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ABSTRACT

The experiences of college graduates in the Philippines in obtaining employment were studied based on the responses of 1,284 students (out of a sample of 2,598). Findings on an earlier study--Higher Education and the Labour Market (HELMS I)--are summerized. For the current study (HELMS II), information is provided on: parental background, educational background of graduates, reasons for dropping out of college, reasons for taking longer than 4 years to complete college, assessment by students of the content of instruction, assessment of the method of instruction, the percentage of unemployed graduates, occupations of employed graduates, percentage of graduates who are employed in the public and private sectors, the distribution of graduates in public sector employment, employment by industrial classification, mean income of graduates by occupation, mean income by industrial classification, mean income by college type, and mean income by academic program. Economic conditions that affect employment are discussed, with attention to the gross national product of the Philippines, per capita income, unemployment, and inflation. Policy implications of the study findings are considered. (The questionnaire used in this study is appended). (SW)

IEP Research Report No. 61

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A study on the transition from college to work in the Philippines

by Adriano A. Arcelo
Bikas C. Sanyal

National Institute for Educational Planning

Employment and career
opportunities after graduation

This study, undertaken jointly by the IIEP, the Ministry of Education, Culture and Sports, the Philippines, and the Fund for Assistance to Private Education, Manilla, is part of the IIEP research project on 'Higher education and employment'

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The IIEP research project on higher education and employment

The rapid expansion of education in the countries of the Third World has in some respects created as many problems as it has solved. At the higher levels of education, we often find a considerable discrepancy between the output of graduates in different specializations and the absorptive capacity of the labour market leading, in turn, to unemployment and under-employment of certain types of graduates. In qualitative terms, questions are being raised as to whether the content and performance of systems of higher education are able to meet the changing needs of society, including the new and changing methods of production in the labour market.

These discrepancies are in need of exploration, understanding and remedy. The high unit cost and opportunity cost in higher education, the particular social and political significance of universities and university students, and the responsibility of the higher education system in guiding and developing other levels of education make it imperative that a special effort be directed towards the analysis of both the qualitative and quantitative discrepancies that have developed in the higher education system and towards the exploration of possible means to correct them.

It is in this context that IIEP, during its past two Medium-Term Plans, carried out a research project to relate the development of higher education within a selection of countries to the changing needs of the employment market, in both quantitative and qualitative terms, so as to improve the basis for planning the development of higher education and to reduce the mismatch between the type of training offered by the institutions and the types of skills needed by the labour market.

The project had the aim of providing a knowledge-base for formulating educational policy oriented towards the employment needs of the country. The immediate objectives of the project were:

(a) to identify the role played by the education system in general, and the higher education system in particular, in the overall socio-economic development of the country and, conversely, the influence that the social, cultural and economic factors have exerted in the development of the education system;

(b) to identify the inconsistencies, both quantitative and qualitative, that have developed in the past in the education system and suggest measures to rectify them;

(c) to throw light on the main variables to be considered in formulating policies of intake to different disciplines and institutions;

(d) to identify the factors which intervene in the implementation of such policies and suggest some ways of minimizing the effect of these factors;

(e) to develop a system of indicators to be used by the national policy-makers, the university administrators, potential employers, and the students, for decision-making;

(f) to create a data-base for researchers in educational planning, particularly in the area of employment.

Research was launched in 21 countries around the world to meet the above objectives in each case. This involved desk studies and surveys of the different target groups.

This study on the relationship between education and employment in the Philippines is the result of a co-operative research project between IIEP and the Fund for Assistance to Private Education (FAPE) in Manila. This study is a follow-up to a previous research, the results of which were published in 1981.[1] The follow-up study concerned a sample of students already surveyed in the previous study and traced them in order to investigate their achievements both in completing their studies and in entering the labour market. Thus, among other aspects, it looked at the employment status of those who had obtained their

[1] Perfecto, W.S., Arcelo, A., and Sanyal, B.C., *Higher education and the labour market in the Philippines.* New Delhi, Wiley Eastern Ltd., 1981.

degrees and the causes for the drop-out of others or for slow movement in the completion of study programmes.

The specific contribution of this second study lies in the long period covered by the data-base. Such a wealth of comparable information should be very relevant for future research and analysis.

While the 1981 study had already aroused significant interest, this was further revived on the occasion of the Review Workshop held in Manila in 1983 and which concentrated on the follow-up study.

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A panel of scholars have reviewed the draft of this report. These are Dr. Sippanondha Ketudat, a member of the IIEP Governing Board, Dr. Conrado Aquino of the University of the East, Dr. Richard Pearson of the John Jay College of the City University of New York, Prof. Isahak Haron of the University of Malaysia, Dr. Edith Tan and Dr. Raul de Guzman of the University of the Philippines. Their comments have been very helpful in preparing the final report.

Educational institutions have been very co-operative in the HELMS project. It is not possible to name them all. However, the authors would like to make a special mention of the Co-ordinating Council of Private Educational Associations (COCOPEA) and its members—the Association of Christian Schools and Colleges (ACSC),

the Catholic Educational Association of the Philippines (CEAP), the Philippine Association of Colleges and Universities (PACU), the Philippine Association of Private Technical Institutions (PAPTI), and the Philippine Association of Private Schools, Colleges and Universities (PAPSCU).

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A. Arcelo
B.C. Sanyal

Contents

1. An overview of the problem of higher education and employment in the Philippines

1.1 Introduction: the role of higher education in a developing society

The paramount roles of the university are a commitment to the pursuit of knowledge in a spirit of perceptive intellectual inquiry and that of nurturing desirable values to promote a civilized society characterized by people of a sharpened intellect and inquisitive mind. The university also performs the function of preserving, exploring and transmitting a body of knowledge and societal values to succeeding generations. In the words of Dr. Perkins, President of Cornell University, "Knowledge acquired must be transmitted, or it dies. Knowledge acquired and transmitted must be used, or it becomes sterile and inert... The acquisition of knowledge is the mission of research; the transmission of knowledge is the mission of teaching; and the application of knowledge is the mission of public service' (Perkins, 1966: 7).

Consistent with the teaching function, the university is the venue where independent sensibilities and an attachment to the past are developed through critical inquiry into varied art forms and expressions, through the evolution of tradition, culture and values reflecting human experience and the presence of the unchanging values of righteousness and freedom nurtured by the intellectual ferment of the time. Passage through the processes of higher education consistent with the classical role of the university, favourable development of a whole man poss-

essing capabilities to perform his role in the society of which he is a part.

In developing countries, the university and its role of developing a whole man assume political dimensions in the development process. According to Lipset (1964), "The university has the primary responsibility to train the future elites. This is particularly true for the professional and governmental roles. In the developing nations, the role of the university is particularly significant, since almost all elite roles in the modernizing sectors are filled from the ranks of the university-educated."

However, the effective utilization of university-educated people in advanced countries resulted in acting as an equilibrating force in their society whereas in developing countries they are, in some instances a disequilibrating force. This is because university students and the intellectual elite are usually in the vanguard of movements to modernize or change and against the hold of tradition. (Black, 1966). Furthermore, the increasing number of educated unemployed caused by a slow rate of economic growth in developing countries constitute the bubbling lava in a social volcano always threatening the equilibrium of the social system.

In the 20th Century, the objective of accelerating economic growth and development has accentuated the function of the university in providing with an education sufficient to manage fast-growing industries, the army and government bureaucracy. This role, coupled with the rapid pace of scientific and technological advancement, has had a profound influence on the universities. Instead of developing a whole man, universities are concerned with providing highly specialized skills to meet the demands of complex technologically-oriented industry and a sophisticated governmental apparatus and technocratic society (Mandel, 1972: 15).

This is one way in which the university is linked to the economic and political system of society. Because of this linkage, the university has a pre-eminent position among contemporary institutions, with the result that students have accused the university of being the handmaiden of the establishment. They assert that the university is training them to fit into an existing and unjust social order (Abrams, 1960: 129).

Concomitant with the need for specialized knowledge came the growth of new professions in the universities. These professions have gained academic prominence and intellectual identity precisely because they used the university as their chief port of entry (Cowen, 1962: 25). This is a reflection of the continuing acceptance of the role of the

university, i.e. the selection, formation, and certification of an elite group, the learned profession, etc. (Trow, 1970: 2 and Conway, 1970: 47). This function of the university has several consequences. These are:

(a) "Knowledge is now in so many bits and pieces and administration so distant that faculty members are increasingly figures in a 'lonely crowd', intellectually and institutionally" (Kerr, 1963: 10). Thus a person possessing highly specialized knowledge is isolated and, once unemployed, he has less job options, thus causing him to be permanently stuck in the profession he was trained for.

(b) Acquiring credentials has become an obsession, and is endemic among the faculty and staff in the universities so that aspiring faculty has less time to provide intellectually-challenging classroom instruction and an enlighted student-faculty interaction (Cowen, 1972: 24).

(c) Lipset (1972: 32) commented that the university "as the major accrediting institution of society has reduced the informal influence of students within the university. The higher estates of the university, administration and faculty, have sought to maintain their traditional authority and prerogatives, while reducing their own 'responsibility' for the quality of the personal and intellectual lives of their students. This development is not simply or even principally a function of the growth of the university, it reflects even more the increased 'professionalization' of the faculty, the extent to which 'teaching' as such has continued to decline as the main identification of the role of being a professor".

Apart from training a large amount of the technically specialized manpower required by industry and the government bureaucracy, the universities perform research and other related service functions. The research function is considered as a central necessity in a highly technocratic age where society demands universities "to carry a prime responsibility for rolling back the frontiers of human ignorance, for extending public comprehension of the world and its history, including man himself and his varieties of culture" (Shoben, 1971: 58).

Pure research and policy-oriented research are being conducted in the universities for several reasons: (1) The universities possess the intellectual cream of society as well as the facilities and equipment necessary for research. (2) Academic independence—the rigorous and dispassionate analysis that characterizes the life and modes of behaviour of intellectuals in the universities, provide some semblance of infallibility to research finding. Thus, the policies promulgated and actions supported by research conducted under the canopy of the academic world have greater acceptance. (3) Both people in the universities and the community are agreed that the university is the logical institution in society to undertake research. Universities consider the research function as complementary to the teaching function. It is also a way of augmenting the precarious financial position of the universities.

The wide acceptance of the research function of the universities led to a closer linkage of the universities with its clients—the government, business, industry and other patrons. This linkage gave rise to various sectors demanding more influence in university affairs. Clients with research funds feel that the universities have an obligation to them while the students whose vested interest has been neglected because of the university's involvement in research have become militant and feel that they, more than anybody else, are the primary claimant for power in the campus. The state of the power struggle in the universities caused by Kerr (1970: 111) to comment that the "campus is no longer on the hills with the aristocracy but in the valleys with the people". Politicisation became inevitable. The faculty, the administration, the students and the community became politically conscious entities in campus affairs, and thus had far reaching consequences. The procedures for administering an academic institution are being challenged and intellectual activities are being threatened to the extent that a sceptical attitude toward truth and conventional wisdom is prevalent in academe (Trow, 1970: 6-12).

Consistent with the public service function, faculty members of universities are involved in the operation of government, industry and the entire society in the application of their body of knowledge to the solution of intricate problems associated with the irreversible process of global development. It is often advantageous to the university for its scientists to be in the space exploration programme, for its educationists to be in developing countries formulating educational development plans. There are numerous community projects in which the university

is involved in the development, diffusion and application of new knowledge and new methods of learning. The university, being a community of scholars, is expected to provide academic leadership and to embody enlightened public opinion in regard to almost all facets and affairs of society.

The conflicting and competing ideologies that flourished in this century and the social malaise that accompanied economic growth and social development imposed on the university, by virtue of its commitment to truth and freedom of inquiry, the role of critic of society. As such, the university must engage in a creative interaction with society "by exploring the problems of society in the spirit of free, critical experimentation that characterized its involvement in the natural sciences. In fact, such an approach to society's problem is clearly appropriate to the university's mission of intellectual stewardship" (Luria, 1970: 79).

In a period when the freedom to criticize is in danger, the late president of the University of the Philippines—Rafael Palma exclaimed, "Let the university be ... the ultimate refuge in which the threatened liberties of the people will find a sure and stable anchorage".

By accepting the role of social critic and discharging it in accordance with traditional academic virtues, the university provides us with some reason for optimism not only for an orderly and more meaningful evolution of society but also for an environment conducive to a heathly life.

However, higher education today cannot justify its existence by providing only academic learning for mental and spiritual development, it has in addition to convey the necessary skills for economic development in order that natural resources might be explored and exploited, products stored and distributed, services managed and resources conserved for future generations. This brings us to the role of higher education in meeting employment needs and to the global issue of the relationship between higher education and employment. The problem of educated youth, on the one hand, and on the other, the role of education in general and higher education in particular in providing skills essential for economic and social development, have motivated researchers in the field of both economics and education to look for ways of achieving a better relationship between higher education and employment. Researchers in the Philippines have also joined in this effort, as is evident from the following section.

1.2 Previous research on relating higher education to employment in the Philippines (HELMS I)

In 1976, a study on higher education and the labour market in the Philippines was conducted jointly by a number of national authorities and the IIEP. The authorities concerned in the Philippines were the Ministry of Education and Culture (including offices in the Ministry such as the Educational Development Projects Implementing Task Force, the Planning Service, the Bureau of Higher Education and the National Educational Testing Center), the National Economic and Development Authority (NEDA), the National Manpower and Youth Council (NMYC), and the Fund for Assistance to Private Education (FAPE). The International Institute for Educational Planning (IIEP) lent its support to this study, whose theme, higher education and employment, was within the framework of IIEP's research programme. The objectives of the study were:

(a) to identify inconsistencies in the development of higher education in relation to the development of the economy;

(b) to identify the implications of these findings for planning of higher education in the country, with special reference to employment.

The study, published in 1981 under the title 'Higher Education and the Labour Market in the Philippines' (HELMS I), covered an analysis of socio-economic development, including the development of education, in general, and higher education, in particular. The data collected through questionnaire surveys resulted in an analysis of the attitudes and expectations of students, graduates and employers. The surveys included 9,105 students, 4,376 collegiate degree holders, 279 post secondary non-collegiate diploma holders and 777 employers.

The study recognized the role higher education could play in the development of the economy and society. In more concrete terms, the highly qualified manpower produced by the higher education sector could play a significant role in the exploration and exploitation of resources with a view to creating employment for both highly educated citizenry and the general public. Also included in HELMS I is a historical analysis of the development of modern education in the country as well as the identification of regional educational disparities—a problem

which is related to inequality in the distribution of income which, in turn, has some adverse effects on schooling such as high wastage through dropout and low academic performance as reflected in test results such as the NCEE. SOUTELE, etc. The most significant contribution of HELMS. however, was an in-depth analysis of perceptions, attitudes and expectations of the students, graduates and employees in respect of the system of higher education and the world of work. In more specific terms, the factors investigated by HELMS I were the identification of the variables responsible for private demand for higher education by typology of school and the role of socio-economic characteristics in generating such demand, the adequacy of (1) career guidance facilities in assisting the transition from school to work, (2) of the content and method of instruction, and of (3) the recruitment practices and methods for employment. Enquiries were made into the flexibility of the labour market and the education system in adapting the skills learned in schools to the world of work, the degree of mismatch between expectations and reality in the education system as well as the world of work, the waiting period experienced before obtaining a job for different types of graduates, criteria for and degree of satisfaction of graduates with their jobs and, finally, the determinants of graduates' earnings and the degree of match or mismatch between the expected income of students and the actual income of graduates. The study also identified the levels of correspondence between educational and manpower planning in the Philippines and the extent of unemployment among university graduates. The following section gives a summary of the principal findings of this research.

1.3 Principal findings of HELMS I

1.3.1 The economy and the employment problem

The Philippines is well-endowed with mineral, forestry and fishery resources. It has an oil potential of about 10 billion barrels according to 1977 estimates. It also has hydro and gothermal sources of energy which, when properly exploited, could make the country much less dependent on the import of petrol. In the fifties, the country adopted a development strategy of industrialization through import substitution.

Investment, however, was concentrated on large-scale capital-intensive types of industries. But the urban market for consumer goods soon reached saturation point and the rural market did not expand, so industrialization had to be slowed down and the employment situation worsened. In the sixties, the rural sector was given greater priority: modernization techniques were applied to agriculture, rural incomes grew and GNP per capita increased at an average rate of 5-6 per cent during 1960-1965. This trend continued in the seventies. Agricultural development has continued to be the priority objective of the country. Land reform programmes have been initiated to reduce income disparities among the people, since according to a 1975 survey, less than a third of the income recipients at the top account for nearly two-thirds of total national income. The real gross national product has been increasing at an average of more than 6 per cent per year during the seventies. Agriculture, forestry and fishing contribute one-third of the total net domestic product. The production sector constitutes slightly more than a quarter of the net domestic product, and the services sector accounts for the rest. Gross domestic capital formation increased at an annual rate of 17.3 per cent during the period 1973-1976, a development which illustrates the country's efforts to reverse the role of agriculture and industry in its economic activities. However, the government investment expenditure per capita by region shows marked disparities, i.e. Metro Manila registered the biggest per capita regional allocation with a total allocation of 1,667 Pesos (P)[2] per capita in 1976 as compared with Southern Tagalog Region with the lowest regional allocation of only P.43 per capita.

The country's balance of trade changed from positive to negative during the period 1973-1976. The reasons for this change were mainly the oil crisis and unfavourable terms of foreign trade.

The population in the Philippines has been increasing at a rate of 2.7 per cent per year. The dependency ratio is 87 at the national level. Analysis of population migration patterns shows that 59 per cent of total migration is urban or suburban bound and the rest rural bound. One of the important reasons for migration to cities is availability of jobs and services. In spite of the economic growth in the seventies, it is recorded that on average only 22 per cent of the children in the age group 0-6 years were within normal nutritional standards the remainder

[2] One Peso = 0.12 US$ approximately.

suffering from malnutrition of various degrees.

The unemployment rate in the country was about 5.2 per cent in 1976 with a total work force of 15.5 million. However, the rate of underemployment was of the order of 11 per cent, while the labour force has grown at an approximate annual rate of 4.8 per cent per year in the recent seventies.

1.3.2 The development of elementary and secondary education

The country records one of the highest literacy rates, comparable even with those of developed countries. In 1970, 83.4 per cent of the people were literate. Sixty-three per cent of the children in the age group 6-14 and 30 per cent of youth in the age group 15-20 attended school in 1970. The situation has further improved since then.

Enrolment by sex indicated more males than females at elementary level. Similar observations were noted at secondary level except in more recent years, i.e. school years 1971-1972 and 1974-1975 where the ratio was almost equal. An interregional comparison of elementary school enrolment for the period 1952-1953 to 1974-1975 shows a similar incidence for all regions, with Regions III, IV and VI registering the highest enrolments. For the secondary level Regions I, IV and VI registered the highest enrolment. Regions II, IX and XII had the lowest enrolment at both levels. The survival rates from Grade I to Fourth Year in both public and private schools showed an increasing trend. These were 21.96 per cent for school years 1956-1957 to 1965-1966; 27.93 per cent for school years 1963-1964 to 1970-1971 and 30.74 per cent for school years 1966-1967 to 1974-1975. However, the ratio of the number of pupils reaching Fourth Year to the number of pupils in Grade I was still low.

There was an observed downward trend in dropout rates all over the country from school years 1972-1973 to 1974-1975. From 6.22 per cent in school year 1972-1973, the dropout rate declined to 5.93 per cent in 1974-1975 in spite of the upward trend in enrolment during the same period. A ranking of the three regions with the lowest dropout rates shows that Regions I, III and IV consistently had the lowest rates during the period. Of the regions with the highest dropout rates, Region VII consistently ranked first.

A high quality of education in the Philippines is expected to be achieved by regulating and reorienting the flow of students from the secondary level to the institutions of higher learning, i.e. through the National College Entrance Examination (NCEE), which is used as a national criterion for college admission. Since 1973, the NCEE has been administered yearly.

1.3.3 The organizational structure of the higher education system

At a time of total reorganization of the government machinery, the Ministry of Education and Culture reorganized itself so as to achieve a higher efficiency and to provide better service to its clientele. The basic feature is the organization of regional offices headed by Regional Directors with staff and service support. The reorganized system makes possible the exercise of initiative, imagination and leadership in curriculum development and innovations, in addition to giving responsibility for administrative matters that can be handled at the regional levels. It is also expected to bring about faster implementation of educational reform programmes.

The Secretary of the Ministry is assisted in the formulation of plans, programmes and projects by the Educational Development Projects Implementing Task Force (EDPITAF), four service groups (the Administrative Service, the Finance and Management Service, the Planning Service and the Information and Publication Service) and three Bureaux (Elementary Education, Secondary Education and Higher Education). In the implementation of programmes and projects, the Secretary is assisted by the five offices and their staff. The administrative hierarchy consists of regional directors, division and city superintendents, and school district supervisors and principals.

Non-formal education programmes of out-of-school youth have been developed to progressively remove barriers between the formal and non-formal educational systems. Training centres have been created—for semi-skilled workers and even professionals—where they may update their knowledge and skills or otherwise gain new insights at any time.

Human resources and training development initiatives are expressed in different government policies and activities. The need for integrated and co-ordinated human resources development was empha-

sized in the identification of the government agencies to be responsible for the development and training activities of the country. The Ministry of Education and Culture appointed an Under-Secretary for non-formal education to this effect, and also embarked upon various educational reforms and programmes in co-operation and collaboration with other agencies and organizations.

Planning theoretically exists even on the regional levels under each Planning Unit of the regional office. In addition to participating in regional development planning representing the education sector, the Planning Unit provides the national office with research results and statistical data. It also formulates operational plans and systems and procedures necessary for the implementation of programmes and projects at the regional level.

1.3.4 The development of higher education in the private sector

Private educational institutions consist of three types—stock, non-stock and foundations. Stock corporations allow stockholders to derive profits from the operations and to declare dividends. Educational non-stock corporations, on the other hand, should reinvest their net profits for the improvement of the institutions.

In 1969, Republic Act 6055 was passed, providing for the voluntary conversion of education stock corporations into foundations. Tax-exempt educational foundations exist in perpetuity. If dissolved their assets go to the state. Control is exercised by a Board of Trustees or its equivalent, the members of which are elected or appointed by the stockholders or members, or in some cases as in sectarian institutions, by the bishop or superior of the order or congregation. They exercise the corporate ownership of the institutions by virtue of the fact that any educational institution in the private sector has to be incorporated according to law. Four main responsibilities fall to a Board of Trustees: general policies, general management, approval of new courses or discontinuance of old ones, and ceremonial functions.

At the outbreak of the war in 1941, there were 8 universities and 84 colleges in the private sector of higher education. Twenty-eight years later, there were 594 institutions of higher learning in the same sector, 36 with university status and the rest colleges. Two hundred and ninety-three were educational stock corporations, 254 were non-stock

and 47 were foundations. Eight years later, in 1977, the number rose to 694.

In 25 years, i.e. 1950-51 to 1975-76, collegiate enrolment grew more than fourfold. During the first decade, the annual enrolment growth rate was 3.6 per cent but went up to 8.14 per cent in the following decade. However, the rate of expansion went down to 1.69 per cent for the period 1970 to 1976. The share of the private sector on total collegiate enrolment declined in school years 1964-70 to 1975-76. Females outnumbered males; a development which could be traced partly to the type of collegiate courses being offered. Half of the college students were studying in Metro Manila as of 1972, while the other half were thinly distributed over the other regions. A 1975 survey showed that 27.3 per cent belonged to the upper class, 70.7 per cent to the middle class and 1.9 per cent to the lower class.

The growth of collegiate enrolment varied according to courses. For the seven-year period, school year 1966-67 to school year 1972-73, Commerce grew the fastest with 9.3 per cent annual growth while Law grew the slowest with 2.6 per cent. Teacher Training courses suffered significant decreases averaging 15.9 per cent annually.

Data on the number of high school graduates and the number of first year college students for a ten-year period 1962-63 to 1972-73 reflect an erratic flow. However, the average flow was estimated to be around 83 per cent.

Rough calculations based on available data from school years 1962-63 to school years 1972-73 reveal that Engineering and Teacher Training courses had the lowest survival rates with 29.5 and 36.4 per cent respectively while Commerce, Medical Science, Music and Fine Arts and Food, Nutrition and Dietetics had the highest survival rates. Teacher Training registered the highest dropout rate of 21.2 per cent, while Liberal Arts and Sciences, along with Engineering, Law and Agriculture, had dropout rates of over 17 per cent annually.

As of school year 1972-73, there was a total of 19,806 faculty members teaching in the private sector representing 89.2 per cent of the total. More than one half (55.8 per cent) of them were teaching full time. The distribution of teachers is observed to be at variance with the distribution of college enrolment. According to highest educational attainment, 24.6 per cent have a master's degree or higher, 66.8 per cent possess a bachelor's degree and 5.5 per cent have less than a bachelor's degree. The faculty-student ratio was 1:18 in school year 1963-64, 1:26 in school year 1966-67 and 1:22 in school year 1969 70.

As a rough indicator of the availability of library resources, the ratio in the private sector was about six books for every 100 students in school years 1972-73. The ratio varied according to field of study with Liberal Arts and Sciences having the highest ratio with 41 books for every hundred students and Agriculture having the lowest with less than a book for every hundred students.

As of school year 1973-74, a total of 26,312 classrooms were utilized for lectures in college courses although not all of these were solely for college use. About 5,637 laboratory rooms were used solely by college students.

Operating cost per student differed by type of institution, by course offered and by geographical location of the school. In 1972-73, the median cost per student was found to be around P.375 while the average was P.680 By school type, hospital schools along with seminaries had the highest per student cost with averages of 1,794 and P.1,628 respectively. Teacher training schools and business schools had the lowest cost with P.594 and P.509 respectively. In 1969, prior to the increase of student and other fees, Western Visayas had the highest operating cost per student (269) and Bicol registered the lowest (87).

In 1970-71, in a survey conducted by the Bureau of Private Schools, the average current operating expenditure per student per year was P.302. Of this, 41.4 per cent was for salaries and 14.3 per cent for administration. All in all, 78.9 per cent was devoted to recurrent expenditure while the rest was used for capital expenditure.

In 1970-71, students paid on the average about P.240 a semester for 4-year college courses. Actual figures varied according to major fields of study and the type of school offering the course. In general, sectarian schools charged higher students fees than non-sectarian schools. They also varied according to region. It is estimated that if student fees as from 1972 increased by 15 per cent annually, a college student now pays on the average P.766.24 per year.

The social rates of return of four years and five years of college were found to be around 8.5 and 8.0 per cent respectively. It was also found that only mechanical engineering and chemical engineering give rates of return higher than the average; in some other fields, only certain institutions yield rates of return higher than the average while other fields, irrespective of the student's college, give less than 5 per cent or, in some cases, even negative returns.

Student fees constituted the main source of revenues of private higher education institutions. In school year 1972-73, the dependence of these schools on student fees reached on the average 92 per cent. By type of control, non-sectarian schools appear to be more dependent on student fees than their sectarian counterparts. According to region, private schools in Cagayan Valley and Central Luzon registered the highest dependency ratio on student fees at 98 per cent. The lowest was recorded in Northern Mindanao with 70 per cent.

The financial resources of private collegiate schools are mainly devoted to salary expenditures and operating expenses: 70 per cent of the total in school year 1972-73. Expenses for institutional development or expansion like capital outlay received a meager share of only 7 per cent of the total. Expenditures however varied according to geographical location. The percentage share of salaries was observed to be high in regions often regarded as the most educationally depressed areas in the country, viz.: Eastern Visayas (69 per cent) and in Cagayan Valley (61 per cent).

Historically, private schools have larger financial allocations for recurrent expenditures, though the percentage share seems to be decreasing.

The enrolment explosion experienced during the sixties was a reaction to liberal educational policies adopted by the government in bringing education, particularly elementary education, to the greatest number of individuals. Together with other social factors, this policy raised the educational expectations of individuals across all social groups, thus creating a high demand for secondary and collegiate education. The task of meeting the demand for secondary education was shared equally by the government and the private sector. However, at the collegiate level, the demand was largely met by the private sector with government participation limited only to state colleges and universities. As a response to the market, investors in education opted to establish schools which offered the least costly courses such as commerce and liberal arts. Large numbers of private schools also grew all over the country, particularly in urban centres.

Past expansion was brought about mainly by deliberate efforts to meet social demand for education. Manpower demand was only incidental. However, because of this approach, a disparity in the supply of and the demand for such graduates in the Philippine labour market was felt not only in numerical terms but also in the kind and quality of

education demanded by the users. In effect, some forms of dysfunctionality become discernible between the private higher education sector on the one hand, and the economy on the other.

1.3.5 The development of state higher education

At the time of independence in 1946, there was one state university, one agricultural school, eight regional teacher-training institutions apart from the Philippine Normal school, one trade school and one business school. Since then, the system has expanded into eight universities, thirty-four chartered state colleges and forty-eight non- chartered higher education institutions.

State colleges and universities are governed by a charter enacted through legislation. It guarantees a large degree of autonomy in terms of curricular and academic standards, appointments and compensation of faculty and the determination of priorities for the institutions. Due to the nature of the charter, these institutions operate independently of the Ministry of Education and Culture. However, the Board of Regents, the highest policy-making body of these institutions, has the Minister of Education and Culture as ex-officio chairman.

Non-chartered institutions operate as an integral part of the Ministry of Education and Culture and are at present under the control and supervision of the Regional Directors. The autonomy characterizing chartered institutions is lacking. These schools usually carry out programmes in teacher training, vocational arts and trades and agriculture.

The percentage share of public higher education enrolment in total higher education enrolment had been increasing from 10.97 per cent in school year 1971-72 to 15.57 per cent in 1975-76. By sex, females predominate especially at the graduate level. This is, however, explained by the fact that in teacher training which accounted for about 20 per cent of the total enrolment, females outnumbered males by about 9 to 1. Geographical distribution shows a concentration of enrolment in Region IV-A because of the presence of the larger state schools in this area which altogether accounted for about two-thirds of total public higher education enrolment in 1972-73.

The development of fields of study in the public higher education system has been a result of the intimate link of the system to the plan-

ning process which determines and defines manpower for national development, and a diminished demand for certain types of educational programmes that the private sector is incapable of sustaining since they are constrained to develop in that direction.

As of 1973-1974, the total teaching staff was 5,390 broken down into 3,865 for state colleges and universities and 1,525 for non-chartered higher education institutions. The University of the Philippines (UP) teaching staff constitutes 36.2 per cent of the total, with 29.4 per cent of them possessing doctorate degrees and 25 per cent with masters degrees.

Except for three state universities and one state college, the available funds for capital expenditures for state colleges is only 9 per cent of the total operating budget. Most of the physical plant have been converted from big high schools and colleges and hence are largely unsatisfactory for the upgraded academic roles which they have assumed. On the average, the majority of the physical plant is more than 15 years old.

In the study conducted by the Presidential Committee to Study State Higher Education in 1975, it was found that (a) the University of the Philippines incurred the highest cost per student at P.4,000 to 5,700 depending on the course of study; (b) not a single state school approximates that of the University of the Philippines per capita cost; (c) only three schools are able to spend even half of this cost; and that (d) the remaining state schools' per student cost is less than a quarter that of the University of the Philippines.

Of the total income of chartered institutions, 84 per cent comes from national budgetary allocations, 14 per cent from collected tuition fees and another 2 per cent from the schools' commercial operations. For non-chartered institutions, income comes from the national allocation to the MEC[3] which was about 2.62 per cent of the total MEC budget in 1977. Tuition fees collected revert to the national government for reallocation in the succeeding fiscal year.

The expansion of the state system of higher education was conditioned by several factors:

(a) the need to ensure access for some sub-groups of the population who cannot afford private education;

[3] MEC: Ministry of Education and Culture.

(b) the needs for types of manpower deemed vital for national development;

(c) its new-found role of providing academic expertise and community leadership through various extension programmes in its environs;

(d) partisan policies which regard the establishment of such institutions in their constituency a monument to political achievement, and

(e) pressures from the institutions to elevate their institutional status which in operational terms meant a corresponding increase in faculty status and compensation and expanded operations with corresponding increase in budgetary support. However, steps were being taken in regard to these problems of declining academic standards and available resources.

1.3.6 Findings of students, graduates and employers

Six regions out of 13 accommodated 75 per cent of the student population in the institutions of higher education in the Philippines. Metro Manila, i.e. National Capital Region (NCR) enrolled some two-thirds of the students surveyed more or less representing the national situation.

There were more female students than male students in the Philippines' higher education system. Almost half of the students (45 per cent) spoke Tagalog as their dialect. Approximately one out of every three students were taking commerce and business administration as their field of study; the next popular field was engineering and technology with 17.8 per cent of the student population, followed by medicine which was the choice of 13.8 per cent of the students. It was also observed that there was a high rate of migration in the pursuit of higher education. All the other seven regions sent some of their secondary school leavers to the above-mentioned six regions for higher education.

Screening for higher education starts after a student leaves primary school. Very few of the students who attended barrio high schools and science or vocational high schools (10 per cent) went on to higher education. Ninety per cent of university students came from general secondary schools.

Metro Manila (NCR) had the largest proportion of student enrolment (34 per cent) followed by Ilocos region (Region I, 13.5 per cent) and Southern Tagalog (Region IV, 12.4 per cent).

For one out of five students, the father's occupation was agriculture; for 14 per cent of the students, it was professional or technical work. Administrative, executive or managerial occupations, production and transport and sales occupations accounted for roughly 12 per cent each. Thus, with respect to fathers's employment, agriculture and community services represented nearly half the student population, and trade more than one-tenth. From the viewpoint of parents' income, more than 60 per cent of students came from families with incomes of P.2,000 or less per month, the average monthly family income being P.1,945.98 per month which was nearly seven times the monthly nationwide per capita income. This shows that only those families which were above-average in terms of income sent their children on to higher education.

It was observed that the higher the test score in the NCEE, the greater was the probability of succeeding in college. The initial analysis of correlation between general scholastic aptitude measured in the NCEE and the grade point average measured in college during the first semester did not always show a positive correlation due, it was believed, to variations in the grading system at different institutions, adjustment problems of students in the first semester and the problem of the measurement of the validity of the test. Several improvements were being made in the college entrance tests.

About 98 per cent of secondary school graduates aspired to higher education and took the NCEE. In 1975, 47 per cent of the applicants were males. Average scholastic aptitude was about the same for both male and female students. There were marginal differences in the mean scores, with the younger age-groups performing better. Performance was better for students coming from higher socio-economic backgrounds (slightly over one-third of the applicants had a monthly family income of less than P.250). Also the higher the educational level of parents, the better was the performance of the students. Performance was additionally related to the prestige value of the field of specialization they intended to pursue. For example, students aspiring to enter engineering fields scored in the 70 and above percentile brackets; those who aspired to agriculture and fishery activities obtained 50 and below. Parental influence on the choice of a student's field of study was less in

the case of those who performed better in the NCEE: at the very high percentile ranks students indicated that they could not depend on their

Good employment opportunities were the most important reason for secondary school leavers pursuing higher education, according to the graduates surveys. Next in order of importance was the possibility of a wide choice of future careers. Factors like social prestige, family influence, following the peer group did not have any significant influence on a school leaver's decision to pursue higher education. Once they had decided to pursue higher education and had been admitted to an institution, one out of three students were not able to pursue the course chosen because of lack of financing or because parents wanted them to do something else.

In the Philippines, career guidance facilities were very limited for school leavers in the past, although the situation was improving. Organized placement facilities for graduates were also rare.

The most frequently used method of recruitment was personal contacts. What was more interesting was that the employers found this the most effective method of recruitment as well. The most serious difficulty in recruiting graduates, as perceived by the employers, was the lack of properly qualified persons to meet the needs of the job although it was mentioned by the graduates that their training met the needs of the job. This was evidence of a mismatch between the perceptions of the graduates and the employers with regard to the needs of the job. In-service training was provided by two out of three employing units surveyed, and almost half of the firms provided pre-employment training. Although personal contacts played the most important role in the method of recruitment of graduates, 'work experience' and 'academic performance' were considered to be the most important criteria for selecting a graduate for a job.

After graduates had completed their studies, the employment market was more flexible for some fields of studies than for others. Commerce and business administration graduates could obtain a job in any of the standard occupational classes (as defined by ILO and adopted by the country). Substantial numbers of teacher education graduates also moved to occupations other than teaching. Some engineering graduates took up administrative and managerial positions which would normally be occupied by commerce graduates. Graduates of liberal arts, social science and humanities, however, faced a less flexible employment market. Graduates of the University of Philippines

showed the distinct characteristic of being able to fit into the top two major occupations, namely: professional and technical, and administrative and managerial positions. Graduates of Protestant sectarian colleges and state arts and trade schools ranked next in occupying the highest positions in the employment market. The state higher education system supplied relatively larger numbers of graduates to high level positions than the private higher education system. The average waiting period for a graduate to obtain a job after finishing his course of studies was about six months. Nearly 80 per cent of employed graduates got their jobs within a year after finishing their courses. Only 4 per cent waited for more than two years. Graduates of the University of the Philippines (UP) waited the shortest period of time, whereas those of the proprietary and other private schools waited the longest. It was observed that lack of job opportunities was the major factor for the delay in getting jobs for the graduates of teacher training institutions, agricultural colleges and arts and trade schools.

Almost all of the graduates surveyed found their training content and method both relevant and necessary for their jobs. According to them, formal education could not be replaced by non-formal education, but could be supplemented for better performance on the job. Work related experiences integrated with the formal education system appeared to be the most preferred structure of education.

According to the employed graduates, the most important factor in making a job satisfactory was the proper use of their skills. Income ranked sixth on an eight-point scale. Poor career prospects are cited most frequently as the reason for job dissatisfaction. Low salary was cited as a reason for discontent with the job by only eight per cent of the graduates. Agriculture, sales and armed forces workers were the least satisfied, perhaps because of the lack of required skills imparted by the system of higher education.

With respect to the salaries of graduates, those of the UP system on average earned the highest salaries, while those of agricultural colleges earned the least. Graduates working in the financing, insurance and real estate organizations earned the highest salaries and those working in agriculture, fisheries and forestry the least. In determining a graduate's starting salary, employers considered his work experience and field of specialization as the most decisive factors.

