	2.0	3.0
Tradesmen	13.4	0.0	22.7	0.0	19.0	0.0	14.5	0.0	15.6	0.0
Mainly private	0.5	0.0	0.0	0.0	0.8	0.0	0.2	0.0	0.4	0.0
Uniformed services	8.8	1.6	8.6	1.3	5.9	4.3	9.8	0.0	8.9	1.1
E: Domestic	0.0	0.5	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.4
Mainly private	3.3	3.2	1.5	0.0	3.9	0.0	2.6	3.0	2.9	2.2
Farming, etc.	9.7	1.1	4.6	0.0	7.0	0.0	9.0	1.0	8.5	0.7
Unclassifiable	0.7	0.5	0.8	1.3	0.0	0.0	0.7	1.0	0.7	0.7
Illegible	1.4	1.6	0.8	3.9	1.6	0.0	1.2	3.0	1.3	2.2
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Totals may not sum exactly to 100 due to rounding.

Table 8.5

Vocational trainees' employment expectations

	Per cent
A: Medical	0.0
Other professional	3.0
B: Medical	0.0
Teaching	0.5
Mainly government	2.5
Mainly private	0.5
C: Medical	0.0
Clerical	0.5
Mainly government	1.0
Mainly private	0.0
Trades, technical	27.6
Self-employed	1.0
Uniformed services	1.5
D: Medical	2.5
Shop assistants	1.5
Tradesmen	27.7
Mainly private	2.5
Uniformed services	5.0
E: Mainly private	9.5
Farming, etc.	11.1
Illegible	1.9
	100.0

Note to Tables 8.3, 8.4 and 8.5

Within each manpower class the writer has devised categories in which a variety of occupations are grouped. Thus 'mainly government' and 'mainly private' indicate occupations in which the worker is most likely to be employed by the Administration or private enterprise respectively. The categories are not mutually exclusive: for example, in class C it was felt worthwhile to show clerical workers, tradesmen and members of the uniformed services separately while retaining the 'government' and 'private' categories as residuals. Medical workers are grouped separately in four classes, ranging from medical practitioners and dentists at one extreme to aid-post orderlies and malaria eradication workers at the other. Some difficulties arose when respondents indicated 'doctor' as their career choice. In such cases they were listed under class A as choosing to become medical practitioners but there is always the possibility that some had in mind the aid-post orderly (*dokta boi*) as their choice.

employment for primary leavers, far exceeding either aspirations or expectations for clerical work. It is hardly surprising that among vocational trainees this trend should be even more pronounced; fully 55 per cent expected to find work as tradesmen.

Preferences for farming

Farming, fishing and related activities are included in class E (unskilled) employment. Table 8.6 sets out the pattern of preferences. It appears to indicate the existence of a conflict between the expectations of students and the structure of employment opportunities in Papua New Guinea. The first *Development Programme* pointed out that

the basic wealth of the country is in its agriculture and ... farming will be the natural (and rewarding) outlet for a large proportion of the output of the schools (TPNG, 1968:103).

It can only be assumed that farming did not seem sufficiently rewarding to all but a small proportion of the primary school leavers interviewed by the writer in 1968. This is despite the fact that a campaign was conducted in primary schools during that year to influence students to choose agricultural careers. Classroom posters depicted the important role of the farmer in a developing economy and teachers stressed the difficulties of finding wage-employment in towns.

Table 8.6

Preferences for farming

	Aspirations (%)		Expectations (%)	
	Boys	Girls	Boys	Girls
Form Four	3.4	3.6	0.7	1.8
Standard Six	8.7	2.2	8.5	0.7
Vocational	14.1	-	11.1	-

It is probably not surprising that so few Form Four students appeared to be interested in practical farming, given the range of employment and further education options open to them. (However, only about 6 per cent of boys at this level nominated diploma courses in agriculture and forestry as their first choice for further training.) The small proportion of primary leavers interested in agriculture, on the other hand, indicates a serious discrepancy between expectation and reality in the districts surveyed, which is all the more disturbing if (as seems likely) it may be taken to reflect attitudes widespread throughout Papua New Guinea.

Although a higher proportion of vocational trainees expressed interest in agriculture, the percentage was still disappointingly small, given the stated aim of centres to encourage trainees to engage in farming and other village enterprises. Even though the vocational centres do not purport to provide the training necessary for the skilled trades, the majority of their students hoped to be so employed - an expectation quite out of touch with the realities of the labour market, even in 1968.

The unpopularity of agriculture is all the more striking in view of the fact that the majority of students interviewed came from farming families. Table 8.7 shows the proportion of students at each level who described their fathers as farmers.

Table 8.7

Percentage of fathers engaged in agriculture

	Boys	Girls
Vocational	71.9	-
Standard Six	63.0	51.7
Form Four	57.9	48.2

Although the nature of the sample precludes significance testing, the differences in proportions between boys and girls, and between educational levels, are suggestive. Girls enrolled at either level appear less likely than boys to come

from farming families,⁹ and Form Four students appear less likely than those at Standard Six to have agricultural backgrounds. Vocational students appear to have backgrounds of lower socio-economic status. Remembering that these students were, in the main, primary school dropouts, it appears that educational achievement in Papua New Guinea may be influenced by economic and environmental factors quite similar to those which are observed to operate in more complex and economically developed societies. This is not to suggest that educational mobility in Papua New Guinea is restricted by social class to anything like the extent common in industrialized societies. There is no question that children of subsistence gardeners form a much larger proportion of the student body at the University of Papua New Guinea than children of manual labourers at any British (or Australian) university. A similar situation applies in a number of African countries (Foster, 1971:272-3).

Migration patterns

Students were also asked to state the places where they expected to settle after leaving school. This question was complementary to the one on employment expectations, and the results are intelligible in terms of the high expectancy of non-agricultural wage-employment expressed by all groups of students. Thus 50.3 per cent of Form Four boys and 32.1 per cent of girls expected to leave their home districts. At the Standard Six level expectations of migration were even higher; 56.1 per cent of boys and 43.1 per cent of girls expected to leave home to seek employment. Among vocational trainees the figure was 44.7 per cent. The pattern of movements anticipated by respondents may be observed in Tables 8.8 to 8.12, which are arranged in matrix-fashion to show the districts of origin, and of choice, of all respondents to the survey.

The pattern of expectations among primary leavers is particularly interesting, both because of the size of the sample and the districts of origin of its members. It is not surprising that students from the Gulf District exhibited the highest propensity to migrate. Migrants from the Gulf have

⁹In the survey conducted by W.R. Stent only 29 per cent of Form Four girls described their fathers as farmers. However, a high proportion of unclassifiable responses (17 per cent) may indicate a degree of equivocation by respondents.

Table 8.8

Form Four boys: pattern of expected migration, by district of origin

District of choice	Gulf	Central	M. Bay	Northern	E.H.D.	Chimbu	W.Sepik	E.Sepik	W.N.B.	E.N.B.	N.I.	B'ville	Manus	Total
Gulf	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Central	2	44	0	2	1	1	0	1	1	3	1	1	0	57
M. Bay	0	0	1	0	0	0	0	2	0	0	0	0	0	3
Northern	0	0	0	0	0	0	1	0	0	0	0	0	0	1
S.H.D.	0	3	0	0	0	0	0	1	0	0	0	0	0	4
E.H.D.	0	2	0	0	0	0	0	0	0	2	0	0	0	4
Chimbu	0	0	0	0	0	0	0	1	0	0	0	0	0	1
W.Sepik	0	0	0	0	0	0	2	2	0	0	0	0	0	4
E.Sepik	0	0	0	0	0	0	0	9	0	0	0	0	0	9
Madang	0	1	0	0	0	0	0	2	0	1	0	1	0	5
Morobe	0	12	0	0	0	0	1	0	0	7	0	1	0	21
W.N.B.	0	0	0	0	0	0	0	0	2	2	0	1	0	5
E.N.B.	0	3	0	0	0	0	1	1	0	9	0	1	2	17
N.I.	0	1	0	0	0	0	0	0	0	0	0	1	0	2
B'ville	0	0	0	0	0	0	0	0	0	0	1	3	0	4
Manus	0	1	0	0	0	0	1	2	0	0	0	0	1	5
No answer	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	3	69	1	2	1	1	6	21	3	24	2	9	3	145

Table 8.9

Form Four girls: pattern of expected migration, by district of origin

District of choice	Western	Central	M. Bay	E.H.D.	E.Sepik	Madang	Morobe	E.N.B.	N.I.	Manus	W.Irian	Total
Western	1	0	0	0	0	0	0	0	0	0	0	1
Central	0	13	1	0	1	0	0	1	0	0	0	16
M. Bay	0	0	2	0	0	0	0	0	0	0	0	2
Northern	0	0	1	0	0	0	0	0	0	0	0	1
E.H.D.	0	0	0	0	0	0	0	1	0	0	0	1
W.H.D.	0	0	0	0	0	0	0	1	0	0	0	1
W. Sepik	0	0	0	0	3	0	0	0	0	0	0	3
E. Sepik	0	0	0	0	7	0	0	0	0	0	0	7
Madang	0	0	0	1	0	1	0	0	0	0	0	2
Morobe	0	1	0	0	1	0	1	1	0	0	0	4
E.N.B.	0	1	0	0	0	0	0	9	2	0	0	12
N.I.	0	0	0	0	0	0	0	0	1	1	0	2
B'ville	0	0	0	0	0	0	0	0	0	0	1	1
Manus	0	0	0	0	0	0	0	0	0	3	0	3
	1	15	4	1	12	1	1	13	3	4	1	56

Table 8.10

Standard Six boys: pattern of expected migration, by district of origin

District of choice	Gulf	Central	M.Bay	Northern	S.H.D.	W.H.D.	W.Sepik	E.Sepik	Morobe	W.N.B.	E.N.B.	Total
Western	7	2	0	1	5	0	0	0	0	0	0	15
Gulf	53	1	0	0	3	2	0	0	0	0	0	59
Central	62	51	0	2	9	4	0	14	3	0	16	161
M.Bay	4	4	0	0	1	0	0	0	0	0	1	10
Northern	1	0	0	2	0	0	0	0	0	0	0	3
S.H.D.	1	0	0	0	56	1	0	0	0	0	1	59
E.H.D.	4	1	0	1	1	2	0	2	0	0	0	11
Chimbu	0	0	0	0	2	2	0	0	0	0	0	4
W.H.D.	0	1	0	1	6	22	0	1	0	0	0	31
W.Sepik	0	0	0	0	0	0	1	0	0	0	1	2
E.Sepik	3	1	0	0	0	0	0	19	0	0	0	23
Madang	4	2	0	0	5	5	0	3	0	0	5	24
Morobe	20	12	2	0	16	5	0	10	1	1	4	71
W.N.B.	0	0	0	0	1	0	0	0	0	0	0	1
E.N.B.	3	3	0	3	11	3	0	3	0	0	37	63
N.I.	0	0	0	0	0	0	0	0	0	0	1	1
B'ville	1	0	0	0	0	0	0	0	0	0	2	3
Manus	1	0	0	0	0	0	0	4	0	0	0	5
No answer	2	2	0	0	0	0	0	0	0	0	1	5
	166	80	2	10	116	46	1	56	4	1	69	551

Table 8.11

Standard Six girls: pattern of expected migration, by district of origin

District of choice	W.D.	Gulf	Central	Northern	S.H.D.	W.H.D.	E. Sepik	E.N.B.	Total
W.D.	1	4	1	0	0	0	0	0	6
Gulf	0	42	1	0	0	0	0	0	43
Central	1	39	50	3	6	0	2	2	103
M. Bay	0	0	1	1	1	0	0	0	3
Northern	0	0	0	3	0	0	0	1	4
S.H.D.	0	0	0	0	7	0	0	0	7
E.H.D.	0	0	2	0	0	2	0	0	4
Chimbu	0	0	0	1	0	0	0	0	1
W.H.D.	0	0	0	0	2	3	0	0	5
E. Sepik	0	0	0	0	0	0	6	0	6
Madang	0	2	2	0	2	0	0	2	8
Morobe	1	3	9	1	2	1	9	3	29
W.N.B.	0	0	0	0	0	0	0	1	1
E.N.B.	0	0	1	0	0	1	0	40	42
N.I.	0	0	0	0	0	0	0	1	1
Manus	0	0	0	0	0	0	1	1	2
No answer	0	1	1	0	0	0	0	0	2
	3	91	68	9	20	7	18	51	267

Table 8.12

Vocational trainees: pattern of expected migration, by district of origin

District of choice	Gulf	Central	M. Bay	N.D.	S.H.D.	Chimbu	W.H.D.	E. Sepik	E.N.B.	Total
Western	0	1	0	0	0	0	0	0	0	1
Gulf	22	0	0	0	0	0	0	0	1	23
Central	14	10	0	1	4	0	0	2	8	39
M. Bay	0	1	0	1	1	0	0	0	0	3
Northern	0	0	2	8	0	0	0	0	0	10
S.H.D.	0	1	0	0	27	1	1	0	0	30
E.H.D.	0	0	0	0	2	0	0	1	0	3
W.H.D.	2	0	1	4	6	1	21	0	2	37
W. Sepik	0	0	0	0	0	0	0	1	1	2
E. Sepik	0	0	0	0	0	0	0	3	0	3
Madang	0	0	0	0	3	0	0	1	3	7
Morobe	2	3	0	2	5	0	0	2	2	16
E.N.B.	1	1	0	0	2	0	1	0	19	24
No answer	0	0	0	0	1	0	0	0	0	1
	41	17	3	16	51	2	23	10	36	199

well-established communities of kinfolk ready to receive them in a number of major urban centres, most notably Port Moresby, while their opportunities for wage employment at home are limited (D. Ryan, 1965, 1968, 1970). Thus 68.1 per cent of boys and 53.8 per cent of girls expected to migrate from the Gulf District. In the East Sepik District 66.1 per cent and 67.0 per cent were the corresponding proportions, and although this district has a long tradition of labour migration no great reliance can be placed on these results, since the number interviewed was small and confined to three schools.

As with the Gulf sample, Southern Highlands respondents formed about 50 per cent of the eligible population. While somewhat similar to the Gulf in lacking local wage-employment opportunities for the educated, the Southern Highlands, as discussed above, has a short history of contact with the monetary economy. Potential migrants from this area also lack the urban contacts which facilitate chain-migration from the Gulf. Despite this, a high propensity to migrate was observed; 51.7 per cent of boys and 65 per cent of girls (the latter a very small sample) expressed the expectation of migration.

Indeed the only exceptions to the general pattern were in the Central and East New Britain Districts; presumably the existence of major centres of employment in Port Moresby and Rabaul influenced a majority of students in each case to look within the home district for jobs. Given the expectations of wage-employment expressed by primary leavers, it seems that, in cases where local wage-employment opportunities for the educated are lacking, migration to centres of opportunity must be contemplated.

Destinations of migrants

Although the general pattern of movements anticipated by students may be observed from the matrix tables, more precise information concerning destinations of migrants was collected. Respondents were asked to specify the subdistrict and district in which they expected to work. Some wrote 'Lae, Morobe', 'Rabaul, East New Britain', or 'Port Moresby, Central'. In such a case it is conceivable that the respondent expected to work at a rural location within, say, the Port Moresby subdistrict. This must be borne in mind in interpreting Tables 8.13 to 8.15.

Table 8.13Standard Six boys expecting to work in major towns

District of origin	Port Moresby	Lae	Rabaul
Gulf	51	17	3
Central	27	11	3
Milne Bay	-	1	-
Northern	2	-	3
Southern Highlands	9	15	10
Western Highlands	4	4	1
East Sepik	14	10	3
Morobe	3	-	-
West New Britain	-	1	-
East New Britain	16	4	9
	126	63	32

Table 8.14Standard Six girls expecting to work in major towns

District of origin	Port Moresby	Lae	Rabaul
Western	-	1	-
Gulf	31	3	-
Central	16	6	1
Northern	3	1	-
Southern Highlands	5	1	-
Western Highlands	-	1	1
East Sepik	2	9	-
East New Britain	2	3	14
	59	25	16

Table 8.15Vocational students expecting to work in major towns

District of origin	Port Moresby	Lae	Rabaul
Gulf	12	2	-
Central	4	3	1
Northern	1	2	-
Southern Highlands	4	5	2
Western Highlands	-	-	1
East Sepik	2	2	-
East New Britain	8	2	8
	31	16	12

Students listed in these tables are those specifying Port Moresby, Lae or Rabaul and who in each case had neither been born in that subdistrict, nor were their families living there. Of the sample of 551 primary boys, 126 specified Moresby, 63 specified Lae and 32 Rabaul. When the number of students disqualified from the calculation by urban birth or residence is considered, it appears that perhaps 45 per cent of boys from outside these three towns expressed the expectation of working there. This is not the only evidence of urban preference; there were 20 boys who opted for Madang (subject to the same *caveat* expressed above for the three major towns) and a number of Southern Highlanders and Sepiks to whom Mt Hagen and Wewak, respectively, appeared as magnets. Kerema and Mendi were the expected destinations of some students in adjacent subdistricts.

Standard Six girls, selected on the same criteria from the total sample of 267 students, chose as follows: Port Moresby 59, Lae 25 and Rabaul 16. In the last case, 14 of these girls lived in subdistricts adjacent to Rabaul. The same reservation must be expressed about 9 boys who opted for Rabaul. The excellent transport facilities of the Gazelle Peninsula would make it possible for many of these people to work in Rabaul while living at home. On the other hand, there was a sprinkling of support for Madang, and for a number of other district headquarters towns. Overall one gains the impression that rural girls have very nearly as strong a preference for migration to urban centres as rural boys, and the impression that students seeking work outside their home districts or subdistricts are drawn predominantly to urban areas is strongly reinforced.