Socio-economic status variables of graduates, type of firms and regions from which students came did not have any influence on their

earnings differentials, whereas occupational classification, industrial classification, type of university and educational attainments of graduates had exerted an influence.

With respect to mobility on the job, there were fewer instances of upward mobility within the same professional scale than within the same occupation. However, the lower the level of occupation, the higher was the average growth in income among the graduates.

1.3.7 Educational planning and manpower planning in the Philippines

In the Philippines, manpower plans in the past have not been properly matched with educational plans. The problem is lack of reliable statistics and forecasts of supply from the institutions of education coupled with the absence of necessary data about the labour market.

According to estimates of supply of college graduates during the period 1978-82, prepared by the National Manpower and Youth Council, more than 50 per cent of the graduates would earn a degree in commerce and business administration, 10 per cent in engineering and technology, 12 per cent in arts and sciences, 5 per cent each in agriculture and medical sciences, 4 per cent in teacher training, and the remainder in chemistry, nutritional studies, law, music and fine arts, natural sciences and other post-graduate studies. It was estimated that this output would result in the unemployment of about 70,000 college graduates in 1978 and about 95,000 in 1982, if the economy continued to grow at the same rate as in the past and recruitment criteria of the employers remained unchanged. The situation was bound to result in educational inflation in the labour market, which would mean underutilization of the training offered to students. Most of this unemployment and underemployment was likely to occur in the field of commerce and business administration. It is unfortunate that estimates of needs for skills in the economy are not based upon fields of studies which would enable us to discover the extent of foreseeable unemployment in other fields and the flow from higher education to jobs.

Such was the situation in the Philippines in respect of the relationship between higher education and employment as of the middle seventies. Since the study was published the economy of the country and the employment situation have undergone changes, as can be seen from the following section.

1.4 Post-HELMS I situation in the Philippines

1.4.1 The economy, 1977-1980

From 1977 to 1980, the real growth of the economy was more or less on a par with past growth, averaging 6.02 per cent over the four-year period i.e. a little below the real growth of 7.3 per cent in 1976. During this three-year period, the highest rate occurred in 1979 at 6.9 per cent and the lowest in 1980 at 5.1 per cent. (For details see *Table 1.1*).[4]

The inflation rate was considered reasonable until 1978. In 1979, it suddenly jumped to 16.5 per cent and higher still to 17.6 per cent in 1980.

The impressive growth of the economy has been closely related to substantial growth in employment. In 1976 employment grew by only 2.8 per cent but climbed to 5.1 per cent in 1977, 6.4 per cent in 1978, 5.5 per cent in 1979 but went down again to 1.8 per cent in 1980.

The Balance of Payments has deteriorated. The deficit in 1979 was US$54 million, but jumped to US$570 million in 1980 and then fell in 1981 to US$381 million. The sudden rise in the deficit was due mainly to a shortfall in exports caused by low prices of sugar, coconut, copper and other traditional export products of the Philippines. On the other hand, the prices of imports, especially oil, were up.

Dollar proceeds from tourism and remittances of overseas workers have substantially alleviated the balance of payments problem. There were 730,123 tourists in 1977 and 1,008,159 in 1980. In addition overseas workers increased from 19,221 in 1976 to 36,676 in 1977, 50,961 in 1978, 92,519 in 1979 and 157,394 in 1980. The accumulated number of overseas workers was 600,000, remitting over US$1 billion.

1.4.2 Domestic and overseas employment

Domestic employment has not shown any dramatic improvement. Between 1975 to 1980 the average yearly increase in the labour force was approximately 3.6 per cent. Open unemployment was 4 per cent and underemployment 10.3 per cent. Fortunately, the growth of both

[4] Tables in this study are to be found at the end of each chapter

sea-based and land-based overseas employment prevented the labour problem from becoming really serious.

Land-based overseas workers went up to 210,936 in 1981 and 250,115 in 1982. Filipino seamen abroad grew from 37,280 in 1978 to 57,196 in 1980 and 64,169 in 1982.

The destinations of overseas workers are Asia, Europe, the Middle East and America. The biggest number of overseas workers was in the Middle East whose share dramatically increased from 40.65 per cent in 1976 to 70.13 per cent in 1977 (with 25,721 workers) and an all-time high of 87.03 per c '183,580 workers) in 1981.

Asia had a significant share of Filipino overseas workers with 20,322 in 1981 compared to only 2,101 going to America, 41,126 to Europe. In Asia the destinations are the high-growth countries like Brunei, Singapore and Hong Kong.

Professional, technical and related workers have significantly increased in number from only 4,707 in 1977 to 11,335 in 1978, 17,964 in 1979, 24,361 in 1980 and 26,680 in 1981, and the share of this type of worker in the total overseas workers has been steady at over 12 per cent.

The biggest bulk of overseas workers are production workers, transport, and equipment operators. In 1977 there were 26,086 recruits. This went up to 101,436 in 1980 and 144,970 in 1981. The share of this group of workers to total overseas workers has been on the average of 64.75 per cent.

Against this backdrop of the economy and the employment situation, HELMS II was launched.

1.5 Launching of HELMS II: The objectives of the research

The HELMS I study covered a large number of issues but could not go 'in-depth' into certain aspects of analysis. Although some of the ideas of the study found their way into the national plan and the formulation of reforms in higher education, it was felt necessary that in-depth consideration should be given to the transition of college students to the world of work. Thus, it was thought there was a need to conduct a HELMS II study to follow-up the student respondents of HELMS I to determine, *inter alia*, who among the students drop out and why; who

delay completing their education and why; after graduation, who gets a job and how; what problems the graduates encountered in the process of obtaining employment and what factors contribute to greater employability; what differences are experienced in the transition process from academe to the world of work from those experienced by the graduates before 1975 as reported in HELMS I; how flexible curricular programmes are in relation to job availabilities; how the labour market behaves and what forces influence labour market behaviour; which graduates remain unemployed and why and what are the explanatory variables of unemployment.

Answers to such questions required the selection of a given cohort of students and a longitudinal study over time, and thus the students surveyed in HELMS I were chosen as the cohort to be followed up over time to find the answers. Although the responses to such questions are expected to change over time for different cohorts of students, a choice of a given cohort provides controls for many external factors particular to the student group under consideration—such factors include individual characteristics, family characteristics, community characteristics, home region, early educational and occupational contacts, etc. Different cohorts could have different characteristics, and tracing the same cohort helps to avoid such differences or at least to reduce them considerably. In addition, a longitudinal study reveals the changes that occur in the same group of individuals over time that might be caused by changes in the economy, in politics and in the socio-economic characteristics of a country. But when attempting to draw some conclusions for policy in respect to different academic programmes, the representativeness of the population becomes important. Therefore we had to add to the student group, three years afterwards, an additional sample of graduates belonging to the same cohort. This sample of additional respondents belonging to the graduating class of the HELMS I student respondents was selected at random from the school registers. The details of the methodology used are given in the next Chapter.

Table 1.1: Selected economic indicators

Year	Real Growth in Gross National Product	Growth in Consumer Price Index	Growth Rate of Employment
1976	7.3	9.2	2.8
1977	6.4	9.9	5.1
1978	5.7	7.9	6.4
1979	6.9	16.5	5.5
1980	5.1	17.6	1.8
1981	3.4	12.4	6.9
1982	22.8	10.2	3.0
1983	-1.3	26.1	-
1984	-5.3	50.3	-

SOURCE: National Economic and Development Authority

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2. The methodological framework of the study

2.1 The framework and concepts

The set of questions mentioned in the last chapter (Section 1.5) concern the global relationship between higher education and the world of work. This education and work linkage was investigated in the HELMS I survey where both students and graduates expressed the opinion that the desire to pursue higher education is heavily influenced by the employment opportunities higher education could open up. Thus, the continuation of studies is, to some extent, oriented towards obtaining employment. In this context, those who drop out are not necessarily those who have not been able to use their education to improve their life. On the contrary, it is possible that the level of education already attained allowed them to find gainful employment or it could be that it was just a personal preference to forego studying in favour of employment.

In this study, an analysis of some causal and non-causal variables has been made in order to suggest a meaningful explanation of the courses of action taken by the student respondents in HELMS I, i.e. either (1) completion of studies and obtaining employment; (2) completion of studies and still in search of gainful employment; (3) discontinuation of studies and taking up employment or discontinuation of studies without finding work and (4) prolongation of studies. Explanatory variables of the above-mentioned phenomena could be found in personal

characteristics (age, sex, marital status), family background (parents' education, en ployment and income), community characteristics (home region, ethnicity, etc.), early educational history (performance in school examination), and the current educational and employment context. The perceptions, expectations and attitudes of the individual are also dependent on the above-mentioned factors. Analysis of this dependence could contribute to an explanation of the relationship between education and present social status. (For graphical presentation, see *Figures I to IV*).

Figure I. Phenomenon of drop-out

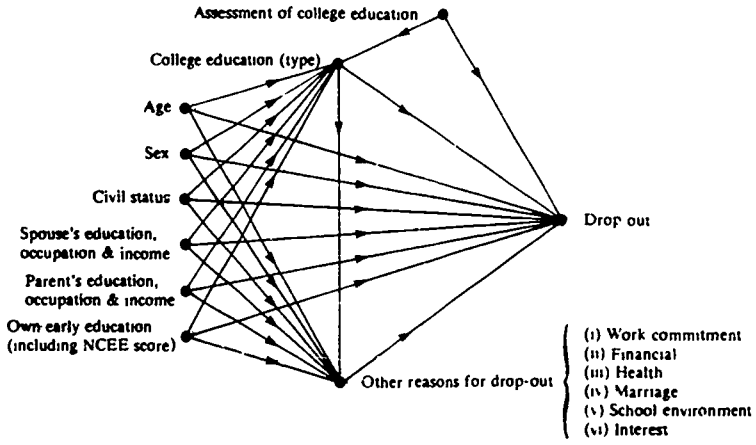


Figure II. Phenomenon of prolongation of studies.

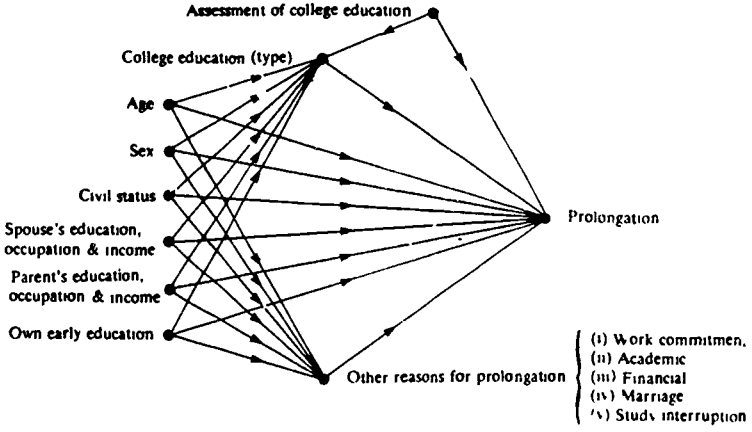


Figure III. Phenomenon of unemployment.

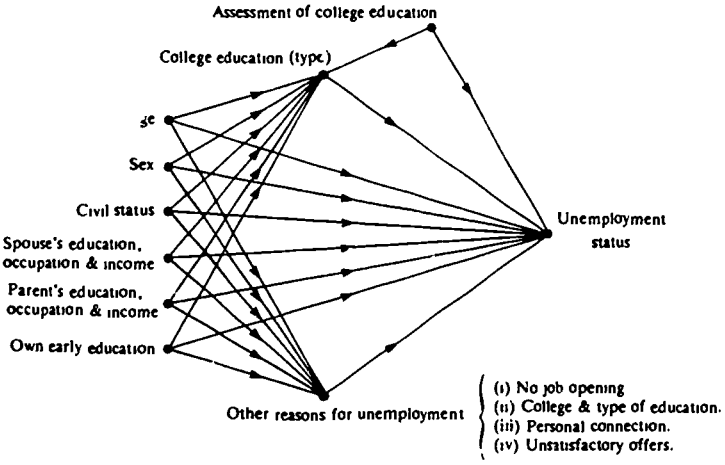
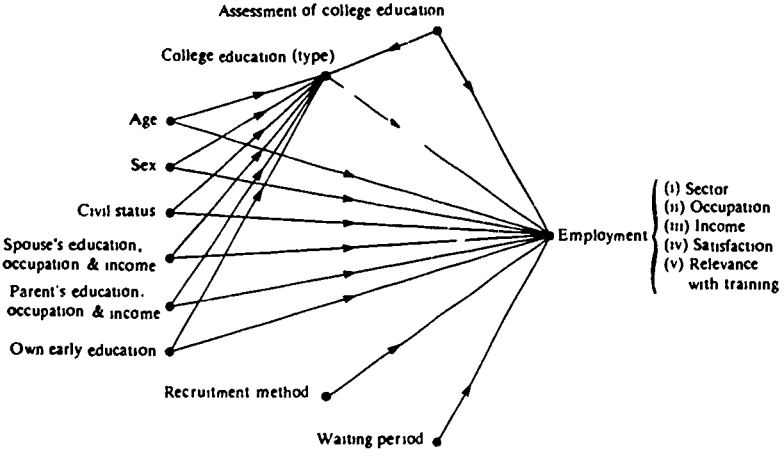


Figure IV. Phenomenon of employment



Development of a hypothesis involving causal ordering where possible and measurable would be useful in guiding the analysis strategy. Often such hypotheses can be made if the meaning of an item is carefully analyzed within a chronological context. For example, let us suppose that the objective is to match the occupation that an individual desired during one's student life with actual occupation he has. One's perception about the future was dependent on the situation prevailing at the time concerning oneself, the labour market situation, correspondence of education and employment, etc. Actual occupation is dependent on the present labour market situation and the characteristics a person possesses at the present time. If a causal relationship is to be hypothesized between them, it must be in the direction from occupation desired during college education to the occupation held at present and not in the other direction.

Another conceptual aspect is the recognition of the fact that schooling operates sensitive social screening mechanisms causing some students to drop out, others to continue education, some to try to leave the school system, but remain unemployed while a good number of the others get a job. In the last category, schooling also oriented different groups of students to different types of jobs. In our sample, all the students started with a college education. The post school situation can be divided into the following categories:

(a) Those who dropped out of the school system before completing a degree;

(b) Those who are still in the school system because of their delay in completing the course;

(c) Those who have successfully completed college education but are waiting for a job; and

(d) Those who have obtained a job after completing college education.

Among the last category, different types of jobs distinguish different groups of students.

The first two types relate to the working of the school system which sorts out students and screens them. The next two types are related to the working of the labour market system, recruitment and

selection criteria, job availability, education-work relevance etc. In the present study we are analyzing these different types of inequalities as a global phenomenon.

2.2 The issue of dropout

Students of different socio-economic backgrounds have different possibilities of surviving in the system. Although social status is assumed to be the major factor involved, there is little empirical evidence to justify this assumption. It is also believed that not only social status, but attitudes, perceptions and expectations influence this phenomenon. The flow of this influence is demonstrated in Figure 1 of this chapter.

2.3 The issue of prolonged studies

In the Philippine situation, prolongation of studies may be due to a number of reasons, i.e. (1) poor academic preparation leading to repetition of the same course; (2) the prolongation of studies due to a need to reduce the load for a given time period so as to obtain good results; (3) the required subjects are not offered in the particular semester; (4) changing from one subject specialization to another, and (5) in the case of the working student population, and a phenomenon that is quite common, the regular course load is too heavy to complete the study in a given time. For example, in the prestigious University of the Philippines prolongation of studies is not uncommon and the forces at play may be one or a combination of the above-mentioned factors. The phenomenon of prolongation is described in Figure 2.

2.4 The issue of employment vis-à-vis unemployment of graduates

Democratic access to higher education makes the Philippines among the few countries of the world with a high proportion of enrolment in higher education in relation to the national population. The policy of democratic access has brought about a group of students in higher education which is heterogeneous not only in terms of socio-economic

characteristics, especially the capability to finance collegiate education, but also of pre-collegiate academic preparation. Likewise, the educational institutions that cater to the college-bound students are of diverse kinds. These institutions offer education commensurate to the paying capacity of the students, as is the case of private higher education which is almost totally dependent on tuition fees. For the state colleges and universities, education offered is commensurate to the yearly appropriation from the national government. This unevenness in access to financial resources is reflected in the inadequacy of physical facilities, libraries, laboratories etc., as well as the quality of faculty in terms of credentials, experience and teaching competencies.

In the light of the heterogeneity of students and the diversity of educational institutions in higher education, it is to be expected that students who successfully graduate have different levels of skills and capabilities which are a critical factor in obtaining employment. Employability, therefore, varies with the diversity of the graduates. This to some extent, is a reason for unemployment of graduates.

Another dimension that explains unemployment is the lack of demand and the excess of supply for some types of graduates. This is the so-called mismatch phenomenon which is possibly due to the inadequacy of linkage between the education sector, on the one hand, and business and industry, on the other.

As revealed in the HELMS I survey, the operation of the labour market is far from ideal. Job availabilities are not widely disseminated except for those that are advertised in the newspaper. Even these are not accessible to the greater number of people because of limited newspaper circulation and readership. Moreover, the nature of Philippine society is such that individual contacts facilitate the dissemination of job information and recruitment. In HELMS I, both the employer and the employed graduates found that employment initiated through former teachers, friends and relatives is an effective method of recruitment. This kind of recruitment is biased in favour of those with connections in strategically-placed positions in the government, business and industry. Often, the job-seekers are of higher socio-economic status belonging to privileged groups of society. This recruitment system is quite disturbing, for this may contribute to widening the gap between the rich and the poor. As recommended in the HELMS I Report, there is a need to have a nationwide employment information, dissemination and recruitment system.

Unemployment may also be voluntary in nature. This is the case where in-depth analysis of what graduates are doing to secure a job becomes necessary. The phenomena of unemployment and employment are indicated in *Figures III and IV*.

The present HELMS II study investigates the various factors that explain or are related to employment status. These factors may be socio-economic variables or educational characteristics. Besides the identification of such variables, it was also deemed desirable to determine through discriminant analysis the relative weights of the variables identified. This provides the basis for formulating recommendations for policy on reducing dropouts, minimizing prolongation of studies where necessary, providing an equitable system for employment and, finally, avoiding unemployment.

2.5 The methodology of the study

It is hypothesized that the type of college education pursued by a student is dependent on his or her age; sex; civil status; number of children; spouse's education, occupation and income; parents' education, occupation and income, the student's own educational background by level and type, his score in the National College Entrance Examination. (See Questions 4-11 in the questionnaire in the Appendix for the details of the item). Attitudes and expectations about college education also influence the choice of training. (See Question 14). The degree of dependence of each of these factors can be analyzed by simple cross tabulations and multivariate analysis, such as discriminant analysis. The reasons for choosing a particular type of college education, which include attitudes and expectations, also call for the same type of analysis as they are also thought to be dependent on individual, family, community and parental background, as described above. Such an analysis is also applicable to dropouts of the system; in this case, the emphasis is on the reasons for dropping out. The explanatory variables, in addition to those already mentioned are performance in college and assessment of college education (Questions 15 and 16). Among the reasons identified in order to understand their importance in the phenomenon of dropout are finance, work-commitment, health, marriage, physical environment of school, and lack of interest (Question 13). An open item was added to identify any other reasons. These reasons are analyzed

together with other socio-economic and educational variables gathered for the survey. A combination of the two types of analyses is expected to provide the reasons for dropout.

The phenomena of prolongation of studies and unemployment were also analyzed in the same way as above. A set of reasons was predetermined and their relative importance identified. For the former these were: work-commitment, academic, financial, marital status, interruption of studies for other reasons. An open item was also added to provide a check on completeness of the answer (Question 12). For the latter (Questions 44-48), identifiable reasons belonged to four groups: (1) type of college education (status of college, type of training including work experience), (2) general unemployment situation in the region, (3) social status of the individual namely, lack of connections, family situation and (4) attitudinal, namely, lack of interest in looking for a job or low salary offered. There is evidence that not all unemployment is due to lack of job opportunities. Graduates may refuse a job offer for sever other reasons, not only economic but also educational and family related (Questions 47-48). Sometimes unemployment is due merely to personal preference. Since a lot of investment is put into educating an individual, steps should be taken to enhance the employability of graduates. A person's contribution to society is generally measured in terms of his being engaged in some productive and constructive undertakings, an exception being the case of educated housewives who are not employed but contribute substantially to the welfare of the family and the betterment of society.

Analysis of the phenomenon of employment requires a deeper perception of the employment process such as recruitment practice (Question 34), the waiting period before getting the first job (Questions 32-33), relevance of the training to obtaining the job and performing the relevant tasks (Questions 37, 38-40), and the relationship between training and the specialization closest to the type of tasks performed (Question 35). This shows the flexibility of the labour market input of certain kinds of jobs, e.g. top administrators, posts needing a lot of versatility etc., and the flexibility of certain fields of studies e.g. liberal arts, business and management studies, social sciences; types of specialization which offer a general background to provide the basis to grasp new skills more quickly as the situation calls for them. This also provides evidence of the phenomenon of 'mismatch' where a graduate is bound to accept a job even if it does not correspond with his qualifi-

cations at a sacrifice on his part and the employer for lack of suitable graduates is obliged to appoint someone and has to provide special orientation programmes on-the-job. This type of 'mismatch' can be analyzed only by an assessment of the relevance of training as perceived by the graduates and the employers. That is, the difference between specialization received in college and the specialization needed on-the-job, or closest to the job performed, has to be further analyzed in relation to the perceived relevance of the training and the degree of satisfaction of graduates and employees (Questions 37-43). One shortcoming of the present study is that we have not included the employers in the HELMS II survey, though we have that information from HELMS I, and presumably the data have not changed much between 1978 and 1981. The degree of satisfaction enjoyed by graduates from a job does not always depend on monetary benefits. Jobs are often satisfactory if they provide opportunities for further development through opportunities for further schooling or to attain desired objectives, if they provide security in life, allow for leisure and time for the family, or simply have a good working environment. These factors are analyzed for their importance as perceived by the graduates (Question 43).

Finally, the employment process is supposed to offer upward social mobility through increased earnings. Empirical evidence of personal income distribution shows that education has an influence on earnings.[5] In the case of the Philippines, it is important to know to what extent education could contribute through employment benefits in the democratization of the citizenry, given the socio-political structure. An earnings function, with variables related to the socio-economic status of graduates and their educational background, has been developed in this study.

[5] For example. G.S. Sahota,'Theories of personal income distribution: A survey', *Journal of Economic Literature* Vol. XVI. March 1970. pp.1-55.

2.6 The data needs

It is clear from the above analysis strategy that the data needed can best be collected through questionnaire surveys, as was borne out by the experience of HELMS I and other IIEP studies. The questionnaire used is given in the Appendix. The rationale for each question and the questions themselves, stem from the analysis strategy. Reference to HELMS I is made wherever comparison with HELMS I data is necessary. In preparing the questionnaire, sufficient care was taken to check for validity and consistency by pre-testing.

2.7 The sampling process

The samples in this study were taken from the HELMS I files of 9,105 student respondents. These student respondents were classified across degree programmes i.e. agriculture, business administration, medicine, social sciences, etc. and by typology of schools, i.e. state colleges and universities and, for private schools, classification was based on whether the schools are Catholic, Protestant or a foundation. A matrix was constructed based on the curricular programme classification and the typology of educational institutions and a sample was fitted into each cell using the following sampling scheme:

Sampling fraction-HELMS I Students

per cent	
10	1 000 and over
20	101-999
30	76-99
40	51-75
50	31-50
75	16-30
100	1-15

After constructing the sample matrix table, it was noted that there were empty cells, i.e. cells in the matrix without any sample across academic programme and college typology. To remedy the situation, a

sample was taken from the graduates in academic programmes and college typology similar to the HELMS I respondents. A total sample of 2,598 was obtained as follows:

		Sample	Response Rate
1.	State Education Sector		
1.1	University of the Philippines	650	51.69 per cent
1.2	Other State Colleges and Universities	290	44.14 per cent
2.	Private Education		
2.1	Protestant	152	43.42 per cent
2.2	Catholic	480	43.12 per cent
2.3	Proprietary	901	56.60 per cent
2.4	Foundation	125	35.2 per cent
	Total	2 598	49.42 per cent

Of the total 2,598 in the sample 1,284 sent valid responses giving a response rate of 49.42 per cent. The profile of the respondents is shown in *Table 2.1*

A comparison of the distribution of respondents between the HELMS I and II is also shown in Table 2.1. One may notice that in HELMS II, there is, percentage wise, a higher up representation from 4.18 per cent in HELMS I to 26.2 per cent in HELMS II. The main reason was to take the University of the Philippines (being the main university) graduates as the reference point for all graduates and University of the Philippines graduates were therefore selected from all curricular programmes. The response rate of the University of the Philippines was 51.69 per cent which is higher than the overall response rate of 49.42 per cent.

2.8 Editing and coding operations

The editing and coding operations were undertaken by a highly-trained team. The editing guidelines and coding schemes were adapted from HELMS I, with some revisions to suit the new set of questions.

These operations were not without their own set of problems: (1) some items were left unanswered; (2) there were inconsistencies in the answers; (3) some respondents failed to follow instructions in the accomplishment of the survey sheet; (4) data on income was inaccurate; (5) irrelevant entries were made; and (6) some items confused the respondents e.g. occupational and industrial classification.

These constraints, however, were remedied by follow-up calls to the respondents or by looking at the other items in the questionnaire for verification.

2.9 EDP operations

The data processing for the Tracer Study was done by the technical staff using an ECLIPSE 150 machine which is a key-to-disk-tape system. Data from the questionnaire were first encoded, then run through a validation programme to verify the data. The creation of the masterfile followed along with the production of marginals using a packaged programme called the Statistical Package for Social Sciences (SPSS). The statistical tables required for this study were patterned on the HELMS I Report.

2.10 Presentation of the results

The results of the analysis are reported in the following five Chapters: Chapter 3 presents the phenomenon of transition of students from college to the world of work and deals with those individuals who obtained employment. Chapter 4 deals with the same individuals in an analysis of the role college education played in career promotion. The problem of those graduates who did not find employment is dealt with in Chapter 5. Those who dropped out of the system and those who are still continuing their studies are the subject of analysis in Chapter 6. Chapter 7 deals with the phenomenon of matching the expectations of

individuals with the realities of their working life. The principal findings of the follow-up survey are reported in Chapter 8 while Chapter 9 gives the latest economic and employment situation of the Philippines to allow the findings to be placed in their proper context. The concluding Chapter put forward the policy implications for higher education and employment.

Table 2.1: Profile of respondents

Type of College			Male		Female		Total HELMS II		HELMS I
			N	%	N	%	N	%	%
1.	Public Education Sector								
	1.1	U.P.	161	30.6	175	23 1	336	26.2	4.18
	1.2	Other State Colleges and Universities	35	6.6	86	11 4	121	9 4	8.67
2	Private Education Sector								
	2 1	Catholic	7o	14.8	129	17 0	207	16.1	27 40
	2.2	Prostant	28	5.3	38	5.0	66	5.1	3.37
	2 3	Proprietary	200	38.0	310	41.0	510	39.7	55.03
	2 4	Foundation	25	4.7	19	2.5	44	3.4	1.34
3	Total		527	41 0	757	59 0	1284	99 9	100

3. Transition from college to the world of work

In-depth studies on employed graduates were conducted in HELMS I to analyze the adjustment and flexibility of the labour market. Some of the graduates surveyed were of pre-war vintage, while others were from the 1975-1976 batch. HELMS I, therefore, covered a longer span of time than HELMS II, which restricted itself to the period from schoolyear 1978-1979 to the time of the survey in 1980-1981. This recent evaluation of the labour market is significant, because it provides a basis for assessing market behaviour between HELMS I in 1978 and HELMS II in 1981 and for formulating guidelines for new graduates who are entering the labour market. It can provide feedback to the education sector and, at the same time facilitate the transition of graduates from the academic community to the real world of work. It can heighten the contribution of education to the productive sector by making the transition smoother, more efficient and within a shorter time span.

3.1 Characteristics of employed graduates

3.1.1 Age, sex and civil status of employed graduates

The biggest number of the employed graduates in the sample belong to the age bracket 20-23 (48.5 per cent) followed by 42.6 per cent in the age bracket 24-27. (For details, see *Table 3.1).* The mean age of 24.15 is lower than the mean age of graduates in HELMS I of 32.6. Since

most of the employed graduates are in the age bracket 20-23. this indicates that the majority of employed graduates finished their courses on time.

The employed graduates are predominantly single (84.3 per cent) and female (59 per cent). (For details, see *Tables 3.2 and 3.3*).

The dominance of females in employment, as well as among dropouts, was highly pronounced even in HELMS I. In the first study, only 50.10 per cent were female compared to 59 per cent in HELMS II. These statistics do not prove that females have better chances for employment. The preponderance of females among employed graduates is due to the sample used in the survey which comprised 59 per cent females, thus reflecting their predominance in higher education in the Philippines.

3.1.2 The married employed graduates

Of the employed graduates, 15.6 per cent were married, much lower than the percentage of married graduates among college dropouts (35.7 per cent). The educational attainments of the spouses were mainly in the fields of engineering and technology (23.0 per cent), business administration (22 per cent), and the medical sciences (14.0 per cent).

Professional, technical and related workers (39.2 per cent) ranked high as an occupation among the spouses of employed graduates, much higher than among the spouses of college dropouts (15.8 per cent). Next in ranking are the non-working housewives (17.6 per cent) and the clerical related workers (14.4 per cent). Spouses of college dropouts held jobs in production, transport and related fields (26.3 per cent) and clerical jobs (21.0 per cent). One can infer from the data that employed graduates have a great tendency to marry professionals, whereas college dropouts tend to marry clerks and people engaged in as production, transportation and related jobs. This phenomenon is probably an indication of prevalent social values.

As to the industrial classification of employees among the spouses of employed graduates, they tend to be concentrated in community, social and personal services (53.2 per cent) which is also true of the spouses of college dropouts but less so amounting to only 38.8 per cent.

The mean income (P1,771.30) of the spouses of employed graduates (*Table 3.4*) is far higher than the mean income (P1,370.15) of the

spouses of college dropouts. It is also much higher than the mean income of the employed graduates (P.1,096.68). Possibly, the higher income of the spouse is a motivating factor for marriage. Note, however, that there are slightly more female employed graduates who are married, whose respective male spouses have a higher income than the female spouse of the male employed graduates.

3.1.3 Parental background of employed graduates

The majority (58.7 per cent) of the fathers of the employed graduates reached college. Only 23.5 per cent of the fathers had a high school terminal education, while 17.8 per cent had an elementary education. On the other hand, 51 per cent and 55.6 per cent of the fathers of the unemployed graduates and those on prolonged studies respectively, went to college. A much lower percentage of the fathers of college dropouts had college education (35.3 per cent) while 37 per cent had a terminal high education and 27.8 per cent had only elementary schooling. (For details, see *Table 3.5).*

Fathers of employed graduates tended to be in the field of law and foreign service (27.0 per cent), business administration (22.2 per cent), and engineering and technology (23.5 per cent). It is quite interesting, in analyzing the collegiate background of the fathers of employed graduates, that there is a marked shift in course preference from father to children. As cited, the fathers of employed graduates favoured law and foreign service (27.0 per cent), a preference retained by 25 per cent of the fathers of college dropouts. The children tended to change fields, as shown in the following statistics: only 4.3 per cent of the employed graduates, 3.6 per cent of the college dropouts and 2.5 per cent of the students on prolonged studies, were taking up law and foreign service.

What continued to be very popular was commerce and business administration. For the fathers of the employed graduates, 22.2 per cent concentrated in business administration and 21.1 per cent of the employed graduates had taken this course. Engineering and technology was popular for the fathers (23.5 per cent) but less so for the children (15.4 per cent). (For details, see *Table 3.6).* On the other hand, medical sciences have increased in popularity, with 10.6 per cent of the fathers and 17.1 per cent of the children in this field of specialization, (i.e. the employed graduates).

Teacher education was a common field of specialization among mothers of employed graduates, with 59.6 per cent of them having opted to take the course. The corresponding figure for mothers of dropouts is 50 per cent and students on prolonged studies 22.2 per cent. There was a dramatic decline in popularity of teacher education where the young ones were concerned. Only 12.7 per cent of the employed graduates, 16.4 per cent of the dropouts and 2.5 per cent of the students on prolonged studies had chosen teacher education as their course.

Occupationally, the fathers of employed graduates were engaged as professional, technical and related workers (27.6 per cent). This was also true of the fathers of dropouts (20 per cent), the students on prolonged studies 17.5 per cent, and the unemployed graduates. The next popular occupations of the fathers of employed graduates were executive, administrative and managerial work (16.4 per cent), agriculture (14.1 per cent), sales (12.1 per cent), production, transportation and related work (11.6 per cent). (For details, see *Table 3.7*). It is quite significant that a big percentage of the fathers of dropouts (27.3 per cent) and the unemployed (18.8 per cent) were engaged in agriculture. The inference is that the children of agriculture workers are more likely to drop out of school or remain unemployed.

Father's occupation has some variations across typology of schools. As shown in *Table 3.8*, the major occupation of the fathers of the employed graduates from the University of the Philippines is in professional, technical and related jobs (45.8 per cent) and administrative, executive and managerial positions (24.2 per cent), amounting to a total of 70 per cent in these two topmost occupational classifications. The corresponding percentage for those coming from other government schools is 19.8 per cent, Catholic schools 45.8 per cent, Protestant schools 38.3 per cent, proprietary schools 32.5 per cent and foundation type of institutions 20 as shown.

As shown in *Table 3.5*, the mothers of the employed graduates just like the mothers of the unemployed graduates, the dropouts and those on prolonged studies have a much lower level of education than the father. For the employed graduates, only 45.3 per cent of the mothers had a college education, 29.5 per cent with only high school education and 25.2 per cent elementary schooling. The mothers of the college dropouts have the least schooling, only 21.2 per cent had college education, 34.6 per cent high school and 44.2 per cent elementary.

For the mothers with college education, the predominant specialization is teacher education (59.6 per cent). followed by medical sciences (17.1 per cent) and business administration 11.4 per cent (see *Table 3.6).*

The mothers of the employed graduates, like the mothers of dropouts, unemployed graduates and students on prolonged studies, are mainly non-working housewives. The corresponding percentages are 58.5 per cent for employed graduates, 64 per cent for dropouts, 60.3 per cent for unemployed and 63.4 per cent for students on prolonged studies.

For the working mothers of the employed graduates, the most preferred occupation is professional, technical and related work (18.8 per cent). The figure is lower for mothers of students on prolonged studies (7.3 per cent), dropouts (3.8 per cent) and the unemployed (15.6 per cent). One can infer from these statistics that children of executive, administrative and managerial positions are likely to succeed in college and get employment. (See *Table 3.7).*

Community, social and personal services rank number one in the industrial classification of employers of the fathers of employed graduates (34.8 per cent). (For details, see *Table 3.9).* This is also the number one category (28.7 per cent) for the employers of the parents of the unemployed. Agriculture employs more of the fathers of college dropouts (27.3 per cent) and those on prolonged studies (32.3 per cent) than the employed graduates (16.9 per cent). Note that manufacturing (8.6 per cent) is low on the scale as employer of the fathers of employed graduates compared to 9.7 per cent of the parents of students on prolonged studies and 21.2 per cent of the dropouts, and it is the third ranking employer for the fathers of the unemployed. This again reinforces the thesis that fathers engaged in agriculture and manufacturing have children who are likely to drop out of school and, even as graduates, will likely be unemployed.

Variation of industrial classification of the employer of the parents of employed graduates across typology of schools indicates that the difference is only a matter of degree, with community services being more predominant for the University of Philippines graduates (41.9 per cent) compared to 27.3 per cent for the graduates of Catholic schools, 31.3 per cent for the Protestant, 33.5 per cent for the proprietary schools and 27.8 per cent for the foundation type of educational institution. The agriculture sector ranks second for all except the graduates of

the Catholic schools and University of the Philippines. For the University of Philippines graduates, the second ranking industrial classification is financing and business while, for the Catholic schools, it is the wholesale and retail trade. (For details, see *Table 3.10.*

The majority of the mothers of all school leavers are in the community, social and personal services industrial classification. The breakdown: 82.9 per cent for employed graduates, 73.9 per cent for dropouts, 79.1 per cent for the unemployed and 72.5 per cent for students on prolonged studies.

The gross monthly income of fathers of employed graduates averages P.3,187.77 which is higher than the average income of the fathers of unemployed graduates (P.2,729.13) and college dropouts (P,938.40). (For details, see *Table 3.11).* The data reveal that children of lower income groups are likely to be college dropouts and, should they graduate, are more likely to be unemployed.

The income distribution of parents of employed graduates varies across typology of schools. As shown in *Tables 3.12 and 3.13* and graphically presented in *Figure V,* the parents of the University of the Philippines graduates have the highest income and a better income distribution, followed by the parents of the graduates of Catholic schools, proprietary schools, foundations, Protestant schools and the other state colleges and universities. This is not surprising since 70 per cent of the fathers of the University of the Philippines graduates come from the topmost occupations, viz. professional, technical and managerial, executive and administrative positions. The average income of the mothers of employed graduates showed that it is the highest of the three categories at P.1,876.76, followed by the mothers of the unemployed graduates, P.1,592.76 and the lowest of them all, mothers of dropouts at P.586.66. Thus, the total for the parents of graduates is much higher at P.5,064.53, than for the parents of the unemployed graduates, P.4,321.89, and the college dropouts P.1,525.06.

The annual changes in salary of the parents of employed graduates are much higher than that of the parents of the unemployed or of college dropouts.

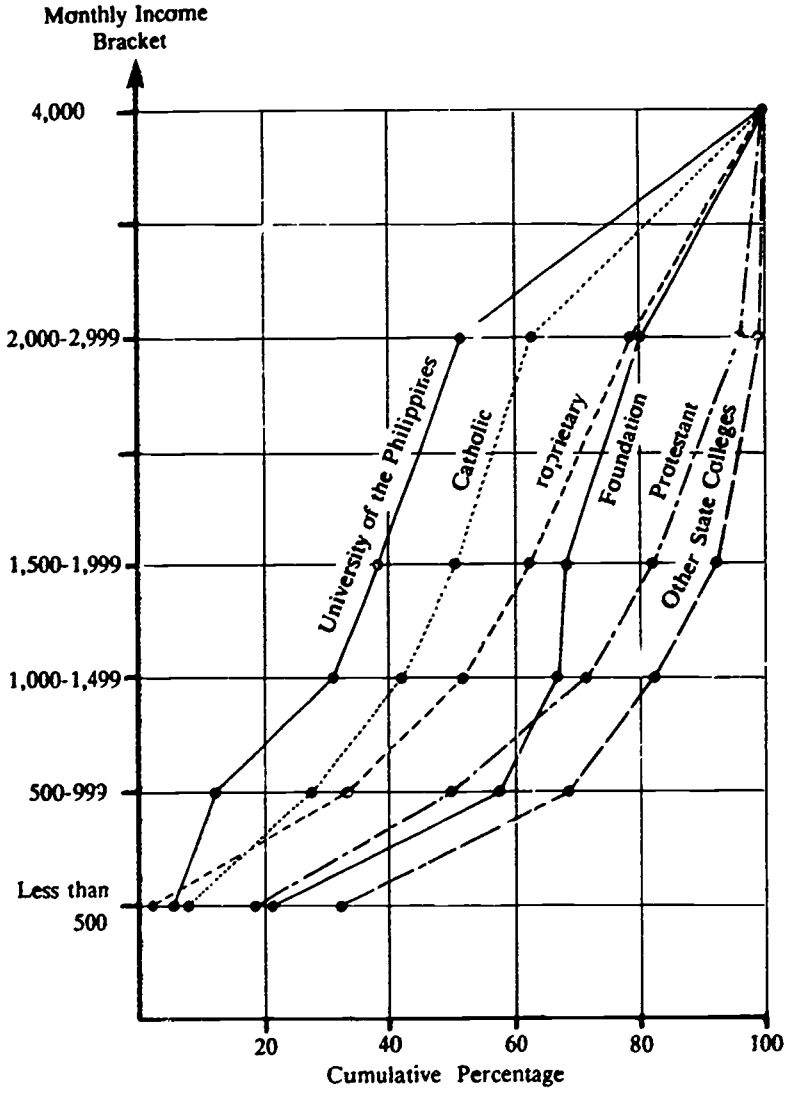
3.1.4 Education of employed graduates

The pre-college preparation of employed graduates can be gauged by analyzing the percentile scores in the National College Entrance Examination (NCEE). The mean score of the employed graduates in NCEE was 91.7 per cent with a standard deviation (S.D.) of 12.7. For the unemployed graduates, the mean score was 86.17, S.D. = 17.08, and for the college dropouts, 76.30, S.D. = 18.35. The implication of the data is that those who scored high in the NCEE were likely to succeed in college and obtain employment. For University of the Philippines graduates, it is as high as 99.6 per cent, other government schools 70 per cent, Catholic schools 61.1 per cent, Protestant 90.3 per cent, proprietary schools 40.4 per cent and foundation type of institution 91.9 per cent.

The lower standard deviation among the employed graduates indicates that the employed graduates are more homogeneous as a group than the unemployed graduates and college dropouts.

In-depth analysis of NCEE scores across the typology of schools indicates that the University of the Philippines is producing the high achievers with 99.6 per cent of the employed graduates in the 91-99 percentile in NCEE. For the employed graduates from other government schools, it is 70 per cent, Catholic 61.1 per cent, Protestant 90.3 per cent, Proprietary schools 40.4 per cent and foundation type of educational institutions 91.9 per cent. (For details, see *Table 3.14).* Those with the least academic achievement in terms of NCEE scores were graduates of proprietary schools with 33.3 per cent on the 80th percentile and below. Those below the 80th percentile from other government schools represent 26.8 per cent, Catholic schools, 15.8 per cent, Protestant 9.7 per cent and foundation type of institution 5.4 per cent. For the University of the Philippines, no one is found in the score bracket of below the 80th percentile NCEE. In short, the private schools and the other government schools cater to a more heterogeneous group of academic achievers, while the University of Philippines serves the intellectual elite.

Figure V. Income distribution of the Fathers of employed graduates



Employed graduates come from various types of high schools categorized into public high schools, private sectarian high schools and private non-sectarian high schools. The majority (56.3 per cent) of the graduates from the University of the Philippines come from private sectarian schools. (For details, see *Table 3.15).* On the other hand, the graduates from other government colleges and universities come mainly from public high schools (60.5 per cent), with 25.6 per cent from private sectarian high schools and the rest from private non-sectarian high schools. Understandably, the employed graduates from Catholic and Protestant colleges come from private sectarian high schools, at 64.5 per cent and 50 per cent respectively. Employed graduates from proprietary colleges have a balanced distribution with 36.8 per cent of them coming from public high schools, 33.2 per cent from private sectarian high schools and 30 per cent private, non-sectarian high schools. The only group of private colleges and universities that caters mostly to public high school graduates (80 per cent) is the foundation type of institution. The other 20 per cent come from private non-sectarian high schools.

A third of the employed graduates come from the proprietary colleges (35.9 per cent) followed by the University of the Philippines (29.7 per cent) and the Catholic colleges (14.7 per cent). In the distribution of the sample selected for the survey there were 39.7 per cent from proprietary colleges, 26.2 per cent from the University of the Philippines, 16.1 per cent from Catholic colleges 9.4 per cent from other government colleges, 5.1 per cent from protestant and 3.4 per cent from foundation type of institutions. Thus the percentage of employed graduates coming from proprietary, Catholic and Protestant colleges is lower than the percentage chosen for the sample. On the other hand, the percentage of employed graduates from the University of the Philippines, other government colleges and foundation type of institutions is higher than the percentage in the sample. One can infer from this that graduates of the University of the Philippines, other government schools and foundation type of institutions have better chances of getting employment than those from private schools. (For details, see *Tables 3.16).*

Among the University of the Philippines graduates, social sciences and medicine are the top-ranking fields of specialization with 18.8 per cent and 18.4 per cent respectively. This is followed by engineering and technology (16.9 per cent) and business administration (10.9 per cent).

The other fields of specialization of the University of the Philippines graduates are law and foreign service (9 per cent), physical and biological sciences (6 per cent), agriculture 5.3 per cent, teacher education 3.8 per cent, other liberal arts courses 3 per cent and music and fine arts 2.6 per cent. (For details, see *Table 3.17*).

The graduates of the other state colleges and universities are concentrated in teacher education 71.6 per cent, agriculture 11.8 per cent, engineering and technology 8.8 per cent, business administration, 5.0 per cent and food, nutrition and dietetics (2 per cent).

Business administration and commerce graduates constitute the bulk of graduates from Catholic and proprietary colleges, with 22 per cent and 36.8 per cent respectively, but for the graduates of Protestant colleges, commerce (21.4 per cent) ranked second to social science (26.2 per cent). Medical science graduates ranked second amongst the graduates of Catholic (17.4 per cent) and proprietary colleges (23.6 per cent). The other predominant major field of concentration among the graduates of private educational institutions is engineering and technology, with 18.2 per cent of the graduates of proprietary colleges in this category. Agriculture as a major field of concentration is the least preferred among the graduates of Protestant (4.8 per cent), Catholic (0.8 per cent) and proprietary colleges (0.3 per cent). However, it constitutes the bulk of graduates for the foundation type of educational institutions (97.3 per cent). (For details, see *Table 3.17*)

Degree preferences across sex revealed that the male dominated degree programmes are agriculture, engineering and technology, law and foreign service, and physical and biological sciences. The degree of male dominance is very pronounced in engineering and technology (34.6 per cent are male while females account for only 2.6 per cent). On the other hand, females are predominant in teacher education, wherein 17.9 per cent of the graduates are female compared to only 4.8 per cent male, business administration (24.9 per cent female versus 15.3 per cent male) and medical science (20.6 per cent female and only 11.9 per cent males). The other fields of specialization where there was a female predominance was nutrition, social science and other liberal arts courses. (For details, see *Table 3.18*.

3.1.5 Reasons for course preference of employed graduates

All the employed graduates considered employment prospects as the biggest factor affecting course preference. Courses providing a wider range of career opportunities ranked second, followed by social prestige, family influence and the influence exerted by friends. There is no variation in ranking across college typology, only a variation in relative numerical weight. (For details, see *Table 3.19)*

While the majority of employed graduates had personally chosen the course they completed, there was a small minority who failed to take their preferred courses. The main reason for this was financial in nature. The only exception was the University of Philippines where students were not affected by financial constraints, since most of them belong to higher income brackets compared to students of other schools. At the University of Philippines, the most common reason for not pursuing preferred courses were the following: changing one's mind, parental influence and poor grades (For details, see *Table 3.20).*

3.2 Means of obtaining a job

In HELMS I, the predominant means to obtain a job ranked in order of importance were as follows:

(a) friend's/relative's recommendation

(b) company personnel office

(c) teacher's/instructor's recommendation

(d) school placement office

(e) Government placement office

Retaining the above-mentioned classification, HELMS II results showed a slight difference. On the whole, the company personnel office ranked number 1, followed by friend's/relative's recommendation, teacher's/instructor's recommendation, school placement office and government placement office. There is no difference in ranking of importance between male and female graduates

Across typology of college, there are some interesting differences. The company personnel office ranked number 1 as a means of getting a job for graduates from University of Philippines and Catholic colleges (For details, see *Table 3.21*). For the graduates of the Protestant and foundation type of institutions, it was teacher's/instructor's recommendation. On the other hand, friend's/ relative's recommendation is the most effective means of getting a job from the point of view of the graduates of proprietary colleges. The graduates of other government colleges attested that the services offered by the government and school placement office is a far more effective way of getting a job compared to the company's personnel office and teachers' recommendation. This may be attributed to the fact that most of the graduates of other government colleges are in teacher training programmes, the predominant user of which is the network of public elementary schools.

The emergence of the company personnel office as a more effective means of getting a job seems to reveal a trend toward the use of the institutional mechanism as a means of securing employment as against the personalized vehicle of recommendation from friends, relatives and teachers.

3.3 Waiting period

The waiting period was categorized as follows: (1) from the time of graduating to the time of employment and (2) from the time a graduate actively began to look for work to the time of employment. Under the latter category, the waiting period in HELMS II has been substantially reduced to two months compared to six months in HELMS I.

The average waiting period after graduation was a little over a year. However, the waiting period from the time graduates actively looked for work was only two months. Some 72.6 per cent of the graduates were employed two months after actively looking for a job, 84.3 per cent after four months, 92.7 per cent after six months, and 98.5 per cent after one year (For details, see *Table 3.22*). The waiting period varies across the typology of educational institutions. Within two months, 85.5 per cent of the graduates of University of Philippines were employed, a figure considerably higher than the 72.5 per cent for the graduates of Catholic colleges, 50 per cent for protestant, 65.8 per cent for proprietary and 75.36 per cent for graduates of other state colleges and universities (For details, see *Tables 3.22 and 3.23*).

The reasons behind the long waiting period are as follows:

		Degree of Importance
1.	Low salary offer	2.13
2.	Little or no opportunity for advancement	2.70
3.	Unsatisfactory working conditions	2.82
4.	No job opportunity	3.06
5.	Job too far from home	3.38

(1 = the highest rank and 5 = the lowest)

The above ranking of importance of reasons applies during the first two months after graduates actively looked for a job, and varies with the length of waiting. For those who waited four months, no job opportunity is ranked third and poor working conditions is ranked fourth. For those who waited for six months and beyond, no job opportunity turns out to be the most important reason. Low salary offer, little opportunity for advancement and poor working conditions are secondary considerations. The least important factor is the distance of the place of work from home.

Across college typology, the reasons for the long waiting period vary slightly. Graduates of the University of Philippines, sectarian educational institutions and other state colleges and universities consider opportunity for advancement of great importance. Graduates of proprietary colleges do not share this concern. Graduates of sectarian colleges display some uniqueness: they attach greater importance to the job distance from home over the working conditions. These varying concerns are possibly reflective of the values inculcated in the respective institutions.

A critique[6] made during the HELMS II workshop provided the following rationalization of the above-mentioned concerns:

[6] Dr. Conrado P. Aquino. President of the University of the East and the Co-ordinating Council of Private Educational Associations (COCOPEA).

(a) 'perhaps because the majority of the clientele of the proprietary colleges belong to the middle income group or below, having a steady job is more important than opportunity for advancement.' The data contained herein supports the contention that students of proprietary colleges are from lower income groups than those of the University of Philippines.

(b) 'proprietary schools do not motivate their graduates enough to aspire to advancement'

(c) 'the more affluent students who go to the other colleges have a stronger drive for the prestige and power that money (higher salary or returns) gives.'

3.3.1 Explanatory variables of waiting period

Possible explanatory variables were identified that might possibly explain the waiting period. These variables are typology of college (University of Philippines, proprietary, Catholic, Protestant, other government colleges and foundations), academic self-assessment, NCEE score, length of time after graduation and sex. Using these variables, a regression equation was constructed as follows:

$$W.P. = a + \sum_{i=1}^{n_1} a_{1i} x_{1i} + \sum_{i=1}^{n_2} a_{2i} x_{2i} + \mu$$

W.P. = waiting period, the dependent variable

x_{1i} is a set of personal variables, viz. sex, age, home region, etc.

x_{2i} is a set of educational variables, viz. typology of college, academic self-assessment, NCEE score and length of time after graduation.

μ is the error term.

Using the above-mentioned variables, a regression analysis was made with three models: one for all employed graduates, and one each for male and female. The results showed that for all graduates, only two variables have some statistical significance in explaining the waiting period. These variables are (1) University of Philippines graduates and (2) graduates from Protestant schools with F < 4. Being a graduate of the University of Philippines has a negative relationship with the waiting period, which means that the University of Philippines graduates have a shorter waiting period than the graduates of Protestant colleges which have a positive relationship with the waiting period. (For details, see *Table 3.24).* All other variables have no statistical significance in explaining the waiting period.

For the male graduates, the variables that are statistically significant in explaining the waiting period are, colleges typology, i.e. University of Philippines, proprietary, Catholic and other government colleges. All show a negative relationship, which means that male graduates from these institutions have a shorter waiting period. The female graduates have only one variable that is statistically significant in explaining the waiting period, i.e. being a graduate of a Protestant college.

The R^2 for all employed graduates is 0.08599, males 0.11422 and females 0.1181 (see *Table 3.25).* This means that the above-mentioned variables explained only from 8.5 per cent to 11.81 per cent of waiting period. There are other variables that explain the waiting period which were not taken into account in the regression model, because of identification difficulties.

3.4 Assessment of college education and utilization of training

3.4.1 Assessment of college performance and instruction

Except for University of Philippines graduates, the majority (63.0 per cent) of the college graduates consider their college performance average, i.e. 80-85 per cent; 33.3 per cent considered themselves above average and 1.8 per cent excellent. The below average college performance group is only 1.8 per cent (For details, see *Table 3.26).* The distri-

bution is similar to HELMS I with 67.63 per cent of them considered as average, 28.15 per cent above average, 1.6 per cent excellent, but only 2.53 below average.

The self-assessment of college performance has some slight variation across college typology. Whereas the majority of the graduates of other state colleges and universities and all private colleges considered themselves as average students, only 44.6 per cent of the University of Philippines graduates evaluated themselves as average students. The bulk (49.4 per cent) of the University of Philippines feel that they are above average students. The corresponding percentage for the graduates of other state college and universities is 23.5 per cent. Catholic 33.1 per cent, Protestant 31 per cent, Proprietary 26 per cent and foundation 13.5 per cent (For details, see *Table 3.27).*

On the content of instruction, 47.2 per cent considered it adequate, 36.1 per cent very adequate, and 9.8 per cent excellent. On the negative side, 4.9 per cent considered the content as barely adequate and 2.0 per cent inadequate (For details, see *Table 3.28).* This rating is similar to the HELMS I data, save for the increasing number who considered the content of instruction inadequate or barely adequate. In HELMS I, less than 1 per cent (0.45 per cent) considered the content of instruction inadequate. In HELMS II, the percentage has risen to 2.0 per cent. The judgment of barely adequate has likewise gone up from 3.21 per cent in HELMS I to 4.9 per cent in HELMS II. One can infer from this trend that there is a decline in the quality of content of instruction.

With respect to the method of instruction, the judgment is that there has been a deterioration as shown by the shift downward of the excellent rating. In HELMS I, 35.18 per cent considered the method very adequate and 9.62 per cent excellent. In HELMS II, the rating for the method of instruction as very adequate went down to 34.2 per cent and excellent to 8.7 per cent. Also, the opinion that the method was inadequate has gone up from 1.01 per cent in HELMS I to 3.1 per cent in HELMS II. Likewise, there were more who considered the method of instruction as barely adequate. This has gone up from 4.19 per cent in HELMS I to 5.9 per cent in HELMS II.

Across typology of college, there was a slight variation in the assessment of content of instruction. The majority of the graduates of Protestant, proprietary and foundation colleges considered the content of instruction as adequate, but for the University of Philippines, a

greater percentage (44.7 per cent) considered the content of instruction to be very adequate and 16.5 per cent excellent (For details, see *Table 3.28).*

The variation across typology of college with respect to the method of instruction follows the same trend as the variation on the assessment of the content of instruction (For details, see *Table 3.29).*

The assessment of the content and method of instruction made by the employed graduates in HELMS I and II are quite reasonable and reliable, unlike the evaluation by the college dropouts where 37.5 per cent considered the content as excellent and 50 per cent considered the method of instruction as excellent.

3.4.2 Usefulness of education and training

The employed graduates were asked the extent of the relevance of education and training to their present jobs. A small group (2.6 per cent) felt that educational qualifications were not necessary for obtaining a job, and 4.0 per cent indicated that educational qualifications are barely necessary (For details, see *Table 3.30).* A big majority however indicated that educational qualifications are necessary as shown by the following response pattern

Necessary	22.3 per cent
Very necessary	57.3 per cent
Extraordinarily necessary	13.8 per cent

Between male and female graduates, the evaluation of the usefulness of educational qualifications in relation to the present job was substantially similar with slightly more males (15.3 per cent compared to females of only 12.7 per cent) conveying that educational qualifications were extraordinarily necessary for the present job.

Across the typology of college, the employed graduates from University of Philippines valued their educational qualifications a lot more than all other graduates. There were 18.1 per cent of the graduates of University of Philippines who feel that educational qualifications are extraordinarily necessary compared to the overall evaluation of 13.8 per cent (For details, see *Table 3.31).* The graduates of catholic schools ranked next to University of Philippines graduates in ranking educa-

tional qualifications as extraordinarily necessary (15.3 per cent). For all the graduates, educational qualifications were considered as merely necessary, less than 10 per cent considered them as very necessary.

A question was also asked to compare formal versus non-formal training: (1) a small percentage (4 per cent) expressed the view that formal training was not necessary for the present job; (2) a slightly higher percentage (13.2 per cent) considered non-formal training as not necessary; (3) a great majority favoured formal training, with 51.1 per cent saying that formal training was very necessary and 13.8 per cent extraordinarily necessary. However percentages were found with regard to non-formal training, 41.5 per cent considered it very necessary and 11.9 per cent extraordinarily necessary (For details, see *Tables 3.32 to 3.34).*

Table 3.1: Age profile of employed graduates

Age Bracket	Male		Female		Total	
	N	%	N	%	N	%
20 - 23	144	40.8	281	53.7	425	48.5
24 - 27	162	45.9	211	40.3	373	42.6
28 - 31	38	10.8	25	4.6	62	7.1
32 - 35	5	1.4	2	.4	7	.8
36 and over	4	1.1	5	1.0	9	1.0
Total	353	100	523	100	876	99.9

Table 3.2: Civil status of the employed graduates

	Male		Female		Total	
	N	%	N	%	N	%
Single	292	82.5	453	85.5	745	84.3
Married	62	17.5	76	14.3	138	15.6
Widowed	-	-	-	-	0	0
Legally Separated	-	-	1	2	1	.1
Total	354	100	530	100	884	100

Table 3.3: Sex of the employed graduates

	N	%	Sample
Male	354	40.0	41.0
Female	530	60.0	59.0
Total	884	100	100

Table 3.4: Monthly income of the spouse of the employed graduates

	Total		Male		Female	
Salary Bracket	N	%	N	%	N	%
Less than P.500	6	9.9	4	11.4	2	3.6
P.500 - 999	30	33.0	14	40.00	16	28.6
P.1 000 - 1 499	19	20.9	9	25.7	10	17.9
P.1 500 - 1 999	15	16 5	4	11.4	11	19.6
P.2 000 - 2 999	9	9.9	2	5.7	7	12.5
P.3 000 and above	12	13 1	2	5.7	10	17.9
Total	91	100	35	100	56	100

Mean Income = P.1 771.39

Table 3.5: Educational attainment of the parents

	Employed	Unemployed	Dropouts	Prolonged Studies
	%	%	%	%
Father				
a. Elementary	17.8	22.7	27.8	22.2
b. High School	23.5	26.3	37.0	22.2
c. College	58.7	51.0	35.2	55.6
Mother				
a. Elementary	25.2	31.1	44.2	29.7
b. High School	29.5	32.7	34.6	27.0
c. College	45.3	36.2	21.2	43.2

Table 3.6: Educational attainment of the parents of employed graduates

		Father		Mother	
		N	%	N	%
1.	Agriculture	9	3.1	3	1.2
2.	Business Administration and Commerce	65	22.2	28	11.4
3.	Engineering and Technology	69	23.5	2	.8
4.	Law and Foreign Service	79	27.0	4	1.6
5.	Physical and Biological Sciences	2	.7	3	1.2
6.	Social Sciences	5	1.7	6	2.4
7.	Medical Sciences	31	10.6	42	17.1
8.	Music and Fine Arts	6	2.0	2	.8
9.	Teacher Education	17	2.0	146	59
10.	Other Liberal Arts Courses	10	3.4	7	2.9
11.	Nutrition	-	-	2	8
	Total	293	100	245	99.9

Table 3.7: Occupation of the parents of the employed graduates

		Father		Mother	
		N	%	N	%
1.	Professional, Technical and Related Workers	178	27.6	154	18.8
2.	Administrative, Executive and Managerial Workers	106	16.4	34	4.2
3.	Clerical and Related Workers	49	7.6	21	2.6
4.	Sales Workers	78	12.1	73	8.9
5.	Service Workers	27	4.2	7	.9
6.	Agricultural Workers	91	14.1	14	1.7
7.	Production, Transportation and Related Workers	75	11.6	27	3.3
8.	Armed Forces	21	3.3	-	-
9.	Non-Working Husband	1	.2	-	-
10.	Housewife	-	-	478	58.5
11.	Unclassified	20	3.1	9	1.1
	Total	646	100	817	100

Table 3.8. Father's occupation by type of college (in percentages)

		U.P.	Government Colleges	Catholic	Protestant	Proprietary	Foundation
1	Professional, Technical and Related Workers	45.8	11.3	24.5	26.5	20.2	12.0
2.	Administrative, Executive and Managerial and Related Workers	24.2	8.5	21.3	11.8	12.3	8 0
3.	Clerical and Related Workers	3 2	14.1	6 4	2 9	10.3	12.0
4.	Sales and Related Workers	9.5	5.6	21.3	8.8	13.2	12.0
5.	Service Workers	2.1	9.9	-	14.7	4 9	-
6.	Agricultural and Related Workers	6.8	19.7	9.6	26.5	14.8	44.0
7.	Production, Transportation and Related Workers	4.7	22.5	9 6	8 8	15.6	8.0
8.	Armed Forces	1.6	2.8	2.1	-	5.3	4.0
9.	Unclassified	2.1	4.2	5 3	-	3.3	-

Table 3.9: Industrial classification of the employer of the parents of employed graduates

		Father		Mother	
		N	%	N	%
1.	Agriculture	98	16.9	18	2.5
2.	Mining and Quarrying	1	.2	-	-
3.	Manufacturing		8.6	27	3.7
4.	Electricity. Gas and Water	18	3.1	1	.1
5.	Construction	26	4.5	2	.3
6.	Wholesale and Retail	64	11.0	52	7.2
7.	Transportation, Storage and Communication	55	9.5	2	.3
8.	Finance, Insurance, Real Estate and Business Services	57	9.8	20	2.8
9.	Community, Social and Personal Services	202	34.8	600	82.9
10.	Unclassified	9	1.6	2	.3
	Total	580	100	724	100

Table 3.10: Father's industrial classification by type of college (in percentages)

		Government U.P	Government Colleges	Catholic	Protestant	Proprietary	Foundation
1	Agriculture	10.6	25 8	10.2	34 4	17.6	33 3
2.	Mining and Quarrying	.6	-	-	-	-	-
3	Manufacturing	8.8	1.6	11 4	6 3	10 i	5.6
4.	Electricity. Gas and Water	3.1	1 6	4.5	6.3	2.6	-
5.	Construction	6.9	4.8	2.3	3 1	4.0	5 6
6.	Wholesale and Retail	4 4	6.5	22.7	3 1	13 7	5.6
7.	Transportation. Storage and Communication	8.1	21 0	5.7	3.1	10.1	5.6
8	Financing and Business	13 8	3.2	14 8	9.4	6 6	16.7
9.	Community Services	41.9	35.5	27.3	31 3	33.5	27.8
10.	Undefined	1.9	-	1.i	3.1	1.8	-

Table 3.11: Monthly income of the parents of employed graduates

Income Bracket	Father		Mother	
	N	%	N	%
Less than P.500	49	8.8	37	12.5
500 - 499	142	25.5	111	37.4
1.000 - 1 499	87	15.6	49	16.5
1.500 - 1 999	52	9.4	22	7.4
2.000 - 2 999	66	11.9	34	11.4
3,000 and above	160	28.8	44	14.8
Total	556	100	297	100
Mean	P.3 187.77		P.1 876.76	

Table 3.12: Income distribution of the father of employed graduates (in percentages)

Monthly Income Bracket	U.P	Other Government Colleges	Catholic	Protestants	Proprietary	Foundation
Less than P.500	5.1	22.4	7.4	20 0	3.9	33.3
500 - 999	12 2	46.3	19.8	32.0	30.5	23.8
1 000 - 1 499	14.7	11.9	14.8	20 0	18 0	9.5
! 500 - 1 999	7 7	10.4	7.4	12.0	11.2	4.8
2 000 - 2 999	12.8	4 5	13.6	8.0	13.6	9.5
3 000 and above	47.4	4.5	37.0	8.0	22.8	19 0
Total	100	100	100	100	100	100

Table 3.13: Income distribution of the mothers of employed graduates (in percentages)

Monthly Income Bracket	U.P.	Other Government Colleges	Catholic	Protestant	Proprietary	Foundation
Less than P.500	5.6	35.5	5.1	30 8	13.4	11.1
P.500 - P 999	31.5	51.6	28.2	53.8	38 1	66.7
P.1 000 - P.1 499	16 7	12.9	17.9	7.7	19.6	-
P.1 500 - P.1 999	8 3	-	12 8	-	7.2	11.1
P 2 000 - P.2 999	14 8	-	15.4	-	11.3	11 1
P.3 000 and above	23 1	-	20.5	7 7	10 3	-
Total	100	100	100	100	100	100

Table 3.14: NCEE percentile score of employed graduates by type of college

NCEE Percentile Grouping		U.P	Other Government Colleges	Catholic	Protestant	Proprietary	Foundation
1	21 - 30	-	1.1	-	-	4	-
2	31 - 40	-	1.1	-	-	1.3	-
3	31 - 50	-	5.6	-	-	1 3	-
4	51 - 60	-	5.6	-	-	2 6	-
5	61 - 70	-	7 8	6.5	3 2	12 3	-
6.	71 - 80	-	5 6	9 3	6 5	15 4	5 4
7.	81 - 90	.4	3.3	23 1	-	26 3	2.7
8.	91 - 99	99.6	70	61.1	90.3	40.4	91 9

Table 3.15: Type of college of employed graduates and their type of high school (in percentages)

Typology of College of Employed Graduates	Type of High School		
	Public School	Private Sectarian	Private Non-Sectarian
U P	37 5	56 3	6 3
Government College	60.5	25.6	14.0
Catholic	15.0	64.5	20.6
Protestant	25 0	50 00	25.0
Proprietary	36.8	33.2	30 00
Foundation	80.0	-	20.00

Table 3.16: College typology of graduates by sex

	Male		Female		Total		S
	N	%	N	%	N	%	
1. Public Sector							
1.1 U P.	122	34.4	141	26 6	263	29.7	26.2
1.2 Other State Colleges	27	7.6	69	13.0	96	10 8	9.4
2. Private Education Sector							
2.1 Catholic	42	11.8	88	16 6	130	14.7	16.1
2.2 Protestant	17	4.8	25	4.7	42	4.7	5..
2.3 Proprietary	127	35.8	191	36.0	318	35.9	39.7
2 4 Foundation	20	5.6	16	3 0	36	4 1	3.4
3. Total		355	100	530	99.9	885	99.9

Table 3.17: Degree programme of employed graduates by type of college (in percentages)

	U.P.	Other Government Colleges	Catholic	Protestant	Proprietary	Foundation
1. Agriculture	5.3	11.8	8	4.8	.3	97.3
2. Business Administration and Commerce	10 9	5.9	22.0	21.4	36 6	-
3. Engineering and Technology	16.9	8.8	13.6	14.3	18.2	-
4 Food. Nutrition and Dietetcis	5.3	2.0	4.5	-	.9	2.7
5. Law and Foreign Service	9.0	-3.8	7.1	2.2	-	
6. Physical and Biological Science	6 0	-	5 3	2 4	.6	-
7. Social Science	18.8	-	9.1	26.2	7.2	-
8. Medical Science	18.4	-	17.4	11.9	23.6	-
9. Music and Fine Arts	2.6	-	5.3	-	1.6	-
10. Teacher Education	3 8	71.6	9.8	9.5	5.7	
11. Other Liberal Arts Courses	3.0	-	8.3	2.3	2.8	-
Total	100	100	100	100	100	100

Table 3.18: Degree programme of graduates

		Total		Male		Female	
		N	%	N	%	N	%
1.	Agriculture	65	7.4	34	9.6	31	5.8
2.	Business Administradition and Commerce	8	21.1	54	15.3	132	24.9
3.	Engineering and Technology	136	15.4	122	34.6	14	2.6
4.	Nutrition	26	2.9	3	.8	23	4.3
5.	Law and Foreign Service	38	4.3	17	4.8	21	4.0
6.	Physical and Biological Sciences	26	2.9	13	3.7	13	2.5
7.	Social Sciences	96	10.9	33	9.3	63	11.9
8.	Medical Sciences	151	17.1	42	11.9	109	20.6
9.	Music and Fine Arts	19	2.2	8	2.3	11	2.1
10.	Teacher Education	112	12.7	17	4.8	95	17.9
11.	Other Liberal Arts Courses	28	3.1	10	2.8	18	3.3
	Total	883	100	353	99.9	530	99.9

Table 3.19: Factors affecting course by type of college (by rank)

		U.P.	Other State Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1.	Employment Prospect	1.93	1.81	2.0	2.13	1.83	1.20	1.87
2.	Wider Choice of Career	2.06	2.05	2.05	1.92	1.91	2.11	2.00
3.	Social Prestige	3.43	2.76	2.91	2.67	2.96	3.26	3.07
4.	Friend's Influence	4.23	4.61	4.27	4.39	4.40	5.54	4.39
5.	Family's Influence	3.51	3.14	3.74	3.82	3.80	3.84	3.66

Rank 1 is the highest and 5 the lowest

Table 3.20 Reasons for not pursuing preferred course by type of college (by rank)

		U.P.	Other State Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1.	Financial Problems	2.81	1.84	2 2	1.5	2.17	1.8	2.15
2	Parental Influence	2.14	1.41	2.24	1.0	1 98	3.25	1.90
3.	Poor grades	2.56	3.24	3.14	3.0	3.39	4 25	3.10
4.	Change of Mind	2.10	2.80	2.50	3.0	2.47	2.75	2.42

Rank 1 is the highest and 5 the lowest

Table 3.21: Means of obtaining a job by type of college (in percentages)

	Means of obtaining a Job	Typology of College: U.P.	Other State Colleges	Catholic	Protestant	Proprietary	Foundation
1.	Company Personnel Office	1	3	1	2	2	3
2.	Recommendation from family, relatives and friends	2	6	2	4	1	2
3.	Recommendation from Teachers	3	4	3	1	3	1
4.	School Placement Office	4	2	5	3	5	5
5.	Media Advertising	5	5	4	5	4	6
6	Government Placement Office	6	1	6	6	6	4

Rank = highest. Rank 6 = lowest

Table 3.22: Waiting period

	After finishing the course			After actively looking for work		
	N	%	C.P.	N	%	C.P.
Less than 1 month	102	13.4	13.5	277	40.6	40.6
1 - 2 months	197	26.1	39.6	218	32	72.6
3 - 4 months	142	18.8	58.3	80	11.7	84.3
5 - 6 months	93	12.3	70.6	57	8.4	92.7
7 - 12 months	155	20.5	91.1	40	5.9	98.5
1 - 2 years	59	7.8	98.9	5	0.7	99.3
More than 2 years	6	0.8	99.7	1	0.1	99

C.P. = Cumulative Percentage

Table 3.23: Waiting period after actively looking for work by type of colleges

	U.P.			Catholic		
	N	%	C.P	N	%	C.P
Less than 1 month	113	54.6	54.6	40	39.2	39.2
1 - 2 months	64	30.9	85.5	34	33.3	72.5
3 - 4 months	14	6.8	92.3	16	15.7	88.2
5 - 6 months	14	6.8	99.1	7	6.9	95.1
7 - 12 months	2	.9	100.0	5	4.9	100.00
1 - 2 years	0	-				

	Protestant			Proprietary		
	N	%	C.P.	N	%	C.P.
Less than 1 month	10	29.4	29.4	66	28.2	28.2
1 - 2 months	7	20.6	50.0	88	37.6	65.8
3 - 4 months	7	20.6	70.6	33	14.1	79.9
5 - 6 months	4	11.8	82.4	25	10.7	90.6
7 - 12 months	5	14.7	97.1	19	8.1	98.7
1 - 2 months	1	2.9	100.0			

	Other State Colleges, Arts and Trades & Govt. Colleges		
	N	%	C.P
Less than 1 month	32	46.38	46.38
1 - 2 months	20	28.98	75.36
3 - 4 months	6	8.7	84.06
5 - 6 months	4	5.8	89.86
7 - 12 months	7	10.14	100.0

C.P = Cumulative Percentage

Table 3.24: Variables in the regression model on factors affecting waiting period (All employed graduates)

Variables	B	BETA	F
U.P	-1.465451	-.24897	7.488
Protestant	1.581990	.11949	4.762
Academic Self-Assessment: Below Average	3.847876	17371	1 802
Sex: Female	.4301289	.07479	3 128
Academic Self-Assessment: Average	2.548234	.44854	881
Catholic	-.8039672	- 09992	1.874
Other Government	-.8380150	- 09235	1.850
Proprietary	-.5420108	- 09015	.966
NCEE Score	-.8191727E-02	-.03793	.648
One Year After Graduation	.0321575	.05386	.748
Academic Self-Assessment: Above Average	2.286510	.09522	.706
Academic Self-Assessment: Excellent	1.940446	.09667	.470
Two Years After Graduation	.1328208	.02344	.142
PARING	-.2681713E-05	-.00910	.048
(Constant)	1.906492		
	F = 3.65588	DF = 14 544	R^2 = 0.08599

Table 3.25: Variables in the regression model on factors affecting waiting period (All female g aduates)

Variables	B	BETA	F
Protestant	4.69258	.35519	20.959
U.P	4796782	(1868	.327
Proprietary	1.459914	.24977	3.026
Academic Self-Assessment: Below Average	4.675184	.12772	2.010
NCEE Score	-.8067619E-02	-.03881	.434
One Year After Graduation	.2063721	.03696	.502
Other Government Colleges	1.141585	.14227	1.734
Catholic	1.009071	.13103	1.338
Academic Self-Assessment: Average	2.562931	.45311	.923
Academic Self-Assessmnent: Above Average	2.432113	.42454	.826
Academic Self-Assessment: Excellent	2.137962	.10058	.554
PARING	-.3374209E-05	-.013-4	.066
(Constant)	2.079101		
	F = 3.73848	DF = 12 335	R^2 = 0.1181

Table 3.26: Assessment of college performance

	Total		Male		Female	
	N	%	N	%	N	%
Below Average (75-79)	16	1.8	13	3.7	3	.6
Average (80-85)	556	63.0	227	63.9	329	62.4
Above Average (86-94)	294	33.3	109	30.7	185	35.1
Excellent (95 and above)	16	1.8	6	1.7	10	1.9
Total	882	99.9	355	100	527	100

Table 3.27: Assessment of college performance by type of college (in percentages)

	U.P.	Other State Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1. Below Average (75-79)	3.7	1.0	-	-	1.0	5.4	1.8
2. Average (80-85)	44.6	74.5	65.4	66.6	71.4	78.4	63.0
3. Above Average (86-94)	49.4	23.5	33.1	31.0	26.0	13.5	33.3
4. Excellent (95 and above)	2.3	1.0	1.5	2.4	1.6	2.7	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.28: Assessment of content of instruction by type of college (in percentages)

		U P	Other State Colleges	Catholic	Protestant	Propriectary	Foundation	Total
1.	Inadequate	2 3	2.0	3.0	0.0	1.3	5.4	2 0
2.	Barely Adequate	4 5	3.0	3.0	4.8	6.3	5 4	4.9
3.	Adequate	32.0	47.5	45.1	61 9	57 0	51 4	47 2
4.	Very Adequate	44.7	39.6	35.3	31.0	30.4	32 4	36 1
5.	Excellent	16 5	7 9	13 5	2.4	5 1	5 4	9 8
	Total	100	100	100	100	100	100	100

Table 3.29: Assessment of method of instruction by type of college (in percentages)

		U.P.	Other State Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1.	Inadequate	2 6	4.9	4.5	0.0	2.5	2.7	3.1
2.	[illegible] Adequate	4.5	2.0	4.5	4 8	9 2	2.7	5.9
3.	Adequate	39.5	38.2	48.9	52.4	55.9	59.5	48.1
4.	Very Adequate	40.6	44.1	29.3	40.5	27.9	27.0	34.2
5.	Excellent	12 8	10.8	12 8	2.4	4.4	8.1	8.7
	Total	100	100	100	100	100	100	

Table 3.31: Usefulness of educational qualifications and training to present job by type of college (in percentages)

		U P	Other Gov't Colleges	Catholic	Protestant	Proprietary	Fondation
1.	Not Necessary	2.6	1 0	3.1	-	3.5	2.7
2.	Barely Necessary	3 8	3.0	7.6	-	3 5	2.7
3.	Necessary	19 6	24.8	25.2	21.4	22 3	24.3
4.	Very Necessary	55 8	60.4	48.9	73.8	59.3	59 5
5.	Extraordinarily Necessary	18 1	10.9	15.3	4.8	11 4	10 8
	Total	100	100	100	100	100	100

Table 3.30: Usefulness of educational qualifications to present job in (percentages)

	Total	Male	Female
Not Necessary	2.6	3.1	2.3
Barely necessary	4.0	3.7	3.2
Necessary	22.3	22.8	22.1
Very necessary	57.3	55.1	58.7
Extraordinarily necessary	13.8	15.3	12.7
Total	100	100	100

Table 3.32: Usefulness of formal training to present job

	N	%
Not necessary	36	4.0
Barely necessary	46	5.1
Necessary	233	26.0
Very necessary	458	51.1
Extraordinarily necessary	124	13.8
Total	897	100.0

Table 3.33: Usefulness of vocational/technical/craft/in-service training to present job

	N	%
Not necessary	41	13.2
Barely necessary	33	10.6
Necessary	71	22.8
Very necessary	129	41.5
Extraordinarily necessary	37	11.9
Total	311	100.0

Table 3.34: Comparative usefulness of formal and vocational/technical/craft/in service training

	N	%
Formal training more useful	142	44.8
Vocational/technical/craft/ in-service training more useful	40	14.6
Formal training equally useful as vocational/technical/craft/in-service training	116	36.6
Cannot say	19	6.0
Total	317	100.0

4. The world of work and the education-occupation adjustment

4.1 Introduction

One external efficiency indicator of quality of educational programmes is the readiness of business and industry as well as the other sectors of the economy to employ graduates. Appreciation of education is also concretized by the willingness of employers to pay higher wages to the more qualified and those with a higher level of education. Of course, there are possible distortions in the labour market, and times when the wage rate is not wholly reflective of the true value of qualifications. Also, the unwillingness of the productive sector to hire highly skilled professionals can be attributed to a level of development where highly skilled professionals are not yet in demand. The response of the professionals to this kind of situation is to look for a job in the international labour market. The brain drain resulting from the exodus of professionals from many developing countries to developed countries is a good example of this phenomenon.