Vocational trainees appear to have a somewhat less pronounced preference for employment in urban areas. Perhaps 35 per cent of rural trainees expected to migrate to the major towns. Nevertheless, if this propensity to migrate is representative of vocational trainees throughout the country, there are grounds for concern that the scheme may prove less effective in reducing urban drift than is hoped by its proponents.

Chapter 9

Expectations and realities

Expectations of future employment and migration expressed by school leavers in 1968 provide the starting point for a longitudinal study of their subsequent experiences. In this chapter data are presented which deal with the activities of the Standard Six group up to 1972, a period sufficiently long to permit some preliminary conclusions to be drawn. The 1968 study laid the foundations for a long-term project designed to trace the patterns of occupational and geographic mobility of the survey group well beyond the time-span covered in this monograph.

The data are restricted to the Standard Six group for a number of reasons. In the main, primary schools visited by the writer served compact and stable village communities, so that tracing the whereabouts of absentees was a relatively simple matter. On the other hand, vocational centres and high schools drew their students from quite wide areas, which in a number of cases have changed since 1968. Consequently it was difficult to locate the class of 1968 in subsequent years by questioning children attending the same school. An attempt by the writer to trace the vocational trainee sample in this manner proved a total failure.

It will be recalled that a major feature of the Standard Six sample was an extensive coverage of the Gulf and Southern Highlands districts. There is much more scope in the Gulf for information flows to occur from urban areas to the village, from the modern to the subsistence sector. Apart from anything else the journey to Port Moresby is both easier and cheaper than from the Southern Highlands to major urban centres (with the possible exception of Mt Hagen). Higher literacy rates among Gulf people and substantial concentrations of Gulf migrants in urban areas result in the occurrence of considerable rural-urban information flows through the mails. Moreover travellers from the Southern Highlands have, until very recently, had little experience

other than of employment on rural plantations to communicate to their untravelled kinsmen. In economic terms, the mechanisms for the dissemination of labour market information have been much better developed in the Gulf.

If it is true that 'the individual maximises income subject to an information constraint', and that 'to take advantage of an opportunity a migrant must be aware of its existence' (Nelson, 1959:44), school leavers in the Gulf would appear better equipped to take advantage of urban employment opportunities. (This is true unless the formal education system, rather than the informal mechanisms described above, is the major source of labour market information.) If it is also true that the presence of large numbers of kinfolk in the destination region (which, besides acting as a source of information, lowers the costs and uncertainties associated with migration) is conducive to population movement (Greenwood, 1973; Levy and Wadycki, 1973), then once again one would expect a greater propensity to migrate on the part of Gulf school leavers.

Certainly, in terms of expectations, Gulf children displayed a greater propensity to migrate (68.1 per cent of boys and 53.8 per cent of girls). It could not be said, however, that the Southern Highlands group was markedly more stable; 51.7 per cent of boys and 65 per cent of girls (the latter a very small sample) expected to leave the district. Students from both these districts gave promise of considerably greater mobility than students living near major urban centres, in the Central and East New Britain districts.

What follows is a record of the extent to which expectations of migration by the primary leaver sample were subsequently translated into action. At the time of the survey in 1968, students in thirty schools were given stamped addressed envelopes and asked to post a questionnaire to the writer on 1 March 1969. Out of a total of 757 questionnaires issued 489 were returned, a response of 64.6 per cent. From these replies came information about the occupation and location of respondents approximately three months after completing primary school (see Table 9.1). Only 21.6 per cent of boys and 20.5 per cent of girls who replied had actually left school, and of these approximately 60 per cent

Table 9.1
Location of respondents, 1 March 1969

District	At school						Left school				Total
	High school		Vocational		Repeat		At home		Left home		
	B	G	B	G	B	G	B	G	B	G	
Central	31	32	6	3	0	1	7	3	3	2	88
Gulf	41	14	12	5	21	20	7	7	17	8	152
S.H.D.	26	10	17	0	9	0	17	3	6	2	90
E. Sepik	33	3	3	0	5	4	3	3	3	1	58
E.N.B.	41	22	3	3	2	1	1	1	0	0	74
W.H.D.	14	1	1	0	1	1	8	1	0	0	27
Total	186	82	42	11	38	27	43	18	29	13	489
%	55.0	54.3	12.3	7.3	11.2	17.9	12.7	11.9	8.9	8.6	

were living at home and 40 per cent had left home.¹ Considering that the mean ages of the sample were only about 14.25 years for boys and 14.1 years for girls on 1 March 1969 this reveals quite a high degree of mobility among those who had finished their education. Moreover the responses are clearly biased in favour of those continuing at school and against those moving away from home since the former group had stimulus from classmates to return the questionnaire while the latter, having altered their mode of life and place of residence, were less likely to respond.

Of 43 boys living at home, 7 had obtained wage employment, 32 declared themselves to be seeking employment and only 4 stated that they were doing village work, implying a willingness to remain within the agriculture sector. Those looking for jobs nominated a wide range of occupations, fifteen in all, which mostly fell in manpower classes C and D. Most of these were occupations which Standard Six leavers had typically gained in earlier years and could conceivably gain even in the more difficult labour market of 1969. A single girl living at home had found a job, 11 said they were looking for work and 6 others appeared willing to remain within the traditional community.

If some of those living at home had accepted life within the traditional sector, those leaving home had clearly rejected it. Of 29 boys in this category only 5 had found jobs. The remainder nominated eleven separate occupations; if anything their aspirations were more modest than those of the respondents who had remained home. A sprinkling of replies came from district centres: Mendi, Mt Hagen, Goroka, Wewak, while 4 came from Lae and 16 from Port Moresby, the latter largely from Gulf migrants. Three of the boys in Port Moresby mentioned that they had come to the town in the hope of continuing their education. Only 4 of the 13 girl migrants had found work. Ten wrote from Port Moresby, the others from minor urban centres.

A contrast emerged between the experiences of respondents from the Gulf and Southern Highlands districts. Of 24 Gulf boys who had left school, 17 had left home, mostly for Port Moresby. Of 23 Southern Highlands boys only 6 had left home.

¹The fact that 11.2 per cent of boys and 17.9 per cent of girls were repeating Standard Six in 1969 (in defiance of official policy, incidentally) says something about the strength of the social demand for secondary education.

Among girls 7 out of 15 remained at home in the Gulf and 3 out of 5 in the Southern Highlands. The greater mobility of young Gulf people within a few months of leaving school is probably explicable in terms of the network of relatives and contacts which awaits them on arrival in Port Moresby, facilitating their migration.

Two years later

More recently, in February and March of 1971, the writer obtained further information on the dispersion of the sample. Head teachers in all thirty-five schools replied to a questionnaire, providing information about the people interviewed. Teachers were asked to gather this information by questioning their Standard Six classes so that the data presented reflect not only the experience of the 1968 school leavers but also the information which children three years younger had about this experience. The assumption that expectations of school leavers are formed by observation of the behaviour and experience of older primary graduates is basic to the writer's analysis of school leaver behaviour.²

In March 1971 the mean ages of the sample were approximately 16.25 years for boys and 16.1 years for girls. Table 9.2 sets out the details of the dispersion of these students and is summarized in Table 9.3. Compared with 1969 a much larger percentage had now left school, and of these (in the case of boys, at least) a larger proportion had left home. Very nearly half of those whose location was known and whose education was complete had left their home villages. Bearing in mind that the mean age of the boys surveyed was only slightly more than 16 years, the legal minimum age for wage employment, the data reveal a very high propensity to migrate.³ This propensity may increase with time as those remaining at home grow older.

The district totals reveal a number of contrasts. Boys in the Central, East New Britain and Western Highlands districts

² Certain information collected by the writer from the class of 1968 (relating to earlier cohorts of school leavers) is discussed elsewhere (Conroy, 1972c).

³ Of course, in the absence of detailed data on the characteristics of all absentees, this says nothing about the influence of education, *per se*, on migration.

Table 9.2

Dispersion of 1968 primary school leavers, March 1971

District	Further education						Wage employ- ment at or near home				Left home		Unknown		Total	
	High school B	G	Vocational B	G	Other B	G	Village work B	G	B	G	B	G	B	G	B	G
Gulf	56	21	7	2	15	-	25	48	6	3	53	16	5	5	167	95
S.H.D.	29	10	1	-	8	-	19	4	11	1	44	3	7	2	119	20
Central	41	34	-	-	9	1	7	21	15	10	7	2	5	3	84	71
W.H.D.	13	2	1	-	5	-	17	2	2	3	3	-	5	-	46	7
E. Sepik	29	6	-	-	5	-	7	6	5	2	1	4	7	-	54	18
E.N.B.	39	21	1	2	8	3	11	15	3	8	10	2	1	-	73	51
Northern	8	2	-	-	-	2	-	1	-	-	-	-	1	-	9	5
Total	215	96	10	4	50	6	86	97	42	27	118	27	31	10	552	267

Table 9.3

Summary of data on dispersion of
1968 primary school leavers at March 1971

	Boys (%)	Girls (%)
Still being educated	49.8	38.2
Living at home	23.2	47.9
Left home	21.4	10.1
Unknown	5.6	3.8
	100.00	100.00

are close to the employment opportunities of Port Moresby, Rabaul and Mt Hagen and exhibited a correspondingly lower propensity to migrate. In the Gulf and Southern Highlands, however, the majority of boys with a completed education had left home for centres of greater economic opportunity. Table 9.4 shows the location of male absentees. Boys from the Gulf were drawn strongly to Port Moresby, although small numbers were scattered widely throughout Papua New Guinea. A majority of Southern Highlanders had migrated to Highland towns, notably Mt Hagen, while some had gone to coastal towns. Boys absent from the Rabaul area of East New Britain had been drawn in most cases to employment created by the Bougainville Copper project.

Differing propensities to migrate in the various districts support the contention expressed in Chapter 8 that, where local wage-employment opportunities for the educated are lacking, migration to centres of opportunity must be contemplated. By 1971 contemplation had given way to action for a significant minority of boys. This had not occurred to the same extent among girls, perhaps because of social and customary impediments to their free movement. Despite a slower response among Southern Highlands children (shown by the data for March 1969) it is not clear that in the longer run they will display a lesser propensity to migrate than young people from the Gulf. To this extent the hypothesis that exposure to the common experience of formal education overrides regional differences is likely to be supported. When this factor is combined with limited local opportunities for modern sector wage employment the predictable result is

Table 9.4

1968 school leavers: location
of male absentees, March 1971

Location	District of education					
	Gulf	S.H.D.	E.N.B.	E.Sepik	W.H.D.	Central
Port Moresby	39	7			1	5*
Lae	2	1			1	
Rabaul		6				
Madang				1		
Mendi		3				
Other S.H.D.	1	5				
Goroka	2	1				
Mt Hagen		11				
Other Highlands		2			1	
Other Central	2					
Kerema	2					1
Wewak	2					
Other N.G. coast	1					
Bougainville	1		6			1
Other N.G. islands			3			
Not stated	1	8**	1			
Total	53	44	10	1	3	7

* All from a rural school.

** Mostly employed in uniformed services (police, army, etc.)

a high propensity to migrate.

The data gave little information concerning the employment realities facing the primary graduates of 1968 at that time. Many absentees were recorded vaguely as 'working in Port Moresby', 'employed by Burns Philp', and so on, but this gave no indication of the nature of the employment and does not inspire confidence in the data. Such evidence may merely mean that the individuals concerned are known, at some time or other, to have been employed. Very few were recorded as currently unemployed but one suspects this may reflect a general feeling of optimism among village children

approaching the end of primary schooling. 'So-and-so was working for Steamships in Moresby when last we heard; he is still in Moresby, therefore he is still working'. The realities of the urban labour market are probably harsher than these children realize.

Data presented so far in this chapter have been static, representing 'snapshots' of the survey group, taken in 1969 and 1971. But internal migration is a dynamic process, involving complex streams and counterstreams of migrants. To gain an understanding of the forces at work requires more than still photography; some equivalent of a motion picture record of events is necessary. Aggregate data must be supplemented by a detailed case-study approach which attempts a continuous record of the movements of individuals. The remainder of this chapter presents such chronological data for some members of the 1968 sample.

Between March and June 1972 members of the group who had migrated independently to Port Moresby were interviewed personally.⁴ From the survey of 1971 it was known that the largest single concentration of migrants from the 1968 sample was located there. In the event 50 persons were contacted who satisfied the definition of an independent migrant adopted for the purpose of the exercise.⁵ Of this number 40 were judged to be members of the urban monetary workforce in the sense that they were either employed or involuntarily unemployed, while the remainder were outside the workforce for a variety of reasons. The 50 persons interviewed probably represent a substantial majority of all independent migrants from the 1968 sample who had found their way to Port Moresby at the time of the survey. Table 9.5 sets out certain details of the group.

⁴The material which follows has been previously published in an article (Conroy and Curtain, 1973) which includes some case-studies not described here.

⁵Those included were persons coming (or remaining) of their own volition to reside in Port Moresby and excluding the following cases:

- a) Persons transferred by their employers to Port Moresby (as in the case of a man who enlisted in the army at home and was transferred to Port Moresby for training).
- b) Persons coming to the city specifically to pursue further education of a type not available at home. (On the other hand, persons in category (b) who elected to work in Port Moresby on completion of their education were included.)

Table 9.5Independent migrants contacted in Port Moresby

	Male	Female	Total
In workforce	37	3	40
Not in workforce	6	4	10
Total	43	7	50

The migrants interviewed came from ten schools in the Gulf and Southern Highlands Districts, with the former group predominating. The number of Southern Highlanders is too small to enable many conclusions to be drawn but these young men are of particular interest since they are the advance guard from an area which has hitherto yielded few educated migrants to the major towns of Papua New Guinea. The places of origin of the migrants are indicated in Table 9.6.

Table 9.6Primary schools attended by migrants

District	School	Male	Female	Total
Gulf	Ihu	4	-	4
	Miaru	10	2	12
	Iokea	7	2	9
	Terapo	5	-	5
	Moveave	9	-	9
	Moru	-	1	1
	Murua	-	1	1
	Kukipi	4	1	5
Southern Highlands	Oiyarip	3	-	3
	Kagua	1	-	1
		43	7	50

The discussion which follows draws upon the raw data of the 1968 survey to describe the age, family background and

migration expectations of the fifty individuals who formed the survey group. The mean stated ages of the migrants (calculated from their 1968 responses) were 18.8 years for women and 18.2 for men at the time of their interviews in Port Moresby in 1972. The latter figure was significantly older than the mean of 17.5 years for all males contacted in the 1968 survey. This indicates the possibility that age has an influence on migration and that more movement may occur as the age of the group rises.

In 1968, 50 per cent of the migrants had described their fathers as farmers, but it is likely that the fathers of others were also engaged to some extent in agriculture. For example, the fathers of four were village pastors, but they and their families were no doubt largely self-supporting in garden produce. Probably at least 70 per cent of the group came from families whose income was derived largely from subsistence activities.

The following information extracted from the 1968 data shows quite clearly that most members of the group contacted in Port Moresby had made plans to migrate while still at primary school. Only 14 per cent expected to live and work

Table 9.7

Migrants' expectations in 1968 of future location

	Number	%
Own subdistrict	7	14
Elsewhere within own district	7	14
Port Moresby subdistrict	18	36
Other major urban subdistricts	12	24
Other	5	10
No answer	1	2
	5	100

at home while 84 per cent anticipated travelling away from the home subdistrict. Of these fully 60 per cent named major urban areas (Port Moresby, Lae, Rabaul, Goroka, Wewak

and Madang), while the remainder nominated various minor urban areas. Nor was there anything very fanciful about these plans; as we have seen, by 1971 various of their classmates were to be found in practically all these places. That these school leavers came to Port Moresby is less important than the fact of their clear intention to migrate in the first place. Once a young person in the Gulf District decides to leave home, practical considerations draw him almost invariably to Port Moresby. Similar considerations would appear to make Mt Hagen the most obvious destination for Southern Highlanders. None of the four migrants from that district had expected to move to Port Moresby, but all had expected to leave their home district. It seems likely that as time passes the behaviour of the 1968 survey group will increasingly support the findings of a long-term longitudinal study of school leavers in the United States that 'levels of migration performance in adult life are substantially influenced by migration expectations in youth' (Yoestling and Bohlen, 1968:498).

The group's strongly expressed expectation of urban living is intelligible in terms of an equally strong expectation of wage employment in urban occupations. Table 9.8 offers a comparison of the future occupations expected in 1968 with those actually held in 1972 by the forty migrant workers. Only two students had expected to become farmers; the bulk of the group expected to find modern sector jobs of a largely urban nature, or jobs which (as in the case of teaching) would probably necessitate migration from home.

The 1968 survey showed that the employment expectations of senior primary students were, in the aggregate, unrealistic in the face of rising qualifications demanded by employers, the falling probability of obtaining further training and the sheer growth of numbers of school leavers. On the other hand, from the viewpoint of the individual student, the occupations chosen were in categories readily available to Standard Six students in previous years, and still likely to be achieved by some. Although rendered unrealistic by the circumstances of a rapidly changing labour market the expectations are modest enough. They represent considered choices on the basis of dated information rather than the guesses of fanciful children. There is a cluster of occupations in manpower categories B (sub-professional) and C (skilled), of which teaching and a variety of skilled trades are most important.

Table 9.8

Expected and achieved workforce status of migrants*

Expected 1968					Achieved 1972				
Manpower class	No.	%	Occupations	No.	Manpower class	No.	%	Occupations	No.
A	-	-			A	-	-		
B	6	15.0	Teacher	4	B	-	-		
			Pilot	1					
			Forestry officer	1					
C	17	42.5	Skilled trades	9	C	1	2.5	Potter	1
			Teacher	4					
			Clerical	1					
			Customs officer	2					
			Ships officer	1					
D	14	35.0	Army/police	3	D	15	37.5	Tradesman	4
			Tradesman	8				Clerical	4
			Typist/clerical	2				Shop assistant	5
			Nurse	1				Typist	1
E	2	5.0	Farmer	2	E	22	55.0	Army	1
								Clerical	10
								Manual	6
								Storeman	3
								Shop assistant	2
								Child care	1
No answer	1	2.5				-	-		
Never employed	-	-				2	5.0		
Totals	40	100.0				40	100.0		

* Applies to workforce members only. The classification is based on the practice of the Papua New Guinea Manpower Planning Unit and the wage rates paid to respondents in 1972.

A striking feature of Table 9.8 is the unimportance of clerical work in the expectations of the group and its importance in reality. Here is a set of circumstances which contradicts the conventional wisdom. The school leaver who demands a clerkship and scorns to work with his hands is a stock character of colonial mythology. The reality for this group of migrants is that while many hoped for employment in trades and few for jobs in offices, labour market opportunities dictated that many should work in offices and few should gain admission to skilled manual work.

As Table 9.8 clearly shows, the young migrant workers had in 1972 achieved occupational status well below their general level of expectation. None had gained entry to the training institutions necessary for sub-professional status and only one had the training or experience which qualifies a class C (skilled) worker. (Of course this is not to deny that some of their former classmates, who are continuing their education, are likely to enter the high level manpower categories.) Some with a partial secondary education will probably achieve higher levels through experience and on-the-job training. Others were taking correspondence courses to qualify for promotion, but in general the picture is clear. This is quite apart from the group's experience of unemployment, which has operated overall to reduce the returns from urban wage-labour.

The 40 workforce members had held a total of 61 jobs since leaving school, an average of about 1.5 jobs per worker. However, while one man had worked at seven jobs 23 of the group had held only a single job, so that in general the turnover of labour has been slight. At the time of the survey six young men, or 16.2% of the male workers, were unemployed. They had been out of work for the following periods: 1 week, 2 weeks, 1 month, 2 months, 4 months, 33 months. The first of these had just arrived in Port Moresby. For the group of forty workers as a whole, approximately 17 per cent of the time since entering the urban workforce (in Port Moresby and elsewhere) had been spent in involuntary unemployment. Thus, while there is no necessary connection between them, the two measures of unemployment support one another. Each indicates an average incidence of unemployment of about one-sixth of the group. However, the extent of the unemployment discovered is related to the definition of workforce participation which one chooses to adopt. A less rigorous definition than the one used here would indicate a higher rate of unemployment, as a discussion of some of the

10 respondents excluded from the workforce will show.

Kaipa was clearly voluntarily unemployed in terms of the definition offered by the writer in Chapter 1.⁶ Having recently completed an extended period of highly paid and physically strenuous work with a mineral exploration team, he was interviewed while spending three months resting in Port Moresby. He was to rejoin the team when exploration recommenced. It seems reasonable to conclude that his supply price would exceed the going rate for whatever other work he might have done.

More difficult, however, are the cases of Ume and Pura. They were interviewed while undertaking a fee-paying course designed to prepare them for office employment. Both had been unsuccessfully seeking work before this, and their willingness to take the course is evidence of their concern. One may be tempted to regard them as unemployed since their studies were part-time, occupying only an hour or two each day.⁷ Easier to exclude were two young men, neither of whom had been long in Port Moresby, nor had they ever worked or even looked for work. They were discovered attending a training course run by the Tourist Board, presumably in preparation for a labour market debut.

The classification of female migrants can also be difficult. Two girls were located, each of whom was married with a child and therefore excluded. But two single girls posed problems. One had come to Port Moresby about seven months before the interview and was helping to care for her sister's children. She claimed that she now wanted a job and would shortly seek the assistance of a relative who worked at the Labour Office. The other had been six months in the town, and had once asked unsuccessfully for work at a laundry. She had not tried again, though she would have accepted any work offered to her. Given that their employment prospects are so much worse than those of young men, one wonders

⁶'The voluntarily unemployed in urban areas include short-term visitors (of economically active status), those genuinely resting between jobs, and those whose supply price exceeds the wage for the occupation for which they are qualified, and who are not actively seeking other employment.'

⁷To count them as involuntarily unemployed would increase the number of male workforce members to 39, and increase the unemployment rate among them to 20.5 per cent.

whether such girls should be expected to seek work actively in order to be classified as involuntarily unemployed.

A number of generalizations can be made about the experience of these migrant workers. Typically, they spent little time in the village after leaving school. Within a month 67.5 per cent had left home and 75 per cent within two months. Most made the journey with relatives or friends, while almost all workers from the Gulf District were accommodated by close relatives. However, it is an interesting comment on their independence that not one of the respondents, worker or non-worker, was living with his parents.

The workers had been absent from home for periods ranging between three and a half years and one week. In the meantime 15, or 37.5 per cent, had returned to the village for visits. These were during holiday periods or spells of unemployment, and were mostly for periods of less than one month. Only three persons had made more than one trip home, and in only one or two cases does there appear to have been any attempt by an individual to reintegrate himself into the rural agricultural workforce. On the other hand there is a good deal of ambivalence in their attitudes to residence in Port Moresby, probably reflecting the economic insecurity of town life. Only about 20 per cent of the workers declared themselves to be permanent or long-term residents of the town, while 30 per cent nominated short- to medium-term stays (from 1 to 10 years). About 50 per cent were unsure of their plans, or made conditional statements, such as, 'I'll stay while I have a good job'. Those intending to stay permanently were, for the most part, in relatively secure and well-paid jobs.

Table 9.9 sets out the levels of formal education attained by the worker group. Forty-five per cent had gone on to post-primary education. Five boys had reached form three secondary level after attending an elite primary school which in 1968 sent almost every pupil on to high school. Recent arrivals in Port Moresby, they were practically the first among their classmates to enter the urban labour market. A number were trying to improve their qualifications. Five had attempted secondary correspondence courses, one had attended a tourist industry training course and another had undergone a period of agricultural training before coming to Port Moresby. As mentioned previously the group outside the workforce included two tourist trainees and two commercial trainees.

Table 9.9Education levels of migrant workforce members

Level	Number	%
Standard Six	22	55.0
Vocational	9	22.5
Form One	1	2.5
Form Two	3	7.5
Form Three	5	12.5
	40	100.0

The mean wage received by thirty-one males working at the time of the interview was \$20.30 per fortnight, which compared favourably with the Port Moresby minimum wage of \$16 for adult unskilled males, especially considering the group's mean age of 18.2 years. If salary increases over a period of time are taken to indicate the acquisition of skill and experience on the job, there were seven males who had improved their workforce status by progressing from a salary below the mean to one above it with their current employer. One of the girls had a similar record. Clerical positions generally paid below the mean and semi-skilled manual jobs above it. Assuming economic rationality and some knowledge of the labour market among Standard Six leavers, this may help to explain their pattern of employment preferences in 1968.

Some case studies

At this point it is proposed to recount the case histories of several school leavers whose experiences point up certain characteristics of the migration process. The first deals with a Southern Highlander and his case provides a number of contrasts with those of Gulf migrants which follow.

Mondo. Mondo attended primary school near Mendi with Yap and Obi, and all three were respondents to the 1968 survey. They enrolled at the Vocational Centre at Mendi in

1969. Mondo and Yap were sent to Mt Hagen at the beginning of 1970 to learn about beef cattle. They were urged to set up their own cattle project and encouraged to grow vegetables in order to accumulate the necessary capital. Mondo and Yap felt that this would take '40 years' to achieve and so they decided instead to come to Moresby. Yap was quite explicit in his aim to save the necessary capital in Port Moresby, while Mondo described his visit as valuable in teaching him how business was conducted. The boys had attended school with a Papuan and persuaded him to write to his brother in Port Moresby for accommodation. They stayed with the brother until they were able to make their own arrangements. Mondo went to the Labour Office within days of his arrival, but found himself a job the next day by personal application to a European bricklayer. He has worked for this man ever since, earning \$25 a fortnight. Later he persuaded the man to erect staff quarters behind his business premises and Mondo was living there, in three rooms housing eighteen people.

At the end of his first year in Moresby Mondo went home to Mendi on holiday and persuaded Obi to return to town with him. He was able to get Obi a job with the bricklayer. Two other friends were persuaded by Mondo's letters to come to Port Moresby and they were also living with him. Mondo was quite definite that he would leave Moresby at the end of 1973. He thought he would like to work in Lae or Rabaul. Moresby was too expensive and it might be possible to save money more easily somewhere else.

The attitudes of these three Southern Highlanders, and of the fourth, a youth from Kagua, were reminiscent of Salisbury's description of the Siane in Port Moresby (Salisbury and Salisbury, 1970, 1972). The Siane are described as viewing employment in town as a learning experience, and as an opportunity for the accumulation of capital for rural investment in trucks and trade stores. They regard themselves as merely temporary residents in Port Moresby.

Similarly, these four young men planned to stay quite limited periods in town and there appeared to be a very real element of curiosity in their attitude to the experience. They professed an ideology of rural investment, with cattle and fencing wire added to the usual list of projects. Three actually claimed to be saving money and one at least had accumulated \$50. There was a contrast with the Gulf

migrants, whose ambitions appeared to be directed more to achievement within the urban economic framework. Of 46 respondents from the Gulf only two mentioned ambitions for rural investment. One youth planned to accumulate \$600 over ten years and take an outboard motor home with him, while a married woman said that her husband was financing the erection of a permanent-materials house in their village.

Another feature of Mondo's story is the chain of migrations which commenced with his arrival in Port Moresby. He established a bridgehead in the town which permitted others to follow him.

Hekoi. Hekoi came from the Gulf to Moresby within a month of finishing primary school. After looking for a job for two weeks he was taken on as an assistant in a Chinese store at \$10 a fortnight. The job lasted only two weeks and then after another two weeks he found work in a timber yard, this time at \$6 a fortnight. But after another two weeks he became ill and was unable to continue. Then followed a period of unemployment which lasted a full twelve months. Towards the end of this time he enrolled in a correspondence course to improve his qualifications, but did not persevere because of an opportunity to learn weaving which arose under a small industries program conducted by the Department of Business Development. After two or three months he became interested in pottery-making, another activity sponsored by the Department. Although his people have no tradition of pottery, Hekoi displayed a natural flair for the work and was, after almost two years, regarded as an extremely promising craftsman.

With two other young potters he spent several months working in a studio in Queensland, and showed his work in a successful exhibition there. Within two years, Hekoi hoped to be able to set up an independent studio in partnership with another young Papuan, under the sponsorship of the Department of Business Development. He doubted whether he would ever return to his village, other than for short visits.

The third case study is of an individual who was not classified as a workforce member at the time of the survey.

Hasu. Hasu did poorly in the 1968 Standard Six examination and came to Port Moresby with his uncle because the uncle said he should look for a job. He applied at the Labour Office but, although he was sixteen at the time, they told

him he was too small. By that time it was too late to start school again, so he spent the rest of the year at his uncle's house in Hohola. Hasu has a relative who is a prominent politician and with his help gained admission to Standard Five in a town school at the beginning of 1970. When interviewed he was in the first form of a multi-racial high school, aged 19 and a full three years behind his contemporaries. He still lived with his uncle, but had been home each Christmas to visit his parents. They were happy to have him continuing his education in Port Moresby.

This story is by no means an unusual one. It reflects the strength of demand for, and faith in, formal education as the medium for personal economic advancement. For some evidence of the extent to which repetition occurs, see Beck (1970) and Zinkel (1970). Port Moresby attracts many young migrants who wish to take advantage of its superior educational facilities, and in particular its very high admission rate of primary leavers to secondary school (Smith, 1971).

Motives for rural-urban migration

There is no doubt that, as discussed in Chapter 8, social science research in the area of motivation is subject to many pitfalls. The answers to 'Why?' questions may be coloured by *ex post* rationalization or by the fact that the person answering has been changed by his experience to the point where his original motives are forgotten. However, the opinions expressed by these young migrants in Port Moresby are rendered credible by the existence of *ex ante* evidence of their expectations while still attending rural schools. The high degree of consistency between the data collected in 1968 and 1972 render the latter admissible.

In spite of Rottenberg's warning that answers phrased in single motivational terms seldom tell the whole story (1968: 62), there is, nonetheless, a strong and recurring theme. When asked 'Why did you come to Port Moresby?', 75 per cent of the worker group gave reasons directly connected with finding employment or earning money. The remainder ranged from the basically economic ('no good clothes in the village', 'friends said everything was free and there were plenty of jobs') to the functional ('brought my brother's wife to town'), the passive ('my brother told me to come'), or the merely curious ('to find out what Moresby was like'. 'just to have a look').

The attitudes of the small Southern Highland group have been discussed above in connection with Mondo's case study. What follows is largely concerned with the much larger Gulf District contingent. On several occasions spontaneous group discussions arose which involved the interviewer, some of the respondents, and interested bystanders of the same age-group. On two occasions someone volunteered the opinion that the lack of companionship of his peers at home exerted strong pressure on a young man to migrate. If jobs were readily available at home, many agreed, people would prefer to stay there. One lad suggested that if something like the Bougainville Copper project were to happen in the Gulf, people now in Moresby would go back home.

Three people expressed fear of fighting and 'payback' killing between ethnic groups in town. Several others feared trouble with the police, who were increasingly active in the enforcement of vagrancy laws. This fear is a real barrier to the collection of social survey data and is responsible for underenumeration and inaccuracies in urban census statistics. A degree of suspicion of the motives of the interviewer was evident on a number of occasions but it was normally possible to dispel this by referring to the 1968 survey, which almost all respondents remembered clearly. It was also helpful to have the interviewer introduced to respondents by someone known to both.

Many said that Moresby was not an easy place to live in. A person could not save much and it was more difficult than life at home because one needed money for everything. A Form Three leaver who came from a village with a sawmill would have preferred to stay home and work, if there had been a vacancy, because of greater opportunities to save. However 19, or 56 per cent, of those employed at the time of the survey admitted they were saving part of their earnings, while only 7, or 21 per cent, claimed they were unable to do so. It was felt inappropriate to ask the remainder questions about savings because of the circumstances in which the interviews occurred. Similarly, the presence of relatives and friends during interviews inhibited the collection of any worthwhile information on the amounts being saved.

In the Konedobu squatter settlement, within earshot of the band playing in a nearby tavern, the interviewer suggested that social attractions, the 'bright lights', influenced people to migrate to towns. A Teachers' College student said that he had read of Africans coming to towns because of the

music and dancing there, and explicitly rejected this as a factor in the Port Moresby situation. A listener jokingly interjected that perhaps people came to town to hear the guitars in the Kone tavern, and this suggestion was greeted with great amusement.

As mentioned previously, leisure-time activities take place largely within social networks which are transferred from the village to the town. Even church-going (and more than 80 per cent of respondents attended church services, at least occasionally) tends to occur within this context. This is not to say that people do not enjoy the attractions of urban life, but these may be less central to their experience than is often supposed.

In 1968 the members of the group expressed little interest in farming and revealed strong preferences for urban residence. This might be interpreted as showing disdain for farming and manual work (an opinion sometimes imputed to school leavers), and a belief in the intrinsic superiority of urban life. But these school leavers are willing to work with their hands, as their strong preference for the skilled trades shows. Moreover there is no evidence of a belief in the intrinsic inferiority of farming as a career. A more plausible hypothesis is that school leavers weigh occupations in terms of the monetary reward that may be expected, and that they see the towns as places where most of the well-paid jobs are located. Both they and their parents view education as the medium by which such employment is gained and it is natural that a school leaver should seek wage employment even if, in areas of limited economic development, this involves his leaving home. Conversations with young migrants in Port Moresby, however, do not support the view that it is the town, *per se*, which attracts them. Rural-urban migration by school leavers appears to be primarily an economic phenomenon, based on the perceived imbalance of advantages between urban and rural life.

Chapter 10

Urbanization in Papua New Guinea: a development constraint

Urban populations are growing rapidly in Papua New Guinea, both in absolute terms and as a proportion of the total. In the intercensal period 1966-71 the indigenous population enumerated in urban centres grew from 103,645 persons to 231,873, and from 4.82 per cent of the total population to 9.52 per cent. Quite clearly this is a rate of urbanization high by any standards.¹ Table 10.1 sets out the relevant data.

Modernization, industrialization, urbanization; these are phenomena which appear, to a considerable extent, to have been co-extensive. The history of today's economically developed nations shows a set of fairly clear and consistent trends which include occupational and spatial shifts of population such that the proportion of people living in rural areas and engaging in agriculture has tended to decline while the proportion living in cities and employed in manufacturing rose. Structural change in the economy, in its spatial, occupational and productive dimensions, is seen as an integral part of the development process and urbanization has been regarded as a necessary condition of that process.

The view is abroad that Papua New Guinea can best be assisted along the path of structural change and economic development by policies which deliberately foster the necessary condition of urbanization. Professor Gerard Ward in a widely discussed and influential paper has argued 'that migration and the rapid expansion of towns are essential for economic and social progress and that urbanization should be facilitated and encouraged, rather than frowned on and discouraged' (R.G. Ward, 1971:81), while

¹Thus Frank calculates a weighted average rate of growth for major African cities during the 1950s and early sixties of 6.8% p.a. Only a few cities approached the rates more recently experienced in Papua New Guinea (Frank, 1968:252-3).