With the foregoing premise and qualifying statements, an attempt maybe made to evaluate how the graduates of higher education in the Philippine situation are faring in the world of work and how flexible their educational attainments are in meeting the demands of various occupations. In more specific terms, this Chapter delves into the following aspects:

(a) the occupation of graduates

(b) industrial classification and type of firm of the employer of the graduates

(c) income and an analysis of the predictors of income

(d) job satisfaction

(e) educational-occupational flexibilities

4.2 Occupations of the graduates

Studies on occupation in many countries have shown that there are occupational changes from one generation to another. Such changes are shown by comparing the data on the occupation of the parents and the graduates of the HELMS II study with the data of HELMS I. Change is evidenced by the increasing proportion of parents and graduates in professional and technical jobs and the decreasing proportion of employed graduates occupying clerical positions.

In HELMS I, 17.11 per cent of the fathers and 11.26 per cent of the mothers of the employed graduates were occupying professional and technical positions. In HELMS II, the percentages have gone up: 27.2 per cent and 19.2 per cent for the fathers and the mothers, respectively. The number of fathers in the agricultural sector has gone down from 32.50 per cent in HELMS I to 14.5 per cent in HELMS II.

Employed graduates occupying professional and technical occupations in HELMS I comprised 41.67 per cent of the total. In HELMS II, this proportion has gone up to 68.7 per cent. (For details, see *Table 4.1*). There has been a marked decline of clerical workers from 37.04 per cent in HELMS I to 13.4 per cent in HELMS II. One should also take note that the graduates in HELMS II are much younger than the graduates in HELMS I. In spite of this, 4.9 per cent are already occupying administrative, executive and managerial positions. In HELMS I, a slightly higher percentage (5.95 per cent) of the graduates occupied administrative, executive and managerial positions.

Occupation of graduates varies with the typology of college where they took their degree as well as with sex. There are slightly more

females (69.2 per cent) who occupy the professional, technical and related workers than males (65.3 per cent). On the other hand, there are more males (7.6 per cent) in administrative, executive and managerial positions compared to females (3 per cent). The second predominant occupations of females are clerical and related workers' jobs (18.3 per cent). For males, it is only 7.6 per cent. Sales (7.6 per cent), agriculture (4.5 per cent) and production, transportation and related workers (4.2 per cent) are the other occupations of males where they outnumber the females. (For details, see *Table 4.1).*

The variation of occupation by type of college is such that University of Philippines has far more employed graduates occupying administrative, executive and managerial positions (11.3 per cent) compared to only 3.8 per cent for graduates of Catholic and 2.8 per cent for proprietary colleges. Also, there are more graduates of Catholic (14.4 per cent), Protestant (14.3 per cent) and Proprietary colleges (23.7 per cent) who are on a clerical level of occupation than for University of Philippines (5.3 per cent). (For details, see *Table 4.2).* Except for graduates of the foundation type of educational institutions, the majority of the employed graduates are occupying professional, technical positions. Since in the sample, the graduates from the foundation type of educational institutes are predominantly in agriculture, it is not surprising that their graduates are engaged in an agricultural occupation.

In many developed countries, there has been a high correspondence between professional, technical workers and administrative, executive and managerial groups. In other words, the number of professional technical workers is evenly matched with a good number of administrative, executive and managerial workers. In many instances, it is a 1:1 ratio.[7] However, in the Philippine situation as borne out in both the HELMS I and HELMS II data, the numbers of professional technical workers are outrageously high in relation to the number of administrative, executive and managerial workers. There has been no empirical data to explain this phenomenon, but one could offer the following explanations:

[7] Point raised by Dr. Richard Pearson of the City University of New York during the HELMS II Workshop.

(a) It takes a shorter period in the Philippines than in many western countries to acquire the credentials required in professional and technical occupations. In the Philippines, it takes only fourteen years (14) to finish a collegiate degree compared to at least sixteen (16) years in Western countries.

(b) There are probably more barriers to entry into administrative, executive and managerial occupations in many developing societies like the Philippines than in Western countries where meritocracy is closely adhered to. It is not uncommon for a worker to be subjected to a long trial period before he is awarded a title in an administrative, executive and managerial position. In some closely held family corporations or business enterprises, the administrative, executive and managerial positions are reserved for the members of the family. Some may even venture to marry a member of the ruling family, thus belonging to the extended family, with the hope of assisting their climb to the privileged class in the administrative, executive and managerial positions.

Comparing the occupations of fathers and that of the employed graduates, a change in occupations from one generation to another maybe clearly noted. Only 45.4 per cent of the fathers of University of Philippines graduates are in professional technical and related workers' jobs, while 73.7 per cent of working graduates are employed in this occupational category. This is true of the children of those coming from other state colleges, where there are 84 per cent holding professional and technical jobs, but only 11.3 per cent of the fathers are in this occupational classification. Graduates of Catholic colleges have 24.5 per cent of their fathers occupying professional and technical positions, while 72 per cent of them are in the same occupation. Among the graduates of proprietary colleges, there are 60.6 per cent occupying professional and technical jobs, but only 20.2 per cent of the fathers are in the same occupation. The same phenomenon holds true of graduates of Protestant and foundation type of institutions. (For details, see *Table 4.2).*

There are fewer employed graduates engaged in agricultural work. While 19.7 per cent of the fathers of employed graduates from other state colleges and universities are in agriculture, only 5 per cent of the employed graduates are included in this occupational category. Among

the fathers of graduates from Protestant and proprietary colleges 26.5 per cent and 14.8 per cent respectively are engaged in agricultural work. On the other hand, among the employed graduates of Protestant and proprietary colleges, only 4.8 per cent and 0.3 per cent respectively are employed as agricultural workers. It was only in the foundation type of institution that agriculture was maintained as the means of livelihood from one generation to another, with 44 per cent of the fathers and 48.6 per cent of the employed graduates engaged as agricultural workers. However, this was just a logical outcome of the sample used.

Employed graduates could not match the executive, administrative and managerial positions of their fathers'. A much higher percentage of the fathers are employed in executive, administrative and managerial positions. This is understandable, for the employed graduates are young, with a mean age of 24.15.

4.3 Industrial classification and type of firm

As in HELMS I, the predominant employer is the community,social and personal services: 47.8 per cent in HELMS I and 48.2 per cent HELMS II. (For details, see *Table 4.3*). A substantial upward shift has been noted in the finance, insurance, real estate and business services from 6.2 per cent in HELMS I to 18.22 per cent in HELMS II, manufacturing from 13.1 per cent to 15 per cent and agriculture from 3.5 per cent to 6.0 per cent. Mining quarrying, on the other hand, has declined from 12.5 per cent to 0.5 per cent. This could possibly be attributed to the difficult state of the mining industry which prevents the industry from hiring new employees. In fact, the mining industry is contracting its operations in view of the poor price of metals, especially copper.

For both the employed graduates and their fathers, community services as a sector of employment is still predominant. What is losing attractiveness in terms of employment is the agriculture sector. Except for graduates of foundation type of educational institutions whose sample is mainly agriculture graduates, the agriculture sector accounts for only 0.8 per cent of employed graduates from Catholic schools to as high as 8.9 per cent of University of Philippines. Agriculture as a sector of employment of the employed graduates' parents is in the range of 10.22 per cent for Catholic colleges to as high as 25.8 per cent of the other state colleges and universities. On the other hand, finance, real

estate, insurance and business services is beginning to be an attractive sector of employment. The fathers of the employed graduates from Catholic colleges in finance, real estate, insurance and business services account for 14.8 per cent compared to 28.9 per cent of the graduates. Only 6.6 per cent of the fathers of employed graduates from proprietary colleges are in finance, real estate, insurance and business services whereas 19.7 per cent of their children are employed in this sector. (See *Table 4.4).*

The private sector is the prime employer of graduates. Of the total, 60.7 per cent are in the private sector, with the bulk in a corporate type of organization (43.1 per cent), single proprietorship (9.8 per cent) and partnership (7.8 per cent). In HELMS I, 33.2 per cent were employed in the public sector. In HELM II, 39.3 per cent are in the public sector, spread across the national government (24.5 per cent), local government (6.6 per cent), government corporations (6.2 per cent) and provincial government (2 per cent). Aspirations for public sector employment among HELMS I students represent 44.8 per cent of the total. (For details, see *Table 4.5.*

4.4 Income of employed graduates

Income is generally considered by society as an indicator of success. Thus, in the field of economics of education, income is often used as a gauge in evaluating the contribution of education to development and society. With this consideration in mind, how did the graduates of 1978-1979 fare? The HELMS II survey showed that the average gross monthly income of graduates amounted to P.1,096.67 in 1981 as against the average income of employed graduates in the HELMS I survey of P.715.12. Over time, income has been increasing. Employed graduates in HELMS II were earning P.795.32 in 1979, P.939.94 in 1980, and P.1,096.67 in 1981. Employed graduates who were working students earned an average of P.472.15 in 1976, P.540.15 in 1977 and P.746.58 in 1978. The average income of working students in 1978 was P.746.558 compared to P.715.12 of the graduates in HELMS I. Between 1976 and 1977, the rate of increase was 14.4 per cent. In 1978, it went up by 38.13 per cent, when the working students were in their fourth year. Income increased only by 6.56 per cent in 1979 but suddenly, a year after graduation, i.e. in 1980, the average income of employed graduates

with working experience while studying zoomed upwards by 48.96 per cent.

Real increase in income, however, was just a little above the inflation rate, i.e. it was equivalent to only 2.28 per cent a year. If official inflation rates were lower than the actual rates, then increase in real terms of graduates' income is possibly nil or even negative.

In spite of the increase, income has not been sufficient. Many are still looking for additional jobs even when their total working hours per week are already in excess of the 40-hour/week work load. On the average, the total working hours of the employed graduates was 42.49 hours. For those who were successful in obtaining a second job, the pay was P.789.79, which is almost as much as for their main job. A very small group of 8 was even successful in getting a third job for an additional P.706.25 a month in wages.

4.4.1 Income by occupation and type of college

The occupation that gives the highest income is the administrative, executive and managerial position with a monthly income of P.1,941.15 which is higher than the average pay of the corresponding occupation in HELMS 1 of only P.1,580.89. Graduates of University of Philippines who are occupying administrative, executive and managerial positions have, by far, the higher income at P.2,302.08 per month. This was followed by, again, graduates of University of Philippines engaged in sales at P.1,802.00 and graduates occupying professional, technical positions at P.1,507.08. The graduates of University of Philippines exhibit a distinct advantage in terms of higher income in all occupations, compared with the graduates of all other colleges occupying the same positions. One may infer the following from the foregoing data;

(a) The graduates of University of Philippines are considered of high quality, and their high pay reflects their market values.

(b) University of Philippines inculcates a strong motivation to obtain a position with high pay. Such motivation may not be as pronounced in other colleges.

(c) The low income profile of the parents of graduates of all other colleges may be indicative of a lower social class compared to University of Philippines graduates, note the average income of graduates of Protestant and other state colleges which are the lowest. These groups probably attach a greater value to service rather than to monetary rewards. Invariably, they do not have much access to labour market information, especially the high paying occupations in many prestigious corporations. Results of regression analysis show that father's income and administrative, executive occupation are highly correlated with income.

As stated earlier, the jobs that give the highest income are those in the administrative, executive and managerials category. This is followed by sales workers (P.1,179.31), production, transportation and related workers (P.1,145.56), professional, technical and related workers (P.1,098.41), clerical workers (P.902.95) and service workers (P.901.00) The occupation that pays the least is agriculture (P.696.87). However, there is some variation of pay across typology of schools as shown in *Table 4.6.*

Male employed graduates have an income advantage over females. In HELMS I, a male with a bachelor's degree had a 36.7 per cent income advantage over females. In HELMS II, the male income advantage among the professional, technical and related workers was 24.43 per cent, for clerical 13.78 per cent, sales 23.77 per cent, agricultural workers 1.78 per cent, and the unclassified occupation 54.85 per cent. On the other hand, there are occupations where females have an income advantage over males, i.e. in service (33.18 per cent), production, transportation and related workers (25.58 per cent) and administrative, executive and managerial workers (3.38 per cent). (See *Table 4.7).*

Comparing the HELMS II (1981) data with the previous findings in HELMS I (1978), a substantial improvement maybe noted for those in service positions from P.355.17 a month in 1978 to P.901 in HELMS II in 1981. The clerical workers also exhibited a substantial improvement from P.476.33 in HELMS I to P.902.95 in HELMS II. The same is true with sales workers from P.658.49 in 1978 to P.1,179.34 in 1981. Agriculture remained among the lowest-paid occupation. In HELMS I, their average pay was P.629.05, and did not increase much in HELMS II at only P.696.87.

4.4.2 Income classified by academic programme

Just as income varies by occupation and type of college, it also varies with academic programmes. The collegiate degree that offers the highest pay is law and foreign service with an average monthly pay of P.1,861.24. This is followed by engineering and technology (P.1,373.15), music and fine arts (P.1,220.50), social science (P.1,225.03), etc. (For details, see *Table 4.8*). Ar.. he lowest paid academic programmes are teacher education (P.7.'), agriculture (P.884.49) and medicine P.928.61.

The pay of medical graduates is understandably minimal, for they are just in the early period where the starting pay is generally low. However, apart from in-residence pay, there ar. also other forms of income in kind such as free board and lodging and other benefits. Moreover, when they have completed their residence period and gained substantial experience in medical practice, their salary increases significantly.

Even within a curricular programme, variations still occur by type of college. Again, graduates from University of Philippines may expect better pay in all fields of specialization except in agriculture where they get a slightly lower pay of P.971.64 compared to the P.1,000 earned by graduates of Catholic colleges. Take the case of engineering: the graduates from University of Philippines receive P.1,933.91 compared to graduates of Protestant colleges receiving P.1,174.17; Proprietary P.1,171.02; Catholic P.1,049.12; and the lowest salary of them all—the engineering graduates from other state colleges and universities with only P.616.67. (For details of all other fields of specialization, see *Table 4.8*).

Male income advantage over females holds true for most degree programmes. Programmes where there has been a high male income advantage are physical and biological sciences (31.73 per cent), music and fine arts (31.5 per cent), humanities (28.09 per cent), education (25.44 per cent), and engineering and technology (20.16 per cent). The degree programme where there is the least income advantage among males is business administration (14.3 per cent). (For details, see *Table 4.9*). Female income advantage is highly pronounced in traditional female curricular programmes, i.e. food, nutrition and dietetics (43.78 per cent). Surprisingly, in a profession that has traditionally been the domain of males, i.e. law and foreign service, females have an income

advantage (17.19 per cent). The other programmes where females have an advantage is liberal arts (8.31 per cent).

From the foregoing analysis, one may notice the low pay of curricular programmes that are of high social value, such as agriculture and teacher education. The pay of teachers is not commensurate to their social contribution in producing a literate society and the highly skilled manpower to accelerate industrial and social development. And as regards agricultural development, how can the country encourage students to pursue agriculture when the financial incentive is not that attractive? This is an instance where the labour market does not provide the desirable financial incentives; thus, the government should envisage some bold measures to encourage the development of manpower required for national development.

4.4.3 Income by industrial classification

The economic sectors paying the highest income are still financing, insurance, real estate and business services at P.1,359.30. In HELMS I, the situation also was similar. Mining, quarrying and construction industries outranked manufacturing which used to be second to financing, insurance, real estate and business services. The economic sectors that offer the lowest pay are community service (P.923.44) and agriculture (P.945.78).

Male income advantage was prevalent in all fields, with the construction industry exhibiting the highest income advantage at 42.55 per cent followed by finance, insurance, real estate and business services (27.94), agriculture 21.25 per cent, community services (19.59 per cent) etc. The economic sector with the least male income advantage over females was transportation, storage and communication 5.6 per cent. (For details, see *Table 4.10).*

University of Philippines graduates stand out as receiving high pay in mining and quarrying where the graduates of Protestant colleges with a monthly pay of P.1,675 outranked the graduates of University of Philippines with an average monthly pay of P.1,203.67. The performance of University of Philippines graduates in terms of pay according to economic sectors is different from the graduates of all other colleges. For example, University of Philippines graduates get good pay in wholesale wholesale and retail and construction; on the other hand, the grad-

uates of other state colleges and universities get better pay in financing, insurance, real estate and business services. The economic sector where the graduates of proprietary colleges get the highest pay is in electricity, gas and water; for foundation colleges, it is community service; Protestant, mining and quarrying; Catholic colleges transportation, storage and communication. (For details, see *Table 4.11*).

The economic sectors that were able to cope, in real terms,with inflation are the electricity, gas and water sector with 6.98 per cent annual real improvement in salary of employees; construction 4.29 per cent, wholesale and retail 2.91 per cent, manufacturing 2.42 per cent, agriculture 2.36 per cent, and storage and communication 0.95 per cent. On the other hand, the economic sectors where the employed graduate's salary has not been on par with inflation is community service which has experienced a 2.46 per cent annual real decline in salary; finance, real estate and business services 0.57 per cent; and mining business services 0.57 per cent; and mining and quarrying 0.11 per cent. It is possible that the graduates employed in mining and quarrying and financing, insurance, real estate and business services are responding more to the high pay in money terms rather than the real increase in income.

4.5 Regression analysis of salaries of graduates

4.5.1 The conceptual framework

Success in working life is determined partly but significantly by the earnings of individuals. It is believed that education has a role to play in determining earnings, but it has only a limited role. Socio-economic background, type of institution attended, studies pursued, occupation held by a graduate, and the economic sector in which one is employed are other factors that determine earnings. Individuals from a low socio-economic class are disadvantaged by exposure to inferior types of institutions, less costly and therefore less prestigious fields of studies. They are also disadvantaged by the law of labour market information, employment and career guidance, and the social contacts often necessary in landing a good-paying job. Their bargaining power is limited. It also sometimes happens that individuals from lower social strata develop values and attitudes befitting jobs of less prestige through

parental interaction and early family experiences. Lower occupational levels of parents limit the amount of knowledge and other behavioural requisites for success in higher-level jobs that they can pass on to their children. Personality traits such as conformity, low achievement motivation and submission to authority that are common among lower-level jobs are transmitted through family socialization by the children, thus conditioning them to accept less challenging positions in the future. The influence of socio-economic background and educational careers has been widely studied.[8]

The socio-economic background in our analysis is identified by personal characteristics, such as age, sex and marital status; community characteristics such as home region, father's occupation, income and economic sector of work.

In addition to socio-economic background, the type of institution attended also influences the earnings of a graduate. In the Philippines, there is a distinct type of such institution, i.e. the University of the Philippines, whose graduates enjoy more prestige in the labour market than others. The field of study pursued by the graduate also influences his earnings as does the type of occupation and industrial sector where he is employed.

It was also hypothesized that the method of recruitment of graduates may have some influence on salary. The reason is that those who are employed through personal contacts might, in the Filipino situation, have an advantage over those who have to go through formal channels in getting a job and negotiating a higher salary. The method of recruitment also varies with the enterprise and the type of control exercised by companies—which have different salary structures and different types of requirements for graduate manpower.

In addition, the experience the graduate obtains on the job is also a determining factor for the current salary and for the waiting period. For the latter, it is hypothesized that those graduates who have a longer waiting period are specialized in fields for which there is less demand in the employment market. If the salary structure is dependent on the demand and supply of graduates, the salary for those who have a longer waiting period should be less.

[8] See for example. T.Husen, *Social background and educational career*, Paris, OECD. 1972.

The following sections discuss the model used for predicting the salary of a graduate utilizing the above-mentioned explanatory variables.

4.5.2 The model

The earnings function is specified by the following equation:

$$E = a + \sum_{i=1}^{m} Q_{1i} x_{1i} + \sum_{i=1}^{n} Q_{2i} x_{2i} + \sum_{i=1}^{p} Q_{3i} x_{3i} + \mu$$

E is the monthly salary (gross) in pesos (the dependent variable).

x_{1i} is a set of socio-economic variables, some of which are nominal (namely, marital status, home region, sex, parent's occupation; sector of course, etc.).

x_{2i} is a set of educational variables of the graduate which also may be cardinal (namely, length of studies in years) as well as nominal (field of study, type of institution e.g. University of Philippines graduate or not, etc.).

x_{3i} is a set of occupational variables of the graduate which may also be cardinal (e.g. years of experience, waiting period to get the job etc.) or nominal (namely, type of occupation held, sector of economy employed in, method of recruitment for the job etc.).

μ is the error terms.

4.5.3 The method of analysis

Regression analysis with cardinal explanatory variables poses no problem. The regression coefficients give the predictability of the dependent variable, i.e. the magnitude of changes in the dependent variable with unit change in the explanatory variables to which the regression coefficient is associated.

The nominal variables, namely, marital status, sex, home region, parent's occupation and industry, graduate occupation and industry,

type of institution attended, field of studies (specialization), method of recruitment pose problems for analysis. The 'Dummy variable' method is used for treating these variables. For example, if sex is the explanatory variable, with two items namely, male and female, one of the items is retained in the equation, (it can be arbitrarily chosen but normally that which has more cases is retained to avoid a large number of zero's as the value of the variable). In an analysis if a case's sex is male, the variable has a value zero, if the sex is female, the variable has a value 1. In case of a variable which has more than two items such as occupation, one of the occupations is suppressed and each of the other occupations is included in the equation as a separate variable. The SPSS package gives details of the treatment of such variables.[9]

The regression coefficient attached to each of the retained occupational items gives the relative advantage for the graduate of that occupation in comparison with the occupation which is suppressed from the equation. A significant value of F will imply a significant advantage (if the regression coefficient is positive) or a significant disadvantage (if the regression coefficient is negative). An insignificant value of F will imply no difference between the occupation in the equation and the occupation suppressed, in so far as the sample is concerned.

In the analysis of the earning functions, there is also the problem of multi-correlaniarity which distorts the value of the regression coefficient in predicting the variation in the variable to be explained. The problem is approached by having a correlation matrix y of all the variables in the explanatory side of the equation and noting those pairs which are highly inter-related (a correlation co-efficient of 0.40 may be regarded as the cut-off point) and explaining one of the two variables as a 'proxy' for the other. If the 'proxy' is not relevant, then one of the variables is dropped reducing the predictive capacity of the model.

We have analyzed three earning functions: (1) for all the graduates; (2) for the graduates of all the private institutions separately and (3) for all the graduates of the University of the Philippines separately.

The reason for the three types of regression was that the graduates of the private institutes and those of the University of the Philippines have significantly different types of employment markets and different salary structures. The three models could also serve as tools for compar-

[9] Nieh et al: *Statistical Package for the Social Sciences*, New York. McGraw Hill. 1975. 675 p.

ison of the earnings phenomena experienced by different types of graduates. It should, however, be noted that the specification of the regression model in the three areas will change insofar as the variable 'type of institution' is concerned. For the model of 'graduates', college type University of Philippines are included in the equation, non-University of Philippines- graduates having a value zero for the variable, type of institution. For the graduates of the private institutions, and those of the University of the Philippines, the variable 'type of institution' does not appear in the equation and only those graduates belonging to private institutions have been considered in the regression equation for the private institutions.

It should also be noted that the stepwise regression method was used to identify those variables which are more powerful in predicting earnings.

4.5.4 The results

4.5.4.1 University of Philippines graduates.

It will be observed in *Table 4.12*, which gives the regression results for all University of Philippines graduates, that the following variables are statistically significant with F 4: (1) father's monthly income, (2) type of firm: Government, (3) field of specialization: engineering and technology, and law and foreign service and (4) marital status. Of all the above-mentioned variables, only the type of firm: Government has a negative relationship with income. This implies that being employed in the government is a disadvantage in terms of obtaining better pay

Administrative, executive and managerial positions are more remunerative occupations than all other occupations.

Marriage adds to earnings capacity, whereas sex or age do not have any influence.

Law and foreign service and engineering and technology as fields of specialization have positive advantages in comparison with the other specializations which were suppressed.

4.5.4.2 Graduates of private colleges.

As shown in *Table 4.13.* eight (8) variables are statistically significant (F 4) in explaining income of graduates. These are (1) field of specialization: law and foreign service and engineering and technology; (2) occupation of the graduates: administrative, executive and managerial position; (3) occupation of the father: administrative, executive and managerial position; (4) income of the father, (5) number of years after graduation which can be a proxy for experience: (6) sex: female; and (7) government placement office.

Of all the eight variables, two (2) variables, vis: government placement office and sex have a negative relation with income which means that one is in a disadvantageous position in securing a job through a government placement office and in being a female.

The other variables which explain in similar manner the income of University of Philippines graduates are the income of father; occupation: administrative, executive and managerial position; and field of specialization: law and foreign service and engineering and technology.

Father's occupation: administrative, executive, managerial position has a significant relation to income which is not exhibited by the income behaviour of University of Philippines graduates. The same is true of the number of years after graduation but this was not the case for University of Philippines graduates. This may mean that experience is far more important in explaining income of private college graduates than University of Philippines graduates.

4.5.4.3 All graduates.

Table 4.14 shows the regression results for all graduates. In the resulting table, there are eleven significant variables (F 4) which explain income of graduates of all colleges and universities. These are: (1) a graduate of University of Philippines; (2) father's monthly income; (3) sex: female; (4) field of specialization: law and foreign service and engineering and technology; (5) being employed in the economic sector: financing, real estate, insurance and business services;(6) occupation: administrative, executive and managerial; (7) number of years after graduation; (8) waiting period; (9) type of firm where one is employed, i.e. Government and (10) marital status.

Of all the variables, there are three which showed a negative relation to income, viz.: being employed in the Government sector, sex: female and waiting period, i.e. it is a disadvantage to be female and to be employed in the government sector. Likewise, having waited long is to the disadvantage of a graduate. This is understandable, for having waited for a job for sometime, one is tempted to accept a low-paying job. On the other hand, the graduates do not benefit from waiting for a highly paid job.

The predictive capacity of the three regression models is different. The coefficient of determination for earnings function of all graduates is 0.51175 (i.e. 51.75 per cent of the variation in earnings of the graduates could be explained by the model); that for the graduates of private institutions is 0.41028, i.e. 41.02 per cent of earning variation is explained by the model. In the case of the University of the Philippines graduates R^2 = 0.52289, i.e. 52.28 per cent of earning variation is explained by the model.

4.6 Job satisfaction

With the above-mentioned levels of income, are the employed graduates satisfied with their job? The answer is the majority (54 per cent) of the employed graduates are satisfied (For details, see *Table 4.15)* and the reasons are as follows.

(a) Job provides self-fulfillment.

(b) Able to utilize talents.

(c) Good employee relations.

(d) Job offers secure future.

(e) Good prospect for career.

(f) Good income.

(g) Ample time for family and hobbies.

These reasons for satisfaction were also the variables identified by the employed graduates in HELMS I. However, there were more graduates (63.3 per cent) in HELMS I who were satisfied with their jobs compared to only 54 per cent of the employed graduates in HELMS II. The likely explanation for this is that many of them are still in the job-transition period. Note that they are still young (average age = 24) and recent graduates of 1978-1979. In short, at the time of the survey, they were at most two years on the job since graduation.

Reasons for job satisfaction have some slight variation across typology of college. To the graduates of University of Philippines and Catholic schools, self-fulfillment in one's job is of paramount importance. This factor ranks only second among the graduates of Protestant colleges, proprietary and foundation-type of institution and third for the graduates of other government colleges. Possibility to utilize talents in the job ranks first among the graduates of Protestant, other government colleges and foundation-type of institutions. Good employee relations is the most important reason for job satisfaction of the graduates of proprietary colleges and it ranked second for the graduates of Protestant, Catholic and other Government colleges. This is of lesser value to graduates of University of Philippines and foundation type of institution. Good income is not as important as many people expect it to be. It ranks only fourth among the graduates of Protestant colleges who, unfortunately, are the least paid of all the graduates; fifth among the graduates of other Government colleges and sixth among the graduates of University of Philippines and all other colleges. (For details, see *Table 4.16).*

Those who were dissatisfied identified the reasons as follows, ranked in accordance with degree of importance. (See details in *Table 4.17).*

(a) Lack of opportunities for self-fulfillment.

(b) Poor prospects for promotion.

(c) Job being not suited to personal objective.

(d) Poor working conditions.

(e) Unable to apply college training.

(f) Cannot get along with co-workers.

The reasons for job dissatisfaction vary by type of college. The lack of opportunities for self-fulfillment ranks first, in the reasons for job dissatisfaction for graduates of University of Philippines, Catholic, Protestant and Proprietary colleges. It ranks second among graduates of other government colleges and foundation-type institutions. However, all graduates ranked the factor of not being able to get along with co-workers as such, implying that employed graduates are tolerant of the idiosyncracies of co-employees. (For details, see *Table 4.18).*

4.7 Education-occupation adjustment

Graduates are faced not only with the task of obtaining employment but also with landing a job that corresponds to their academic preparation. A reason for refusing a job offer, as shown in the chapter on unemployment, is that the job is not in the required field of specialization. The findings on job satisfaction corroborate this. The data show that job satisfaction rests on being able to utilize one's talents, and, a major reason for job dissatisfaction is not being able to apply college training and the lack of opportunities for self-fulfillment.

In the light of these considerations, it is imperative to look into the relationship between educational background, on the one hand, and the kind of education and training required by the job, on the other. Correspondingly, the respondents in this study were asked to identify their field of specialization and, at the same time, to specify the most relevant field of specialization in a current job. Data generated were intended to yield insights in various fields of specialization where there is meaningful education-occupation correspondence and in areas where such correspondence is minimal. The latter situation will certainly pose a problem, and policy makers will have to look into ways of minimizing it. One benefit is that college-bound students and their parents can be properly informed on fields of specialization having the least correspondence between education and occupation, and thus, assist them in deciding between alternatives.

4.7.1 Employment in the field of specialization

Employment in the field of specialization varies across broad groupings of academic specialization, i.e. liberal arts programmes and applied sciences. Also, within a disaggregated field of specialization, variations maybe noted. On the whole, more graduates of the applied sciences (73.28 per cent) are employed in their own field of specialization. The opposite seems true in the liberal arts programmes, where only 46.95 per cent are employed in their field of specialization. These findings are not surprising, considering that the liberal arts graduates receive a well-rounded education that allows for greater flexibility in the job market. On the other hand, training in the applied sciences is so specialized, it narrows down the job options considerably.

In the Philippine situation, graduates of liberal arts programme constitute the bulk of the country's educational output, along with graduates of business administration. Faced with an excess in supply over demand, liberal arts graduates are forced to take jobs not requiring a liberal arts background. The data on the unemployment of liberal arts graduates at 46.2 per cent confirm a surplus. Had liberal arts graduates not taken jobs other than in their specialization, unemployment would have been a lot worse.

4.7.2 Liberal arts programmes

On the average, 46.95 per cent of liberal arts graduates were employed in their field of specialization. The percentage of employment is highest in music and fine arts at 82.4 per cent (For details, see *Table 4.19*). The least in employment rating is in languages. The reason music and fine arts graduates are gainfully employed is that they are able to be self-employed; supply would always stay within demands. As far as musicians are concerned, there is a large and continuing demand for their services abroad. Unemployment among music and fine arts graduates is therefore below the average.

Liberal arts graduates in languages have a hard time getting employment in the field of specialization; in fact only 16.7 per cent of the graduates have found suitable work. The tail-enders in the job market are graduates in humanities (66.7 per cent) and economics (66.7 per cent). In the humanities, the problem is the peculiarity of the

subject matter which does not clearly specify the nature of specialization, leading to vague job specifications. For graduates in languages, the level of development in the Philippines is such that the demand for language experts is not that high, except for those who want to go into language teaching. It is disturbing that economics graduates cannot land a job as economists, considering that a country that is moving towards faster growth and modernization ought to have many economists. The explanations for this may be: (1) the quality of graduates in economics is not on par with the requirements; (2) the demand is such that one has to gain experience before one is employed as an economist; (3) economists have to pass through a transition job requiring related types of background work before employment as economists. The data seems to support the third explanation. While 33.3 per cent of the economics graduates were employed in the field of specialization, more (35.89 per cent) were employed in closely related jobs i.e. business administration.

In the other fields of specialization in the liberal arts programme, the percentage of suitable employment is above the over-all average for the liberal arts programmes, *viz* :

Social Sciences	47.1 per cent
Physical Sciences	50.0 per cent
Mass Communication	56.5 per cent
Mathematics	56.3 per cent

The nature of this phenomenon is corroborated by the data on the unemployment rate for social science graduates which is 18.5, physical and biological sciences 25.4 per cent and all other liberal arts programmes 46.6 per cent.

4.7.3 Applied sciences

Graduates of applied sciences have found it easier to find employment in their field of specialization. However, there is a variation across disaggregated fields. In highly specialized fields with clearly defined occupations, the percentages of graduates employed in the field of specialization are high, e,g, dentistry, (100 per cent), medicine (95.5 per cent) law (87.1 per cent), veterinary medicine (87.5 per cent), nursing (87.9 per cent), medical technology (80 per cent), and business adminis-

tration (92.4 per cent). This reflects demand, as shown in the manpower forecasts. However, the high employment of business graduates seems to negate the contention that these graduates are employed in their field of specialization due manpower demand. A proof of this statement may be found in the data showing that graduates in the liberal arts programmes and the applied sciences are displacing graduates of business administration, to the extent that 25.22 per cent of the liberal arts graduates and 11.38 per cent of the applied sciences graduates are employed in jobs requiring training in business administration (See *Table 4.19).* A further discussion regarding this matter is included in the analysis of graduates employed in fields other than their degree specialization.

4.7.4 Educational occupational flexibilities

As discussed earlier in this chapter, many graduates in both the liberal arts programmes and the applied sciences are not employed in their fields of specialization. In this section, an analysis is made of the kind of educational training required for the job held. Some of these graduates are likely to be unhappy on the job, since a major reason for job dissatisfaction is not being able to apply one's talents and training. Also such employment entails further training to allow them to adjust to their respective jobs. If this cannot be done, there will be much wastage of time and resources.

4.7.4.1 Liberal arts flexibilities programme.

The tendency of liberal arts graduates who are not employed in their field of specialization is to accept a job requiring training in business administration. On the average, 25.22 per cent of liberal arts graduates are holding jobs requiring training business administration. Across fields of specialization in the liberal arts programmes, there is some variation. For example, 50 per cent of the graduates majoring in languages are employed in a job requiring training in business administration. (For detail see *Table 4.20).* In fact, more language majors are employed in jobs requiring a business background than in jobs requiring a language background. Economics graduates (35.89 per cent) are also likely to

land a job requiring a business background. Possibly, that is not such a discomforting position for economics majors, because the two disciplines are closely inter-linked.

Among the humanities majors 33.3 per cent are employed in jobs requiring a business background. The mathematics majors are next with 25 per cent; social sciences, 17.6 per cent; mass communications, 17.5 per cent; physical sciences, 16.7 per cent; and music and fine arts 5.9 per cent. One can just imagine the agony of a music and fine arts major who is employed in a job requiring knowledge of accounting, finance and investment analysis.

The next most frequently taken job of graduates of the liberal arts programmes who are not employed in their field of specialization is one requiring training in teacher education. There are 10.96 per cent so employed among liberal arts graduates, broken down into: languages (16.7 per cent), physical sciences (12.5 per cent), economics (10.26 per cent), mathematics (6.39 per cent) and mass communications. (For details, see *Table 4.21).*

4.7.4.2 Flexibilities in the applied sciences.

A minority of graduates in the applied sciences not employed in the field of specialization are employed in a job requiring training in business administration (11.38 per cent) and teacher education (11 per cent).