Table 10.1

Indigenous population growth, 1966-71

	1966	1971	% Increase	% Annual growth rate
Papua New Guinea	2,150,317	2,435,509	13.26	2.50
All urban centres	103,645	231,873*	123.72	17.46
Port Moresby	31,983	59,563*	86.23	13.24
Lae	13,341	32,077*	140.44	19.18
Madang	7,398	14,695	98.63	14.71
Wewak	7,967	13,837	73.68	11.66
Goroka	3,890	10,508	170.13	21.98
Mt Hagen	2,764	9,257*	234.91	27.34

* Some urban boundaries were redrawn before the 1971 census, incorporating settlements outside urban boundaries in 1966. Totals marked by asterisks are affected accordingly. In Rabaul (population 22,393 at July 1971) the revision was so drastic as to invalidate any comparison with 1966.

Source: Papua New Guinea (1973d), annual average compound rates of growth calculated by the writer.

Dr Marion Ward has stated that 'To attempt to stem the flow of urban migration is ... a move which is intrinsically bad in relation to the political and economic development of this country' (M.W. Ward, 1970:58). While both papers are, in part, reasonable critiques of hasty and ill-judged proposals to check population movement by restrictive legislation, the Wards seem to have gone beyond this to affirm positively the developmental stimulus of urbanization. Urbanization, one suspects, is to them not merely a necessary condition of development; it is a sufficient one.

Moreover, according to Marion Ward,

Urbanization is inevitable. Every developing country has experienced it, whether one thinks of countries which began to industrialize a century or two ago such as Britain, North America or

Australia itself, or countries such as those of Asia, Africa and Latin America where urbanization in the last two or three decades has been proceeding at a tremendous pace. As yet New Guinea remains behind the rest of the world in this, as in so many other things, and it is almost certain that nothing can prevent a great flood of urbanization in New Guinea in the next few years (M.W. Ward, 1970:57-8).

But there is an important qualitative difference between what happened in the nineteenth century and what is happening now. In the words of another observer,

urban growth in the developing world today is not so much a measure of healthy, inevitable processes of modernization as a pathological acceleration of urban 'cell-creation' which could put whole societies into a terminal crisis of social and economic disintegration (B. Ward, 1969:57).

The analogy with the earlier experience of today's developed nations is misplaced. Then the growth of cities was in response to industrialization, and it is clear that the stimulus of industrialism preceded the growth of large cities. As Barbara Ward points out:

In nineteenth century Europe ... as various countries crossed the threshold of industrialization, the proportion of the population living in cities of over 20,000 was invariably smaller than the proportion of the working force engaged in manufacturing ... Today in the developing world the position is almost exactly reversed. In country after country, the percentage of the population in towns is considerably higher than the percentage of men working in industry (1969:57).

The cities have come into existence ahead of the industrial system. Gunnar Myrdal makes essentially the same point in describing the countries of South Asia as 'demographically premature' in the nature and extent of their urbanization, which has developed in a manner quite contrary to Western experience (Myrdal, 1968:467-8).

What Myrdal calls the 'ideology of industrialization' (1968:1150 ff) appears to underlie the thesis proposed by Gerard and Marion Ward. Myrdal shows that the ideology of

industrialization derives from the concept of agricultural underemployment, a concept which implies the existence of a labour surplus in rural areas which can only be absorbed by industrial expansion. Thus Western economists have tended in the recent past to believe 'that a radical improvement in the utilization of labour in agriculture can come about only through industrialization' (Myrdal, 1968:1154). This conviction is held with the greatest strength in areas where the man/land ratio is least favourable, but Professor Ward has no hesitation in applying the concept of underemployment to Papua New Guinea. Discussing the problem of urban unemployment he states that

Labour underused in the town would in all probability still be underused if it had remained in the country. This is the case in Papua New Guinea. As a result the underemployed urban dweller who stays in town is not weighing his urban underemployment against full rural employment, but against rural underemployment (R.G. Ward, 1971:101).

This is not the place to review the debate on whether the concept of rural 'underemployment' is properly applicable, even to the agricultural sectors of countries experiencing genuine population pressure. Sufficient to say that it is a Western concept derived from Joan Robinson's description of 'disguised unemployment' in the urban sectors of advanced capitalist economies during the depression of the 1930s, and that when it is applied to the agricultural sector of less developed countries it is normally understood to imply zero marginal productivity of labour, and to be involuntary. Professor Ward appears to accept the latter condition, but it is not clear where he stands in relation to the former. If the marginal productivity of labour is zero in the agricultural sector this implies that total agricultural production would be maintained despite the removal of some of the surplus labour, if the remainder then ceased to be 'underemployed'. As Myrdal points out

The entire approach in terms of the 'removal' of a labour surplus in agriculture assumes that the supposedly superfluous workers have somewhere to go. This is consonant with the common, glib preconception that industrialization, by giving employment to the labour moving out of agriculture, is the main solution to the development problem in underdeveloped countries, even in the fairly short run (Myrdal, 1968:2061).

The applicability of the concept of 'underemployment' to the agricultural sector in Papua New Guinea (and indeed in Melanesia as a whole) may thus be challenged on two grounds. Firstly, there is the question of the marginal productivity of labour which cannot seriously be claimed to approach zero in any significant area in the region. While population increase probably makes decreasing returns to labour inputs a fairly general situation (with constant technology and other inputs), it is nonetheless probably true to say that marginal products are strongly positive and not greatly less than the average product of labour.

Secondly, there is the question of the involuntariness of 'underemployment'. Underemployment may be a reasonable description of the state of the urban workforce as a whole, but only in the sense that many workers in Papua New Guinea experience periods of open unemployment, so that at any given time a proportion of the urban workforce is unemployed. (In Chapter 1 the writer argued against describing individuals as 'underemployed' because of the virtual absence of an urban informal sector.) Most observers would agree that this unemployment is to a large extent involuntary. But Professor Ward, in the statement quoted above, appears to equate this situation with that existing in rural areas, where the 'underemployment' is a voluntary state resulting from a lack of adequate incentives to induce the rural population to increase its labour inputs to agriculture. As Jacob Viner has said of attempts to apply such reasoning to the rural sector:

There is little or nothing in all the phenomena designated as ... 'underemployment' which in so far as they constitute genuine social problems would not be taken adequately into account by competent, informed and comprehensive analysis of the phenomenon of low productivity of employed labour, its causes, its true extent and its possible remedies (quoted in Myrdal, 1968:2025; emphasis in original).

While there is no doubt that industrialization must play a part in the structural transformation of the economy of Papua New Guinea, one may not share Marion Ward's optimism that, 'while there is considerable unemployment in the towns of this country at present, the best way to meet this is to encourage the establishment of further industries and

services' (M.W. Ward, 1970:59). One of the reasons for the current reappraisal of the role of industrialization in development is that it has patently failed to solve the problem of urban unemployment in the less developed countries. As a general rule in these countries the growth of manufacturing employment has been disappointingly slow, partly because a manufacturer who wishes to produce efficiently by international standards has a limited range of techniques available to him, which are unlikely to use the abundant factor labour as fully as would be desirable for employment creation. Low interest rates and overvalued foreign exchange rates have also tended to favour the introduction of capital-intensive techniques of production in many cases, while the wage policies of newly independent governments are often unfavourable to the growth of employment. Another factor, which to a certain extent is linked with the tendency for money wage rates to rise, is a secular improvement in labour productivity which is the result of the development of a more stable and committed urban workforce. Thus industrial employment may stagnate, or even fall, in the face of quite healthy rates of increase in the output of manufactures.²

Quite apart from these issues, however, is the possibility that even a respectable rate of growth of industrial employment may not serve to reduce the level of urban unemployment, either absolutely or relatively. This will be true to the extent that employment creation in urban areas serves to stimulate the flow of rural-urban migrants. If, as M.P. Todaro suggests, potential job-seekers weigh the probability of their obtaining wage employment as a factor in the decision to migrate, then the combination of urban employment growth and positive income advantages associated with such employment may lead to growing urban unemployment (Todaro, 1969). There is evidence of sensitivity to urban employment opportunities and income levels in at least one rural community in Papua New Guinea (Harding, 1971) (quite apart from the evidence of awareness of income relativities among rural school leavers in Chapter 6) and a case for the applicability of the Todaro model to this country is made in Chapter 4.

Gerard Ward, however, is not alarmed by the probability that modern sector employment will fail to grow as fast as

²For discussion of these issues see Frank (1968) and Knight (1968).

capable of promoting the informal sector.⁵ Whatever the merits of such activities in rural areas,⁶ allocating resources on a large scale to create an urban informal sector implies pessimism concerning the possibility of productively employing people in agriculture, or of preventing their migration to towns. This pessimism is shared by Professor Ward, who is concerned to 'absorb' surplus migrant labour into an urban bazaar economy. Whether such pessimism is justified will be examined in greater detail below.

Population movement out of agriculture

Professor Ward's view of the impact of modernization on the distribution of rural population is set out in his inaugural lecture at the University of Papua and New Guinea (R.G. Ward, 1968) and is further developed in the paper to which reference has already been made. He examines the impact of social and economic change on a hypothetical Highlands community. Pacification, road-building and the introduction of coffee as a cash crop cause movements of population from fertile slopes (formerly used for subsistence cropping and now likely to go out of production) to areas closer to roads.

The density of population now relates to principles of accessibility rather than variations in fertility. But whereas under a subsistence system of agriculture, approximately one-quarter of an acre under crops might support one person, under commercial forms,

⁵ If maximization of urban informal sector activity is set as a major policy goal, the following measures might prove efficacious. (a) For the short term: a general increase in urban money wages designed to accelerate the flow of migrants seeking 'formal' sector employment. From among the increased numbers of 'trapped' and 'dispossessed' migrants (to use Garnaut's terms) a class of hustlers would doubtless appear. (b) For the longer term: a resolute refusal to implement a population policy. Maintenance of population growth at close to 3% p.a. will, before long, produce a new generation of migrants willing to operate in the urban informal sector.

⁶ The considerable potential of the rural informal sector is demonstrated among the Tolai of East New Britain. See Salisbury (1971).

between 1 and 4 acres per head might be required. Therefore a change to cash cropping will require emigration if levels of rural living are to rise (R.G. Ward, 1968:14).

It is not immediately obvious why a switch to the cultivation of permanent tree crops should require the use of much more land than shifting cultivation of a quarter acre per head, especially in areas where a lengthy fallow interval is customary. Moreover, Ward's model does not allow for any improvement in the technology and inputs used by traditional subsistence agriculture, which might be capable of increasing the carrying capacity of the 'accessible' areas to which population is drawn. Finally, there is the question of the degree to which the further extension of road networks would be capable of rendering larger areas 'accessible' than at present. These two latter possibilities will be discussed in greater detail below.

Professor Ward's model of population movement is elaborated in his more recent paper. It involves a pattern of response to economic stimuli in which the first waves of migrants from a district are recruited for agreement labour on plantations. The development of local cash cropping causes the supply of agreement workers for this relatively unrewarding task to dry up. In time, however, the process of spatial redistribution of population described above leads to the outflow of waves of 'independent' migrants, who are responding as much to a demographic/resource 'push' as to the 'pull' of urban economic opportunities.

Rigorous testing of empirical data is necessary before such a model can be substantiated. The evidence available so far is too fragmentary or impressionistic, and is by no means entirely favourable to the model. Thus the facts that urban migration may be financed by the proceeds of cash cropping, that migrants may own mature coffee trees at home which are tended in their absence by relatives, and that they may quite consciously be using their urban sojourn to accumulate cash and acquire skills for use in subsequent rural investment projects, do not appear consonant with the demographic/resource 'push' which features so prominently in the model. This is especially true if, as the Salisburys claim, the adaptation of some Highlanders to urban life 'is explained by their orientations to the opportunities of a wealthy rural economy' (Salisbury and Salisbury, 1970:11).

Data from the 1971 population census are now available and should enable the model to be tested. The research of Geoffrey Harris (1973) on 1966 census data is also relevant. In a series of regressions attempting to explain interdistrict migration by males, economic opportunity at the point of origin appeared to retard migration, since average cash crop income per adult male was negatively and significantly associated with outflow.⁷ Perhaps for the time being it is best to regard the Ward hypothesis as 'not proven' in Papua New Guinea.

However, the conclusions which follow from acceptance of the Ward model, and the policy recommendations which the Wards make, are presented in urgent terms:

amongst the consequences may be a real reduction in the area of land which is assessed as useable; a new pattern of settlement may develop; there may be a real reduction in the population which can be supported locally by agriculture, and therefore a great increase in the number of potential and actual migrants who will have to find work elsewhere.

And the policy suggestions:

might not direct Government investment in urban and industrial development give better returns in terms of employment and multiplier effects in the overall economy, than direct Government investment in rural development? (R.G. Ward, 1968:14).

Enough doubt has been cast on the ideology of industrialization and the difficulties of formal sector employment creation in urban areas to make one cautious of accepting such suggestions. The question then becomes one of determining the potential for productive investment of resources in rural development in Papua New Guinea, and the effectiveness of such investment in influencing urban drift.

⁷The level of aggregation at which this analysis was carried out may have been too high. It would be preferable to test the relationship between cash cropping and migration at subdistrict or census district level.

Investment opportunities within the rural sector

There is a growing consensus among observers of the employment problem in less developed countries that

if as much as 60 to 90 per cent of the population depends on 'traditional' activities - agriculture in particular - then the economic upgrading of these activities must form the cornerstone of any strategy for solving the unemployment problem (Turnham, 1970:8).

This generalization applies even to those countries experiencing genuine demographic/resource push in rural areas. It is argued in this paper that circumstances in Papua New Guinea, and in Melanesia generally, are particularly favourable for such strategies. Thus, according to E.K. Fisk

the factor limiting rural production is not so much the capacity to produce more, but rather the incentive to do so. In most of Melanesia the rural people live in a condition of primitive affluence, in which they produce sufficient traditional foods, housing and other necessities with the utilization of only part of the land and labour resources available to them. Even with some cash cropping grafted on top of this, there are few areas where these resources are fully employed, and with the improvements now available from new inputs and new technologies the productive potential of land and labour can be readily increased (Fisk, 1972:20).

This is the situation which Professor Ward confuses with 'underemployment', but which is analytically quite distinct, as well as distinctly more favourable for development. Fisk urges that priority be given to agricultural research and extension to alter the pattern of subsistence agriculture from shifting cultivation to intensive continuous land-use.

The sooner intensive techniques are introduced the better, for although land is not scarce, the spread of cash cropping forces subsistence cropping onto less productive and less accessible land, and it affects the fallow period, and thus productivity, long before the supply of virgin land is exhausted.

This places a new interpretation on the changes in land-utilization described by Ward, and shows emigration of population from affected areas to be not necessarily inevitable. Indeed there is considerable potential for development in rural Melanesia, and at present levels of population density,

whilst 'subsistence affluence' still affords a concealed surplus, substantial agricultural and infrastructural investment from subsistence resources is possible. Such intensification [of agriculture] can then be effected with very much smaller calls on the scarce capital resources of the monetary sector of the economy than will ever be possible again ... the extent of the increases in production so available is such that it should be possible ... to increase both the population of the sector and its living standards (Fisk, 1971:377).

It is implicit in Fisk's assessment of the situation that the intensification of agriculture can only postpone emigration in the absence of a vigorous and effective policy of population control.

A complementary strategy to the intensification of agriculture is to be found in the extension of existing road networks in rural areas. There is evidence that rates of absenteeism in rural villages affected by roads tend to be inversely proportional to the distance of the village from such roads. Among the Siane highlanders who have migrated to Port Moresby,

virtually none come from those villages near the Highlands road who earn most locally; those at a medium distance from the road have enough coffee to provide them with the money for airfares to Moresby, and the individuals who come are either landless boys of about seventeen, recently married youths who have planted small areas of coffee and have left their wives to tend the bushes until they are bearing or older men with dependants who can do the part-time work of picking and drying and so provide a stable income while they, the household heads, go to town to earn large sums for investment on their return. Few come to Port Moresby from the more distant villages where they do not have the cash for their airfares and where, to earn money, they sign on for indentured labour

on plantations, for which the employer pays the fare (Salisbury and Salisbury, 1970:8).

The Wosera area of the East Sepik district is frequently cited as one of the few parts of Papua New Guinea suffering genuine population pressure on land resources. Lea and Weinand (1971:131), in a quantitative study of population trends in the Wosera, hypothesized that

with an increasing population there must be either intensification of land use with considerable change in present methods, or movement of people out of the area. One of the cheapest ways of encouraging both is to improve communications so that ideas can flow in and people can readily flow out.

On this reasoning the writers decided to test the proposition that absenteeism would decrease with increasing distance from the Maprik-Pagwi road. In the event they calculated a significant correlation.

However, the correlation is positive, indicating an increase in absenteeism with increasing distance from the road; this inverts our original hypothesis (Lea and Weinand, 1971:133, emphasis added).

Thus it appears that, even in an area experiencing real demographic/resource push, roads are capable of increasing the absorptive capacity of agriculture.

Investment in rural road networks is consistent with the strategy suggested by Fisk who, while pointing to the difficulties associated with the expansion of primary export income, states that

the best prospects for Melanesian agriculture probably lie in the production of food and raw materials for the internal market and in those export commodities where the country enjoys special advantages not shared by most other producing countries (Fisk, 1972:15, 16).

Despite the recent buoyant trend in commodity prices, there is a general tendency to take a gloomy view of the longer-term outlook for Papua New Guinea's export crops. This may not be justified, particularly in view of her minute share

in world production of any single crop, which confers opportunities for relative expansion not available to larger competitors. Moreover, as Meier points out,

even if the price elasticity of demand for a primary commodity is generally low on world markets, it may be high from any one supplier among alternative sources of supply. If the prices of substitute products in importing countries rise relatively to the price of the primary export, the volume of exports may also increase. A developing country may thus benefit to the extent that it improves its competitive position in export markets and acquires a cost advantage over substitutes by increasing productivity (Meier, 1968:270).