Graduates of foreign service have the highest percentage (30 per cent) of employment in a field requiring training in business administration, followed by nutrition graduates 26.3 per cent, home economics (25 per cent), vocational-technical education 19 per cent, and fisheries 16.7 per cent. Few other applied science graduates who have taken a job requiring teacher education background are low on the scale. (For details, see *Tables 4.20 and 4.21).*

4.7.5 Overall occupation education flexibilities

On the whole, many graduates in the applied sciences have taken a job in their line of specialization (73.28 per cent). What is quite problematical is the case of the graduates in various liberal arts programme where

the majority are holding jobs not consistent with their field of specialization. So far, jobs requiring background in business (25.22 per cent for the liberal arts graduates and 11.38 per cent for the applied sciences graduates), and teacher education (10.96 per cent for the liberal arts and 11 per cent for the applied science graduates) have absorbed graduates who cannot be employed in their field of specialization. This is shown in the following table:

	Graduates in	
	Liberal Arts	*Applied Science*
% Employment in the field of specialization	26.95%	73.28%
% Employment in a job requiring Business background	25.22%	11.38%
% Employment in a job requiring teacher education background	10.96%	11.0%
Total	63.13%	95.66%

The table shows that jobs requiring business background and teacher education take care of 36.18 per cent of all employment for liberal arts graduates and 22.38 per cent for the applied science graduates. Graduates in a job requiring other fields of specialization outside their own business and teacher education account for a very small percentage, i.e. only 4.34 per cent for graduates in the applied sciences and 16.8 per cent for the graduates in the liberal arts.

College-bound students and their parents should be aware of the greater possibility of having to search for a job in other than their own specialization in the liberal arts programmes, they should take account of the conclusions drawn here and correspondingly decide on alternative courses of action suited to their objectives and preferences.

The policy makers and the public should be concerned with the seriousness of the problem of misplaced graduates in the liberal arts programme and in the applied sciences, although the latter is of lesser magnitude. Planning could protect future graduates from the disappointment of being forced by economic circumstances to take a job not consistent with their training and professional background.

While at the moment jobs requiring a background in business and teacher education are absorbing graduates who cannot be better placed in their fields of specialization, policy makers should try to determine the absorptive capability of this sector if the present employment trend is to continue. A strategic intervention ought preferably to be initiated now to prevent the probable undesirable outcomes of misplaced graduates.

Table 4.1: Occupation of employed graduates (in percentages)

	HELMS I	HELMS II		
		Male	Females	Total
	%	%	%	%
Professional, Technical and Related Workers	41.67	65.3	69.2	68.7
Administrative, Executive and Managerial Workers	5.95	7.6	3.0	4.9
Clerical and Related Workers	37.04	7.6	18.3	13.4
Sales	1.75	7.6	2.8	5.0
Service	2.10	1.6	0.6	0.6
Agriculture	0.70	4.5	2.5	3.6
Production, Transportation and Related Workers	9.29	4.2	2.7	2.7
Armed Forces	0.50	0.1	0	0.1
Unclassified		1.3	0.9	1.0
Total	99.8	100.0	900	100.0

Table 4.2: Occupational classification of employed graduates by type of college (in percentages)

		U.P.	Other State Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1.	Professional, Technical and Related Workers	73.7	84.0	72.0	76.2	60.6	40.5	68.7
2.	Administrative, Executive and Managerial Workers	11.3	-	3.8	-	2.8	-	4.9
3.	Clerical and Related Workers	5.3	5.0	14.4	14.3	23.7	2.7	13 4
4.	Sales Workers	3.8	1 0	6.1	2.4	7.3	2.7	4.9
5	Service Workers	-	-	1.5	0.0	0.9	0.0	0.6
6.	Agricultural Workers	2.3	5 0	0.0	4.8	0 3	48 6	3.6
7.	Production, Transportation and Related Workers	3 0	4.0	2.3	2.4	2 5	2.7	2.8
8	Armed Forces	0.0	0 0	0.0	0 0	0.3	0.0	0.1
9.	Unclassified by Occupation	0 6	1 0	0.0	0.0	1.6	2.7	1.0
	Total	100.0	100.0	100 0	100.0	100.0	100.0	100.0

Table 4.3: Industrial classification of employer of the graduates

		HELMS II						HELMS I
		Male		Female		Total		
		N	%	N	%	N	%	%
1.	Agriculture	27	52 9	24	47.1	51	6.0	3.5
2	Mining and Quarrying	4	100.0	-	-	4	0 5	12.5
3	Manufacturing	76	59 8	51	40.2	127	14.9	13.1
4.	Electricity, Gas and Water	10	62 5	6	37.5	16	1.9	5.8
5	Construction	20	76.9	6	23 1	26	3 1	2.6
6.	Wholesale and Retail	14	45.2	17	54.8	31	3.6	3.9
7.	Transportation, Storage and Communication	11	40 7	16	59.3	27	3.2	4.5
8.	Finance, Insurance, Real Estate and Business Services	51	32.3	107	67.7	158	18 6	6.2
9.	Community Social and Personal Services	122	29.8	287	70.2	409	48.1	47.8
10.	Unclassified	-	-	1	100 0	1	0.1	-
	Total	335	-	515	-	850	100.0	100.0

Table 4.4: Industrial classification of graduates by type of colleges (in percentages)

		U.P.	Govt Colleges	Catholic	Protestant	Proprietary	Foundation
1	Agriculture	8 9	6 1	8	2 4	1.6	48 5
2	Mining and Quarrying	1.2	-	-	2 4	-	-
3.	Manufacturing	16 0	7.1	14 8	14 3	17 4	12.1
4.	Electricity, Gas and Water	1 6	-	2 3	2.4	2 6	-
5	Construction	3.1	-	4 7	2 4	3 6	-
6	Wholesale and Retail	1.6	1 0	3.1	-	6.9	3.0
7.	Transportation, Storage and Communication	3.1	1 0	1 6	-	5.3	-
8	Finance, Real Estate and Business Services	19.5	3.1	28 9	14 3	19 7	6.1
9	Community Services	45.1	81 6	43.8	61.9	42 4	30 3

Table 4.5: Type of the firm/organization of the employer of graduates

			N	%
1.	Public Sector			
	1.1	National Government	221	24.5
	1.2	Provincial Government	18	2.0
	1.3	Local Government	60	6.6
	1.4	Gov't. Corporation	56	6.2
2.	Private Sector			60.7
	2.1	Corporation		43.1
	2.2	Partnership	70	7.8
	2.3	Single Proprietorship	89	9.8
3.	Total		903	100.0

Table 4.6: Mean income of employed graduates by occupational classification and type of college

	U.P	Other Gov't Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1. Professional, Technical and Related Workers	1 507 08	692 99	1 032 35	837 07	935 85	1 142 33	1 098 41
2. Administrative, Executive and Managerial Workers	2 302 08	-	984.00	-	1 353.33	-	1 941.15
3. Clerical Workers	1 152.62	940 00	984 72	688 83	852 69	-	902 95
4 Sales Workers	1 802 00	200 00	1 009 43	900 00	1 033 86	60 00	1 179 31
5. Service Workers	-	-	1 125 00	-	751 67	-	901 00
6. Agricultural Workers	995.00	504 40	-	787 50	494 00	649 53	696.87
7. Production, Transportation and Related Workers	1 287 25	590 00	892 67	364.00	1 017 38	-	1 145 56
8. Unclassified	1 787 00	775 00	-	-	608 50	-	969 00
Total	1 562 20	687 63	1 020.50	802.10	928.83	987 56	1 096 67

Table 4.7: Mean income of employed graduates by occupation and sex

	Male	Female		Percentage of Income Advantage of Male
1.	Professional, Technical and Related Workers	P.1 292.96	P.977.09	24.43
2.	Administrative, Executive and Managerial Workers	1 912 68	1 979.61	(3.38)(a)
3.	Clerical and Related Workers	1 012.95	882.68	13.78
4.	Sales Workers	1 284.10	978.92	23.77
5.	Service Workers	751.67	1 125.00	(33.18)(a)
6.	Agricultural and Related Workers	705.87	693.28	1.78
7.	Production, Transportation and Related Workers	960.63	1 290.86	(25.58)(a)
8.	Unclassified	1 411.33	637.25	54.85

(a) Female income advantage over male.

Table 4.8. Mean income of employed graduates by degree programme and by type of college (in P.)

		U.P.	Other Gov't Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1	Agriculture	971 64	531 17	1 000 00	812 50	494 00	988 70	884 49
2.	Business Administration and Commerce	1 776.54	973.33	1 126.93	852.11	924 73	-	1 076 09
3	Engineering and Technology	1 933.91	616 67	1 049 12	1 174 17	1 171.02	-	1 373.15
4	Food Nutrition and Dietetics	1 359 57	586.50	1 075.17	-	1 000 00	950 00	1 192 17
5	Law and Foreign Service	1 952.50	-	1 880.00	1 000 00	1 657.67	-	1 861.24
6	Humanities	1 720.00	-	1 144.44	700.00	886.25	-	1 160.43
7.	Physical and Biological Sciences	1 343 80	-	978 57	603.00	650 00	-	1 156 40
8	Social Sciences	1 586.57	-	1 220.92	664.36	751.68	-	1 225.03
9.	Medical Sciences	1 128.57	-	839.14	754 40	842 68	-	928 61
10	Music and Fine Arts	1 714.29	-	1 071.67	-	715.00	-	1 222.50
11	Teacher Education	1 386 00	699.54	596 38	590 50	628.00	-	733 20
12	Liberal Arts	2 957.50	-	70. 50	-	685 00	-	1 601.00

Table 4.9: Mean income of employed graduates by degree programme and sex

	Male	Female	Percentage of Income Advantage of Male
1. Agriculture	P 898 72	P 878.70	12.35
2. Business Administration and Commerce	1 205.61	1 033.20	14.30
3. Engineering and Technology	1 400.33	1 118.08	20.16
4. Food Nutrition and Dietetics	709.00	1 261.19	(43.78)(a)
5. Law and Foreign Service	1 678.15	2 026.58	(17.19)(a)
6. Humanities	1 433.33	1 030.63	28.09
7. Physical and Biological Science	1 384.83	945.54	31.72
8. Social Science	1 405.42	1 131.83	19.47
9. Medical Sciences	1 110.87	857.26	17.11
10.Music and Fine Arts	1 481.87	1 015.00	31.50
11.Teacher Training	937 12	698 69	25 44
12.Liberal Arts	1 572.50	1 715.00	(8.31)(a)

(a) Female advantage over male

Table 4.10: Mean income of employed graduates by industrial classification and sex

	Male	Female	Percentage Income Advantage of Male
1. Agriculture	P.1 063.44	P.836.50	21.25
2. Mining and Quarrying	1 321.50	-	
3 Manufacturing	1 383 95	1 121.50	18.96
4. Electricity, Gas and Water	1 353.50	1 179.17	12.88
5. Construction	1 444.85	830.00	42.55
6. Wholesale and Retail	1 260.77	1 091.24	13.45
7. Transportation, Storage and Communication	1 124.55	1 061.54	5.60
8. Finance, Real Estate Insurance and Business Services	1 683.82	1 213.27	27.94
9. Community Services	1 071.08	861.20	19.59

Table 4.11: Mean income of employed graduates by industrial classification and type of college

		U.P	Other Gov't Colleges	Catholic	Protestant	Proprietary	Foundation	Total
1	Agricultural Sector	1 320 19	549.50	1 000 00	725 00	746 40	675 69	945.78
2	Mining and Quarrying	1 203.67	-	-	1 675 00	-	-	1 321.50
3	Manufacturing	1 895 98	689 00	1 057 11	864 84	1 003 43	1 047.67	1 272 22
4	Electricity, Gas and Water	1 675 00	-	841.67	1 000 00	1 298 13	-	1 288 12
5	Construction	2 050.00	-	1 044 00	1 070 00	941 55	-	1 321 88
6	Wholesale and Retail	2 916.67	200 00	815.00	-	1 053 86	600.00	1 164.70
7	Transportation, Storage and Communication	1 329.17	900.00	1 460.00	-	958 33	-	1 090 42
8.	Financing, Insurance, Real Estate, Business Services	1 842.45	1 103.67	1 263 57	916 00	1 068 67	680.00	1 359.50
9	Community Services	1 273 59	687 08	869 41	713 80	802 91	1 239.30	923.44

Table 4.12: Variables in the regression model: UP graduates

VARIABLES		B	BETA	F
V127	Father's Gross Monthly Income	.2063264	.28025	10.777
V2041	Type-Firm = National Government	-.8414876	.33156	13 628
V1323	Engineering and Technology	8721929	25978	7.159
V2052	Admin., Executive, Managerial Workers	6447223	14868	3 207
V1325	Law and Foreign Service	9210416	9389	6.372
V1002	Married	6283579	.17932	4.507
V1321	Agricultural	-.8244451	.16436	2.610
V1236	Agricultural and Related Workers (Father's)	.5316681	.12748	2.031
V1232	Admin., Executive and Managerial Worker (Father's)	.2687438	-.09084	1.263
V263	Waiting Period-After Actively Looking	-.1651688	.12997	2.517
V2061	Agriculture, Fishery and Forestry	4830824	11583	1.325
V1237	Prod., Trans. Operators and Labourers (Father's)	4368687	06977	.665
V1324	Food Nutrition and Dietetics	.2619816	-.04184	.204
V0034	Region IV	.1459369	.04165	.244
V270	Factor Job-Government Placement Office	5307511E-01	04074	.244
V0082	Female	.834550E-01	03334	.129
V1341	Two Years After Graduation	.1152569	04665	145
V0031	Region I	4256730	03093	145
V0033	Region XIII	.2048120	.02938	096
V2068	Financing and Business Services	.7530534-01	02444	079
V2057	Prod., Trans. Operators and Labourers	.2242768	-02798	.093
V101	Age (as of last birthday)	-.6154006E-01	.02851	.106
V2054	Sales Workers	.2229070	-.2281	090
V2065	Construction	1112208	01596	.034
V2047	Type-Firm = Single Proprietorship	-.1146898	-01431	.031
(Constant)		2.913055		

F = 4.12083 DF = 24.94 R^2 = .52289

Table 4.13: Variables in the regression model: Private college graduates

VARIABLES		B	BETA	F
V0082	Female	-.4374740	-.21744	11.853
V1341	Two Years After Gradution	.4142252	.20254	12.701
V127	Father's Gross Monthly Income	.8152312E-01	.13600	5.366
V1325	Law and Foreign Service	1.044901	.15958	7.985
V1232	Admin., Exec. and Managerial Workers (Father's)	.5380558	.17708	9.966
V270	Factor Job-Government Placement Office	-.1340971	-.14342	6.498
V2052	Admin., Executive, Managerial Workers	.6343784	.11142	4.221
V2068	Financing and Business Services	.2694455	.10604	3.399
V1323	Engineering and Technology	.3275746	.12787	4.184
V2054	Sales Workers	-.2922163	-.06927	1.549
V2061	Agriculture, Fishery and Forestry	-.6737922	-.13792	3.684
V2041	Type-Firm = National Government	.1524770	.05748	.803
V1002	Married	.2739460	.09493	2.595
V1236	Agricultural and Related Workers (Father's)	-.2979019	-.10323	2.834
V263	Waiting Period-After Actively Looking	-.6991929-01	-.09342	2.820
V1237	Prod., Trans. Operators and Labourers (Father's)	-.2273945	-.08065	1.895
V2065	Construction	-.3998101	-.05006	.8355
V1324	Food Nutrition and Dietetics	-.3931417	-.04922	.833
V0039	Region IX	-.4214471	-.03745	.456
V2047	Type-Firm = Single Proprietorship	-.1148400	-.04027	.522
V0037	Region VII	.3094036	.04727	.675
V101	Age (as of last birthday)	-.6012923E-01	-.04109	.450
V00313	Region XIII	-.8770752E-01	.04020	344
V0034	Region IV	.1031365	.02728	155
V1321	Agricultural	.1031365	.02728	.155
VV2057	Prod., Trans. Operators and Labourers	-.4372452E-01	-.00547	.010
(Constant)		2.673062		
		F = 5.79767	DF = 27.225	R^2 = .41028

Table 4.14 Variables is the regression model: All graduates

VARIABLES		B	BETA	F
V1301	U.P System	8181784	.31478	56 076
V127	Father's Gross Monthly Income	1081616	.16393	14.736
V0082	Female	-.2999198	-.12668	8.751
V1325	Law & Foreign Service	1.067597	16859	20 462
V2068	Financing and Business Services	.3581715	.11678	9 099
V1323	Engineering and Technology	4938515	.15931	14 0
V2052	Admin . Exec.. Managerial Workers	7284384	.12882	11.853
V1341	Two Years After Graduation	.2988971	.12491	11.471
V263	Waiting Period	-.8446348E-01	-.09089	5.881
V22041	Type-Firm = National Government	-.2461677	-.09077	4.690
V1236	Agricultural and Related Workers (Father's)	- 2217646	- 06368	2.414
V1002	Married	2935156	.06979	5 431
V00313	Region XIII	- 1654447	-.03203	0.595
V270	Factor Job-Government Placement Office	- 7522887E-01	-.06968	3.173
V2054	Sales Workers	-.2800133	-.044826	1.621
V1232	Admin.. Exec. and Managerial Workers (Father's)	193181	.05832	2.367
V2057	Prod.. Trans. Operators and Labourers	-.3400036	-.04620	1.451
V0031	Region I	.3566597	.05056	1.763
V0034	Region IV	.1144214	.04402	.957
V0039	Region IX	- 6294529	-.03687	.989
V1324	Food Nutrition and Dietetics	-.2536737	- 03291	.781
V2047	Type-Firm = Single Proprietorship	-.1122481	-.02866	.577
V2065	Construction	.2433267	.02830	.580
V1321	Agricultural	- 8442372E-01	- 01878	.178
V101	Age (As of last birthday)	- 5027343E-01	-.02868	.517
V123	Prod . Trans Operators & Labourers (Father's)	- 9604144E-01	-.02714	.481
V2061	Agriculture. Fishery and Forestry	-.960670E-01	-.01860	.169
	(Constant)	2.415822		
		F = 15.29498	DF = 27.394	R² = .51175

Table 4.15: Reasons for job satisfaction

		Weighted Average(a)	Rank
1.	Job provides self-fulfillment	3.63	1
2.	Able to utilize talents	3.57	2
3.	Good employee relations	3.51	3
4.	Job offers secure future	3.39	4
5.	Good prospect for career	3.38	5
6.	Good income	3.17	6
7.	Ample time off for family and hobbies	2.80	7
8.	Opportunity to travel	2.73	8
9.	Scholarship opportunities	2.27	9

(a) A value of 5 indicates extraordinarily important, 4 very important, 3 important, 2 barely important, and 1 not important.

Table 4.16: Reasons for job satisfaction by type of college (Ranked according to order of importance)

		U P	Other Gov't Schools	Catholic	Protestant	Proprietary	Foundation
1	Job provides self-fulfillment	1	3	1	2	2	2
2	Able to utilize talents	2	1	4	1	3	1
3	Good prospects for career advancement	3	6	5	5	4	5
4	Good employee relations	4	2	2	2	1	4
5	Job offers a secured future	5	5	3	3	5	3
6	Good income	6	5	6	4	6	6
7	Opportunity to travel	7	9	8	6	8	8
8.	Ample time-off for family and and hobbies	8	7	7	7	7	7
9	Scholarship opportunities	9	8	9	8	9	9

Table 4.17: Reasons for job dissatisfaction

		Weighted Average(a)	Rank
1.	Lack of opportunities for self-fulfillment	2.31	1
2.	Poor prospects for promotion	2.53	2
3.	Job not suited to personal objectives	2.63	3
4.	Poor working conditions	3.63	4
5.	Unable to apply school training	3.64	5
6.	Cannot get along with co-workers	5.49	6

(a) Rank 1 as the most relevant reason and 6 the least important.

Table 4.18 Reasons for job dissatisfaction by type of college (Ranked according to order of importance)

	U.P	Other Gov't Schools	Catholic	Protestant	Proprietary	Foundation
1 Not enough opportunities for self-fulfillment	1	2	1	1	1	2
2. Not suited to personal objectives	2	3	2	2	2	5
3 Poor prospects for promotion	3	1	3	3	3	1
4. Poor working conditions	4	4	5	4	5	3
5 Unable to apply college training	5	5	4	5	4	4
6 Cannot get along with co-workers	6	6	6	6	6	6

Rank 1 = highest, Rank 6 = lowest

Table 4.19 Academic qualifications and academic job requirements

			Percentage of Graduates Employed in the field of Specialization
1	Liberal Arts Programmes		
	1.1	Economics	33.3
	1.2	Humanities	33.3
	1.3	Languages	16.7
	1.4	Mass Communication	56.5
	1.5	Mathematics	56.3
	1.6	Music and Fine Arts	82.4
	1.7	Physical Sciences	50.0
	1.8	Social Sciences	47.1
2	Applied Sciences		
	2.1	Agriculture	70.5
	2.2	Business Administration	92.4
	2.3	Dentistry	100.0
	2.4	Education	60.4
	2.5	Engineering	76.3
	2.6	Fisheries	69.7
	2.7	Foreign Service	40.10
	2.8	Home Economics	41.7
	2.9	Law	87.1
	2.10	Medicine	95.5
	2.11	Medical Technology	80.0
	2.12	Nautical Science	66.7
	2.13	Nursing	87.9
	2.14	Nutrition	57.9
	2.15	Veterinary Medicine	87.5
	2.16	Vocational-Technical	61.9
	2.17	Average	73.28

Table 4.20: Percentage of graduates employed in a job requiring training in business administration

	Field of Specialization	%
1.	Liberal Arts Programme	
1.1	Economics	35.80
1.2	Humanities	33.3
1.3	Languages	50.0
1.4	Mass Communication	17.4
1.5	Mathematics	25.0
1.6	Music and Fine Arts	5.9
1.7	Physical Sciences	16.7
1.8	Social Sciences	17.6
1.9	Average	25.22
2.	Applied Sciences	
2.1	Agriculture	9.1
2.2	Education	4.7
2.3	Engineering	6.6
2.4	Fisheries	8.3
2.5	Foreign Service	30.0
2.6	Home Economics	16.7
2.7	Law	3.2
2.8	Medicine	3.0
2.9	Nutrition	26.3
2.10	Veterinary Medicine	12.5
2.11	Vocational-Technical	4.8
2.12	Average	11.38

Table 4.21: Percentages of graduates employed in a job requiring training in teacher education

	Field of Specialization		Percentage
1.	Liberal Arts Programmes		
	1.1	Economics	10.26
	1.2	Languages	16.7
	1.3	Mass Communication	4.3
	1.4	Mathematics	6.3
	1.5	Physical Sciences	12.5
	1.6	Social Sciences	15.7
	1.7	Average	10.96
2.	Applied Sciences		
	2.1	Agriculture	6.8
	2.2	Business Administration	1.5
	2.3	Engineering	1.5
	2.4	Fisheries	16.7
	2.5	Home Economics	25.0
	2.6	Law	6.5
	2.7	Vocational-Technical	19.0
	2.8	Average	11.0

5. The graduates in search of a job

The case of the educated unemployed presents a very crucial problem. This phenomenon results in wastage of manpower resources which could be put to better use in promoting the well-being of society. Instead, they continue to be a burden in the sense that they depend on others for survival. The extent of dependence may be tolerable in developing countries where family ties are still quite strong and the unemployed is not bothered by his predicament. In westernized societies, however, being unemployed is often an agonizing experience.

The existence of a huge number of educated unemployed can lead to a certain amount of political instability in a country, for they, being among the educated class and knowledgeable about the privileges society can offer, feel doubly deprived. The causes of educated unemployment have to be seriously studied if we are to formulate policies, programmes and projects that would minimize the problem.

An analysis of the unemployment situation in the Philippines[10] with the use of HELMS I data revealed that educated unemployment is of a voluntary nature in the sense that the young graduates are still shopping around for a suitable career. In short, they are still in the job-hunting stage, trying to evaluate various job and career options. One has to distinguish between the incidence of unemployment and the duration of unemployment. It is quite common for incidence of unem-

[10] Psacharopoulos G. and Sanyal B. 'Student Expectations and Labour Market Performance: The Case of the Philippines', *Higher Education*, Vol. 10, 1981, pp.449-472. Elsevier. Amsterdam.

ployment to be high, especially among the young college graduates. However, the duration has been quite short. In HELMS I, the average waiting period was around six months. This waiting period is usually reduced to two months when one counts from the time when the graduate actively looks for a job. The voluntary nature of unemployment in the Philippines is shown by the fact that the waiting period counted from the time of graduation up to the time of employment is over a year whereas when graduates are actively looking for a job (as shown in Chapter 3, and utilizing the best method of getting a job, they can actually get a job within two to six months. Unfortunately, however, many of the unemployed are either not actively looking for a job or are not utilizing the most effective method for landing a job. On the whole the rate of unemployment, i.e. those looking for a job and those who were jobless at the time of the HELMS II survey in 1981, was 19.16 per cent. (Note that this definition of unemployment is different from the definition of government official statistics where an unemployed person refers to one who has not worked for an hour within a period of a quarter of a year). Unemployment among the females is much higher (21.66 per cent) than among males (15.56 per cent).

5.1 Characteristics of graduates in search of a job

5.1.1 Age, sex and civil status of the unemployed

More than half of the educated unemployed belong to the age bracket 20-23 and 41.2 per cent are in age bracket 24-27. (See *Table 5.1*). Only a small minority are above age 27 with 3.3 per cent in age bracket 28-31 and 1.6 per cent in age bracket 32-35. The mean age is 23.71. This is a little lower than the mean age of dropouts at 24.3 and employed graduates at 24.15.

Possibly because they are young, 79.3 per cent are still single. For details, see *Table 5.2)*. These graduates are more predominantly female (66.7 per cent) compared to the sample percentage of 59 and the ratio of females among the dropouts (53.6 per cent) and employed graduates (60 per cent). (See *Table 5.3)*. This comparison clearly shows that more females than male graduates did not attain employment.

5.1.2 The married unemployed graduates

Most of the married unemployed are females (85.76 per cent) whose husbands are all employed. Of the male married unemployed, only two have an equally unemployed wife. It is possible that the employment status of their spouse was a contributing factor to their having made a long-term commitment to married life.

The mean income of the spouse of the unemployed graduate at the time of the survey, was P.1,504.27 which is lower than the mean income of the spouse of employed graduates at P.1,771.39. However, it is higher than the mean income of the spouse of college dropouts at P.1,370.15.

As far as the occupation of the spouse is concerned, the majority are professional, technical and related workers (27.7 per cent); clerical and related workers (21.3 per cent); and production transportation and related workers (17.3 per cent). (For details, see *Table 5.4).* The industrial classification of the employer of the spouse, just like the employed graduates, is concentrated in community, social and personal services (42.5 per cent) followed by transport, storage and communication (20 per cent and manufacturing (17.5 per cent). (For details, see *Table 5.5).*

5.1.3 Parental background of the educated unemployed

The majority of the parents of the educated unemployed, like the employed graduates, are in business administration, law and foreign service, and engineering and technology, with 32.5 per cent, 25.4 per cent and 16.4 per cent respectively. While these fields represent the predominant academic specializations of the father, the data show that the children did not follow the preference of their fathers. Note that among the fathers, 25.4 per cent took law and foreign service, while only 1.6 per cent among the unemployed graduates took the same courses. (For details, see *Table 5.6).* The courses that continued to be popular among the children were business administration (22.1 per cent) and engineering and technology (13.9 per cent). There was a notable shift in preference to the medical sciences, from only 7.5 per cent among the fathers to 25.8 per cent among the children (the unemployed graduates).

As to the educational attainment of the mother, teacher education was the most popular field of specialization at 66 per cent. This is also

true of the mothers of employed graduates (58.6 per cent) and college dropouts (50 per cent).

The most common occupations of the fathers are the following:

Professional, Technical and related workers	19.0 per cent
Agricultural workers	18.5 per cent
Production, transportation and related workers	17.9 per cent
Administrative, executive and managerial workers	15.8 per cent

The majority (60.3 per cent) of the mothers were non-working housewives. Of those working, 15.6 per cent were in the professional technical occupations and 10.5 per cent in sales. (For details, see *Table 5.7).*

The parents of unemployed graduates have lower terminal education than the employed graduates. Only 51 per cent of the fathers of the unemployed have finished college, compared to 58.7 per cent of the employed graduates. Moreover, there are more with only an elementary (22.7 per cent) and high school (26.3 per cent) terminal education. For the employed graduates, fathers who have elementary and high school terminal education constituted only 17.8 per cent and 23.5 per cent of the total respectively. The mothers of the unemployed graduates likewise have a lower educational attainment. Only 36.2 per cent of the mothers reached college compared to 45.3 per cent of the employed graduates. Mothers with elementary education accounted for 31.1 per cent for the unemployed graduates, compared to 25.2 per cent for the employed graduates. The corresponding figure for the secondary level was 32.7 per cent for the unemployed graduates and 29.5 per cent for the employed graduates.

The industrial classification of the employer of parents of unemployed graduates were community, social and personal services (ranking No. 1 at 28.7 per cent), agriculture (18.8 per cent) and manufacturing (12.5 per cent). (For details, see *Table 5.8).* The manufacturing sector was not a popular employer of parents of employed graduates. However, this ranked high among the parents of dropouts (21.2 per cent), and fairly high for unemployed graduates (12.5 per cent). This situation indicates a relationship between the industrial classification of

employers of parents and the possibility of becoming a college dropout or unemployed graduate.

The industrial classification of the employer of the mothers of unemployed graduates whose work is similar to that of the college dropouts and the employed graduates. The most common employer's industrial classification is community, social and personal services (79.1 per cent).

The father's average gross monthly income (P.2,729.13) is lower than that of employed graduates (P.3,187.77). (For details, see *Table 5.9).* The fathers of the unemployed graduates earn more than the father of the college dropout (P.938.40). The same pattern is observed in the mother's income. The mean income of the mother of the unemployed is P.1,592.76, which is again lower than average income of the mother of employed graduates (P.1,876.78) but higher than the income of the mother of college dropouts (P.586.66).

Total income of the parent of unemployed graduates being lower than that of the parent of employed graduates reveals that there is some relationship between parental income and unemployment of graduates. However, as will be shown in the discriminant analysis, parental income has the least influence on employment status.

5.1.4 Educational background of the unemployed graduates

With the NCEE percentile score as indicator of pre-collegiate preparation, it was found that unemployed graduates are weaker in academic preparation than employed graduates. However, they had better preparation than the college dropouts. The mean NCEE score of the unemployed graduates was 86.17 per cent compared to that of the employed graduates at 91.7 per cent and the college dropouts at 76.3 per cent.

The University of Philippines, the sectarian and foundation type of institutions, institutions being highly selective and servicing mainly students with a higher level of achie ement, do not show much difference in unemployment by achievement level in NCEE. Both the employed and the unemployed graduates from these institutions have high scores in NCEE and are a more homogeneous group academically but even in this group, the high scorers in NCEE have grater chances of getting employment. (See *Table 5.10).*

The graduates of University of Philippines, other government colleges and proprietary institutions who have a public high school background have greater chances of being unemployed. (For details, see *Tables 5.11 and 3.16).* For example, among the University of Philippines graduates, 50 per cent of the unemployed are those with public high school background, and the figure for government college graduates is 75 per cent, and proprietary institutions, 43.4 per cent, i.e. the sectarian institutions serving students from sectarian high schools have the majority of the unemployed graduates.

The type of college of the unemployed graduates needs to be analyzed in relation with the profile of sample respondents, and this can be done by comparing *Table 5.12* with *Table 2.1*

5.1.5 Assessment of college performance and instruction

The unemployed graduates are quite realistic in the self-assessment of their college performance, with only 16 per cent ranking themselves above-average. On the other hand, 33.3 per cent of employed graduates consider their rating above- average. A greater bulk (81.7 per cent) of them consider themselves as average students only one person dared to give his performance and excellent rating. (For details, see *Table 5.15).*

The majority of the unemployed graduates rated the content and method of instruction in their schools as adequate. Among the employed graduates, a higher percentage felt that they had been given highly and excellent instruction both in terms of content and method. (See *Tables 5.16* and *3.29* and *3.30).* Actually, the unemployed graduates, should have been given more attention especially in terms of method of instruction, since they were equipped with an academic background of lesser quality.

5.1.6 Unemployment by type of educational institution

Unemployment among the graduates of University of Philippines and other the government colleges is much lower than those coming from private higher education. On the whole, unemployment in public higher education accounts for only 10.02 per cent while private higher education accounts for 28.14 per cent. In the public higher education sector,

University of Philippines shows a lower percentage of unemployment at 6.74 per cent compared to other state colleges and universities at 17.95 per cent. On the other hand, in private higher education, the graduates from proprietary colleges have the highest rate of unemployment at 29.8 per cent, followed by graduates from Protestant colleges and universities (28.81 per cent) and Catholic colleges (26.97 per cent). The lowest rate of unemployment among graduates of private higher educational institutions is 14.29 per cent from educational institutions of the foundation type. (See *Table 5.13).*

5.1.7 Unemployment classified by degree programmes

Unemployment varies by degree programme. It is least among the graduates of teacher education (8.5 per cent), law and foreign service (9.3 per cent) and music and fine arts (12.5 per cent). (For details, see *Table 5.14).* On the other hand, way above the average unemployment of all graduates, is found among the graduates of other liberal arts courses (46.2 per cent), medical science graduates (29.2 per cent), nutrition and dietetics (27 per cent), physical and biological sciences (25.4 per cent), agriculture (22.1 per cent), and business administration (21.3 per cent).

The reason why graduates of teacher education rate only a low 8.5 per cent is the increase in demand, unlike in the 1960s when there was a big surplus of teachers. It is possible that many music and fine arts graduates are self-employed and, therefore, not looking for a job. It is understandable that there are relatively more medical graduates who are unemployed, since they are probably waiting for the result of board examinations before engaging fully in practice. Agriculture graduates may be self-employed on their own farms, although they may still be in the process of looking for a job. Many of the graduates of physical and biological sciences are usually waiting for admission to medical schools because their course is a preparatory degree for the medical programme. At present, it is quite hard to gain admission into medical schools. What is disturbing is the high rate of unemployment among graduates of business administration (22.1 per cent) and other liberal arts programmes (46.2 per cent). This should be a major focus for policy makers and a matter of concern for the college-bound population.

5.2 Reasons for unemployment

The reasons for higher employment rates by academic programmes are discussed in the section on occupation and education adjustment in Chapter 4. In this section, reasons for unemployment as revealed in the survey can be given. Almost half or 46.3 per cent of unemployed graduates have refused a job offer. If one were to exclude those who refused a job offer from the group of unemployed, the unemployment rate of college graduates go down dras ically. The reasons cited for refusing a job offer are ranked as follows:

		Rank		
	Reasons	Total	Male	Female
1.	Did not like the job offer	2.53	2.70	2.46
2.	Job offer not in the field of specialization	2.55	2.34	2.66
3.	Low salary offer	2.56	2.33	2.68
4.	Job far from residence	2.61	2.88	2.51
5.	Lack of parental consent in accepting the job	3.59	4.0	3.47

The fact that the unemployed graduates have refused a job offer suggests that they are not really in a poor state and thus should not be the object of much concern by policy- makers. But those who should receive concern are the unemployed graduates who have not had any job offer at all in spite of expending much effort in looking for a job.

That there is no job opening for anyone is really not a very significant reason for unemployment. There are actually many job openings; unfortunately, the unemployed graduate wants a job in a specific field of specialization. (See *Table 5.18).* He has neither adequate experience nor the professional requirements. Moreover, some job openings are not within the graduate's vicinity. These are often cited as reasons for being unemployed. The reasons which are of less significance are family situ-

ations like getting married, lack of connections in getting a job, low salary, or the lack of prestige of the college where the graduate finished his degree. What is even more surprising is the admission by some unemployed graduates that they were not interested in getting a job.

The most effective methods of getting a job, as revealed by the experiences of the employed graduates in both HELMS I and II, are either recommendation of relatives and friends or through the personnel office of the hiring company. However, very few of the unemployed graduates followed these two methods in getting employment (See *Table 5.19*).

5.3 Unemployment and discriminant analysis

The 'discriminant analysis' technique has been used to analyze unemployment. The regression analysis technique to identify the variables which explain the nature of the waiting period and income behaviour has been discussed (See *Chapters 6 and 7*). In regression analysis, the criterion variable is continuous and ratio-scaled. The objective was to predict individual earnings and length of waiting period. Variables that have the highest weights are those that best predict income or length of waiting period. In the discriminant analysis, the criterion is not a single continuous variable. It is a set of mutually inclusive categories (employed or unemployed). The objective is to predict in which category an individual will fall. Predicted variables with the highest weights are those that best predict the category.

In simplistic terms, the procedure operates to locate a sector or sectors called discriminant functions in the total predictor space that best separate the categories of individuals. The maximum number of such discriminant functions is limited to the smaller of the number of variables used as the number of categories on the output variable less one. Since we are working with two categories of output variables, no more than one sector will be available. The values separated for each variable are the weight, the greater is the power of the variable to predict, independent of the effect of the other variables to which category an individual will belong. The standardized discriminant function coefficients, when the signs are ignored, represent the relative contribution of its associated variable to that function. The sign merely denotes whether the variable is making a positive nor negative contribu-

tion. The standardized discriminant function coefficients are designed in such a way that the discriminant scores produced are in standard form. This means that in the overall cases in the analysis, the score of one function will have a mean and a standard deviation of one.

Out of the 1,226 cases in the sample, 246 are looking for a job. *Table 5.20* gives the standardized discriminant function coefficient for the analysis of graduates who are still in the job-search stage.