Fisk calls for 'an increase in production of traditional staples, to replace rice imports' and 'an intensive attack on the problems impeding the marketing, distribution, regular supply and adequate storage of those alternative foods'. This is a logical policy because 'There is virtually no major item of food that Melanesia cannot either produce quite satisfactorily, or produce an adequate substitute. Nor is there, with the new agricultural technologies now available, such a shortage of land or labour that food can be produced only at the expense of export agriculture' (Fisk, 1972:15). However, this latter observation might not hold good if official policy seeks to 'facilitate' urbanization, as is proposed by the Wards. Fisk sees a continuing role for the subsistence sector in the economic development of Melanesia, since the case for specialization of farming is less strong than in other areas. A system of mixed subsistence and commercial farming is desirable since the former provides a secure base for engaging in the latter.

Policies towards urbanization

Geoffrey Harris has remarked that much of the so-called 'inevitability' of urbanization derives from its being accepted as inevitable (1971:52). It is obvious that the spatial and occupational distribution of the population will change, although it is by no means obvious that this change will be uniformly favourable to economic development and the improvement of standards of living. Casting the debate in terms of the inevitability or non-inevitability of urbanization is unhelpful, since what is at issue is not the

reversal or halting of urbanization, but simply the feasibility of controlling the rate of urbanization.

Any attempt to control rates of rural-urban population movement by means other than compulsion implies a theory of migration and the identification of causal factors. This enables the formulation of policy measures to influence the behaviour of migrants. Marion Ward (1970:58) cites two basic reasons for rural-urban migration, the first of which is demographic/resource push due to the commercialization of agriculture. 'Secondly, there are the attractions of the towns themselves, the "bright lights" which to many villagers exert an emotional pull that must be extraordinarily strong.' It is not immediately clear what Dr Ward means by the 'bright lights', although she does also refer to 'the hope of economic betterment' (M.W. Ward, 1970:58) as a factor motivating migration. The point is not petty. If the lure of the bright lights is associated with a higher real income and material standard of living in towns (due to the availability of a wider range of goods and services from private enterprise and government) then the causal factors are economic as well as emotional.

Similarly, Professor Ward, while emphasizing the cash benefits sought by migrants, states that

A whole range of social as well as economic motives is involved. They include the desire to extend one's range of experience, the wish to avoid communal and council obligations and the dullness of village life, the need to earn cash for tax payments, the desire to get children into school or to get further education oneself, the attraction of the variety of town life and the higher level of services, public and commercial, which are available in non-village areas. Until rural areas are able to offer modern social as well as economic attractions, it will be very difficult to stem the drift away from village life (R.G. Ward, 1971:97).

But of this catalogue of motives few are unequivocally social; most can reasonably be interpreted as seeking a higher real income for the migrant and a higher material standard of living, either present or future. Apart from the dullness of village life and the variety of town life (which are two sides of the one coin) there is the alleged desire to avoid communal obligations. On the other

hand, successful entry to urban wage employment may create new obligations for the migrant, and the occurrence of considerable urban-rural cash flows indicates that many are either unwilling or unable to escape these obligations.⁸ The desire to take advantage of the superior educational facilities available in towns is also capable of an economic rather than a social interpretation. Evidence presented by the writer above, especially in Chapters 5 and 7, indicates that Melanesians appear to regard education primarily as an investment designed to yield income-benefits. Since any investment appears less attractive if the costs associated with it are increased, there is scope for influencing this source of population movement by means of educational policy changes. The desire to extend one's range of experience may also be economically motivated to the extent that migrants view urban job-experience as equipping them with skills which may subsequently be employed in rural investment projects (Salisbury and Salisbury, 1970). This point of view was expressed quite clearly by Mondo and his friends, in the case study of school leaver migrants from the Southern Highlands in Chapter 9. Paradoxically this is one motive for rural-urban migration which would become more important if the rural development programs advocated in this chapter were successfully implemented.

What then are the 'bright lights', and how strong a pull do they exert on rural people in Papua New Guinea? This is an area in which assertion and speculation by expatriates are more common than hard evidence. Such evidence as there is does not always support the proposition that urban life is intrinsically attractive to rural people. So far as Siane migrants to Port Moresby are concerned, Salisbury (1969) argues strongly against the proposition; his view is supported by the writer's account of interviews with young migrants in Chapter 9.

Under the circumstances the most reasonable assumption is that there is very little in the 'bright lights' hypothesis that cannot be explained in terms of a wholly rational and understandable desire for a higher level of real income. This view is supported by the writer's own conclusion that school leaver migration appeared to be primarily an economic phenomenon, based on the perceived imbalance of advantages between urban and rural life.

⁸ See for example Dakeyne (1967).

Michael Todaro has surveyed the economic policy options open to governments in situations of excessive migration and urban unemployment, based mainly on East African experience (1971b). To the extent that dysfunctional urbanization has proceeded further in East Africa and reflects policy errors which have not yet occurred in Papua New Guinea, his proposals may require modification. They are, nevertheless, instructive for our purposes.

Independent Papua New Guinea must avoid policies which tend to worsen whatever factor-price distortions exist in the economy already. Such distortions tend to slow the growth of modern sector employment, while worsening the disparity between urban wages and rural incomes. Any government which, for example, maintains an overvalued foreign exchange rate, pursues taxation policies which encourage capital accumulation rather than labour absorption in the modern sector and capitulates to the demands of trade unions and public servants for higher money wages, is encouraging factor-price distortions.

Urban wage restraint must form part of a comprehensive incomes policy.

Any serious attempt to tackle the dual problem of massive rural-urban migration and rising unemployment must have as its primary objective the gradual elimination of the substantial and economically unwarranted differential between urban and rural real earnings capacity (Todaro, 1971b:402).

This is an appropriate policy for Papua New Guinea, on the basis of the evidence produced in Chapter 6. The writer's conclusion in that chapter was that the flow of migrant labour in Papua New Guinea is likely to be extremely sensitive to changing relative income levels and to the balance of economic advantages between urban and rural life.

Taxation policy may be framed to complement incomes policy in a number of ways. Apart from favouring labour absorption rather than capital accumulation in modern enterprises it may also discriminate between urban and rural dwellers, and redirect urban tax revenues towards rural sector needs.

There are real difficulties in implementing such policies. Fisk (1972:11) has warned that in Melanesia,

rural development, particularly in the fields of communications and amenities, is expensive and difficult. With limited resources, more dramatic effects can be achieved by concentrating development around the main urban centres, where the needs are seen by the largest concentrations of articulate people, and where it favourably affects their standard of living.

On the thorny subject of income distribution, Harry Johnson has noted in the less developed countries a growing concern about irrelevant rather than relevant concepts of social justice, 'evidenced in efforts to fix ... the wages of particular kinds of labour at what is considered by politicians and civil servants to be a "fair level". But,' he points out, 'there is no such thing as ... a socially fair wage for industrial labour, independent of rural incomes and the amount of urban unemployment' (H.G. Johnson, 1971:4). Characteristically in such countries, 'Development policy has taxed the masses heavily, and particularly it has taxed the rural sector (and the poor and uneducated in general)' (Johnson, 1971:9).

Todaro emphasizes the need for agricultural and rural development programs designed to check migration at its source. This is completely in accord with the intensification of agriculture recommended by Fisk. Along with the extension of rural infrastructural facilities, particularly roads, such measures would act to raise real incomes in rural areas, further reducing the disparity with urban wages. Todaro applauds the harnessing of rural energies by means of labour-intensive rural works programs, a type of activity which has contributed a great deal to development in Papua New Guinea in the past. However, the supply of voluntary labour for such programs appears to be drying up, perhaps because rural people increasingly recognize the opportunity cost of such labour. The mobilizing power of Local Government Councils should be employed to the full to maintain this activity and there is a good case for rates of pay sufficient to attract labour and contribute significantly to rural cash incomes. This would be particularly effective in areas where some degree of agricultural seasonality allows an off-season labour surplus to be exploited.

Todaro discusses other policy measures which are essentially long-term in their nature, but no less pressing for that reason. Population control is necessary to prevent

the growth of genuine demographic/resource push in Papua New Guinea, and because, as Fisk has demonstrated, population growth acts to reduce the resource surplus concealed within the subsistence sector. Another program which must necessarily have a long gestation period is concerned with the adaptation of imported technology to local needs and resource endowments. This appears to depend on the growth of a cadre of indigenous technical manpower.

The formulation of positive rural development policies should not imply neglect of the real and pressing needs of urban populations. However, urban planning must be conducted within the broader context of overall development objectives, and must consider the need for rural-urban balance. Thus, when Gerard Ward (1971:105) argues for the concentration of services in urban centres because of the economies of scale involved, it should be realized that the balance of advantages will be tipped in favour of urban living, with a corresponding reduction in rural services and increased incentive for rural-urban migration. An even more obvious example is provided by Marion Ward's proposal for state-subsidized housing for low-income urban dwellers (1970:61). The low-income rural dwellers who would effectively contribute to such subsidies in an independent Papua New Guinea could hardly be blamed for migrating in order to benefit from them. There is much that can be done to channel the energies of urban dwellers. Urban community development programs and self-help schemes are not expensive. Security of land tenure enables so-called 'squatters' to solve their own housing problems in time, while sanitary and water supply services appropriate to the conditions of a developing country can be provided relatively cheaply, although it is important that those who benefit should contribute to the cost. There is no question of neglecting the needs of urban populations, but there is certainly a need to alter the tendency of development policy to err in the opposite direction.⁹

This chapter has argued that, in Papua New Guinea, policies designed to facilitate urbanization will constrain the rate of economic development. This will be true on any definition of 'development' other than, perhaps, the most crudely quantitative. A minor, though related point was

⁹For discussions of this tendency in Papua New Guinea see Beltz (1970b) and Radford (1972).

that allocation of resources to create an urban informal sector (in the absence of the population pressure which affords that sector its dynamism in other countries) would be wasteful.

In preceding chapters evidence has been advanced concerning the migration plans of rural school leavers, and of the subsequent fulfilment of those plans. However, school leavers form only a portion (albeit a significant one) of the total flow of migrants. This movement of school leavers must be viewed in the broader context of large-scale and dysfunctional population redistribution. Urban growth at present rates poses serious problems, of which urban unemployment is the most obvious. Less obvious, though perhaps even more important at present, is the loss of output associated with the outflow of labour from a highly productive rural sector. It is the exploitation of the potential for development within this rural sector that will act as a catalyst for overall economic development in Papua New Guinea.

Chapter 11

Dilemmas of educational policy

The makers of educational policy in Papua New Guinea, as in other developing countries, face genuine dilemmas. Choices must be taken between alternatives which appear equally likely to involve social costs, opportunities foregone and disappointed aspirations. Perhaps because the education system in Papua New Guinea has become the focal point of mass aspirations, and because educators have been convinced of the central role of the school in modernization, there has been a tendency to consider educational policy *in vacuo* rather than as part of an integrated and coherent set of policies designed to achieve national objectives.

Educational policy cannot be formulated successfully in isolation from agricultural policy, and requires complementary policies on wages, localization, urbanization and population, to name some of the more crucial related areas. It is a truism to state that mass education in an agricultural country must prepare students for life as farmers. It is also quite vain to imagine that mere curriculum tinkering will reconcile students to this fact in the absence of incentives to enter agriculture. If the structure of urban wages and rural incomes and the allocation of infrastructural facilities between town and country favour the urban dweller, rural school leavers are unlikely to fulfill the hopes of educational planners. The production of medium and high level manpower by the formal education system must be synchronized with the development of specific vocational training and job-preparation schemes, and employers must be made aware of the necessity of localization and in-service training. Education policy cannot be divorced from labour market policy. Even more important is the need for a conscious link between educational and population policy. Educational planners are chained to an impossible treadmill in situations where populations of school-age children are doubling every twenty years - as appears likely to occur in Papua New Guinea.

Educational decisions which do not take these relationships into account are likely to be dysfunctional for the economic, social and political systems. It is argued in this chapter that many of the dilemmas of educational policy are best viewed as dilemmas of overall development policy and should be dealt with accordingly.

Recent developments

In Chapter 3 the postwar growth of the formal education system was described. The narrative emphasized the concurrence of educational experience in Papua New Guinea with the writer's model of educational expansion and unemployment. In terms of this model the extent of primary leaver unemployment in 1968 seemed to signal the end of the first stage of expansion, and to usher in a period of falling expectations among Standard Six leavers. A similar experience seemed to affect Form Four leavers from about 1974 or 1975. The pressures of social demand for education appeared to be mounting towards the end of the Programme period 1968-73, and this, together with political pressures resulting from a growing awareness of regional inequalities in educational provision, intensified public discussion of educational options and alternatives.

The report of a visiting U.N.D.P. Mission (Faber *et al.*, 1973) sought to reverse what it saw as undue emphasis on the production of high level manpower in earlier educational planning. In arguing for greater reliance on on-the-job training and mid-career training (with correspondingly less pre-service preparation), it criticized the uncritical application of the skill and educational standards of more developed countries to the performance of similar occupations in Papua New Guinea. Concerned at the growing overproduction of school leavers (and consistent with its espousal of informal sector economic activities, discussed in Chapter 10) the Mission concluded that 'the highest priority for Papua New Guinea is to create employment and income opportunities at the lower end of the employment market' (Faber *et al.*, 1973:48). In addition it recommended that the rate of growth of formal primary and secondary education 'should be restricted as far as is politically feasible', while further expansion 'should be limited to those districts with proportionate school attendance below the national average' (1973:50).

While the visit of the Faber Mission seems to have been of considerable ideological significance (in so far as the principles of income redistribution, decentralization and economic nationalism were embodied in the Somare government's Eight Points¹) it may be doubted whether the Mission's advice on the rate of growth of the school system will be heeded. In another respect, however, it exercised considerable influence over subsequent discussion by its emphasis on alternative, non-formal, forms of education. While rejecting the proposition that agriculture in the primary schools could retard urban drift, it urged that school facilities should also be used for 'adult education of a vocational nature'. Moreover, such courses 'should not be geared solely or even mainly to the primary school dropout'. Rather they should aim at 'the dissemination of artisan skills primarily for self employment in rural and urban areas' (Faber *et al.*, 1973:51).

The recommendations of the Faber Report prepared the ground for public discussion of more radical proposals for a system of Community Education advanced by the Education Research Unit of the University of Papua New Guinea. Unfortunately, the term 'community education' has become part of the rhetoric of educational debate and it is used by different speakers to denote a wide range of educational possibilities. The Education Research Unit's proposals, in their initial and revised forms (Faculty of Education 1973), envisaged a major reorientation of the aims and methods of the formal school system, and are discussed in greater detail below. These proposals received unexpected and enthusiastic support in the report of an expert commissioned to examine the feasibility of some form of 'national service' as a solution to the school leaver problem (Dickson, 1973). While advising strongly against national service as a panacea, Dr Dickson commended a number of smallscale, locally based educational initiatives in various areas of Papua New Guinea, and in particular singled out the E.R.U. Community Education proposal as the most promising alternative. Dr Dickson discerned a swing towards community education in many countries, most notably in Tanzania, whose practice and experience could serve as a usable model for Papua New Guinea.

Some evidence of the influence of the Faber Mission, and

¹See Papua New Guinea (1973a).

of subsequent discussion of educational alternatives, is evident in the national *Improvement Plan*, issued in September 1973:

Most of the content of education has been directed at those who will go on to further training, and earlier policy during the first Development Programme was geared to high economic growth and plentiful resources which will not now be available during following plan periods. In 1973/74 the educational system will begin to develop programmes that will directly prepare Papua New Guinea's people for the rural life that most of us can expect to lead (Papua New Guinea, 1973a:36, emphasis added).

Similarly, the *Proposed Five Year Plan* issued by the Department of Education in November 1973 evinced a commitment to 'education for community living' (Dept of Education, 1973:4), but in fact proposed wholesale expansion of the formal education system with little regard to the hint of possible financial stringency contained in the Central Planning Office document quoted above. At the primary level, the intake was to rise from 60 per cent of eligible children to 83 per cent by 1979 and 100 per cent by 1983 (Dept of Education, 1973:7). The Plan stated that 'expansion in secondary education will be designed to meet manpower requirements' (1973:8). There can be little doubt of this target's being fulfilled regardless of the plan since, as was pointed out in Chapter 3, the secondary system in 1973, without further expansion, was likely to generate surplus output by 1974 or 1975. Despite this the number of high schools was programmed to increase from 67 in 1973 to 99 in 1979, while secondary enrolment would increase by about 52 per cent (Dept of Education, 1973:32-3). While admitting the labour market implications of such expansion, the plan appeared to take a passive attitude to these social costs, perhaps regarding the political consequences of restraint as potentially more serious. Far from considering the possibility of an expansion of non-formal educational options, such as the community education proposal of the E.R.U., it was stated that:

The Minister for Education considers that the Department ... should not have the responsibility for community education programs since parental and student expectations about economic rewards at the completion of such programs will be

influenced by what they see as the rewards at the end of stages in the formal education system. These expectations will prejudice the success of such programs (Dept of Education, 1973:45).

So clear a statement of the link between education and expectations lent a particular irony to the expansion of formal education announced by the Department. The planners recognized the difficulty, gazed directly into its eye, and then passed on, to continue as before!

The Plan was a draft, issued for purposes of discussion, and intended for revision. The fact that it was prepared by departmental officials under the political direction of the Minister, and without reference to the National Education Board (the body in which the 1970 Education Ordinance is supposed to have vested policy-making and executive powers over the system) ensured for it a spirited reception. The existence of a body of opinion favouring innovations along the lines proposed by the Education Research Unit, and a cabinet reshuffle early in 1974, added to the ferment. In March 1974 the new Minister appointed an all-Papua New Guinean committee to produce a final draft of the Five Year Plan.