It may be observed that self-assessed college performance is, by far, the strongest cluster of predictors of unemployment. Note the negative relationship, which means that the above-average group of graduates have better chances of getting employment or lesser chances of being unemployed. Similar effects are noted for the University of Philippines graduates but on a lower magnitude. Across curricular programmes,teacher education reveals a negative relationship. This means that graduates of teacher education have less chances of being unemployed. Note that teacher education has the lowest unemployment rate. On the other hand, the medical science graduates have a positive coefficient, signifying that they have also a stronger probability of remaining unemployed. In reality, however, this is not true. The completion of medical education takes a longer time than other degrees, and the period of intership does not really constitute employment. Since the gap between the survey and the time of graduation was short, many of the medical graduates may not yet have been available to practise their profession and, thus, might have indicated that they were unemployed.

It is interesting to note that parental income and age have the least influence on the employment status of the graduates.

From the above analysis, one could infer that in obtaining employment, the quality of one's education is a far more important predictor. Note the greater weight of college performance of college performance and being a graduate of University of Philippines over curricular programmes and socio-economic variables such as parental income, age, sex and education of parents.

Table 5.1: Age of the unemployed

		Total		Male		Female	
	Age Bracket	N	%	N	%	N	%
1	20-23	129	53.1	33	40.2	96	59.6
2	24-27	100	41.2	43	52.4	57	35.4
3.	28-31	8	3.3	5	6.1	3	1.9
4.	32-35	4	1.6	1	1.2	3	1.9
5.	36 and above	2	.8			2	1.2
	Total	243	100.0	82	99.9	161	100.0

Table 5.2: Civil status of the unemployed

		Total		Male		Female	
		N	%	N	%	N	%
1.	Single	195	79.3	75	91.5	120	73.2
2.	Married	49	19.9	7	8.5	42	25.6
3.	Widowed	2	.8			2	1.2
		246	100.0	82	100.0	164	100.0

Mean Age = 23.71

Table 5.3. Sex of the unemployed

	N	%
Male	82	33.3
Female	164	66.7
Total	246	100.0

Table 5.1: Occupation of the spouse of the unemployed

		Total		Male		Female	
		N	%	N	%	N	%
1.	Professional, Technical and Related Workers	13	27.7	2	40.0	11	26.2
2.	Administrative, Executive and Managerial Workers	2	4.3	-	-	2	4.8
3.	Clerical and Related Workers	10	21.3	-	-	10	23.8
4.	Sales Workers	4	8.5	1	20.0	3	7.1
5.	Service Workers	2	4.3	1	20.0	1	2.4
6.	Agriculture	2	4.3	-	-	2	4.8
7.	Production, Transportation and Related Workers	8	17.3	-	-	8	19.0
8.	Unclassified	1	2.1	-	-	1	2.4
9.	Armed Forces	3	6.4	-	-	3	7.1
10	Housewife or Non-Working Husband	2	4.3	1	20.0	1	2.4
	Total	47	100.0	5	100.0	42	100.0

Table 5.5: Industrial classification of the employer of the spouse of the unemployed

		Total		Male		Female	
		N	%	N	%	N	%
1.	Agriculture	1	2.5	-	-	1	2.9
2.	Mining and Quarrying	-	-	-	-	-	-
3.	Manufacturing	7	17.5	-	-	7	20.0
4.	Electricity, Gas and Water	1	2.5	1	25.0	-	-
5.	Construction	1	2.5	-	-	1	2.9
6.	Wholesale and Retail	3	7.5	1	25.0	2	5.7
7.	Transport, Storage and Communication	8	20.0	-	-	8	22.9
8.	Finance, Insurance, Real Estate and Business Service	1	2.5	-	-	1	2.9
9.	Community, Social and Personal Services	17	42.5	2	50.0	15	42.9
10.	Undefined	1	2.5	-	-	-	-
	Total	40	100.0	4	100.0	35	100.0

Table 5.6: Educational attainment of the parent of the unemployed

		Father		Mother	
		N	%	N	%
1.	Agriculture	1	1.5	-	-
2.	Business Administration and Commerce	22	32.8	5	10
3.	Engineering and Technology	11	16.4	2	4
4.	Food Nutrition and Dietetics	-	-	-	-
5.	Law and Foreign Service	17	25.4	-	-
6.	Humanities	-	-	-	-
7.	Physical and Biological Sciences	-	-	-	-
8.	Social Sciences	-	-	-	-
9.	Medical Sciences	5	7.5	10	20
10.	Music and Fine Arts	7	10.4	-	-
11.	Teacher Training	4	6.0	33	66
12.	Other Liberal Arts	-	-	-	-
	Total	67	100.0	50	100

Table 5.7: Occupation of the parents of the unemployed

		Father		Mother	
		N	%	N	%
1.	Professional, Technical and Related Workers	35	19.0	37	15.6
2.	Administrative, Executive and Managerial Workers	29	15.8	8	3.4
3.	Clerical and Related Workers	17	9.2	1	0.4
4.	Sales Workers	17	9.2	25	10.5
5.	Service Workers	8	4.3	8	3.4
6.	Agricultural Workers	34	18.5	8	3.4
7.	Production, Transportation and Related Workers	33	17.9	5	2.1
8.	Unclassified	2	1.1	1	0.4
9.	Armed Forces	9	4.9	1	0.4
10.	Housewife	-	-	143	60.3
	Total	184	100.0	237	99.9

Table 5.8: Industrial classification of the employer of the parents of the unemployed

		Father		Mother	
		N	%	N	%
1.	Agriculture	30	18.8	6	2.6
2.	Mining and Quarrying			1	0.5
3.	Manufacturing	20	12.5	5	2.4
4.	Electricity, Gas and Water	2	1.3		
5.	Construction	14	8.8		
6.	Wholesale and Retail	17	10.6	25	11.8
7.	Transportation, Storage and Communication	17	10.6	1	0.5
8.	Finance, Insurance, Real Estate and Business Services	12	7.5	5	2.4
9.	Community, Social and Personal Services	46	28.7	167	79.1
10.	Unclassified	2	1.2	1	0.5
	Total	160	100	211	100

Table 5.9: Monthly income of the parents of the unemployed

Income Bracket	Father		Mother	
	N	%	N	%
Less than P.500	9	5.5	8	9.6
P.500 - 999	48	29.5	33	39.8
1 000- 1 499	39	23.9	17	20.5
1 500 - 1 999	11	6.8	6	7.2
2 000 - 2 999	16	9.8	8	9.6
3 000 and above	40	24.5	11	13.3
Total	163	100	83	100
Mean Income	P.2 729.13		P.1 592.76	

Table 5.10: NCEE percentile score of unemployed graduates by type of college

		U P	Gov't Colleges	Catholic	Protestant	Proprietary	Foundation
1	21 - 30	-	-	-	-	1.1	-
2	31 - 40	-	-	1 9	-	2 2	-
3	41 - 50	-	13 3	- -	-	8 9	20 0
4.	51 - 60	-	20.0	-	-	3 3	-
5.	61 - 70	-	6.7	1.9	-	13.3	-
6	71 - 80	-	-	7.7	-	12.2	-
7	81 - 90	1 5	13 3	25.0	16 7	31 1	-
8	91 - 99	98.5	46.7	63 5	83 3	27 8	80.0

Table 5.11: Type of high school of unemployed by type of college (in percentages)

		U.P.	Gov't. Colleges	Catholic	Protestant	Proprietary	Foundation
1.	Public School	50 0	75.0	25.0	11.1	43.4	-
2.	Private Sectarian	25.0	8.3	59.4	88 9	35 4	
3.	Private Non-Sectarian	25.0	16.7	15.6	-	21.2	100

Table 5.12: Type of college of the unemployed

			N	%
1.	Public Sector			
	1.1	U.P.	19	7.7
	1.2	Other State Colleges and Universities	21	8.6
2.	Private Education Sector			
	2.1	Catholic	48	19.5
	2.2	Protestant	17	6.9
	2.3	Proprietary	135	54.9
	2.4	Foundation	6	2.4
	Total		246	100

Table 5.13: Rate of unemployment by type of educational institution

		Percentage of unemployment		
		Male	Female	Total
1.	Public High Education	8.02	11.39	10.02
1.1	U.P.	5.43	7.84	6.74
1.2	Other State Colleges and Universitie	18.18	17.86	17.95
2.	Private Higher Education	25 09	29.98	28.14
2.1	Catholic	31.15	24.79	26.97
2.2	Protestant	22.73	32.43	28.81
2.3	Proprietary	24.85	32.75	29.80
2.4	Foundation	13.04	15.79	14.29
3.	Total	18 76	23.63	21.75

Table 5.14: Unemployment by degree programme

	Degree Programme	N	%	Rate of Unemployment
1.	Agriculture	19	7.8	22.1
2	Business and Commerce	54	22.1	21.3
3.	Engineering and Technology	34	13.9	18.9
4.	Nutrition and Dietetics	10	4.1	27.0
5	Law and Foreign Service	4	1.6	9.3
6	Physical and Biological Sciences	17	7.0	25.4
7	Social Science	23	9.4	18.5
8.	Medical Sciences	63	25.8	29.2
9.	Music and Fin - Arts	3	1.2	12.5
10.	Teacher Education	11	4.5	8.5
11.	Other Liberal Arts Programme	6	2.5	46.2
		244	99.9	19.6

Note. 171 or 78.8% of the unemployed finished the course they wanted which is less than the employed graduates

Table 5.15: Assessment of college performance

			Male		Female	
	N	%	N	%	N	%
Below Average (75 - 79)	4	1.8	4	5.4	-	-
Average (80 - 85)	179	81.7	62	83.8	117	80.7
Above Average (86 - 94)	65	16.0	7	9.5	28	19.3
Excellent (95 and above)	1	0.5	1	1.4	-	-
Total	249	100	74	100	145	100

Table 5.16: Assessment of instruction

Content of Instruction	Male		Female			
	N	%	N	%	N	%
Inadequate	4	1.8	2	2.7	2	1.4
Barely Adequate	12	5.5	8	10.8	4	2.8
Adequate	135	61.6	46	62.2	89	61.4
Very Adequate	56	25.6	17	23.0	39	26.9
Excellent	12	5.5	1	1.4	11	7.6
Total	219	100.0	74	100.0	145	100.0

Method of Instruction	Male		Female			
	N	%	N	%	N	%
Inadequate	4	1.8	3	4.1	1	.7
Barely Adequate	18	8.2	9	12.2	9	6.2
Adequate	126	57.5	45	60.8	81	55.9
Very Adequate	56	25.6	15	20.3	41	28.3
Excellent	15	6.8	2	2.7	13	9.0
Total	219	99.9	74	100.0	145	100.0

Table 5.17: Vocational training of graduates

	N	%
Employed	312	34.7
Unemployed	55	25.1

Table 5.18: Reasons for being unemployed

		Rank	Rank by Male	Rank by Female
1.	No job opening in the field of specialization	3.53	2.47	3.86
2	Inadequate experience	3.64	3.74	3.60
3.	Lack of professional eligibility requirements	3.76	3.39	3.92
4	No job opening within the vicinity of the residence	4.02	3.84	4.10
5.	Family situation	4.38	6.19	3.88
6.	No connections	4.42	3.94	4.61
7.	Low starting pay	5.06	4.79	5.20
8.	No job opening for anyone	5.26	5.25	5.26
9.	No interest in getting a job	6.78	6.20	7.03
10.	College not prestigeous	7.45	6.41	7.88

Table 5.19: Means of looking for job

	Male		Female		Total	
	N	%	N	%	N	%
1. Newspaper advertisement	16	30.8	33	31.4	49	31.2
2 Personal Application	27	51.9	48	45.7	75	47.8
3. Friends and Relatives	5	9.6	13	12.4	18	11.4
4 Employment Agencies	-	-	2	1.9	2	1.3
5 Recommendation	1	1.9	1	1.0	2	1.3
6. Mailed Application	3	5.8	8	7.6	11	7.0
Total	52	100.0	105	100.0	157	100.0

Table 5.20: Graduates looking for a job, standardized discriminant function coefficient

		Discriminant Weight
1.	Medical Science	0.30714
2.	Physical and Biological Sciences	0.19136
3.	Other Liberal Art Courses	0.17487
4.	Food, Nutrition and Dietetics	0.16104
5.	Sex: Female	0.15059
6	Social Science	0.11929
7.	Engineering and Technology	0.10598
8.	Mother's Education: College	0.10887
9.	Parent's Income	-0.06819
10.	Age	-0.09435
11.	NCEE Score	-0.1817
12.	Teacher Education	-0.2655
13.	U.P.	-0.37072
14.	Self-Assessed College Performance: Below Average	-0.45210
15.	Self-Assessed College Performance: Excellent	-0.56457
16.	Self-Assessed College Performance: Average	-1.86942
17.	Self-Assessed CollegePerformance: Above-Average	-2.0192

6. The college dropouts and the 'tortoises'

An analysis of the problems presented by a country's college dropouts is quite important. The existence of dropouts is not only detrimental to the students concerned but also represents a wastage of resources for society. Efforts to minimize dropouts are, therefore, laudable inasmuch as disappointment or frustration may be avoided and utilization of resources maximized.

The study of the phenomenon of prolongation is of equal significance. To some extent, this phenomenon involves some wastage of resources in the sense that students have to spend more time and money and the educational system allocates more resources than strictly necessary for students who do not finish on time. The students in this category are possibly slow learners; thus, the term 'tortoise' is applied to this group in the succeeding analysis.

Before one can express any concrete views about college dropouts and 'tortoises', one should know the explanatory variables behind the phenomena. An understanding of the nuances of the various problems is necessary, involving an in-depth analysis of the reasons and events that brought about the the phenomenon, including the students' socio-economic background. With such an insight and thorough understanding, one may provide feedback to the educational system and to the parents, which could form the basis for the formulation of policies and the adoption of remedial actions to minimize delays in graduation and reduce college dropouts. In this manner, unnecessary wastage in scarce resources will be kept to a minimum.

The analysis of college dropouts and 'tortoises' is based on the data of students contained in the files of the 1977-1978 survey who were also respondents of the follow-up interview in 1981, i.e. it was discovered in the follow-up survey that some students who, normally should have been in the graduating class of 1978-1979, were still studying when the 1981 survey was conducted. There were 41 such students. Those who dropped out of college, numbered 56. The following analysis is an account of these people.

6.1 Characteristics of college drop-outs and 'tortoises'

6.1.1 Age, sex and civil status

The 'tortoises' with a mean age of 23.05 years old are relatively younger than those who graduated and found a job (24.3 years old). Perhaps being young, they are not in a hurry to finish college. The college drop-outs on the other hand, are of the same age group as the employed graduates.

Just as there are more females in the total sample, there are likewise more females among the dropouts. But this is not the case with the tortoises'. Most of the 'tortoises' (60.97 per cent) are males, but the major curricular programme of the 'tortoises' is engineering and technology which is a predominantly male-dominated course.

As to marital status, a greater percentage (28.5 per cent) of college dropouts compared to employed graduates (15.6 per cent) are married, and this is possibly a contributory factor to dropping out. As to the 'tortoises' a very small percentage (4.9 per cent) of them are married (as stated earlier, the 'tortoises' are of a younger age group).

The data on income of the spouses of college dropouts and 'tortoises' show a mean income of P.1,370.15 a month which is much lower than the mean income of the spouses of employed graduates (P.1,7[illegible].39), i.e. such student's need to seek work while studying.

6.1.2 Parental background of college dropouts and 'tortoises'

6.1.2.1 College dropouts.

Fathers of college dropouts having a business administration education account for 25 per cent; law and foreign service, 25 per cent; teacher education, 16.7 per cent; and music and fine arts, 16.7 per cent. Those with a lower than college education account for only 21.43 per cent compared to 33.83 per cent for the fathers of employed graduates. The number of fathers of 'tortoises' who have less than a college education is much higher: 42.19 per cent. These data are quite unusual, implying that parents with a higher academic qualification have children who are more likely to drop out of college.

The predominant collegiate background of mothers is teacher education (50 per cent). Those with less than a college background account for only 10.53 per cent. The percentage of the mothers of employed graduates with less than a college education is much higher at 28.28 per cent, and the corresponding data for the 'tortoises' is 37.12 per cent. The percentage of fathers of college dropouts who are professional, technical and related workers is 20 per cent; those from agriculture comprise 20 per cent; production, transportation and related workers, 17.5 per cent. A lower percentage is accounted for by those in sales and a much lower percentage occupy managerial, executive and administrative positions. There is a predominance of non-working housewives at 64 per cent; the corresponding percentage for the mothers of employed graduates is 58.50 per cent and for mothers of the 'tortoises', 63.4 per cent. Again, this is unusual, for a non-working housewife should be able to assist in the studies of her children and, thus, minimize the likelihood of dropouts. This implies that non-working housewives have less influence on the academic work of their children; possibly due to the inadequacy of their educational attainment. (See *Table 3.8*).

Agriculture is a major industrial classification of both the fathers of college dropouts (27.3 per cent) and 'tortoises', (32.3 per cent) followed by community, social and personal services at 24.2 per cent and manufacturing at 21.2 per cent. On the other hand, agriculture as a sector of employment for fathers of employed graduates is not as prominent (16.9 per cent). Another industrial classification of fathers of college

dropouts which is distinctly different is manufacturing which ranked high at 21.2 per cent compared to fathers of employed graduates at only 9.7 per cent.

Most (73.9 per cent) of the mothers of college dropouts who work (36 per cent) are employed in the community, social and personal services sector.

The income of the parents of college dropouts is much lower than that of the parents of employed graduates. The monthly mean income of the father and mother of college dropouts is P.938.40 and P.586.66, respectively; the corresponding figures for the fathers and mothers of employed graduates are P.3,187.77 and P.1,876.76.

6.1.2.2 'Tortoises'.

The parental background of the 'tortoises' is analyzed in terms of educational attainment, occupation and industrial classification, and income. The father's education are mainly in law and foreign service (36.4 per cent), business administration (18.2 per cent), engineering and technology (18.2 per cent), medical science (9.1 per cent) and teacher education (9.1 per cent). This educational background is similar to that of the fathers of employed graduates, and differs only in degree: 27.0 per cent have an educational background in law and foreign service, 22.2 per cent in business administration and 23.5 per cent in engineering and technology.

On the mother's side, educational attainment was in the fields of business administration 66.7 per cent teacher education 22.2 per cent and law and foreign service 11.1 per cent. This could be compared with that of the employed graduates whose mothers were educated in business administration 11.4 per cent, and teacher education 59.6 per cent.

Not all the parents of the 'tortoises' have gone to college, some attained only elementary education for the father (29.6 per cent) and the mother (36.67 per cent), while similar proportion reached high school. A bigger percentage of the fathers went to college (40.74 per cent) compared to only 30 per cent among the mothers.

As to occupation, the fathers of the 'tortoises' are mainly agricultural workers (26.5 per cent), followed by professional, technical (17.6 per cent), managerial, administrative and executive (14.7 per cent) and sales (11.8 per cent). Among the fathers of employed graduates, 27,6

per cent% are in professional, technical and related jobs, 16.4 per cent in managerial, administrative and executive positions; 14.2 per cent in agriculture and 12.1 per cent in sales.

As stated in the occupational analysis, the predominantly industrial classification of the father of 'tortoises' is agriculture (32.3 pet cent) but this is followed by community, social and personal services (25.8 per cent), and finance, insurance, real estate and business services (12.9 per cent). Note that agriculture ranked only second for the father of employed graduates.

Like the dropouts, the industrial classification for employers of mothers is predominantly community, social and personal services (72.5 per cent). For the employed graduates, it is even higher at 82.0 per cent.

Fathers of 'tortoises' fall mainly in the income range of P.500-999 (38.7%), followed by P.3,000 and above (29%) and P.1,000-1,999 (19.4%). This distribution is on the whole lower than th.' of the fathers of employed graduates, with 28.1% on income bracket P.1,000-1,499 at 15.6%.

6.1.3 Educational background of college dropouts

Rates of dropouts in the ratio of educational programme range from as high as 12.5% in other liberal arts courses to as low as 1.35% in the medical sciences. (For details, see *Table 6.1).* By type of college, the rate of dropout is much higher in the state education sector, especially in agricultural college (22.22%) and arts and trade schools (11.43%). However, the dropout rate in the University of Philippines is unusually low at 0.29. (For details, see *Table 6.2)* In the private education sector, the dropout rates are not very alarming: the highest being 7.05% for Protestant colleges. The data strongly suggest the likelihood that a highly selective admission policy leads to a lower dropout rate.

6.1.4 Educational background of the 'tortoises'

The highest percentage of the 'tortoises' come from proprietary colleges (61%), followed by Catholic educational institutions (22%),the University of the Philippines and Protestant Colleges at 7.3% each. For

the employed graduates, the ranking in terms of distribution shows the University of Philippines with 29.7%, private proprietary educational institutions with 35.9%, and the Catholic institutions 14.7%. The main reason for this is that the bulk of students in private colleges are working and are taking a reduced study load. The situation, therefore, does not present a serious problem, since this is still within the norm. (For details, see *Table 6.3)*

'Tortoises' are mainly concentrated in the areas of engineering and technology (37.5%), followed by business administration (15%) etc. The distribution by area of specialization is quite different from that of the employed graduates where business administration is the predominant field at 21.1%, followed by medical sciences 17.1%, engineering and technology 15.4% and social sciences 10.9%. (For details, see *Table 6.4)*

As to male-female distribution, one may notice that the male 'tortoises' are in male dominated courses, *i.e.* engineering and technology (54.2%), followed by social sciences (16.7%) etc. For the females, it is medical science (31.3%), followed by business administration (25%) and engineering and technology (12.5%) etc.

It is quite understandable for a student to be a 'tortoise' in such fields of specialization as medical sciences and engineering and technology. Laboratory subjects in such fields of specialization tend to delay academic progress.

6.2 Employment status and income of college dropouts

Being a college dropout can adversely affect job possibilities. It is not surprising, therefore, that only 49% of them are employed, and are earning much less than the employed graduates. The main income of employed college dropouts amounts to P.764.09 compared to P.1,096.67 for the employed graduate.

The waiting period (commencing from the time when actively looking for work), for employed dropouts is longer at 6.5 months compared to the employed graduates' 1.9 months. The data on employment, income and waiting period of employed college dropouts suggest that it pays to exert a lot of effort in order to finish a degree.

6.3 Reasons from dropping-out

In Chapter 5, the factors that contribute to unemployment and the relative weight of each factor were analyzed, using a discriminant analysis. Likewise, in this section, such an analysis was made to identify the variables that lead to dropping out.

As shown in *Table 6.5*, variables may have a positive or negative relationship, i.e. a direct or inverse relationship. Of all the variables, self-assessed college performance has the highest negative weight,i.e. average and above-average students have a lesser tendency to become college dropouts. The other variable that has a high discriminant weight is the curricular programmes such as teacher education, engineering and technology, business administration and medical sciences. Note the positive relationships which implies that students enrolled in these courses have far greater tendencies to drop out. Being a student of the University of Philippines has an inverse relationship, meaning that University of Philippines students have the least likelihood of dropping-out.

When the respondents were asked their reasons for dropping-out, three dominant factors were mentioned, viz. financial difficulty, full-time employment while in a school and poor health. Considering that the college dropouts belong to lower-income families compared to the employed and unemployed graduates, these reasons are understandable. Marriage, part-time work, lack of interest in studying and college environment are also cited as reasons for dropping out, although they are less important.

These are the predominant reasons for both male and female students. For male students, marriage is a critical factor contributing to dropping-out, for they have to provide the means of supporting a wife. On the other hand, it is part-time work rather than marriage which encourages a female student to drop-out.

6.4 Reasons for being a 'tortoise'

Respondents were asked to rank the reasons why they had prolonged their studies. The empirical data revealed that financial reasons ranked the highest, followed by academic factors, employment status of the students and study interruption. Marriage ranked the lowest. For instance, marriage ranked 5.55, way below the academic factors at 2.26. (For details, see *Table 6.7*). For female students, full-time jobs and study interruptions are far more important reasons than financial and academic. However, just as in the case of the male students, marriage is not considered a serious factor in prolonging studies.

The fact that the highest concentrations of these students are found in the fields of medical sciences and engineering and technology reinforces the conclusion that financial and academic factors are the most important reasons for prolonging studies.

From the foregoing discussions, several variables have been identified to account for prolongation. A discriminant analysis was carried out to reveal, as shown in *Table 6.6*, that the following are the four major factors (arranged in order of importance) which constitute common denominators of all 'tortoises': enrolment in a private proprietary; or a Protestant college; the choice of engineering as a field of specialization and the completion of college education by the father.

As started earlier, students in private proprietary and Protestant colleges are more susceptible to prolong studies, because most of them are working students. Likewise, students in engineering tend to prolong their studies, since the pursuit of this field of specialization requires substantial laboratory and academic preparation. What is difficult to explain, however, is how the college education background of fathers could be a contributory factor—it might be that such parents wish to see their children finish their degree even though they may not be academically gifted and motivated. There are some variables that have negative discriminant weights, implying that these are contributory factors to finishing the course being pursued within a specified period. For example, fields of studies like law, physical and biological sciences, social sciences, humanities and other liberal arts courses. will most likely be finished on time.

Table 6.1: Degree programme of college dropouts

		%	Rate of dropouts %
1.	Agriculture	7.3	4.39
2.	Business Administration and Commerce	29.1	6.15
3.	Engineering and Technology	14.5	4.18
4.	Nutrition and Dietetics	1.8	2.63
5.	Law and Foreign Service	3.6	4.35
6.	Physical and Biological Sciences	7.3	3.42
7.	Other Social Sciences	9.1	3.25
8.	Medical Sciences	5.5	1.35
9.	Music and Fine Arts	1.8	3.85
10.	Teacher Education	16.4	6.72
11.	Other Liberal Arts Courses	3.6	12.5
	Total	100.0	

Those who dropped out are all with honours.

NCEE Mean	76.30
SD	18.35

Table 6.2 College type of dropouts

			%	Rate of dropouts %
1.	Public Sector			
	1.1	U P	1.3	0.29
	1.2	Other State Colleges	0	
	1.3	Teacher Training	1.8	1.49
	1.4	Agricultural Colleges	7.0	22.22
	1.5	Arts and Trade Schools	7.0	11.43
2	Private Education Sector			
	2.1	Catholic	15.8	4.29
	2.2	Protestant	1.8	1.52
	2.3	Proprietary	63.2	7.05
	2.4	Foundation	1.8	2.22
		Total	100.0	4.39

Table 6.3: College type of students on prolonged studies

			%	Male %	Female %
1	Public Sector				
	1.1	U P	7.3	8.0	6.3
	1.2	Other State Colleges	2.4	-	6.3
2	Private Education Sector				
	2.1	Catholic	22.0	24.0	18.8
	2.2	Protestant	7.3	12.0	-
	2.3	Proprietary	61.0	56.0	68.8
	2.4	Foundation	-	-	-
		Total	100.0	100.0	100.0

Table 6.4: Degree programmes of students on prolonged studies

		%	Male %	Female %
1.	Agriculture	5.0	4.2	6.3
2.	Business Administration and Commerce	15.0	8.3	25.0
3.	Engineering and Technology	37.5	54.2	12.5
4.	Nutrition	-	-	-
5.	Law and Foreign Service	2.5	4.2	-
6.	Physical and Biological Sciences	5.0	8.3	-
7.	Social Sciences	12.5	16.7	6.3
8.	Medical Sciences	12.5	-	31.3
9.	Music and Fine Arts	5.0	4.2	6.3
10.	Teacher Education	2.5	-	6.3
	Other Liberal Arts Courses	2.5	-	6.3
	Total	100.0	100.0	100.0

Table 6.5: The college dropout standardized discriminant function coefficient

		Discriminant Weight
1	Teacher Education	0.33747
2.	Engineering and Technology	0.22186
3.	Business Administration and Commerce	0.19880
4.	Medical Sciences	0.15782
5.	Age	0.10870
6.	Food and Nutrition	0.08403
7.	Liberal Arts	0.06210
8.	Self-Assessed College Performance: Below Average	-0.07893
9.	Humanities	-0.08015
10.	U.P.	-011802
11.	Law and Foreign Service	-0.12296
12.	Self-Assessed College Performance: Excellent	-0.16016
13.	NCEE	-0.16844
14.	Self-Assessed College Performance: Above Average	-0.56746
15.	Self-Assessed College Performance: Average	-0.67704

Table 6.6: The 'Tortoises' standardized disciminant function coeffic' nt

		Discrimant Weight
1.	Proprietary Institutions	0.12541
2.	Protestant Institutions	0.07905
3.	Engineering and Technology	.07599
4.	Father's education college	-0.6742
5.	Foundation-type institution	0.04894
6.	Law and foreign service	-0.12592
7.	NCEE score	-0.1414
8.	Other Liberal Art courses	0.15151
9.	Physical and Biological Science	-0.17459
10.	Self-assessed college performance: Excellent	-0.18620
11.	Social Sciences	-.21935
12.	Humanities	-0.24758
13.	Self-assessed college performance: Above Average	-0.58287
14.	Self-assessed college performance: Average	-0 76715

Table 6.7: Reasons for prolonging studies

		Rank	Male	Female
1.	Financial	2.26	2.0	2.64
2.	Academic Reason	2.50	2.26	2.91
3.	Due to Full-time Job	3.08	3.58	2.22
4.	Due to Study Interruption	3.10	3.28	2.82
5.	Due to Part-time Job	3.24	3.33	3.0
6.	Marriage	5.55	5.58	5.50

7. Expectations versus achievements

7.1 Introduction

The gap between expectations and achievements of graduates on leaving college creates a form of disequilibrium. Knowledge regarding this phenomenon could direct educational planners to formulating curricular programmes that satisfy both the needs of individuals and the demand of society for more relevant educational programmes.

With the above-mentioned concern in mind, data on expectations were gathered by asking students to articulate their expectations, and an attempt made to approximate achievement by documenting the experiences of graduates as they moved from the education sector to the world of work. The HELMS survey of 1978 asked students to define their expectations with respect to the outcome of the course they were pursuing. Likewise, graduates were asked to reveal their experiences in trying to get a job, adjustments made in the work situations, the forces in operation that affect income and occupational mobility and their economic and social status at the time of the survey. The variables identified to form the basis for comparison, were employment, occupation, income, waiting period and rates of return to college education. It was our hypothesis that graduates of collegiate programmes could easily obtain employment in their fields of specialization, at the expected income, after a short waiting period and at a certain expected rate of return to college education. The following analysis will test this.

7.2 Expectations and achievements in HELMS I (1978)

Based on the data gathered in HELMS I, a study (Psacharopoulos and Sanyal: 1980) was made of expectations as perceived by the students and reality as experienced by the graduates. The conclusions of the study were as follows:

(a) Students have very realistic perceptions of income expectation upon graduation. The expected initial mean earnings of P.678 a month matched the actual earnings of graduates at the start of their career at P.666 a month.

(b) Students' assessment of foregone income amounted to P.498 a month. This corresponded very well with the actual mean income of working students at P.452. The actual income of graduates age 24 and below, ranging between P.349 and P.525, reinforces the realism of students' assessment of foregone income.

(c) The expected average waiting period was 4 months, while the actual experience of graduates was a 6.3-month waiting period.

(d) The expected private rate of return to college education was 5.2 per cent, including direct cost. Based on the actual income of graduates, the rate of return to college education ranged from 4.8 per cent to 16.6 per cent, as shown below, depending on the assumption used.

	Assumption:	*Rate of return*
(i)	Initial earnings (actual graduate earnings P.666 a month, foregone income of P.498 based on student assessment and direct cost = P.200	4.8 per cent
(ii)	Initial Earnings - P.666, foregone income of P.349 which were the earnings of those aged 19 or below and direct cost = P.200	11.5 per cent

(iii) Initial earnings of P.806, which were the actual earnings of graduates, foregone income of P.349 and direct cost = P.200 — 16.5 per cent

7.3 Expectations and achievements in HELMS II (1981)

Note that in HELMS I, the perception of achievement and expectations is that of the graduates and the students, respectively. In HELMS II, the same set of students were again surveyed in 1981. By then, they had finished college and were already in the labour market. In short, expectations were perceived as articulated when they were students during the 1978 survey and achievement as they experienced it after graduating up to the time of the HELMS II survey in 1981.

7.3.1 Employment and income

The expectation is that when a student graduates, he will take a job commensurate with his field of specialization. The discussions on educational and occupational flexibility, however, have shown that 46.95 per cent of the graduates of liberal arts and applied sciences have indeed been employed in their field of specialization, but the rest of the graduates were employed in jobs requiring training in business administration, teacher education, etc. To the extent, that those graduates not employed in their field of specialization are happy on the job and the respective employers are equally satisfied with the job performance of the graduates, such a situation does not pose a problem. Should it be otherwise, then remedial measures have to be instituted. The income expectations of students showed some variations. Students in 1978, who were employed graduates in 1981, had the highest income expectation at P.645 a month. This was followed by the unemployed graduates at P.639 a month, and the group that had the lowest income expectation was composed of the students who dropped out, the bulk of whom remained unemployed in 1981. With respect to income, the students were able to realize their expectations. The average income when the students finished the course and secured employment in 1979 was

P.795.32, much higher than income expectation P.647.00 and in 1980, their income had gone up further to P.1,184.72. If one takes into account the younger age of the respondents in the 1981 survey and the real increase in income at 2.28 per cent a year, it is clear that there have been some significant improvements in the income levels of graduates compared to the 1978 HELMS I survey.

7.3.2 Expected and actual income classified by curricular programmes

Income expectations of students vary by curricular programme. Students in programmes whose graduates have high income indicated high income expectations vis-à-vis students in programmes with low income graduates. As shown by income data in *Table 7.1*, students in teacher education and agriculture have the lowest income expectation at P.459 and P.584 a month respectively. The actual income of teacher education graduates as shown by the experience of the graduates in HELMS I was the lowest at P.495 and in HELMS II P.733.20. Though the lowest, it is still within the income expectation level of students in teacher education.

On the other hand, students of law and foreign service have the highest income expectation at P.1,404 a month, and graduates of this discipline the highest income at P.1,098.in HELMS I and P.1,861.24 in HELMS II (For details of the other curricular programmes, see *Table 7.1*).

Income expectation is related to the expected sector of employment. As much as 44.9 per cent expected to be employed in the public sector of employment at an expected income of P.575 a month which is much lower than the expected income of P.686 a month of those hoping for employment in the private sector. Actual income was much higher than the expected income. In the public sector, actual income amounted to P.869, while in the private sector it amounted to P.807 a month.

Children of those occupying administrative, executive and professional jobs tend to expect a much higher income but their actual income usually turns out to be even higher than expected.

The mean income of employed graduates has been increasing over time. In HELMS I, mean income of graduates amounted to P.715.12 a

month and this increased to P.1,096.67 in 1981 HELMS II. At constant prices, the real growth in income of employed graduates was estimated at 2.28 per cent, which is a little higher than the real growth of per capita income of the Philippines at 2.1 per cent in 1981. Employed graduates, therefore, are better situated in terms of income than the average Filipino worker. At current prices in 1981, the average per capita income a year of Filipinos amounted to P.5,037 which was much lower than the income of employed graduates which amounted, to P.13,160.64 per annum in 1981.

7.3.3 Waiting period

With regard to the waiting period, students' expectation on the average was 4 months. HELMS II revealed that the actual waiting period was 2 months, far shorter than expected. In HELMS 1, 86 per cent of the students hoped that they would secure a job in six months and 96 per cent in a year. In HELMS II, 70.6 per cent were employed in six months after graduation and 91.1 per cent after a year. If one defines the waiting period as starting from the time of active search for a job, 92.7 per cent obtained a job in six months and 98.6% in one year (For details, see *Table 7.2).*

Expected waiting time varies with the level of self assessment of college performance. Those who consider themselves as having excellent and above-average college performance expected to wait for 3 1/2 months, those with an average performance, 4.2 months and those with below average performance, 4.9 months. Actual waiting time turned out to be much shorter than expected for the above-average and excellent graduates with actual waiting period of 2.5 months and 4.7 months respectively. The average and below average waited longer than expected with the average graduates experiencing 6.8 months of actual waiting period and the below average, 9.8 months. Those who waited longer accepted lower pay.

In HELMS 1, the average waiting period was 6.3 months compared to only two months in HELMS II. This reveals the improvement in the labour market for college graduates in 1981.

7.3.4 Private rate of return to college education

HELMS II used the formula of Psacharopoulos and Sanyal[11] in computing returns to college education, i.e.,

$$r = \frac{Yo - Yfor}{5(Yfor + C)}$$

Yo is the initial income, Yfor is the foregone income, C is the private direct cost and 5 is the assumed length of college studies. In the present study on the expected rates of return, private direct cost per month was assumed to be P.500, instead of P.200 as in the earlier estimate of Psacharopoulos and Sanyal. Expected income and foregone income were taken from the responses of the students.

The expected rates of return range from a negative 0.78 per cent for graduates in teacher education to a high of 18.15 per cent in law and foreign service (For details, see *Table 7.3).* From the data on expected rates of return, one may infer that the least ambitious of all students (in that they were not so concerned with maximizing return on investment) are those in teacher education, while lawyers are the most ambitious. How they fare in the labour market is also shown in the Table.

The computation of actual rates of return was based on the income of graduates in 1981 using a self-assessed foregone income at P.498 and another using the average income of working students from 1976 to 1978 as the basis of foregone income at P.746.58.

The lowest rates of return (4.57 per cent) are on the basis of foregone income of P.746.58 and direct cost of P.750 a month (For details, see *Table 7.4).* The highest rate of return (12 per cent) is on the basis of the self-assessed foregone income at P.498 and direct cost of P.500 a month.

Private rates of return vary by type of college. Consistent with the previous study, University of Philippines graduates exhibit the highest private rate of return ranging from a low of 10.89 to a high of 21.33 per cent (For details, see *Table 7.5).* The graduates of other state

[11] Psacharopoulos, George and Bikas Sanyal, *Student Expectations and Labour Market Performance:* The Case of the Philippines. Higher Education, Vol.10, (1981). Elsevier. Amsterdam

colleges and universities exhibit the lowest rates of return with a range of negative 1.21 per cent to 3.77 per cent. The second highest in terms of rates of return are the graduates from Catholic colleges and universities with a range of 3.65 per cent to 10.47 per cent followed by foundation-type institutions at 3.22 per cent to 9.82 per cent.