The last expatriate to serve as Director of Education has remarked that in Papua New Guinea

rarely do two successive ministers press the same policies, for each minister, especially if young and ambitious, tries to establish an individual political personality through his handling of the portfolio. Often, too, the government allows considerable freedom of action to ministers (McKinnon, 1973:27).

It is said that only intervention at the highest level prevented the new Minister from announcing publicly that basic education would be extended to eight years, with all Standard Six leavers to be admitted to Form One in 1975 (as compared with about one-third in 1974). In September 1974 the Minister's committee produced a report (Papua New Guinea 1974c) recommending a basic educational cycle of eight years for all, with the introduction of English (which would continue to be the language of secondary and higher education) postponed until the fifth year. Plans for the overall rate of growth of the system were even more ambitious than those

outlined in the *Proposed Five Year Plan*. The report expressed an educational ideology emphasizing the creation of opportunities for self-employment in both rural and urban areas (in terms reminiscent of the Faber Report). Curriculum reform and structural reorientation of the education system influenced by the proposals of the Education Research Unit were to be attempted, and 'community-based' education was seen as a possible means of avoiding the socially undesirable consequences of expansion. There was also a strong trend of opinion in favour of some form of national service scheme for school leavers, a proposal which had appeared earlier in the draft plan of November 1973. A notable deficiency of the report was in its costing of these proposals. A five year projection to 1980, unsupported by details, showed an increase in educational expenditures from the Papua New Guinea budget of more than 100 per cent. The obvious implications of such growth for the financing of other government activities, together with a growing awareness in some quarters of the social costs of rapid educational expansion, ensured sufficient resistance to the report to prevent its adoption as government policy.

Yet another plan (Papua New Guinea 1975) appeared in mid-1975. Substantially the work of the late David Stannard, Dean of the Faculty of Education at the University of Papua New Guinea, this plan adopted some of the rhetoric and forms of its predecessor but was framed with a much greater degree of realism. Its acceptance by Cabinet in February 1976 was facilitated by a ministerial reshuffle which appeared to relegate the Education portfolio to a relatively minor status within Cabinet and to entrust major responsibility for policy formation to the bureaucracy. Such a move cannot, however, reduce the real political significance of the education system and the pendulum is unlikely to remain fixed in its present position. An acute awareness of the political pressures for educational expansion, particularly at the secondary level, is a feature of the plan, which is refreshingly frank in its discussion of 'overexpansion and some degree of distortion in the post-primary sector' (Papua New Guinea, 1975:32). It is suggested, however, that the correction of distortions (such as regional inequalities of access to education) can only be remedied within the context of continued national expansion. More drastic measures would be politically impossible.

The consequence of this situation was 'an ambitious high school expansion program' (1975:39) to involve thirty-four

new secondary schools by 1980, an overall increase of about 44 per cent in enrolments in grades 7 to 10 (formerly Forms 1 to 4) and an increase from 16.4 to 18.3 per cent in the proportion of the eligible age-group entering high schools. Such expansion, 'constrained as far as possible by expectations of the absorptive capacity of the economy' (1975:34), was considerably less than had been contemplated in the discarded plans of 1973 and 1974.

Similarly subdued plans for primary expansion are announced. Although the proportion of seven-year-olds for whom Grade 1 places will be available is programmed to increase to 82 per cent by 1980 (*P.N.G. Post Courier*, 2 March 1976), the unattainability of previously announced target dates for universal primary education is admitted. Emphasis at both primary and secondary levels is to be on the reduction of regional inequalities of educational provision, with primary education claiming a slightly larger share of the total educational budget.

Apart from abandoning the concept of a basic 8-year education for all, and reinstating English as the medium of instruction at all levels, the 1975 plan was notably more cautious in its advocacy of 'community education' and national youth service schemes, being careful to avoid presenting these as panaceas. This is to be no more than realistic.

The above account of educational policy-making in the period 1973-76 is too sketchy to do full justice to the interplay of economics and politics, but attempts merely to provide examples of the dilemmas of educational policy in Papua New Guinea. The introduction to this chapter emphasized the fact that such dilemmas are most usefully viewed in a framework of overall development policy, because of the interdependence of educational and other problems.

Equity or efficiency?

The value of taking an overall developmental view is apparent when the debate between advocates of efficiency and equity in educational provision is considered. This can be explained in simple terms as a conflict between an economic or manpower-oriented approach to the allocation of resources to education and within education - the 'efficiency' approach - and an approach based on the belief that education is the

'fundamental human right' of every child. Thus 'equity' becomes the primary consideration in educational planning where this latter view is accepted.

In these terms, 'efficiency' may sometimes (as at an earlier stage of educational planning in Papua New Guinea) seem to encourage elitism and create social distinctions by limiting primary school intakes and diverting resources to secondary and tertiary education. Or, alternatively, efficiency may seem to dictate the provision of educational facilities in areas of greatest economic potential, or where communities seem willing to bear the largest proportion of educational costs. An 'equitable' educational program, on the other hand, is generally taken to involve a wide and even (if thin) distribution of educational resources.

On closer examination a number of common concepts of educational equity are found to contain unexamined assumptions or value judgments. In most educational systems, however 'equitable' in terms of opportunity to enter school, the curriculum is such as to discourage the successful progression of those students whose talents are non-academic. The inequity involved in orienting a school system to the needs of the talented is not often realized. As Anderson and Bowman point out (1968:361) 'to speak of equity in terms of "talent" is equivocal, with no more intrinsic merit than race or social class or religious orthodoxy'. Concentration of education on the needs of the talented is justified, implicitly, by the 'efficiency' criterion and the scarcity of resources. No amount of 'equity' in the provision of opportunities to enter such a system can remove the basic inequity inherent in the system itself.

Even if a developing country could devise and afford an educational system which guaranteed equity as between children, there is still the question of the equitable distribution of educational effort between children and others. In a situation of mass illiteracy and underdevelopment of human resources one might seriously question, from the viewpoints of both equity and efficiency, the largely unexamined assumption that practically all the resources of the formal education system should be devoted to one section of society - the young.

Thus the notion of equity in education is by no means straightforward, and the simple contrast between equity and efficiency is misleading. In practice the attempt to

achieve educational equity in a developing country tends to emphasize quantity rather than quality and to involve acceptance of high wastage and failure rates. On the other hand an education system based on considerations of 'efficiency' may appear ruthless in its denial of entry opportunities to many children. However, if it assumes a comparatively narrow range of inherent ability among children and attempts to minimize wastage by concentrating on the quality of education it has elements of equity which are absent from a system based largely on quantitative considerations.

The present dispersion of school places in Papua New Guinea is geographically most uneven and causes much acrimonious debate in the Parliament. Broadly speaking, the New Guinea Islands and Papua Coastal regions are much better served than the New Guinea Coast and the Highlands, and the range of primary school enrolments was from virtually 100 per cent in East New Britain to 30 per cent in the Enga District in 1974. At secondary level a similar situation existed, with percentage enrolments of the 13-year-old age-group in 1975 ranging from 49 per cent in East New Britain District to 9 per cent in the Enga (Papua New Guinea, 1975: 9, 50).

While these figures represented a marked improvement in the relative position of the disadvantaged districts during the currency of the first Development Programme (1968-73), the gaps to be bridged are still substantial. Projections of enrolments in the 1975 plan envisaged a marked reduction in inequalities of opportunity, with the aim of achieving an intake of 85 per cent of eligible children into grade 1 in every province (formerly district) by 1980. The corresponding range of intakes at the secondary level would be from 12 per cent to 46 per cent (Papua New Guinea, 1975:25, 50). The difficulties associated with such a proposal consist, on the one hand, in the large absolute increase in enrolments proposed² (which has been discussed above) and, on the other

²Space considerations prevent a proper discussion of the implications of such expansion for educational costs. The plan proposes economies (by means of increased pupil-teacher ratios and greater reliance on community provision of resources) while the proponents of community education maintain the low costs of expansion as one of its advantages. Despite this, the budgetary feasibility of expansion at such rates is doubtful in the extreme.

hand, in the requirement effectively to reduce educational opportunity in certain educationally-conscious and politically sensitive regions.

Manpower direction or individual freedom?

At higher levels of the education system there is a conflict between the equitable ideal of allowing students a free choice of career and their 'efficient' allocation between courses of training according to manpower requirements. A permissive attitude to student enrolments in the past resulted in certain training institutions either operating below capacity, or being obliged to accept students of unsatisfactory calibre. In particular, Vudal Agricultural College, Bulolo Forestry College and Goroka Secondary Teachers College were 'not receiving the share of higher quality school leavers that is warranted by the importance of their outputs to the development of the country' (Papua New Guinea, 1971:13). Declining enrolments at the Dental College were also a cause for concern. Consequently the Committee of Inquiry into Higher Education in Papua New Guinea was asked to suggest selection methods to achieve 'balanced growth of enrolments in keeping with the availability of school leavers and the projected demands within Papua and New Guinea for trained manpower' (Committee of Inquiry, 1971:vii).

It might be thought that time and the expansion in numbers of qualified secondary leavers will solve this problem. However, if some institutions (or some faculties within institutions) are much preferred to others, there is unlikely to be a desirable spread of talent between occupations. Moreover there is the problem of wastage among graduates of the less favoured institutions, many of whom may not remain for long in the profession for which they were trained. In developing countries students often enter agricultural, technical and teacher-training colleges simply to gain further education and because they are unable to gain entry to other institutions. Although a degree of occupational mobility is clearly desirable for purposes of market adjustment, the danger is that it will occur to a wasteful degree.

One method of allocating student inputs to institutions would be for some central body to direct them to courses in accordance with national priorities. This simple and authoritarian approach seems to be the solution settled upon

by the Committee of Inquiry. It recommended the establishment of a Tertiary Education Commission, which would in turn establish a subsidiary committee concerned with high-level manpower needs.

As such a committee will need to be able to guide sufficient students into occupations of national importance it should have authority over the allocation of scholarships. The Government has traditionally been very cautious, and rightly so, about introducing anything that smacks of manpower direction but we do not see that the offering of scholarships and inducements to encourage people to fit themselves for tasks in areas of national importance could be considered as direction of any kind (Committee of Inquiry, 1971:7.14).

This process of rationalization can only be described as double-think, since it combines a righteous condemnation of manpower direction with a blueprint for its implementation. In a situation where scarcely any indigenous students can afford to pay for higher education, control of scholarships confers absolute power of direction. One searches the report in vain for any recommendation of genuine 'inducements' which might secure the willing enlistment of students into institutions in accordance with centrally-determined priorities.

The Committee adopted a determinedly non-economic approach to the problem, which is basically one of resource allocation. Its report has nothing to say on the subject of salaries. Unwillingness to apply economic incentives, or perhaps to believe that they are applicable, is widespread in Papua New Guinea. Private sector employers sometimes attempt to justify slow progress towards localization at managerial levels in terms of the difficulty of attracting well-qualified school leavers, who are said to prefer government employment. But this represents a rational response to the pattern of incentives, as is shown by a study of recruitment to the public and private sectors, which concluded that

in the few instances where private sector employers offer high training and career prospects comparable with public sector authorities, private sector achievement of input quality [i.e. calibre of recruits] is able to match that of the public sector

(Papua New Guinea, 1971:13).

The analysis of the relationship between income and occupational prestige in Chapters 6 and 7 established that the supply elasticity of Melanesian labour is likely to be high with respect to income. With this in mind one should approach the problem of the misallocation of student resources between institutions by examining the structure of incentives. A former Administrator of Papua New Guinea has admitted 'our failure to co-ordinate tertiary or sub-tertiary vocational education' during the period of its development in the 1960s. At this time

almost every administration department ... proceeded to operate independently and create their own training institutions, managed by the department concerned. Salary scales were based on the salary scales of that particular department, and there was no real co-ordination anywhere (L.W. Johnson, 1970:11).

Under these circumstances, it is not surprising that wide variations have been shown to exist between private rates-of-return to various post-secondary courses (Papua New Guinea, 1972). Moreover, the rates-of-return offered a quite convincing explanation of the unpopularity of certain courses of training among the best qualified school leavers. The calculations showed a negative private rate-of-return for rural development officers with a Vudal diploma and indeterminate (but also negative) private rates for assistant forestry officers and education officers, graduates of the Bulolo and Goroka institutions. According to these results, a person following any of these career paths would actually be worse off (in terms of lifetime income) than a classmate who elected to enter the public service as a clerk directly from Form Four. Similarly, the disparity between the returns to medical and dental officers (10 per cent and 5 per cent, respectively) was sufficient to explain the difficulty experienced in recruiting the latter, without recourse to arguments based on other criteria.

The Faber Report (1973:48) commented on these disparities and suggested that

excessively high rates of return could be lowered by raising the required private contribution to educational costs and very low rates raised through

the state paying a higher proportion of costs. Wage and salary structures should be reviewed to encourage recruitment to the most socially useful occupations.

A particular private rate-of-return may be altered by manipulating either the cost or the benefit side of the equation. Since, by the very nature of the discounting process, present costs dominate future (and distant) returns, small adjustments on the side of private costs would be as effective as larger adjustments on the benefit (salary) side in altering rates-of-return. The assumption underlying such manipulation is that students behave as if they were making the relevant cost-benefit calculation, and are influenced in their behaviour by relative rates-of-return.

On the assumption that a system of incentives (designed to achieve, so far as possible, the willing compliance of students with the targets of manpower planners) is superior to a system of quotas and manpower direction, the following policy suggestions are offered:

(a) On the benefits side, salaries, promotional prospects and fringe benefits attached to particular occupations can be manipulated. Even with a common salary scale, incentives to enter various courses (and the occupations to which they lead) could be set by varying the point of entry on the scale. Subsequent changes in the supply situation could be met by gradual adjustments to the starting salaries of new graduates. The efficient dissemination of salary information to students, together with the avoidance of rigid course structures which limit the range of options open to them, would assist in the effective operation of the incentive mechanism. However, rigidities in wage fixation procedures and conventions are likely to limit the degree of flexibility on the benefits side.

(b) On the costs side, attention should be given to the proportion of total (social) educational costs borne by the individual. Clearly in Papua New Guinea there is no question of students being required to bear any significant proportion of the money costs of education.³ However, they

³ Although Philip Foster has argued the case for a special education tax on university graduates in Papua New Guinea as a means of repayment (1975).

already bear the cost of income foregone from alternative employment during the years of study. Living allowances merely defray that cost. Hence variation of the level of living allowances between courses would effectively alter relative rates-of-return. This proposal is directly contrary to the system of uniform living allowances for all tertiary students, introduced under the National Scholarship scheme in 1976.

However, despite the logic of the incentive approach to the allocation of student manpower, it seems increasingly likely that the authoritarian measures of quota and compulsion will be employed. The abrupt transfer of a number of first-year students from the Arts faculty to Science at UPNG in March 1976, by order of the Ministry of Education, is a case in point.

In Chapter 10 the writer argued the case for a national incomes policy designed to balance the advantages of urban and rural life, while the argument above is concerned with manipulation of high level salaries to achieve manpower priorities. Piecemeal salary manoeuvres by individual government departments, matched by competition from the private sector, are likely to raise the general income level of the educated in a manner harmful to national interests, and contrary to the principles of income distribution set out in the Eight Points.

Thus, recent discussion of the salaries of indigenous graduate teachers has centred, not unreasonably, on their disadvantage relative to graduates in other public sector employment. The dangers of a piecemeal approach to salary levels of high-level manpower are illustrated by the possibilities inherent in this situation. Any improvement in the relative position of indigenous graduates teaching in the secondary service could easily flow on to the primary service with consequences for the future expansion of education, since the rate of expansion of primary education in a poor country is very largely a function of its cheapness. The crucial relationship between teacher salary costs and capacity to expand the system cannot be overemphasized, especially in the budgetary conditions facing the government of Papua New Guinea in 1976.

Thus, while there may be a case for improvement in the relative salary position of highly qualified teachers, such improvement has to occur within a framework of overall

restraint of teaching salaries. In turn, this restraint must take place in the context of a national wages and incomes policy. Such a policy must be based on economic realities within Papua New Guinea and take as its foundation the level of real income per worker in the subsistence sector. The current starting salary for a graduate of about K2950 per annum is twice the going rate for unskilled urban labourers and a very much larger multiple of real income per adult in the subsistence sector. Differentials for education and skill are typically greater in less developed countries than in high income countries (although Papua New Guinea has a relatively narrow range) and there is no guarantee that the expansion of education will act to narrow these differentials as skills become relatively less scarce, in the absence of a conscious and centrally directed incomes policy. Professor J.E. Isaac has observed that margins for skill in the Papua New Guinea wage structure appear quite adequate and could stand a degree of compression without undesirable effects on the supply of skilled labour⁴ (TPNG, 1970:3.16). The economy would benefit from the restraint of teacher salaries, since this would reduce the opportunity costs of expansion of the education system. Furthermore, employment opportunities for the educated are likely to grow at a faster rate under a policy of general wage restraint. This is an important consideration, given the present and prospective surpluses of school leavers.⁵

Quantity or quality?

An alternative reason for restraining teaching salaries, apart from a desire to increase the quantity of education, is that it makes quality improvement in education more readily

⁴Wage determinations in 1973 and subsequent years have reduced margins for skill as a matter of deliberate policy. Substantial increases in minimum wages for unskilled labour and uniform money (rather than percentage) increases in other wages and salaries have occurred.