Private rates of return vary also in terms of academic programmes. The graduates of teacher education have the lowest, with a range of negative 0.18 per cent to 4.71 per cent. At the other extreme, the highest is law and foreign service from 14.9 per cent to 27.32 per cent, followed by graduates of other liberal arts courses at 11.42 per cent to 22.10 per cent, engineering and technology 8.37 per cent to 17.54 per cent, etc. (For details, see *Table 7.6).*

Comparing expected rates of return as shown with the actual rates of return in *Table 7.3,* with the actual rates of return in *Table 7.6,* one may conclude that graduates have realized their expectations. Graduates with the least expectation have likewise the lowest rate of return and those with the highest expectation have the highest actual rates of return.

The actual rates of return are comparable with previous studies, viz.: the Ranis Mission in its report entitled *Sharing in Development*[12] estimated the rate of return to higher education at 9 per cent, Psacharopoulos and Sanyal,[13] at 4.8% to 16.6 per cent and earlier study of Arcelo,[14] (1979) estimated private rates of return from 4.03 per cent to 9.9 per cent.

[12] International Labour Organization. *Sharing in Development: A Programme of Employment,* Equity and Growth for the Philippines. Geneva. 1974.

[13] Psacharopoulos G., and Sanyal B., op.cit.

[14] Arcelo, Adriano, 'Private and Social Rates of Return in Higher Education, *FAPE REVIEW,* July-October, 1979.

7.4 Conclusions

On the whole, the findings in HELMS II reaffirmed the conclusions arrived at in HELMS I. More specifically, these are:

(a) The students' expectations with respect to income, employment, waiting period and returns to education were impressively realistic. Their experiences in the labour market also confirmed expectations. This realism is indicative of the merit and effectiveness of an informal, word-of-mouth communication network.

(b) The fact that the waiting period is much shorter (only two months in HELMS II compared to 6.3 months in HELMS I 1978 survey), that income and the return to education are higher show that there have been some improvements in the labour market situation for college graduates.

(c) The empirical data do not lend support to the much talked about problem of the educated unemployed and the frustration of graduates. If graduates are the source of social discontent, it is not because of the economic variables discussed here, viz. employment, income and other related variables. The reasons must lie outside this domain.

Table 7.1: Expected and actual income

		Expected Income	Actual Income	
			HELMS I	HELMS II
1.	Agriculture	P.584	P.636	P.884.49
2.	Business Administration and Commerce	603	579	1 076.09
3.	Engineering and Technology	827	912	1 373.15
4.	Food, Nutrition and Dietetics	547	499	1 192.17
5.	Law and Foreign Service	1 404	1 098	1 861.24
6.	Humanities	528	584	1 160.43
7.	Physical and Biological Sciences	856	637	1 156.40
8.	Social Sciences	669	771	1 225.03
9.	Medical Sciences	687	500	928.61
10.	Music and Fine Arts	744	662	1 222.50
11.	Teacher Education	459	495	733.20
12.	Other Liberal Arts Programmes	699	580	1 601.00

Table 7.2: Expected and actual waiting period

	Expected Waiting Period	Actual Waiting Period	
		HELMS I	HELMS II
	%	%	%
Three months or less	51	63 6	72 6
3 - 6 months	35	22 3	20 1
7 - 12 months	10	4 4	5 9
Over 1 year	4	9 7	1 4
	100	100 0	100.0

Table 7.3. Rates of return

		Expected Rates of return	Actual rates of return	
			HELMS I	HELMS II
		%	%	%
1.	Agriculture	1.72	5 17	1 85 - 7.75%
2	Business Administration and Commerce	2 [illegible]	4 19	4 4 - 11.59
3	Engineering and Technology	6 59	10 22	6 57 - 17.54
4	Food Nutrition and Dietetics	1 02	2 75	5.95 - 13.91
5.	Law and Foreign Service	18 15	13 64	14 9 - 27.32
6	Humanities	0 6	4.28	5.53 - 13 28
7.	Physical and Biological Sciences	7.17	5.25	5 42 - 13 19
8.	Social Sciences	3.43	7.69	6.39 - 14.57
9.	Medical Sciences	3 79	2 75	2 45 - 8 62
10	Music and Fine Arts	4 93	5.7	6.36 - 14 52
11	Teacher Education	(0 78)	2 67	10 18 - 4 71
12	Other Liberal Arts Courses	4.03	4.21	11 42 - 22.10

Table 7.4: Computation of rates of return - HELMS II

	Rates of Return
	%
Case 1	
Initial Income - P.1 096 67	
Foregone Income of P.498 based on Student own assessment	
Direct Cost of P.500 a month-----	12
Direct Cost of P.750 a month-----	9.59
Case 2	
Initial Income - P.1 096.67	
Foregone of P.746.58 which was the average income of working students in 1978	
Direct cost of P.500 a month-----	5.61
Direct cost of P.750 a month-----	4.67

Table 7.5: Rates of return by type of college

Graduates of	Rates of return at foregone income assumption of P.498 a month	Rates of return at foregone income assumption of P.746.56 a month
	%	%
1. U.P. System		
Direct Cost at P.500 a month	21.33	13.09
Direct Cost at P.750 a month	17.05	10.89
2. Other State Colleges and Universities		
Direct Cost at P.500 a month	3.77	(1.45)
Direct Cost at P.750 a month	3.01	(1.21)
3. Catholic		
Direct Cost at P.500 a month	10.47	4.39
Direct Cost at P.750 a month	8.37	3.65
4. Protestant		
Direct Cost at P.500 a month	6.09	0.89
Direct Cost at P.750 a month	4.87	0.74
5. Proprietary		
Direct Cost at P.500 a month	8.63	2.92
Direct Cost at P.750 a month	6.9	2.44
6. Foundation		
Direct Cost at P.500 a month	9.82	3.86
Direct Cost at P.750 a month	7.85	3.22

Table 7.6: Rates of return by academic programme (in percentages)

	Academic programmes	HELMS II		HELMS I
		At forgone income assumption of		r_c
		P 498 a month	P 746.52 a month	
1	Agriculture			5.15
	Direct cost at P 500 a month	7.75	2.22	
	Direct cost at P 750 a month	6.20	1.85	
2.	Business administration and commerce			4.19
	Direct cost at P.500 a month	11.59	5.29	
	Direct cost at P.750 a month	9.26	4.4	
3	Engineering and Technology			10.22
	Direct cost at P.500 a month	17.54	10.05	
	Direct cost at P.750 a month	14.02	8.37	
4.	Nutrition			2.73
	Direct cost at P.500 a month	13.91	7.15	
	Direct cost at P 750 a month	11.12	5.95	
5.	Law and Foreign Service			13.64
	Direct cost at P.500 a month	27.32	17.88	
	Direct cost at P 750 a month	21.85	14.9	
6	Humanities			4.28
	Direct Cost at P 500 a month	13.28	6.64	
	Direct Cost at P 750 a month	10.62	5.53	

Academic programmes	HELMS II At foregone income assumption of P.498 a month	HELMS II At foregone income assumption of P.746.52 a month	HELMS I %
7. Physical and Biological Sciences			5.25
Direct Cost at P 500 a month	13.19	6 56	
Direct Cost at P 750 a month	10.55	5 48	
8. Social Science			7 69
Direct Cost at P.500 a month	14.57	7.68	
Direct Cost at P.750 a month	11.65	6.39	
9. Medical Sciences			2.75
Direct Cost at P.500 a month	8.62	2.92	
Direct Cost at P.750 a month	6.39	2.43	
10.Music and Fine Arts			5.7
Direct Cost at P.500 a month	14.52	7.64	
Direct Cost at P.750 a month	11.61	6.36	
11.Teacher Training			2.67
Direct Cost at P 500 a month	4.71	(0.21)	
Direct Cost at P.750 a month			
12.Other Liberal Arts Courses			4 2!
Direct Cost at P.500 a month	22 10	13 71	
Direct Cost at P 750 a month	17 68	11.42	

8. Principal findings: HELMS II

The findings as reported in this chapter are a sequel to the summary of results of the HELMS I survey as reported in Chapter 1, and should be taken as capsulized answers to the research questions posed in Chapter 2. For those mainly interested in the conclusions and their policy implications, this chapter and Chapter 9 should be concentrated upon. The present chapter brings together the most important findings of the HELMS II Survey already discussed in the previous chapters.

8.1 Characteristics of respondents

8.1.1 Age, sex and civil status of HELMS II respondents

Unlike HELMS I, the sampling base for HELMS II was the educational institution. The male-female distribution, therefore, reflects the predominance of females in higher education, with 59 per cent female and 41 per cent male[15] This sex ratio in the sample should in particular be borne in mind in the analyses of those who dropped out. the 'tortoises'. the unemployed and the employed graduates. As shown in *Table 8.1.* the sex ratio amongst employed graduates is similar to the sample. However, for the unemployed 66.7 per cent are female which is

[15] In 1981, the third level student population comprised 53 per cent females and 47 per cent males.

much higher. The results of the discriminant analysis shown in Chapter 3 revealed that there is a greater possibility of unemployment if one is female. On the other hand, there are more males in the groups of dropouts and 'tortoises'.

HELMS II respondents are a more homogeneous group in terms of age and much younger than HELMS 1 graduates. Not only are they young at age 23-24; they are also mostly unmarried

8.1.2 Parental background

The majority of the fathers of the employed and unemployed graduates and the 'tortoises' are college educated. On the other hand, the majority of the fathers of dropouts have lower educational qualifications. However, this did not have much discriminant weight. The academic related variables such as field of specialization, self-assessed college performance, etc., provide better explanations for being a college dropout, together with financial reasons and full-time work.

As to the mother's education, the majority did not have a college education, but the mothers of dropouts have the lowest percentage (21.2 per cent) of those with college education and the highest percentage (44.2 per cent) who only completed elementary education. (See *Table 8.2)*

The predominant fields of specialization of parents are law, business administration, engineering, medicine and teacher education. Law has lost its popularity among students. In HELMS I, only 4.7 per cent of the graduates were in law, which slightly decreased to 4.3 per cent in HELMS II.

There is a disturbing indication that agricultural workers are unable to send their children to college. In HELMS I, 32.5 per cent of the fathers were agricultural workers, but this went down to 14.1 per cent of the employed graduates in HELMS II (See *Table 8.3)* However, a healthy sign is that slightly more graduates in HELMS II went into agriculture (6 per cent) compared to 3.5 per cent in HELMS I.

Between HELMS 1 and II, there was an increase of the proportion of parents in the professional, technical administrative, executive and managerial workers, and sales, for instance, in HELMS 1, only 17.11 per cent of the fathers engaged in professional and technical education but this increased to 27.6 per cent in HELMS II. One reason for this

disturbing trend is the financial costs of college education which are slowly becoming prohibitive: only those in high-paying occupations can now afford to send their children to college. Parents occupying low level occupations such as production, service and transport workers are finding difficulties in sending their children to college. Consequently, most children of low-level-occupation parents are content with completing high school or elementary education.

Children of high-income parents are the most likely to graduate and secure employment (See *Table 8.4).* The parents of employed graduates have an average monthly income of P 5,064.53 compared to P.1,525.06 for parents of dropouts and P.4,321.89 for parents whose children had finished college and were still searching for a job at the time of the HELMS II survey.

8.1.3 Educational background of graduates

8.1.3.1 High school background.

Of the graduates, those who obtained employment had received the best preparation for college. Their mean NCEE score was 91.7 per cent compared to 86.17 per cent for the unemployed. The dropouts and 'tortoises' have much lower mean NCEE scores of 76.3 per cent and 77.5 per cent respectively. (See *Table 8.6).* A closer look at the employed and the unemployed graduates showed that the majority (56.3 per cent) of employed University of Philippines graduates were from private sectarian high schools and 50 per cent of unemployed University of Philippines graduates came from public high schools. Private sectarian colleges and universities generally get students from sectarian high schools. The majority of both the employed and unemployed graduates of Catholic and Protestant colleges and universities are from sectarian high schools. The proprietary schools and other state colleges cater to public high school graduates.

A study of high school performance conducted by one of the authors reveals that sectarian high schools have the best performance of all high schools. The implication is that colleges and universities, such as University of Philippines and the sectarian colleges, that recruit high school graduates from sectarian schools have students who are better prepared for college work and their field of specialization.

8.1.4 Type of college of graduates

Employment analysis by type of college (See *Table 8.5).* ought to correspond to the percentages of sample respondents. Unfortunately, the distribution is unequal. The table shows that the percentage of graduates of public higher education in employment is higher especially for University of Philippines. The employment of graduates from private higher education is less impressive. The data on unemployment rates in *Table 8.13* confirm this finding.

8.1.5 Degree programmes of graduates

The continuing predominance of commerce graduates is quite evident. Among the fathers of the employed graduates, 22.2 per cent were graduates of commerce and business administration. In HELMS I, 29.8 per cent account for business administration graduates while in HELMS II, they account for 21.1 per cent.

Teacher education, which was the second most popular course of graduates in HELMS I, did not retain its status in HELMS II. Only 12.5 per cent of the employed and 4.5 per cent of the unemployed are graduates of teacher education; this is way below the 23.2 per cent recorded in HELMS I. The popularity of medicine, engineering and tecnnology is increasing at 17.1 per cent and 15.4 per cent respectively (See *Table 8.7).* Social science, 2.3 per cent in HELMS I, has climbed to 10.9 per cent amongst the HELMS II employed graduates.

8.2 College dropouts and 'tortoises'

College dropouts and slow learners (tortoises) are mainly from low-income families. As stated before, they had lower NCEE mean scores.

When they obtained employment (only 49 per cent), they received a low income of P.764 69 on the average compared to the employed graduates (P.1,096.67). Moreover, the waiting period is much longer at 6.5 months compared to 1.9 months for the employed graduates.

The reasons for dropping out are closely related to their low-income-family background. Financial constraint and full-time work are the predominant reasons for being a college dropout. (See *Table 8.8).*

A better pre-college preparation, or high academic performance in high school, is a good indication that the students will not drop out. University of Philippines is a case in point because its practice of selecting only the cream of high school graduates has led to a lower drop-out rate. (See *Table 8.9).*

The problems that cause prolonged studies are financial, academic and the rigours of a full-time work. Tortoises are concentrated in proprietary and Protestant educational institutions. The reason for this is that many students in these types of educational institutions are on a part-time basis.

As to academic programmes, tortoises are generally in engineering and technology. In this field of specialization it is not unusual for students to prolong their studies since the academic rigours and laboratory requirements are such that average students cannot cope with the full semestral load. It is quite common for students in engineering and technology to take less than the full academic load. On the other hand, there are occasions when the colleges are at fault, being unable to offer the required programmes for lack of faculty, especially in specialized engineering subjects.

8.3 Self-assessed college performance in assessment of content and method of Instruction

Self-assessed performance in college showed some variations. None of the dropouts graded himself below average or poor; neither did anyone grade themselves as excellent. Among the employed graduates, 1.8 per cent graded themselves excellent and 1.8 per cent below average. These self-assessments have some similarity to HELMS 1 (For details, see *Table 8.10).* The greatest number (81.7 per cent) of the unemployed graduates graded themselves average; but more of the college dropouts (87.5 per cent) made the same self-estimate. In summary, one may rank the employed graduates first in their own assessment of college performance, followed by the unemployed graduates and the college dropouts coming last. Compared to the NCEE mean scores already analyzed, this is realistic because the college dropouts had the lowest mean score, followed by the unemployed, and then the employed graduates.

Besides assessing themselves, the graduates were also asked to assess the contents and methods of instruction. As to both contents and methods, the variation in assessment between HELMS I and II is very little. The situation in HELMS II appears to be slightly better (see *Tables 8.11 and 8.12).*

8.4 Graduates in search of a job

Based on HELMS I data, Psacharopoulos and Sanyal (1981)[16] assumed that the unemployment of college graduates in the Philippines was of a voluntary nature. Graduates were still in the job-hunting stage, evaluating various job and career options, and therefore the problem is not serious and may be considered more of a transition problem from the world of academe to the world of work. These graduates are in a sense not in a state of unemployment but actively in search of a job.

The gravity of the problem of unemployed graduates in search-of-a-job varies by type of institution and curricular programme. Graduates of public higher education have a low percentage of unemployment (10.02 per cent) compared to graduates of private higher education (28.14 per cent) (For details, see *Table 8.13).* Among public higher education, graduates of University of Philippines have the lowest rate of unemployment (6.74 per cent). On the other hand, graduates of foundation-type institutions have lower rates of unemployment amongst private higher institutions. It may be inferred from this varying rate of unemployment that some qualitative difference exists between the graduates.

On the average, the rate of unemployment across academic programmes is 19.6 per cent. The lowest rate is amongst graduates of teacher education (8.5 per cent) and law and foreign service (9.3 per cent); the highest is amongst graduates of other liberal arts programme (46.2 per cent), medical sciences (29.2 per cent), nutrition (27 per cent) and physical biological sciences (25.4 per cent). The high unemployment of graduates of medical, physical and biological sciences is not a cause for alarm since such graduates usually wait for the result of their board examinations and may in the meantime be engaged in some occasional work. Graduates of physical and biological sciences are generally

[16] Op.cit.

waiting for admission into medical schools. The variation of unemployment by degree programmes reflects the demand-and-supply situation. Take the case of teacher graduation. In the 60s there was a glut of teachers. Consequently, enrolment went down drastically in the 70s. However, with the ever growing demand for highly qualified teachers, there is now a shortage as shown in the low rate of unemployment of graduates of teacher education programmes.

Unemployment would not have been so high had the graduates accepted all job offers, as 10.3 per cent refused job offers for various reasons, e.g., the opening was not in the field of specialization, the salary was quite low, the place of work was far from residence and parental consent was not given to accept the job.

The high unemployment rate was also due to the fact that graduates were not utilizing the best methods to obtain a job and that some graduates were simply not interested in getting a job, at least for the time being.

8.5 Employment of graduates

8.5.1 Employment by occupation

Data from HELMS I and II show a marked occupational improvement from parents to children and in the two cohorts of employed graduates. In HELMS I, only 17.11 per cent of the parents were in the professional and technical occupations while the rate was 42.67 per cent for children. The corresponding percentages in HELMS II is 27.6 per cent for parents and 68.7 per cent for children. The improvement to 68.7 per cent was in relation to the professional, technical and related workers (For details, see *Table 8.14).*

Occupational improvement is likewise shown by the declining percentage of graduates occupying clerical occupations. In HELMS I, 37.04 per cent of graduates were employed as clerks, which declined to 13.4 per cent in HELMS II.

A comparison of the occupations of graduates in the HELMS surveys with that of the national occupational profile leads to the conclusion that it pays to be a college graduate. In the national occupational profile, 5.71 per cent and 6.17 per cent in 1978 and 1981 respec-

tively consisted of workers in the category or professional, technical and related workers. The corresponding percentage in HELMS I is much higher at 42.67 per cent and in HELMS II, 68.7 per cent. There was just a little over 1 per cent in the category administrative, managerial and executive in the national occupational profile, while graduates with this employment constitute 4.9 per cent in HELMS II and 5.95 per cent in HELMS I.

8.5.2 Sectoral employment and industrial classification

The private sector is the biggest employer of graduates (66.8 per cent in HELMS I and 61.16 per cent in HELMS II). (See *Table 8.15).*

In the private sector, private corporations are the biggest employer (71.3 per cent) followed by single proprietorship (16.11 per cent) and partnership (12.59 per cent), (For details, see *Table 8.16).*

The public sector has an increasing share in the employment of graduates: from 33.2 per cent in HELMS I 38.84 per cent in HELMS II. However, the percentage has not been high enough to match the expected public sector employment of 44.9 per cent, as revealed by the students of HELMS I Survey.

Within the public sector, the National Government (61.81 per cent) is the dominant employer followed by the local government (16.91 per cent), Government Corporation (16.03 per cent) and the provincial government (5.25 per cent). (See *Table 8.17).*

The economic sector category that employs the biggest percentage of graduates is the *community, social and personal services* (48.1 per cent in HELMS II and 47.8 per cent in HELMS I). With respect to the fathers of employed graduates in HELMS II, 34.8 per cent were employed in this sector. Comparing this with the national profile, only 15.96 per cent and 17.04 per cent in 1978 and 1981 respectively were in community, social and personal services. The economic sector that employs the largest part of the total labour force is agriculture with 52.21 per cent and 54.49 per cent in 1978 and 1981 respectively (For details, see *Table 8.18).* Only 6 per cent of graduates in HELMS II and 3.5 per cent in HELMS I are employed in this sector.

8.5.3 Waiting period

Between HELMS I and II, one notes a substantial shortening in the waiting period. On the average, HELMS I graduates waited for around six months. This has decreased to only two months in HELMS II. After actively looking for work, 72.6 per cent of HELMS II graduates were employed compared to only 54.4 per cent of HELMS I. After six months, 92.7 per cent of HELMS II graduates were employed compared to 76.9 per cent of HELMS I (For details, see *Table 8.19).*

By type of institutions, there are variations in the waiting period with University of Philippines graduates having an advantage over all others. However, this advantage is slowly declining as noted in HELMS II. (See *Table 8.20).*

8.5.4 Mean income

The mean income of graduates varies by occupation, industrial classification, college type and academic programme. As expected and just as in HELMS I, graduates in the administrative, executive and managerial positions get the highest average pay of P.1,914.15 a month. Sales workers rank second in pay at P.1,179.30 a month which is a substantial increase from P.658.49 in HELMS I. The production, transportation and related workers have likewise improved in income from P.807.08 in HELMS I to P.1,145.56 in HELMS II. The lowest paid occupation in HELMS II is for agricultural workers at only P.696.87. In HELMS I, the lowest-paid employees were the service workers at only P.355.17 a month. The service workers in HELMS II have had the highest increase in real terms. In money terms, their income amounts to P.901 a month in HELMS II which represents an increase of 35.33 per cent in real terms, i.e. improvement in income which took into account inflation between HELMS I (1976 Survey) and HELMS II (1981 Survey). Clerical workers have substantially improved their income in real terms by 14.35 per cent, followed by the sales workers at 10.86 per cent (For details, see *Table 8.21).*

The agricultural workers had the highest erosion of real income with a negative 11.91 per cent, followed by administrative, executive and managerial workers (negative 7.57 per cent).

For all the graduates, the average growth in real income between HELMS I and II is 2.28 per cent which is just slightly more than the real growth of income of all members of the labour force at 2.1 per cent. In any case, the college graduates are much better off with an annual income of P.13,160.04 in 1981 which is much higher than the average per capita income of P.5,037 in 1976. This again is evidence that it pays to be a college graduate.

The economic sector that pays the highest is Finance, Insurance, Real Estate and Business Services where the average pay of college graduates is P.1,359.30. This is followed by construction P.1,321.88, Mining and quarrying P.1,321.50, electricity, gas and water P.1,28.., etc., (For details, see *Table 8.22).* In real income, the sectors that have shown the highest growth are electricity, gas and water (11.74 per cent); construction (8.15 per cent); wholesale and retail (6.31 per cent), etc. The laggard is community services where income declined 2.85 per cent in real terms.

By type of educational institution, the graduates of University of Philippines have shown the highest pay in both HELMS I and II. In HELMS II, the graduates of Catholic educational institutions ranked next to University of Philippines in terms of income. While graduates of other Government colleges ranked second to University of Philippines in HELMS I, they ranked the lowest in HELMS II (For details, see *Table 8.23).*

As to academic programme, lawyers received the highest income as in HELMS I. In HELMS II, the graduates of other liberal arts graduates ranked second to the lawyers unlike in HELMS I where the engineers ranked next to the lawyers. The ranking of engineers in HELMS II went down to third rank (For details, see *Table 8.24).* Teachers continued to have the lowest pay of all in both HELMS I and II.

8.6 Expectations versus achievements

Expectations versus achievements were analyzed in terms of three characteristics, *viz.:* (1) income; (2) waiting period; and (3) employment in one's own field of specialization.

The respondents in HELMS II were quite realistic in their perceptions and expectations.

Income expectation varies by academic programme. Teacher education students who had the lowest income expectation of only P.459 a month have the lowest actual income at P.733.20 in HELMS II. On the other hand, students of law and foreign service who had indicated the highest income expectations actually realized very high incomes at P.1,861.24 a month in HELMS II.

The waiting period shortened substantially in HELMS II to only two months on the average. While 51 per cent expected to wait three months or less, there were actually *more* who secured employment within three months. In HELMS I, 63.6 per cent were able to find employment within three months and this improved to 72.6 per cent in HELMS II.

The expected rates of return were well within the range of actual rates as shown in *Table 8.25*. Those with the lowest expected rates of return, i.e. those in teacher education, actually have the lowest rates; and those with the highest expectations (i.e. lawyers) actuall do better

Obtaining a job in one's field of specialization is rated high for graduates in applied sciences (73.28 per cent) compared to graduates of liberal arts (26.95 per cent). Approximately 11.38 per cent of the graduates of applied science courses were employed in a job that requires a background in business education, 11 per cent in education background, etc. Since only 26.95 per cent of liberal arts graduates obtained jobs requiring a liberal arts background, the remainder found employment that required academic preparation in business administration (25.22 per cent) and education (10.95 per cent), etc. Many would consider this as an educational mismatch, but it should be viewed in the context of the country's economic situation where the capability to generate employment is not as great as the capacity of tertiary schools to produce graduates. A further factor is the heterogeneity of academic standards in higher education where some academic credentials do not provide a good measure of intellectual and academic capabilities.

Looking at this more positively, one may postulate that higher education in the Philippines offers flexibilities that enable graduates to adapt to job requirements and occupational variations.

After the HELMS II survey, the country experienced traumatic political and economic events that have altered the social and economic conditions of the country and had wide and pervasive effects on the whole economy. Thus, in analyzing the results of HELMS II, one must take the post HELMS situation (given in the following chapter) into

account. However, most of the findings given above remain valid as regards their implications for planning, even with the changes in the economy and the employment situation.

Table 8.1: Distribution by sex, age and civil status

Sex	HELMS I	HELMS II			
		'Tortoise'	Dropout	Employed	Unemployed
Male	49.9%	60.97%	56.4%	40%	33.3%
Female	50.1%	39.03%	53.6%	60%	66.7%

Respondents in HELMS II		
Female	Male	41%
59%		

	HELMS II		
	Married	Single	Mean Age
'Tortoise'	4.9%	95.1%	23.05%
Dropouts	35.7%	64.3%	24.3%
Employed	15.7%	84.3%	24.15%
Unemployed	20.7%	79.4%	23.71%

Table 8.2: Parents' education

	HELMS II			
	'Tortoise'	Dropout	Employed	Unemployed
	%	%	%	%
Father				
Law	36.4	25	27	25.4
Business Administration	18.2	25	22.2	32.8
Engineering	18.2	8.3	23.4	16.4
Medicine	9.1	-	10.6	7.5
Teacher Eduction	9.1	16.1	5.8	6.0
Mother				
Law	11.1	16.6	1.6	10
Teacher	22.2	50	59.6	66
Business Administration	66.7	16.7	11.4	10
Level of Terminal Education				
Father				
Elementary	22.2	27.8	17.8	22.7
Secondary	22.2	37	23.5	26.3
College	55.6	35.2	58.7	51.0
Mother				
Elementary	29.7	44.2	25.2	31.1
Secondary	27.0	34.6	29.5	32.7
College	43.2	21.2	45.3	36.2

Table 8.3: Occupation of parents

	Mother					Father				
	HELMS I		HELMS II							
	HELMS I	'Tortoise'	Dropout	Employed	Unemployed	Helms I	'Tortoise'	Dropout	Employed	Unemployed
Agricultural Workers	2.35		1.9	1.7	3.4	32.5	26.5	20	14.1	18.5
Professional. Technical	11.26		3.8	18.8	15.6	17.11	17.6	20	27.6	19
Administrative Managerial and Executive	2.12		3.8	4.2	3.4	10.65	14.7	10	16.4	15.8
Sales Workers	6.82		15.1	8.9	10.5	9.85		12.5	12.1	9.2
Clerks	0.89		5.7	2.6	0.4	6.6		10	7.6	9.2
Non-Working Housewife	72.75	63.4	64.0	58.5	60.3					
Total	96.19	63.4	94.3	94.7	93.6	76.71	58.8	72.5	72.8	71.7

Table 8.4: Mean income of parents

	'Tortoise'	Dropouts	Employed	Unemployed
Father	P.2 555.35	P. 938.40	P.3.187.77	P.2 729.13
Mother	1 206.38	586.66	1 876.76	1 592.76
Total Family Income	P.3 761.73	P.1 525.06	P.5 064.53	P.4 321.89

Table 8.5: Distribution of respondents by type of college

	Sample Respondents	'Tortoise'	Employed	Unemployed
	%	%	%	%
Public Sector				
U.P.	26.2	7.3	29.7	7.7
Other State Colleges	9.4	2.4	10.8	8.6
Private Sector				
Catholic	16.1	22.0	14.7	19.5
Protestant	5.1	7.3	4.7	6.9
Proprietary	39.7	61.0	35.9	54.9
Foundation	3.4	0	4.1	2.4
Total	99.9	100.0	99.9	100.0

Table 8.6: Mean NCEE score

	%
'Tortoise'	77.5
College Dropouts	76.3
Employed Graduates	91.7
Unemployed	86.17

Table 8.8: Reasons for dropping out of college

		Male Weight	Rank	Female Weight	Rank
1.	Financial Reason	2.11	1	2.23	1
2.	Due to Full-time Work	2.22	2	2.38	2
3.	Marriage	3.25	3	3.64	3
4.	Due to Part-time work	3.43	4	3.46	4
5.	Lack of Interest	3.75	5	3.85	5
6.	Physical Environment of the College	4.14	6	4.19	6
7.	Health Reasons	5.15	7	4.15	7

Table 8.7: Degree programme (in percentages)

		Education of the Fathers	'Tortoise'	Dropouts	Employed	Unemployed	HELMS I
1.	Business Administration	22 2	15.0	29 1	21.1	22.1	29.8
2.	Engineering and Technology	23.5	37 5	14.5	15 4	13 9	8 9
3.	Medicine	10 6	12.5	5.5	17 1	25.8	9.3
4.	Social Sciences	1.7	12.5	9.1	10 9	9 4	2.3
5.	Teacher education	5.8	2 5	16 4	12.5	4 5	23.2
	Total	63.80	80 0	74 6	77 0	75 7	73.5

Table 8.9: Reasons for prolonging studies

		Rank	Male	Female
1.	Financial	2.20	2.0	2.64
2.	Academic Reason	2.50	2.26	2.91
3.	Due to Full-time Job	3.08	3.56	2.22
4.	Due to Study Interruption	3.10	3.28	2.82
5.	Due to Part-time Job	3.24	2.22	2.0
6.	Marriage	5.55	5.58	5.50

Table 8.10: Self-assessment of college performance

		HELMS II		
	%	%	%	%
	HELMS I	Dropouts	Employed	Unemployed
Poor (75%)	0.09	-	-	-
Below Average 75-79	2.53	-	1.8	1.8
Average 80-85	67.63	87.5	63.0	81.7
Above Average 86-94	28 15	12.5	33.3	16.0
Excellent 95+	1.6	0	1.8	0.05

Table 8.11: Assessment of content of instruction (in percentages)

		HELMS II		
	HELMS I	Dropout	Employed	Unemployed
Inadequate	0.46		2	1.8
Barely Adequate	3.21		4.9	5.5
Adequate	50.32	50.0	47.2	61.6
Very Adequate	36.75	12.5	36.1	25.6
Excellent	9.26	37.5	9.8	5.5
Total	100.0	100.0	100.0	100.0

Table 8.12: Assessment of method of instruction (in percentages)

		HELMS II		
	HELMS I	Dropout	Employed	Unemployed
Inadequate	1.01		3.1	1.8
Barely Adequate	4.19	12.5	5.9	8.2
Adequate	50.0	12.5	48.1	57.5
Very Adequate	35.18	25.0	34.2	25.6
Excellent	9.62	50.0	8.7	6.8
Total	100.0	100.0	100.0	100.0

Table 8.13: Unemployed graduates (in percentages)

Type of College	% Unemployed
1. Public Higher Education	10.02
1.1. U.P.	6.74
1.2. Other State Colleges and Universities	17.95
2. Private Higher Education	28.14
2.1. Catholic	26.97
2.2. Protestant	28.81
2.3. Proprietary	29.80
2.4. Foundation	14.29
3. Total	21.75

Table 8.14: Employment by Occupation

	HELMS I		HELMS II		National Profile	
	Father	Graduates	Father	Graduates	1978	1981
	%	%	%	%	%	%
Professional, Technical and Related Workers	17.11	42.67	27.6	68.7	5.71	6.17
Clerical Workers	6.6	37.04	7.6	13.4	3.99	4.44
Production, Transport and Labourers	12.19	9.29	11.6	2.7	18.88	17.92
Administrative, Managerial and Executive	10.65	5.95	16.4	4.9	1.03	1.02
Total	46.55	94.95	63.2	89.7	29.61	29.55

Table 8.15: Employment by type of firm or organization

	HELMS II	HELMS I	Expected Sectoral Employment in Public
	%	%	%
Public Sector	38 84	33.2	-
Private Sector	61.16	66.8	44 9

Table 8.16: Distribution in the Private Sector

	%
Corporation	71.3
Partnership	12.59
Single Proprietorship and self-employed	16.11
Total	100.0

Table 8.17: Distribution in the Public Sector employment

	%
National Government	61.81
Provincial	5.25
Local	16.91
Government Corporation	16 03
Total	100.00

Table 8.18: Employment by industrial classification (in percentages)

	HELMS I		HELMS II		National Profile	
	Father	Graduate	Father	Graduate	1978	1981
Community, Social and Personal Services	-	47.8	34.8	48.1	15 96	17 04
Manufacturing	-	13.1	8.6	14.6	11.5	9.99
Mining and Quarrying	-	12 5	0 2	0.5	0.40	0.51
Finance, Insurance, Real Estate and Personal Services	-	6.2	9.8	18.6	1.85	1.95
Agriculture	-	3.5	16.9	6.0	52.21	51.49
Total	-	83.1	70.3	87.8	81.92	80.98

Table 8.19: Waiting period

After actively looking for work	HELMS I	HELMS II
Two months	54.5%	72.6%
Six months	76.9%	92.7%
One Year	88.8%	98.5%

Table 8.20: Waiting period by type of Educational Institutions

	Percentage of Employment					
	HELMS I			HELMS II		
	Two Months	Six Months	One Year	Two Months	Six Months	One Year
1. Public Sector						
U.P.	56.9	79.8	93.7	85.9	79.8	93.7
Other State and Colleges	46.6	76.3	80.1	75.36	89.86	100.0
2. Private Sector						
Catholic	38.9	64.8	81.7	72.5	95.1	100.0
Protestant	43.2	72.0	85.6	50.0	82.4	100.0
Proprietary	34.3	61.8	83.3	65.8	80.6	98.7

Table 8.21: Mean income by occupation

	Occupation	Real Growth in Income	Mean Income HELMS II	Mean Income HELMS I
1.	Prof., Tech. and Related Workers.	(3.03%)	1 098.40	799.37
2.	Admin. Exec. and Mngr.	(7.57%)	1 914.15	1 580.89
3.	Clerical	14.35%	902.95	476.33
4.	Sales Workers	10.86%	1 179.31	658.49
5.	Service Workers	35.33%	901.00	355.17
6.	Agricultural and Related Workers	(11.91%)	696.87	329.05
7.	Prod. Trans. Labourers	(1.52%)	1 145.56	807.08
8.	Unclassified by Occu.		969.00	

Table 8.22: Mean income by industrial classification

	Industrial Sector	Real Growth in Income	Mean Income	
			HELMS II	HELMS I
1.	Agricultural	5.57%	945.78	579.39
2.	Mining and Quarrying	3.22%	1 321.50	787.90
3.	Manufacturing	5.66%	1 272.22	778.04
4.	Elec. Gas Water	11.74%	1 288.12	708.85
5.	Construction	8.15%	1 321.88	773.24
6.	Wholesale and Retail	6.31%	1 164.70	704.02
7.	Trans. Storage and Comm.	2.55%	1 090.41	707.24
8.	Financing and Business	1.67%	1 359.30	897.05
9.	Community Services	(2.85%)	923.44	669.30

Table 8.23: Mean income by college type

	Type of College	Mean Income HELMS I	HELMS II
1.	U.P. System	1 412.20	1 562.19
2.	Government	791.85	686.08
3.	Catholic	652.43	1 020.33
4.	Protestant	629.69	802.10
5.	Proprietary	699.21	928.82
6.	Foundation	706.57	987.55

Table 8.24: Mean income by academic programme

	Academic Programme	Mean Income HELMS I	Mean Income HELMS II
1.	Agriculture	636	884.49
2.	Business Administr and	579	1 076 09
3	Engineering and Technician	912	1 373.15
4.	Nutrition	499	1 192.17
5.	Law and Foreign Service	1 098	1 861.24
6.	Humanities	584	1 160.43
7	Phys. and Bio. Sciences	637	1 156.40
8.	Social Science	771	1 225.03
9.	Medical Science	520	928.61
10.	Music and Fine Arts	662	1 222.50
11.	Teacher Training	495	733.20
12.	Other Liberal Arts Courses	580	1 601.00

Table 8.25: Percentage of employment in the field of specialization and other areas

	Graduates in Liberal Arts	Graduates in Applied courses
Employment in the Field of Specialization	26 95	73.26
Employment in a Job Requiring Business Background	25.22	11.38
Employment in a Job Requiring Education Background	10 95	11.00
Total	83.13	95.66

Table 8.26: Rates of return

Range of Rates of Return		HELMS I 2.67% to 19.37%	HELMS II Negative 0.18% to 27.32%
1. Type of College			
1.1	U.P.	19.37%	10.89% to 21.33%
1.2	Other State Colleges and Universities	8.07	1.21% to 3.77%
1.3	Catholic	5.53%	3.65% to 10.47%
1.4	Protestant	5.1%	6.74% to 6.09%
1.5	Proprietary	6.38%	2.44% to 8.63%
1.6	Foundation	6.51%	3.22% to 9.82%
2. Academic Programme			
2.1	Agriculture	5.15%	1.86% to 7.75%
2.2	Business Administration	4.19%	4.4% to 11.58%
2.3	Engineering and Technology	10.22%	8.37% to 17.54%
2.4	Nutrition	2.73%	5.95% to 13.91%
2.5	Law and Foreign Service	13.64%	14.9% to 27.32%
2.6	Humanities	4.28%	5.53% to 13.28%
2.7	Physical and Biological Sciences	5.35%	5.48% to 13.19%
2.8	Social Sciences	7.69%	6.39% to 14.57%
2.9	Medical Sciences	2.75%	2.43% to 8.62%
2.10	Music and Fine Arts	5.7%	6.36% to 14.52%
2.11	Teacher Training	2.67%	(0.18%) to 4.71%
2.12	Other Liberal Arts Courses	4.21%	11.42% to 22.10%

9. Post-HELMS II situation of the economy and of employment

After the HELMS II survey in 1981, there was a dramatic change in the economic and political situation. A more detailed analysis of the ramifications of the situation is necessary to gain a better appreciation of the data presented. The conclusions and the implications of HELMS findings should be considered together with the following analysis as a basis for making alternative recommendations.