⁵The writer's advocacy of wage restraint should not be construed as implying approval of an increase in the share of profits in disposable income. A range of measures, notably involving taxation of profits, should be employed to prevent such a shift in income distribution. See the report *Incomes, Wages and Prices Policy* (PNG, 1974b).

attainable. Upgrading the qualifications of ill-trained teachers, or replacing them by better-trained staff, can have an enormous impact on the cost of education, and to that extent quality improvement is competitive with quantity in the expansion of education. However, it is not only in a financial sense that the two objectives are competitive. They are also physically competitive since the withdrawal of teachers from the classroom for inservice training and the setting of higher entry standards and longer courses of study for teacher recruits both constrain expansion of the system. In Chapter 3 the writer described a process of educational 'deepening' (occurring between 1968 and 1973) by which the quality of teaching and the progression rate of primary pupils was improved. However, even as late as 1973 the Director of Education, Dr McKinnon, was obliged to admit that

despite the recent infusions of quite well trained young teachers the present teaching force is over 60% A Certificate standard, that is, 6 years of indifferent primary education plus one year of teacher education (Faculty of Education 1973:42).

The effects of this low level of professional education were criticised in reports by L.J. Lewis (1968) and the Weeden Committee (Advisory Committee on Education, 1969).

Since one of the economies proposed in the 1975 Five Year Plan to facilitate expansion of the primary system was an increase in pupil-teacher ratios, the question must arise as to whether the quality of formal instruction can be maintained. The same doubt arises even more strongly in connection with the more radical proposals for Community Education proposed by the Education Research Unit. See, for example, the reservations expressed by McKinnon in commenting on the proposal (Faculty of Education, 1973:42-3). Whether such criticism is entirely relevant (given that the object of the scheme is qualitative change) is a matter of opinion.

It should not be thought that quantity and quality are in all situations competitive. There is a considerable degree of pedagogic inefficiency in the primary school system which could be removed to the benefit of both. As one commentator has put it, 'decrees about length of courses can have little effect on the availability of schooling to the population if there is no control over the length of time a pupil can continue to attend school'. Or again, 'estimates

of the proportion of the population getting and not getting educated are misleading if the average stay in a six year course, for those who do stay, is eight or nine years (nobody knows how long it really is)' (Beck, 1970:2).⁶ The Ministry of Education is endeavouring to reduce the incidence of repetition but faces considerable obstacles in the conservatism of teachers and the attitudes of local communities. So strong is the demand for, and the faith in, formal education that it is not unusual for a dropout from senior primary school to re-enter the system at another school in a lower grade. Clearly the quantitative coverage of the school system would be increased if progression through the system were automatic, or at least approached this goal, subject to some minimal criterion of achievement. As described in Chapter 3, considerable progress in this direction was made in the period 1968-73. If this were combined with enforcement of existing provisions for the exclusion of persistent absentees (who are a problem in many areas), conditions for teaching and learning, and hence the quality of education, would also improve.

Rural education or urban education?

In earlier chapters of this monograph the writer produced a body of evidence to support the view that the expansion of education in rural areas accelerates the drift of people to towns in search of modern sector wage employment. On the other hand there is also a movement of people from educationally-deprived areas towards the better facilities available in towns. How much better urban educational facilities are is shown by Smith's study comparing Port Moresby with its rural hinterland in the Central District (Smith, 1971a). Urban children are more likely to enter primary school, less likely to drop out and have a better chance of gaining admission to secondary school. There seems to be considerable inequity here, although to some extent the situation merely reflects the greater efficiency of formal education in an urban environment. Moreover, it is argued that virtually 100 per cent enrolment of urban children in primary schools is necessary since permanent urban dwellers cannot be left without education. If, in an attempt to reduce migration to towns, it is urged that the spread of formal education in rural areas should be slowed down, two counter-arguments

⁶ For further evidence on the extent of the problem see Zinkel (1970).

are raised. The first deplores the disparity between urban and rural educational opportunities on equity grounds and the second maintains that the policy would be self-defeating, since it would stimulate migration of families attracted by urban educational facilities.

This educational vicious circle illustrates the necessity for an integrated series of policy initiatives within an overall development program. Clearly it is impossible to solve the problem by educational measures alone since (as was argued in the preceding chapter) people migrate to towns for a variety of reasons, most of which are explicable in economic terms. This allows scope for the manipulation of economic policy variables, of which the differential between urban wages and rural incomes is probably the most significant. Differentials in local taxation rates between urban and rural areas are another possibility as is a policy of imposing differential school fees. The writer has previously argued for the imposition of school fees sufficient to restrain the social demand for primary education (Conroy, 1972a) and this proposal can be adapted to the urban/rural problem. Urban schools provide superior educational opportunities and urban school leavers will benefit financially if they obtain wage employment. Indeed they are unlikely to obtain wage employment in towns without education, which argument is often advanced as necessitating universal enrolment of urban children in primary schools. Free and superior education in urban areas may act as a magnet at present, but education for which fees are levied at an economic level would have quite the reverse effect.⁷ Marginal urban dwellers would be discouraged from permanent residence and rural families would have less incentive to migrate. One is tempted to suggest that education should be made compulsory in urban areas, but the difficulties of enforcement and the hardships imposed on permanent urban dwellers would be considerable. It might be possible to overcome the latter problem by fee exemptions in special cases. Obviously no one could expect the uneducated child of a low-income Hanuabadan to retreat back into the subsistence sector.

Primary education should not be compulsory in rural areas and while fees should impose a significant responsibility on

⁷ Of course, primary education is not 'free', but the fees charged at present amount to only a minute proportion of total costs.

rural communities they need not be as high as in towns. A former Director of Education has publicly discussed a somewhat analogous proposal but appeared to dismiss it, saying 'thus there would be better schools for the economically well-to-do and poorer schools for those without a high income. Although this is the Kenya solution it would create a class structure among New Guineans where none currently exists' (McKinnon, 1971:15). In fact there is an incipient indigenous class structure in Papua New Guinea, which appears to be strengthened by the likelihood of the children of the educated receiving superior educational opportunities, as is the case in every country.⁸ A complex and hierarchical occupational structure is inseparable from modernization and is not created by formal education but rather entered through it. Recognition of this fact enables one to consider how those who benefit from the system can be made to pay for it.⁹ The alternative is a tax-supported formal education system by which the rural poor contribute to the educational costs of the children of the well-to-do. The political storm over the K400 fee levied on children attending multi-racial schools conducted by the Ministry of Education outside the national system (unresolved at the time of writing) poses this issue in a particularly piquant manner.

The problem of rural and urban education should be viewed in the wider context of the competing claims of the modern, mainly urban, sector and the subsistence and transitional sectors for government expenditures. So long as the modern sector continues to secure a disproportionate share of developmental resources the gap between urban and rural incomes is unlikely to narrow. Economic development has accentuated the differences between town and country, and between regions. Lagging areas are likely to be underprovided with all sorts of infrastructural facilities, not just those of education. Provision of formal education in

⁸ It is probably true to say that girls in Standard Six, and Form Four and university students of both sexes, come disproportionately from educated modern sector families (see Gilbert, 1968:35). See also Table 8.7 and the discussion in Chapter 8.

⁹ Apart from the education tax suggested by Foster (1975), another possibility is the finance of tertiary education by loans to students, repayable after graduation.

the absence of complementary infrastructural investment is the surest way of creating an inter-regional brain drain.

Academic curriculum or rural bias?

A frequent response to the problem of urban draft by young rural school leavers is to call for curriculum changes. There are demands for agriculture to be taught in rural schools and for a 'rural bias' to be given to the curriculum in order to reconcile school leavers to agricultural careers. The history of education in Papua New Guinea and in other developing countries shows that rural people will resist any attempt to impose what they regard as a 'second-best' curriculum upon them. Such resistance will occur wherever rural people see the schools as the avenue of social mobility for their children. Philip Foster (1966:144) has concluded that in Africa,

schools are remarkably clumsy instruments for inducing prompt large-scale changes in rural areas. To be sure, education has had immense impact ... but its consequences have rarely been those anticipated, and the schools have not often functioned in the manner intended by educational planners.

Foster's remarks apply with equal force to Papua New Guinea and so long as there is a wide divergence between the expectations of planners and people, formal education will tend to be disruptive of rural society.

And yet the idea of curriculum engineering is a seductive one, arising as it does periodically in response to situations of social disequilibrium. Geoffrey Smith, author of a succinct summary of the literature on this recurring policy fantasy (Smith, 1968), nevertheless later decided that 'the present shape of the economy suggests the need for a strong agricultural emphasis at all levels of the formal education system'. He also emphasized the need for 'the training of teachers in agricultural subjects as a major concern of teachers' colleges', and added the following recommendations:

Studies in village development, agriculture and communication methods should also form a significant part of the first two years in high school, and

agricultural education should be given in primary schools in those areas where modern farming methods are already being adopted in the community (Smith, 1971b:74).

The last suggestion avoids the usual *naiveté* of proposals for primary level agricultural training, although the results of research among children in the region of Goroka, reported by the writer in Chapter 5, do not give encouraging indications for the success of agricultural education in progressive areas as suggested by Smith. For the rest, however, it is well to recall Philip Foster's declaration (1966:149) that 'the idea that children's vocational aspirations can be altered by massive changes in curriculum is no more than a piece of folklore with little empirical justification'. It is abundantly clear from the evidence in Chapter 8 that the aspirations of school children in Papua New Guinea are centred on modern sector wage employment and that agriculture holds little appeal for them.

It should be made clear that Smith also suggested the need for broad social changes to complement changes within the formal education system, but it is unfortunately possible that educational planners in Papua New Guinea will seize upon the more easily implemented of his proposals. In that event we shall witness a vain attempt to solve by curriculum tinkering what is essentially a problem of overall development policy, for which partial measures are useless. It will be a great pity if the warning of L.J. Lewis is disregarded:

Before agricultural education can become a significant part of the educational process, agriculture itself must be industrialized. The first step in many instances lies not in agricultural practice itself, but in marketing, or in resolving problems of land tenure. Until surpluses can be quickly and easily marketed to advantage, improved methods of production are of little use. Even when the marketing potential exists, land tenure practices, social and religious inhibitions may prove greater stumbling blocks to improved economy than the limitations of traditional techniques. Unfamiliarity with a cash economy and the absence of interest in goods and materials outside traditional sources can also inhibit the adoption of more productive methods. For these and other reasons the formulation of a satisfactory

agricultural educational policy is dependent upon issues that lie outside the direct purview and control of a Ministry of Education (L.J. Lewis, 1968:11).

In so far as the formal education system can serve agricultural development it will do so by providing quality general education which inculcates among children rational attitudes to natural phenomena.

General education is made effective not by teaching agriculture as such but rather by drawing upon agriculture and the rural environment for examples to make teaching of reading, mathematics, botany, chemistry, etc., meaningful and interesting to rural students. A good general education in primary and secondary schools will inculcate in every student an appreciation of the importance of agriculture in the economy of the country (L.J. Lewis, 1968:12).

The Lewis Report seems never to have been officially published or widely circulated. This is not surprising, since it contained a chastening assessment of the education system, but it also included some of the most durable and enlightened comments ever made on the subject, and its wider availability would have improved the standard of subsequent educational debate in Papua New Guinea.¹⁰

In the discussion of equity and efficiency in education a basic assumption of educational policy in the less developed countries was challenged. This assumption, that practically all the resources of the education system should be devoted to children, is almost completely unexamined in educational planning. Examination, however, is likely to show that it is both inefficient and inequitable to favour one section of society in a situation of general underdevelopment of human resources. The nature of the inequity involved is obvious enough, though the inefficiencies may be less clear. They take the form of virtually writing off and abandoning the adult population, although it is probable that many skills are acquired more quickly and easily by

¹⁰The beneficial influence of Lewis is evident in a basic assumption of the 1975 Five Year Plan, emphasizing the value of a good general education for rural children.

adults than by children. Moreover, a social anthropologist has said that in Papua New Guinea,

even an apparently very well conducted primary school may have astonishingly little direct impact on the surrounding communities, and [I] wonder to what extent it is economic to introduce primary education in unsophisticated areas without at least equal investment in general adult education which is very closely related to the school's activities (Bulmer, 1971:11).

Professor Bulmer made this comment with reference to a basic developmental problem: 'how to integrate the schools and other conventional educational institutions with the agencies of mass education - for social, political, economic and cultural education in the broadest sense' (1971:9).

To a certain extent Bulmer shares common ground with Nicholas Bennett, whose paper, 'Primary education in rural communities: an investment in ignorance?' (1970) presents a radical alternative to the present child-centred formal education system. Perhaps what is needed is a community-centred education program of broader scope and appeal to rural people, combining agricultural extension, adult literacy, health education, and business advisory services. Children would probably spend fewer hours daily at school, leaving teachers free to devote some time to the needs of the adult community. There would need to be co-ordination of the educative services performed at present by a number of departments and agencies, including Primary Industry, Education, Prime Minister's, Public Health and Business Development. This would require a reinterpretation of the nature and functions of rural education and augmentation of the resources available to some of these functions at the expense of traditional child-centred education. There are no ready-made solutions. Bennett talks in terms of workable solutions being evolved over thirty years, but points out that this is a relatively short period compared with the future centuries during which the bulk of the population in less developed countries must necessarily continue to live from the land. As another observer has said: 'The problem of effective penetration of rural populations remains paramount and unresolved' (Cox, 1968:324).

The Community Education proposals of the Education Research Unit (Faculty of Education 1973) are framed in the

spirit of the suggestions made above. Moreover, they are being put into practical effect, with pilot projects in operation in a number of rural communities, initiated by young graduates of UPNG under the guidance of Mr Graeme Kamelfield of the E.R.U. The various pilot projects have distinctive features which derive partly from the environment in which each is placed, and partly from the personality of the local organizer. The extent to which any successes are replicable, under different conditions and with different leadership, is a very real issue. It is perhaps significant that progress appears to be occurring in communities at opposite ends of the educational spectrum - among New Guinea Islanders who may be experiencing a degree of disenchantment with the formal system, and among some Highlanders not yet gripped hard by the formal system.

However, most communities in Papua New Guinea now occupy the middle ground between these extremes, and of these people McKinnon has said (discussing the problem of 'selling' educational change) that, 'Papua New Guineans are becoming more rather than less resistant to ideas for changes in their educational aspirations' (Faculty of Education, 1973:39). Furthermore, with respect to the extension of the community education approach to the secondary system, McKinnon found it 'difficult to accept that the dynamics of surging enrolments, which create the present pressures, will disappear under the new arrangements' (Faculty of Education, 1973:43; emphasis added). This stumbling block will remain in the path of any educational innovations which attempt to damp down aspirations by means of community involvement.

The enthusiastic support for community education by a visiting consultant who had been impressed by developments in Tanzania (Dickson, 1973) will be recalled. A more sobering note is struck by another writer:

*Education for Self-Reliance*¹¹ has generated more excitement in the breasts of external and expatriate observers than of many Tanzanians themselves. One difficulty is that, like it or not, where entry is highly competitive, secondary schools and the university are, by definition, elitist (O'Connor, 1974:77).

¹¹Both the ideology of the system and the name by which it is known are provided by Nyerere's *Education for Self-Reliance* (1967).

Unfortunately, given the need for selection,

radical [curriculum] changes have yet to be introduced in either the primary or secondary sector which would indicate that there is any clear understanding of how the concepts of *Education for Self-Reliance* and the gearing of education to the needs of a rural economy can best be achieved. Primary schools still devote much the greater part of their time to 'academic' type syllabuses leading to formal examinations and there are very great differences in pass rates¹² (O'Connor, 1974:79).

O'Connor's conclusion, dispiriting though it may be to the advocates of a rurally-biased curriculum, is that, despite differences in ideology, the objective function of the schools (as perceived by parents and children) differs very little between 'socialist' Tanzania and 'capitalist' Kenya.

So long as educational qualifications remain the selection device for the best jobs and entry to secondary and higher education is limited to a fraction of those completing the lower levels, the selection process will dominate the educational process. Moreover, political pressures act to maintain formal examinations as the selection device, since disappointed parents suspect judgments made on other criteria. In this regard the experience of Papua New Guinea (where within a few years the system of secondary selection turned full circle from competitive exam, through selection on a number of criteria, to competitive exam again in 1974) parallels that of other new states.

Social demand or manpower requirements?

At the conclusion of Chapter 3 this writer described the steadily mounting political pressure for expansion of the formal education system in Papua New Guinea. This situation throws a number of questions into sharp relief. One problem is whether education should be considered as a social service or a national investment. Acceptance of the latter view raises the possibility of overinvestment occurring in some

¹² Consequently (and as a result of a district quota system), determined students from some areas move to educationally weaker districts to take Standard Six examinations (O'Connor, 1974:71).

or all branches of education, but judgment as to whether this has occurred - in primary education for instance - depends to a large extent on the time-horizon one adopts. Those who hold what I have elsewhere called the 'catalytic' view of the role of primary education (Conroy, 1972a) are likely to employ a distant planning horizon and to regard unemployment and social disruption due to educational expansion as short-term and necessary costs. Others who are less certain of the benefits likely to flow from the broad-fronted expansion of primary education, or who are inclined to discount future benefits rather heavily against present costs, feel that educational planning should be guided more closely by manpower requirements, at all levels of the education system.

Acceptance of the Manpower Requirements viewpoint runs across the vexed questions of regional inequality in the distribution of educational resources and the creation of social distinctions through education where few or none existed before. Both these problems were discussed above in the section on equity and efficiency where it was pointed out that they should not be tied too closely to educational policy, since these developments seem to be inherent in the processes of economic and social change. This is not to minimize the very real political problems involved in the growth, perhaps irresistible, of the social demand for education.

Apart from their representation by elected members in the Parliament, Papua New Guineans have new channels of communication with Konedobu set up by the Education Ordinance of 1970. The National Education System created by that ordinance unified the Administration and Mission schools and is organized on a decentralized basis with the potential for considerable involvement of local communities in educational management and decision-making. Individual schools have governing bodies representative of local communities, as well as teachers and the agencies conducting the schools. In principle, majority indigenous membership is sought. Governing bodies have functions which include enrolment of pupils, responsibility for the planning and provision of physical facilities and formulation of school aims. Their links with the centre are the District Education Boards in each of the twenty districts of Papua New Guinea.

District Education Board responsibilities include, in addition to supervision of the operations of the governing

bodies of schools, the formulation of district educational development plans and the setting of priorities for the allocation of centrally-provided resources. Since they are also responsible for fixing school fees and selecting entrants to secondary and technical schools it is obvious that the District Boards operate in politically sensitive areas. They are responsible to, and implement the decisions of the National Education Board which is charged with the formulation of overall policy. In practice, however, the National Board has played no effective part in framing major policies since the formation of the National Coalition Government in 1972. The manner in which the plans of 1973, 1974 and 1975 were drawn up illustrates this very clearly.

Thus, in theory at least, the Education Ordinance has set up channels for two-way communication: a flow of information from planners and administrators at the centre to local communities at the periphery of the system, and a reverse flow reflecting the aspirations and educational demands of those local communities. This reverse flow has the potential for canalizing and institutionalizing the social demand for education, since it enables communities to articulate their demands and provides politicians with a sounding-board through their participation in the system. Of course such consultation and participation are desirable features of the democratic process but are not without dangers in a situation where social demand so overwhelmingly exceeds the capacity of the system to supply education.

For planners concerned with the allocation of governmental resources between education and other activities, this situation is likely to pose increasing difficulties. The interesting question is whether it will be possible to convince local educational decision-makers of the necessity for unpalatable policies and to balance local responsibility for education against demands. By shifting the financial burden of education to an increasing degree on to local authorities the central government would achieve an effective broadening of the tax base and reduce the effective demand for educational facilities. Current policy is to place considerable responsibility for provision of school buildings and teacher housing on local communities. However, just as Groves in the early fifties was embarrassed by the alacrity with which communities provided school facilities, so also today the Education Department finds itself pressured into accelerating its expansion programs by a similar process. Thus the announcement of a timetable for opening 32 new high

schools in the period to 1979. (Dept of Education, 1973) set off a reaction in the affected communities which threatens to bring forward the whole timetable, while in the meantime members of Parliament and community groups are unrelenting in their nomination of further sites for high schools. Under these circumstances the role of the planner is likely to involve fighting a rearguard action in the cause of restraint.

Given that secondary expansion appears to be a political imperative and that (although local communities may carry an increasing share of the financial burden) this will require substantial allocations of central government resources, what priority should primary education receive? Philip Foster (1975) has recently commended to planners in Papua New Guinea a compilation of the findings of rate-of-return studies throughout the world (Psacharopoulos, 1973). While stressing the controversial nature of social rates-of-return as guides to resource allocation, Foster is impressed by the almost uniform tendency for returns to primary education to exceed those for secondary and higher education. This appears to justify emphasis on primary education in educational budgets, especially in countries at Papua New Guinea's level of development.

Although the writer has placed considerable weight on private rates-of-return as variables capable of explaining observed behaviour in the labour and education markets, he cannot claim equal faith in social rates as a guide to resource allocation. The social rates-of-return to a particular level of education is calculated from cross-sectional earnings data, on the assumption that average earnings reflect the marginal productivities of particular grades of labour, and hence their contribution to output. However, where labour markets are imperfect, relative earnings may not accurately reflect marginal productivities, an objection which even Mark Blaug, staunchest defender of the methodology, has to admit carries real force in under-developed countries (Blaug, 1970:209).

Moreover social rates (calculated as they are from cross-sectional data relating to the whole cohort of persons at a particular educational level) represent average returns rather than returns at the margin.¹³ Hence their use as

¹³The rate-of-return to a particular level of education is only marginal in the sense that it compares the additional benefits (and costs) involved in a particular increment

guides to resource allocation involves the assumption that marginal rates equal the calculated average rates. This may be reasonable for a slowly growing education system, but in an underdeveloped country planners are often asked to make major, non-marginal, alterations to the pattern of enrolments (witness the expansion in the primary system envisaged in Papua New Guinea's 1973 and 1974 plans). Under such circumstances marginal social returns to educational expenditure might fall rapidly, and fail to justify the investment.

Finally (and this is a point especially relevant to returns to primary education in less developed countries) there is the question of opportunity costs. In the subsistence sector in Papua New Guinea (and in other poor countries) there is an opportunity cost of primary school attendance, greater for girls than for boys, and increasing with age for both sexes. However, studies of social rates of return in developing countries do not normally take account of this cost, and although the sums involved, when measured in kina, may appear trifling it must be remembered that present costs dominate future returns in discounting calculations. Recalculation of the many studies which have ignored this cost would doubtless make primary education appear a less attractive investment in social terms.

Resources devoted to the expansion of primary education in Papua New Guinea, especially in rural areas, are competitive with other programs aimed at rural revitalization. In Chapter 10, for instance, the writer argued for greater emphasis on the extension of rural road networks as a measure likely to increase agricultural output and retard rural-urban migration, and also supported Fisk's recommendation (1972:20) that priority be given to agricultural research and extension to alter the pattern of subsistence agriculture from shifting cultivation to intensive land use. This emphasis is supported by Foster and Sheffield (1973:8) who observed that

Even where rural development is accorded high formal priority in government plans ... the proportion of educational resources devoted to the direct education of farmers is usually minuscule; this in spite of the fact that even badly planned extension work can have

13 (continued)

of education, as for example when the rate-of-return to secondary education is calculated by reference to the costs and benefits of advancing beyond Standard Six level.

a high pay-off as opposed to other forms of investment.

Thus with primary education, as with secondary, the best policy for educational and other planners is probably to fight a delaying action in the face of political pressures for expansion, using the weapons of fees and community financial responsibility, and choosing to yield most readily on those fronts which will increase the ethnic and regional equality of educational opportunity. To continue the strategic analogy, such a rearguard action will enable the dispatch of stronger forces to the front on which the battle for rural revitalization is being fought.

Education for citizenship? Or premature social mobilization?

The principal danger that arises from the overexpansion of secondary education is political. Unemployed secondary school leavers are likely to be alienated from rural society to an even greater extent than primary school leavers, and their presence in growing numbers in the towns of Papua New Guinea could have politically destabilizing consequences. The problem of educated unemployment is seen by an Assistant Director of Education as 'generating stresses and tensions which could well have disintegrative effects on the emerging society' (McNamara, 1970:1).

More frequently, however, one hears of the positive role of education at all levels in promoting political development. It is often claimed that one of the benefits of broad-fronted educational expansion is that it will demolish the barriers between the many small-scale societies of Papua New Guinea. With literacy there should come an awareness of membership of larger political groupings than the clan, the village or the linguistic group.

Certainly the potential for constructive political development exists within the education system. Education plays a key role in modernization, but as Samuel Huntington (1967) has pointed out, modernization is as likely to bring political decay as political development. Education makes possible a degree of social mobilization which, in the absence of a countervailing growth of political institutions, can lead to political instability and authoritarian rule.

More recently, a case study of the implications of educational expansion for Nigerian politics (Abernethy, 1969)

appears to have confirmed Huntington's fears in a striking fashion. Abernethy concluded that the rapid expansion of free primary education in Southern Nigeria during the 1950s had negative consequences for the political modernization of the country. Due to this expansion

large numbers of young people were mobilized for participation in a modern economy and polity at a time when the economy could neither employ them nor afford what was in effect a costly social welfare scheme (Abernethy, 1969:280).

Furthermore the resources expended in Southern Nigeria's educational expansion lowered the government's capacity to achieve its other goals, as well as introducing a substantial educational and social gap between the South and Northern Nigeria. In the face of 'almost irresistible' pressures for expansion, Nigeria faced what Abernethy called

the dilemma of popular education: it is both a necessary condition for political development and quite possibly a sufficient condition for political decay (1969:281).

It would not do to overemphasize this argument in the context of Papua New Guinean politics, but it is worth remembering whenever education is proclaimed as a catalyst for democracy.

The formal education system will play an increasingly important part in political life. The social demand for education will be exerted through the political system, while the schools themselves are enlarging the proportion of the electorate which is literate and outward-looking. Discussion of educational policy purely in terms of economic, or even pedagogic, efficiency is becoming increasingly unrealistic. This does not mean that such considerations cannot, or will not, be taken into account. It does mean, however, that planners must work within a pragmatic framework which blends the economically desirable with the politically possible. Their duty to explain the full implications of policy options to politicians is more urgent than ever before.

Appendix A

The social demand for education: a quantifiable model

The purpose of this appendix is to specify the general form of a model of the social demand for education at any particular level which could, in principle at least, be quantified and estimated. The model is concerned with the demand for places in the school system at one level in a particular year by persons completing the next lowest educational level in the previous year. Thus the demand for places at level ed_i is assumed to come from those completing level ed_{i-1} the previous year.

The demand function is of this form:

$$D.ed_i = f(X_i, \frac{J_i}{L_i}, W_i, \frac{J_{i-1}}{L_{i-1}}, W_{i-1}, C_i, O_i, F_i)$$

and is necessarily constrained by the number of students successfully completing level ed_{i-1} in the previous year.

Explanation of terms

$D.ed_i$ is the demand for places in the school system at level ed_i in a particular year by persons completing level ed_{i-1} in the previous year.

X_i is a term representing the psychic benefits of education at level ed_i (unlike the other terms, which are all related to the income benefits). The psychic component of $D.ed_i$ is assumed to be an autonomous constant, invariant with respect to other factors affecting the demand for education. It

incorporates the present consumption value of education, the stream of future consumer satisfactions derived from education, and the prestige accruing directly from the attainment of level ed_i .

$\frac{J_i}{L_i}$ and $\frac{J_{i-1}}{L_{i-1}}$ represent the balance between demand and supply

in the labour markets for workers whose qualifications are at level ed_i and level ed_{i-1} , respectively. It is assumed that employers specify minimum educational requirements for particular jobs and that all applicants will possess the appropriate level or a higher one. J_i is the demand for labour in occupations requiring level ed_i for entry, and is composed of N_i (the current level of employment in jobs requiring level ed_i) and V_i (the number of unfilled vacancies for workers at this level). N_i , the employed workforce, may include some workers with $ed > i$, and others with $ed < i$ who were employed at a time of lower entry requirements and hold their jobs by virtue of extra skills acquired informally. L_i is the supply of labour available to fill jobs at level ed_i .

L_i is composed of N_i (the employed workforce) and U_i (the number of unemployed persons actively seeking work at level ed_i . All have $ed \geq i$). When $\frac{J_i}{L_i} < 1$, involuntary unemployment of a demand-deficiency nature exists.

W_i and W_{i-1} are the wage rates paid for jobs at levels ed_i, ed_{i-1} . C_i represents the private money expenditures incurred by the student and his family in undertaking schooling at level ed_i .

O_i is the 'option value' attached to level ed_i , successful completion of which is a prerequisite for higher study. The option value is a measure of monetary gains to be expected from the completion of higher levels of education, after deducting the opportunity cost of educational expenditures necessary for those higher levels. The option value depends on the private rates-of-return to educational levels beyond ed_i , adjusted for unemployment rates among people with higher qualifications, and for the probabilities of entering and completing higher levels of education. The concept originated with B.A. Weisbrod (1962:161-7).

F_i is the imputed money value of non-monetary 'fringe benefits' attached to jobs for which level ed_i is the prerequisite. The value of benefits such as housing, holidays, leave fares and sick pay (which considerably increase the real income of certain occupations in Papua New Guinea) tends to be positively correlated with money income and education, and to increase the income differentials between levels of the occupational structure.

$\frac{J_i}{L_i}$, W_i , O_i and F_i are terms which quantify the income benefits of undergoing schooling at level ed_i . W_i is the wage-rate which a school-leaver may expect, and where $\frac{J_i}{L_i} < 1$, the money benefit will be adjusted for the probability of his remaining unemployed. Similarly, W_{i-1} and $\frac{J_{i-1}}{L_{i-1}}$ represent the opportunity cost of the student's attendance at level ed_i , which is the income from employment foregone by him, adjusted for the probability of unemployment. In a more developed, fully monetized economy, where child labour may not legally be employed, opportunity cost only becomes

relevant past the minimum school-leaving age. In a less developed economy, children in the agricultural sector are likely to contribute to production, directly or indirectly, at a much younger age. Hence income foregone is a relevant cost, even at primary school.

W_i , W_{i-1} , $\frac{J_i}{L_i}$, $\frac{J_{i-1}}{L_{i-1}}$ and C_i are the conventional data requirements for calculating the private rate-of-return to expenditure on education at level ed_i .

O_i , the option value, is relevant because growing unemployment at level ed_i is likely increasingly to transform level ed_i from a terminal to an intermediate stage of education. This is a feature of Rado's 'Explosive Model' of educational expansion (Rado 1971), and is best understood in terms of the maintenance of returns to further education (embodied in the 'option value' of level ed_i) in the face of falling returns at ed_i and lower levels of education. This is possible because the growth of educated unemployment is a sequential process which commences at the bottom of the educational pyramid.

$D.ed_i$ is assumed to be a positive function of X_i , the psychic benefits, and to be positively related to W_i , F_i and O_i , which measure income benefits. The relationship between $D.ed_i$ and $\frac{J_i}{L_i}$ is also positive, since increases in the value of the latter term reflect a more favourable labour market situation for school-leavers at level ed_i .

$D.ed_i$ is negatively related to W_{i-1} and C_i , which measure opportunity and money costs, respectively, of schooling at level ed_i . $D.ed_i$ will be negatively related to $\frac{J_{i-1}}{L_{i-1}}$, which

reflects labour market conditions for those who elect not to enter level ed_i .

It should be noted that falling values of $\frac{J_i}{L_i}$, reflecting growing unemployment among output of ed_i level (and hence falling money returns to expenditures on level ed_i .) imply a corresponding fall in $\frac{J_{i-1}}{L_{i-1}}$, the labour market indicator which influences the opportunity cost of schooling at level ed_i . Hence the declining money returns to schooling will be accompanied by a reduction in the real costs of such schooling. This factor, together with the importance of O_i , the option value, helps to explain the persistence of social demand for a particular level of education in the face of rising unemployment among its graduates. Moreover, rising unemployment at level ed_i acts to lower the opportunity cost of level ed_{i+1} , so that students come increasingly to regard ed_i as an intermediate phase, and seek to pursue the options with which level ed_i presents them.

The quantification of $D.ed_i$

As mentioned previously, $D.ed_i$ is constrained by the number of persons completing level ed_{i-1} the previous year. Indeed, for a number of reasons (which include demographic considerations) it is impossible to imagine all members of a cohort demanding admission to the next level of education. Hence $D.ed_i$ will be constrained to a maximum somewhat below the number completing level ed_{i-1} . Beyond that maximum, increases in the value of a relevant variable (for example, W_i) cannot result in further increases in $D.ed_i$. It will quite commonly be the case in education systems in less

developed countries that the demand for admission to one level from another will be at or near the constrained maximum for lengthy periods. This is probably the case at Form One secondary level in Papua New Guinea at present. Such a situation precludes verification of the model in circumstances where it predicts an increase in $D.ed_i$, as for example when W_i rises or C_i falls. Under these circumstances there would occur no measurable increase in $D.ed_i$, in terms of an increase in applications for admission. However, if (as is often the case in less developed countries) the supply of school places at level ed_i is less than the social demand, the increased political and social pressures generated would be obvious enough.

Moreover, since there is a wide range of values of the relevant variables which would suffice to maintain $D.ed_i$ at its constrained maximum, it is conceivable that quite substantial reductions in W_i (or increases in C_i) would cause no observable reduction in $D.ed_i$. This should not be understood to mean that the model is neither testable nor, potentially, useful.

Clearly in the not-too-distant past there was a phase of educational expansion in Papua New Guinea when social demand at post-primary level lagged behind administration willingness to provide places. There is also evidence that some developing countries which achieved substantial educational expansion in the 1950s and early 1960s have now entered a phase of absolutely declining social demand for primary education in the face of rapid population increases. A model such as that outlined above offers a possible framework for the explanation of such phenomena. From a policy

viewpoint, rising social demand for education may force governments to increase educational budgets in situations where the social marginal productivity of resources applied to other ends is considerably higher. Greater understanding of the forces determining the social demand for education is a prerequisite to corrective action.

Appendix B

Questionnaire for 1972 survey

Respondents were required to rate 22 occupations according to 8 criteria, each on a separate page of the questionnaire. Below are the instructions given at the head of each page.

Here is a list of different jobs done by people in Papua New Guinea. Read the list carefully and decide how much respect people have for this kind of work. How important is each of these jobs?

Job	I don't know	Very highly respected. Very important.	Highly respected. Important.	Ordinary or average	Held in low respect. Unimportant.	Held in very low respect. Very unimportant.
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Here are the same jobs again. This time you must say what you think about the money people earn for doing each kind of work.

Job	I don't know	Very high income	High income	Average income	Low income	Very low income
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This time I would like you to rate these jobs according to the advantages other than money which people doing these jobs enjoy (e.g. their accommodation, their holidays and any other benefits which they receive).

Job	I don't know	Very high	High	Average	Low	Very low
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To what extent do these workers contribute to the development and progress of Papua New Guinea?

Job	I don't know	Very high	High	Average	Low	Very low
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To what extent do these workers help and serve other people?

Job	I don't know	Very high	High	Average	Low	Very low
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What level of education is necessary to do these jobs?

Job	I don't know	Very high	High	Average	Low	Very low
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Do the people doing these jobs have an easy life? (That is, do they do easy work under pleasant and comfortable conditions?)

Job	I don't know	Very easy	Easy	Average	Hard	Very hard
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To what extent do the people doing these jobs have power, authority or influence over other people?

Job	I don't know	Very high	High	Average	Low	Very low
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