9.1 Gross Domestic Product

A closer look at the Gross Domestic Product of the Philippines in 1983 and 1984 reveals declines of 1.3 per cent in 1983 and a little over 5 per cent in 1984. The impact of the latter is such that it will still be felt up to 1990, i.e., it is projected that the per capita consumption of the Filipino will still be 6 per cent lower in 1990 than in 1983. The implication of this for planning of higher education is that between now and 1990, there will be no increase in real terms of the nation's expenditures on education. There will only be an increase if there are significant changes in the priority accorded to education over all other expenditures, but empirical data show that such will not be the case. As analyzed by Bro. Rolando R. Dizon,[17] while we in the Philippines, value education in terms of verbal articulation, we have not been providing

[17] Paper presented by Bro. Rolando, R.Dizon. FSC at the University of San Carlos. Cebu City. Philippines, April 11. 1985.

substantial finances for education.

A further disaggregation of Gross Domestic Product shows the economic sectors most adversely affected in 1984. The sector worst hit was industry with an 8.91 per cent decline, followed by the services sector, 2.8 per cent. In spite of declines in nearly all economic sectors, agriculture performed creditably well with a 1.21 per cent increase. Within the industrial sector, mining suffered the worst decline at 20 per cent, followed by construction (19.48 per cent), and manufacturing (5.58 per cent). Only electricity, gas and water showed a positive growth of 9.9 per cent. On the other hand, in the services sector, finance and housing suffered the most with a 5.19 per cent decline followed by services (4.88 per cent). Trade services did not suffer much and showed a positive growth of 1.43 per cent. The implications of this for education is that schools educating students from an agricultural milieu will be far better off than those with students whose parents are employed in the industrial sector, especially mining, construction and manufacturing.

There are growth disparities among the regions. Metro Manila and the surrounding regions showed high growth while Eastern Visayas, Cagayan Valley, Bicol and Southwestern Mindanao exhibited low growth. Within regions, the urban areas, where manufacturing and industries are located, experienced the worst effects of the economic crisis.

Provinces that are dependant on a single crop for cash income likewise suffered from the crisis. An example of this is Negros Occidental, which is mainly dependent on sugar. Coconut-producing provinces may not suffer as much, while rice-producing regions would enjoy relative stability.

Managers in education must take account of the phenomenon of uneven growth across regions, the rural-urban dichotomy and the nature of commodities on which the parents of students depend for income. The response to the crisis will depend on analysis of the extent to which students are adversely affected by growth disparities.

9.2 Per Capita Income

Gross Domestic Product disaggregated into per capita income determines the capability of society to pay for the cost of quality education. It is important that school administrators have some idea of the income levels of students to enable them to determine to what extent students would be able to pay the tuition fees. This is especially true in the Philippines where private schools are mainly dependent on tuition fees as the major source of revenues.

The average per capita income in the Philippines as of 1983 is a little lower than the average in the ASEAN region. It was US$772 compared to that of the ASEAN region at US$800. The Philippines is just ahead of Indonesia's per capita income of US$580 but behind Thailand (US$805), Malaysia (US$1,857), and Singapore, (US$6,500) which had the highest in the region prior to the entry of Brunei into the ASEAN community.

The trend in per capita income follows the growth of Gross Domestic Product. Thus, negative growth of 5.5 per cent in 1984 has taken us back to 1980 income levels, and the possibility of it increasing as forecast by the World Bank does not look very bright. Per capita consumption in real terms will still be 6 per cent lower in 1990 than it was in 1983. We do not expect, therefore, to have meaningful real growth in per capita income until 1990. Moreover, if the growth rate target is down to 1.9 per cent in the period 1985 to 1990,[18] one would expect per capita income to slide to 22 per cent lower in 1990 instead of 6 per cent as compared to 1983.

While on the average, projections for per capita income look bleak, there are still those who can afford to pay the high cost of quality education, i.e. the economic elite—the top 20 per cent of the population belonging to the high income group. This group of Filipinos received 59.59 per cent of total income in 1983. In short, the upper 20 per cent received more than the lower 80 per cent of the population.

In more concrete terms, an income of P.10,000 or below in 1984 is gained by the lower 61.1 per cent of the population; P.10,000 to P.24,999 by 22.3 per cent; P.25,000 to P.49,999 by 10.3 per cent; and over P.50,000 by the top 2.3 per cent. Capability to pay tuition fees by income level is as follows:

[18] This has been the pessimistic alternative of the World Bank.

Per Capita Income, 1984	*Amount of Educational Expenditures*
Less than P.10 000	Less than P.400 a year
10 000 - 24 999	P.400 to 999
25 000 - 49 999	1 000 to 1 999
Over 50 000	Over P.2 000

With these data on income distribution, a college could determine the capability of students in its catchment area to pay for the cost of quality education. One might infer from the table that if a school is charging tuition fees of more than P.2,000 a year, that school is serving the top 2.3 per cent of the population.

What is depressing about the inequality in the distribution of income is that between 1980 and 1984 the share of the top 20 per cent has increased from 48.71 per cent to 59.59 per cent, or an improvement of 10.88 points, whereas the share of the lower 20 per cent has deteriorated from 4.99 per cent in 1980 to 3.41 per cent in 1984. A result of this is that education will slowly become a privilege of the elite of society. As shown in the HELMS I Report,[19] higher education is beginning to be more elitist. If this trend continues without any strategic intervention being made, education will continue to perpetuate inequalities in society. Governmental and societal intervention is required to arrest this trend and thus negate the charge that education mirrors inequality in society.

9.3 Unemployment

The unemployment rate is a lot worse than the official figure of 6 per cent. This discrepancy arises from the way the Philippines defines unemployment, which is that a person is unemployed if he has not worked one hour in a given quarter. This definition has understated the level of unemployment. However, if one defines the unemployed person as one who is looking for work and cannot find a job, the level

[19] Op.cit.

of unemployment would be quite high. In the HELMS Report, the rate of unemployment of those with collegiate education is more than 20 per cent. The NMYC (National Manpower and Youth Council) figure which is more recent is 25 per cent.

Data from the Ministry of Labour and Employment in December 1984 indicates that 93,386 people were laid off either on a permanent or temporary basis. This represents an 18.96 per cent increase on the 1981 level when there was a world-wide economic slump and the Philippines suffered its worst economic crisis. In manufacturing, laid-off workers accounted for 62.41 per cent of the total. If parents are unemployed, they would not be capable of financing any kind of schooling at all.

9.4 Inflation

The unprecedented inflation rate in 1984 eroded the value of the Philippines peso. It started at 33.3 per cent in January 1984 and reached a peak of 63.83 per cent in October 1984, averaging a year-end inflation of 50 per cent. In 1985, inflation began to slow down. The target, as revealed by NEDA, is an inflation rate of 20 per cent in 1985, which is a little lower than the forecast of the Asian Wall Street Journal of 23.8 per cent. It is the intention to bring inflation rate down to a 10 per cent level in 1986-1987 and to 8 per cent in 1988 to 1990. There are already encouraging signs that the rate is levelling off.

9.5 Stability of the Peso

The international stability of the peso will depend on the country's capability to generate the necessary foreign exchange through exports in order to finance the required imports and the servicing of foreign debts.

Due to import limitations in 1984, the Philippines achieved its first trade surplus since 1981. However, it was not sufficient to finance the total debt service of US$3.58 billion. Thus in 1984, there was a deficit of US$1.5 billion on current account. It is expected that this level of deficit will go down to $1.1 billion in 1985 and $0.5 billion in 1986. Success in this objective will depend largely on the country's ability to accelerate foreign exchange through exports, tourism and capital inflow.

With respect to capital inflow, this is dependent on the political stability of the host country and the environment should be conducive to healthy growth and development. This situation is sadly wanting and foreign investments in 1985 have gone down drastically. Foreign investors alone cannot be blamed, since many Filipino investors themselves have exported money to the magnitude of US$3.9 billion between 1974 and 1984. This amount if repatriated is more than the country requires to bail itself out of the present foreign exchange crisis.

Between now and 1987 will be crucial years for the Philippines. There are elections coming and the outcome will determine whether there will be long-term political stability to provide the foundation for accelerated economic growth and development. The peso is expected to be so volatile that proposals entailing foreign exchange obligations should be avoided. A lesson can be learned from the engineering loan programme, about which one of the authors issued a warning in 1975, when the loan was being packaged, that there is always a grave risk of paying more when contracting any foreign exchange obligation.

9.6 Scenario of the future: An optimistic view

The scenario for the Pacific Basin Countries is one of an area of peace and prosperity. For example, the modernization of China, where there are over a billion people, will provide opportunities. The change in leadership in Russia, which has been described as a turning point towards greater liberalization, will have a significant impact on foreign trade. And of course, there is the continuing need by Japan for industrial materials from the Pacific Basin countries. Many countries are benefitting from this development, and the Philippines is in an advantageous position with its wealth of natural resources.

In political terms, a high priority has to be given to democratic socio-political reforms which would lead to normalization.

In economic terms, desirable change entails a shift of industrial policy from import substitution to a balanced agro-industrial development. An import-substitution policy demands a massive infusion of foreign exchange, since it links industrial development with external sources or raw materials. The textile industry, meat processing, car assembly plants, etc., were of this nature. When foreign exchange reaches prohibitive levels, massive inflation occurs. When raw materials

are not available, the closure of enterprises is inevitable, the manufacturing sector is the most hard hit by any foreign exchange crisis.

A balanced agro-industrial development policy shifts emphasis to agriculture and agri-based industrial development. At the same time, however, efforts must be made to get the most out of industrial firms that show promise of long-term viability.

The shift to a new industrial policy, coupled with the complexities of economic crisis, requires a moderate, carefully-planned and controlled development. Thus, the official Government forecast for growth in 1985 is 1.5 per cent; in 1986 and 1987, 4 per cent; and in 1988 to 1990, 4.5 per cent. Independant forecasts made by the Chemical Bank of New York give zero growth in 1985 while the Asian Wall Street Journal projected Philippine growth at 0.7 per cent in 1985. This forecast placed the Philippines as the country with the lowest growth in 1985 among Asian countries, compared with 6 per cent in Thailand, 5.1 per cent in Indonesia, 7.2 per cent in Korea, 6.5 per cent in Hong Kong, 7.4 per cent in Taiwan, and 7.6 per cent in Singapore.

The World Bank scenario for the Philippines gives at the highest a 4 per cent growth in 1985-1989 and 6 per cent in 1990. At the lowest, it is 1.9 per cent in 1985-1989 and 3.5 per cent in 1990.

Low economic growth will lead to a very moderate increase in Government expenditure. Given the greater concern for public accountability, expenditures in the public sector will be rigidly scrutinized. The capability of the Government to support education will not be very promising, and any increases in the education budget will be channelled to phased development programmes. This means that most efforts at reform will be pursued at elementary level and, correspondingly, this level will be provided with the bigger share of resources allocation. The Government will maintain this policy up to 1989.

Plans are being formulated to implement a development-oriented secondary education by 1989-1990 and schedule its culmination in 1992-1993. Between now and 1993, higher education will slowly be aligned to government priority economic programmes, i.e. support intended for an exceptionally few institutions with proven track records. After 1993, however, higher education will hopefully receive greater attention in terms of solid support from the Government.

But throughout this period, the demand for educational services will be increasing, since the high period of population growth in the 70s will be felt in higher education. The increasing participation and tran-

tion rates from elementary to secondary and from secondary to higher education will lead to an ever-increasing number of students in all levels of education. At the same time, there will be a need for more productive manpower, and hence a need for greater training at all ages in order that the country should be able to cope with the economic crisis and attain its developmental targets.

The demand for educational services in quantitative terms is enormous.

(a) Enrolment at elementary level will increase from the present 8 million to over 10 million in 1990.

(b) Enrolment at secondary level will increase from 3 million to over 4 million in 1990.

(c) Enrolment in tertiary will increase from 1.5 million to over 2 million in 1990.

Besides the increase in quantitative terms, there are pressures to improve quality. The policy adopted to attain excellence is through institutional autonomy and academic freedom.

10. Policy implications and coping with the economic crisis

10.1 Policy implications

The focus of this chapter is to elucidate the usefulness of the data generated and the conclusions arrived at. It was found that the following were the eleven areas where the HELMS Report could make some contribution:

10.1.1 Demand for higher education, curricular options and career choice

It is quite evident from the HELMS data that the demand for higher education is motivated by economic objectives. This demand is expressed in terms of the readiness of students to forego taking a full-time job in favour of continuing education and the overwhelming response of all students themselves that they are in college to upgrade their economic status. The HELMS data can provide parents, career guidance counsellors and the college-bound students themselves with information on which to make a choice from the numerous curricular offerings in a variety of educational institutions. Moreover, once through with college, it is possible to make further selections as to the occupation one may aim for in the economic sectors that would satisfy one's economic objectives.

As shown in Chapter 8, if a high income is sought, one should enrol in a law course at the most prestigious university, *i.e.* the University of the Philippines. Since University of Philippines has very rigid admission policies, an application might be made for admission to the next most preferred educational institutions, *i.e.* Catholic colleges and universities or foundation-type educational institutions. After the University of Philippines law school, one might plan an administrative, executive or managerial position in the economic sector that offers the highest pay, *i.e.* finance, insurance, real estate or business services. If law is not to the student's personal inclinations, the next most useful degrees are engineering and technology, liberal arts and social sciences. The second most well paid occupational option is a career in sales perhaps in the preferred economic sector of construction, mining and quarrying, etc.

Economic motives do not necessarily provide the greatest personal or professional fulfillment. As shown by the survey, job satisfaction lies in being able to attain self-fulfillment, to utilize one's talents, have good employee relations, a secure future and better career prospects. A good income ranks only seventh. It is possibly these elements of job satisfaction that cause some graduates, especially those coming from proprietary colleges not to exert greater drive toward the prestige and power that money can give.

10.1.2 Inter-generational occupational and social mobility

Education contributes to social mobility, but when distribution of educational opportunities at the higher level remains restricted to elites, upward mobility of lower social groups is inhibited and education then contributes, not only to the perpetuation of the social hierarchy but to widening disparities between the higher and the lower social groups. This is shown in the case of the Philippines in the analysis of the socio-professional background of the graduates, where a larger proportion of graduates come from higher social backgrounds. To achieve equality of educational opportunity, special attention needs to be paid to the weaker sections of society. This can be achieved by several means, for example (a) by providing financial subsidies and by making the fee paying system in institutions of higher education discriminatory *i.e.* higher fees for richer students and lower fees for the poorer ones; (b)

by improving upon the career information system for the weaker sections, and (c) by introducing a quota system for the deprived groups in prestigious universities and disciplines, etc.

One positive aspect of the Filipino higher education system is the higher proportion of females in the national higher education system. The Philippines is one of the four countries of the world where sex disparity has been eliminated at least quantitatively in the field of higher education. However, this does not ensure a higher social mobility in the world of work because the majority of the females are in low paying/prestigious professions, e.g. teaching, nursing and clerical and related professions.This leads us to the next item for policy.

10.1.3 Sex and income differentials

There is a clear income disadvantage for females in many fields, i.e. the male has an income advantage in all academic disciplines except in the patently female professions, i.e. food, nutrition and dietetics and surprisingly also in law and some liberal arts courses. If sex differentials in income are to be minimized, this would mean some reforms in wage and hiring policies. However, unless household responsibilities of the female population are shared with their male counterparts, their role in the world of work will remain low key and any reforms in wage policies would not solve this problem.

Unemployment is more pronounced for the female graduates. Marriage makes them less mobile in their search for work, but better career counselling would allow female graduates to widen their job horizons.

At the present time it would seem that some means should be found to utilize these wasted resources of unemployed female graduates, i.e. giving short further training, providing incentives to those who could change their place of residence so as to create vacancies for others who cannot.

10.1.4 Employment placement mechanisms

As discussed, the most effective employment placement mechanism in the Philippines is personal relations. While there is some merit to this

kind of placement mechanism, it poses a disadvantage to those without friends or relatives who are well-placed in society i.e. the lower groups.

It would help graduates immeasurably if a school-based placement office, which maintains links with company placement officers, could be established and made operational. A greater number of graduates would then have access to a variety of employment possibilities. It has been noted that many graduates do not exert enough effort to secure a job. The college career counselior must design a programme that would enable graduates to have greater self confidence and more initiative in looking for a job. They must be exposed to a variety of techniques in job-seeking, including tips for job interviews and passing job recruitment tests.

10.1.5 Voluntary unemployment and employment generation

Psacharopoulos and Sanyal (1981)[20] suggested that HELMS I data provided some bases for considering unemployment of college graduates in the Philippines as of a voluntary nature. Data in HELMS II reinforce this contention especially the fact that almost half of those searching for jobs have turned down offers for a variety of reasons. The nature of the educated unemployed in the Philippines is more of a phenomenon of graduates still evaluating various job and career options. However, when unemployment becomes persistent, and this may be the case in the slow economy growth of the post-HELMS situation, then educated unemployment will be a serious problem.

It is not only the education sector that can be faulted for producing so many graduates of uneven quality. That almost a million workers are getting jobs overseas and many more are migrating pinpoints the economic sector's inability to expand and absorb the increasing supply of college graduates.

[20] Op.cit.

10.1.6 Educational mismatch

When a graduate is employed in a job not suited to his college specialization, this is called an educational mismatch, but this need not be considered a negative commentary. As stated before, one should look at this in the context of the economic condition of the country. Viewed positively, it is more of a phenomenon of flexible educational programmes coping with job demands that likewise exhibit flexibility. Even in such a developed economy as Japan's there are instances of college graduates being employed in jobs not requiring college degrees. This is not something unique to developing economies.

Educational mismatch should not cause substantial concern. On the contrary, curricular programmes should be such as to offer continuing occupational flexibility. Job demands should likewise be enhanced to accommodate the diverse academic backgrounds of college graduates. The educational system should concentrate on producing graduates who can adapt themselves to rapidly changing needs of jobs. In other words, the education system should concentrate on imparting basic skills, while specialization would take place on the job.

10.1.7 Agricultural development

The agricultural sector is the backbone of any economy. Due to its vital role in accelerating development, it should be provided with all the necessary talents to discharge its function. Unfortunately, there are less students in higher education coming from this sector. While the HELMS II data showed a positive sign of a slight increase of graduates going to the agriculture sector, this is far from sufficient; the more so in the light of the lack of income incentives in this sector.

A policy to recruit more students into higher education for the agriculture sector must be formulated. Once recruited, incentives must be provided for them to finish their degree, and a package of economic incentives developed to retain graduates so that they can assist development of agriculture.

10.1.8 Rates of return and educational programme subsidy

The data on the private rates of return discussed in Chapter 8 show why higher education continues to be attractive. The private rates of return of the graduates of the University of Philippines, in such curricular programmes as law, engineering, etc., are high enough to make societal intervention unnecessary. On the other hand, intervention is needed in such socially desirable academic programmes as teacher education and agriculture where the private rates of return are so low. Improvement of the salaries of teachers and agriculture graduates is desirable and societal concern must be expressed in more concrete forms like the outlay of more resources for education.

Higher education in the hands of the private sector (about 85 per cent of enrolment in higher education) should be provided with more support because these private schools are definitely performing a social function despite the very low rate of return.

10.1.9 Educational finance and higher education

In HELMS II, students and graduates cited lack of funding as a reason for not being able to pursue preferred courses. The HELMS II data further confirm the funding problem as a crucial element in dropping out and interruptions which result in prolonged studies. Students who drop out come from families with the lowest income and the 'tortoises' are from families with the second lowest income. Access to more financial and learning resources would reduce drop outs and the extension of the period of stay in college.

The funding problem is most acute in the private higher education institutions. Government intervention or assistance is especially needed by students pursuing programmes with high social values but with low private rates of return. As mentioned before financial assistance should be provided on a discriminating basis—positively for lower social groups and negativity for higher groups.

10.1.10 College placement and student streaming

We found that the students with better college preparation, as gauged by their NCEE score, become not only successful students but also employed graduates. Those with inferior academic preparation were able to graduate but could not immediately find employment. College dropouts were the worst prepared students.

A highly selective admission policy, such as practised in the University of Philippines, prevents drop out. In the light of these data, it is suggested that a systematic career counselling college placement office or system be institutionalized. This would ensure that students with the best academic preparation be streamed to highly demanding academic programmes in equally demanding colleges. Students with inferior academic preparation may be streamed to remedial courses or to less challenging curricular programmes in colleges that have less stringent standards of performance.

10.1.11 Curricular reform and the drive towards excellence

From the substantial number of graduates still searching for a job, one may infer that there is an excess of supply. In a separate research report on demand for and supply of manpower[21] there is a more extended treatment of the excessive supply of qualified manpower in the Philippines. The situation is rather curious because there is a need for high level manpower in the country to attain developmental objectives.

It would appear that the direction of change should be towards improving productivity as well as the employability of manpower in the labour market. The key is improving the quality of graduates. One tool for this would be, as suggested, systematic college placement and student streaming. At the institutional level, another would be a systematic accreditation process and an institutional classification system.

We have seen from the results of the HELMS surveys that the University of Philippines is considered by students and employers to be the centre of excellence, creaming off the students with the best NCEE

[21] Arcelo A., *Higher Education, Labour Market and Manpower Planning in the Philippines*, Singapore. RIHED. 1983.

results and supplying the best paid graduates. Therefore what is needed is a system to motivate other universities and colleges, distributed equitably throughout the Philippines to strive to upgrade their services and products to compete in quality with the University of Philippines. In this regard, some of the experiences of other countries might be adapted for utilization in the Philippines. For example, in India, a beginning has been made to create centres of excellence[22] i.e. university departments become centres of advanced study and are given special financial assistance. They receive floating staff from other universities for a certain period of time who will return and thus improve the quality of their own universities. Such a system also promotes academic mobility among institutions of higher learning.

In the United States six regional voluntary associations for university accreditation (supported by annual fees of their member institutions) draw on professors to compose committees to visit and evaluate universities in a five year cycle. Such accrediting here is a form of pressure on institutions that may hover on a low threshold of quality but a more rigorous form could be adopted whereby grades could be awarded to universities based on performance indicators. Some of the possible indicators have been used in the HELMS surveys, i.e. degrees obtained, quality of faculty and facilities, career performance of graduates etc.

As to the academic programmes and degree examinations themselves, the Ministries of Education in Italy and France equate the work of various institutions within a framework of state certified national degrees. In the United Kingdom such a system takes the form of the Council for National Academic Awards which gives national validity to courses of study created and administered by local institutions. In a number of countries surveys of universities are carried out giving information to the public on the centres of excellence by discipline.

An institutional and academic programme classification system would allow a better appreciation of the credentials of graduates and reduce the problems found by employers in recruitment. In addition, the system would give the public, the funding agencies and private philanthropists, a systematic method of resource allocation and channelling of support. Parents and college-bound students are likewise helped by this classification system. The best qualified students would

[22] University Grants Commission. *Governance of Higher Education in India and the role of the UGC*, draft report, New Delhi, 1985

know where to apply for admission and the kinds of academic programmes or degrees being offered in the institution.

Commerce and business administration are always popular courses. But medicine and engineering are catching up. What strategic intervention may be applied to these programmes? A manpower forecast (Arcelo: 1983)[23] shows there will be a substantial surplus of commerce and engineering graduates up to the year 2000. A brake has to be applied to prevent a serious glut. Perhaps a policy may be issued to discourage commerce and engineering colleges from expanding. Parallel to this is a need for incentives to commerce and engineering colleges planning to decrease enrolment. Guidance counsellors and college-bound students should be informed of possible excess supply in these programmes to discourage enrolment.

As far as medicine is concerned, it is desirable to link training to the needs of the country, especially with respect to the rural areas where doctors are badly needed. The focus of training must be on common tropical diseases, the health needs of the poor, the disadvantaged and the cultural communities. Besided the skills, medical students must internalize a missionary zeal for service to the truly needy.

10.2 Coping with economic crisis

The effects of the economic crisis after the HELMS survey in 1981, have been so pervasive as to make some of the HELMS findings out of date especially on the employability of graduates, the income level, waiting period, etc.

Taking into account the analysis in Chapter 8, the closure of many companies and massive lay-off of workers, one may ask what is the future of the graduates in 1985 and following years of very slow recovery. To answer this question requires a closer focus and an in-depth analysis of the opportunities presented by the environment. In spite of the economic crisis, there may still be sunrise industries and college graduates must be on the look-out for better opportunities. The promising sectors are agriculture, agri-based industries and electronics. Industries that produce non-traditional export items should be seriously considered for they have a potential for expansion closer university,

[23] Op.cit

industry co-operation is very much needed to face this situation.

Education prepares students not only for employment in business and industry but also for self-employment. In the light of so many closures of manufacturing concerns, self-employment may be a strategy to cope with the crisis. The entrepreneurial spirit needs to be harnessed and every talent marshalled in this direction.

10.3 Concluding remarks

The 11 policy areas of concern, and the suggestions for coping with the economic crisis, are some of the possibilities for the HELMS findings to be of value to the college-bound population, parents, the educational system and the policy makers. The operationalization of some of them should lead to the successful implementation of programmes and projects geared toward an economic recovery with beneficial social results. The role of education—the right education—cannot be understated.

Appendix A
QUESTIONNAIRE

HIGHER EDUCATION AND LABOR MARKET SURVEY
TRACER STUDY

Information collected will be kept in strict confidence

Interviewer: _____ Place of Interview: _____

Date of Interview: _____

Time of Interview: Start: _____ End: _____

I. PERSONAL DATA

1. Name: _____
(family name) (first name) (middle name)

2. Address: _____
(no., street, municipality, city, province)

3. Telephone no.: _____

4. Civil Status: 1 ☐ Single 3 ☐ Widowed
2 ☐ Married 4 ☐ Legally Separated

5. Sex: 1 ☐ Male 2 ☐ Female

6. Age (as of last birthday): _____

7. Citizenship: _____

8. If you are married:

8.1 Age of spouse _____

8.2 Educational attainment of your spouse

_____

Major (if any) _____

8.3 Spouse's occupation and industry (mining, manufacturing, etc.)?

Occupation: _____

Industry: _____

(Use occupation and industry classifications listed in Appendices A & B)

8.4 Spouse's approximate gross monthly income? (before tax deductions) P _____

8.5 Number of children

Boys _____ Girls _____ Total _____

State their ages: _____

9.1 Parent's highest educational attainment.

Father _____

Mother _____

9.2 Parent's occupation and industry.

	Father	Mother
Occupation:	_____	_____
Industry:	_____	_____

(Use the occupation and industry classifications listed in Appendices A & B)

9.3 Parent's approximate gross monthly income (before tax deductions).

Father: P _____

Mother: P _____

II. Education and Training

10. Educational Background

Level	Name of School	Address	Degree/Certificate	Year Obtained	Honors
Voc./Tech.					
College					
Grad. Studies					

11. Status of college studies

1 ☐ still studying (proceed to question 12)
2 ☐ discontinued studies (proceed to question 13)
3 ☐ finished bachelor's degree (proceed to question 14)

12. Rank the relevant reasons for still continuing studies.
(Indicate the rank of each using 1 as the most relevant reason).

☐ Due to part-time job
☐ Due to full-time job
☐ Academic reasons
☐ Financial
☐ Marriage
☐ Study interruption
☐ Others (specify) _____
(Proceed to question 19)

13. Rank the relevant reasons for discontinuance of studies.
(Indicate the rank of each using 1 as the most relevant reason).

☐ Financial reasons
☐ Due to part-time work
☐ Due to full-time work
☐ Health
☐ Interest
☐ Physical environment of the school
☐ Marriage
☐ Others (specify) _____
(Proceed to question 19)

14. Is the course you finished, the course you really wanted to take?

1 ☐ Yes (Proceed to a) 2 ☐ No (Proceed to b)

a. If yes, rank the following factors which prompted you to choose this course. (Indicate the rank of each using 1 as the most relevant factor).

☐ The course promised good employment opportunities
☐ The course gives a wide choice of future careers
☐ The course gives social prestige
☐ Influenced by friends
☐ Influenced by members of the family and relatives
☐ Others (specify) _____
(Proceed to question 15)

b. If no, rank the following reasons which prompted you to choose this course. (Indicate the rank of each using 1 as the most relevant reason)

- ☐ Lack of financing
- ☐ Parents prefered this course
- ☐ Academic performance in the past not satisfactory
- ☐ Simply changed your mind
- ☐ Others (specify) _____

15. How do you assess your performance in college?

1 ☐	poor	(Below 75%)
2 ☐	below average	(75 - 79%)
3 ☐	average	(80 - 85%)
4 ☐	above average	(86 - 94%)
5 ☐	excellent	(95 & above)

16. How do you assess the quality of education you obtained with respect to:

	Inadequate	Barely Adequate	Adequate	Very Adequate	Excellent
a. content of instruction	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. method of instruction	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

17. Aside from your formal education, did you have any other vocational/technical/craft/in-service training?

1 ☐ Yes (Proceed to question 18) 2 ☐ No (Proceed to question 19)

18. If yes, please fill in the following table:

Course/Name of Training Program	Institution/Agency which conducted the training	Place	Date	No. of training hours
1.				
2.				
3.				
4.				
5.				

19. Are you employed at present?

1 ☐ Yes (Proceed to question 20) 2 ☐ No (Proceed to question 44)

III. Employment Particulars

20. Are you the sole bread-earner of your household?

1 ☐ Yes 2 ☐ No

21. State the name and address of the firm/organization in which you are employed:

Employer: _____
Address: _____
Telephone No.: _____

22. Is this firm/organization:

1 ☐ National government
2 ☐ Provincial government
3 ☐ Local government/city
4 ☐ Government controlled corporation
5 ☐ Private corporation
6 ☐ Private partnership
7 ☐ Private single proprietorship

23. What is your present occupational/industrial classification?

a. Occupational Classification: _____

b. Industrial Classification: _____
(Use the occupation and industry classifications listed in Appendices A and B).

24. What is your present average monthly salary before tax deduction?

P _____

25. How long is your regular working hours (excluding overtime) per week? _____ hrs.

26. Are you actively looking for another job?

1 ☐ Yes (Proceed to question 27) 2 ☐ No (Proceed to question 28)

27. Rank the relevant reasons for actively looking for another job. (Indicate the rank of each using 1 as the most relevant reason).

☐ Better pay
☐ Better use of training
☐ Better prospects for promotion
☐ More suited to personal talents
☐ Better working conditions
☐ Work within vicinity of residence
☐ Opportunity to study
☐ Opportunity to travel
☐ More time for family and hobbies
☐ Opportunity to supervise others
☐ Others (specify) _____

28. Do you have other sources of income?

1 ☐ Yes (Proceed to question 29) 2 ☐ No (Proceed to question 30)

29. If yes, indicate the nature and approximate monthly income before tax deductions.

Kind/Nature of Job	Name of Company Institution	Address	Approximate monthly income before tax deductions

30. Is this your first employment?

1 ☐ Yes (Proceed to question 32) 2 ☐ No (Proceed to question 31)

31. If no, please list down your previous work experiences

Position or Official Designation	Inclusive years of employment	Name and address of Establishment	Monthly Salary
1.			
2.			
3.			
4.			
5.			

32. How long did it take you to land your first job after graduation? (If you were a working student, please proceed to question 34).

a. After finishing your course

_____ Years _____ Months _____ Weeks

b. After actively looking for work

_____ Years _____ Months _____ Weeks

33. If you think it took you too long to find a job after looking for one, rank in your judgment the reason(s) for this delay? (Indicate the rank of each using 1 as the most relevant reason).

☐ salary offer too low
☐ working condition not satisfactory
☐ little or no opportunity for advancement
☐ job too far from home
☐ no job opportunities

34. Indicate the degree of importance of the following factors in helping you get your first job.

	Not Important	Barely Important	Important	Very Important	Extraordinarily important
a. through school placement office	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. government employment office	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. media advertising	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
d. recommendations from former teachers/instructors	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
e. recommendations from relatives/friends	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
f. personel office of the hiring company	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
g. Others (specify)	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

	35. Which field did you specialize in in your highest qualification?	36. Which field is the most relavant to your current job?
Commerce and Business	☐ 01	☐ 01
Economics	☐ 02	☐ 02
Engineering	☐ 03	☐ 03
Vocational-Technological Education	☐ 04	☐ 04
Mathematics	☐ 05	☐ 05
Physical Science	☐ 06	☐ 06
Nautical Science	☐ 07	☐ 07
Teacher Education	☐ 08	☐ 08
Home Economics	☐ 09	☐ 09
Medicine	☐ 10	☐ 10
Dentistry	☐ 11	☐ 11
Veterinary Medicine	☐ 12	☐ 12
Nursing	☐ 13	☐ 13
Medical Technology	☐ 14	☐ 14
Nutrition and Dietetics	☐ 15	☐ 15
Law	☐ 16	☐ 16
Foreign Service	☐ 17	☐ 17
Music and Fine Arts	☐ 18	☐ 18
Agriculture	☐ 19	☐ 19
Fisheries	☐ 20	☐ 20
Humanities	☐ 21	☐ 21
Mass Communication	☐ 22	☐ 22
Languages	☐ 23	☐ .
Social Sciences (History, Political Science, Anthropology, Sociology, Psychology, etc.)	☐ 24	☐ 24

37. To what extent do you think was your qualifications necessary for getting your present job?

1 ☐ Not nec ary
2 ☐ Barely necessary
3 ☐ Necessary
4 ☐ Very necessary
5 ☐ Extra ordinarily necessary

38. Do you find your formal training in school as shown in number 10 useful in relation to the needs of your present job?

1 ☐ Not necessary
2 ☐ Barely necessary
3 ☐ Necessary
4 ☐ Very necessary
5 ☐ Extra ordinarily necessary

39. Do you find your training as shown in number 18 useful in relation to the needs of your present job?

1 ☐ Not necessary
2 ☐ Barely necessary
3 ☐ Necessary
4 ☐ Very necessary
5 ☐ Extra ordinarily necessary

40. Which one is more useful as far as your present job is concerned?

1 ☐ Formal training in question 10 more useful than question 18
2 ☐ Training in question 18 more useful than in question 10
3 ☐ Formal training in question 10 is equally useful as training in number 18
4 ☐ Cannot say

41. Are you satisfiad with your present job?

1 ☐ Yes (Proceed to question 43)
2 ☐ No (Proceed to question 42)

42. Rank the relevant reasons for your dissatisfaction? (Indicate the rank of each using 1 as the most relevant reason).

☐ poor working condition
☐ unable to apply school training
☐ poor prospects for promotion
☐ not suited to personal objectives
☐ not enough opportunities for self-fulfillment
☐ cannot get along well with co-workers
☐ others (specify) _____

(Proceed to question 47)

43. Why are you satisfied with your present job? (Indicate the degree of importance of the following factors).

	Not Important	Barely Important	Important	Very Important	Extraordinarily Important
a. able to utilize talents	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
b. scholarship opportunities	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
c. good income	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
d. good prospect for career advancement promotion	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
e. opportunity to travel	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
f. ample time off for family and hobbies	1 ☐	2 ☐	3 ☐	4 ☐	☐
g. self-fulfillment	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
h. offers secure future	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
i. good employee relationships	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
j. others (specify) _____	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

(Proceed to question 47)

44. Are you actively looking for a job right now?

1 ☐ Yes (Proceed to question 45) 2 ☐ No (Proceed to question 46)

45. If yes, how? _____

46. Rank the relevant reasons for your being unemployed. (Indicate the rank of each using 1 as the most relevant reason).

☐ No job opening in my field of specialization
☐ No connections
☐ The college where I studied is not prestigious
☐ No interest in getting a job
☐ Family situation prevents me from working
☐ No job openings within the vicinity of my residence
☐ No job openings for anyone
☐ Lack of professional eligibility requirements (board exam., civil service eligibility, bar, etc.)
☐ Inadequate experience
☐ Starting pay is too low
☐ Others (specify) _____

47. Have you refused any job offer?

1 ☐ Yes (Proceed to question 48) 2 ☐ No (Proceed to question 49)

48. If yes, rank the relevant reason for refusing the job offer(s)? (Indicate the rank of each using 1 as the most relevant reason).

- ☐ The salary was too low
- ☐ Did not like the kind of job
- ☐ Not in my field of specialisation
- ☐ Job far from my residence
- ☐ Parents prevented me from taking the job
- ☐ Others (specify) _____

49. Please give your address and telephone number where you can be contacted for future reference.

Address: _____

_____ Telephone No. _____

Occupational Classification

1. Professional, Technical and Related Workers
   - 1.1 Physical, Social, and Life Scientists and Related Technicians
   - 1.2 Architects, Engineers, Mathematicians and Related Technicians
   - 1.3 Medical, Dental, Veterinary and Related Workers
   - 1.4 Creative, Performing and Related Artists
   - 1.5 Accounting and Auditors
   - 1.6 Teachers, and Workers in Religion
   - 1.7 Athletes, Sportsmen and Related Workers
   - 1.8 Social Scientists, Mathematicians, System Analysts and Related Workers

2. Administrative, Executive and Managerial Workers
   - 2.1 Legislative Officials, Government Administrators and Executives
   - 2.2 Managers

3. Clerical and Related Workers
   - 3.1 Secretaries, Bookkeepers, Cashiers, and Related Workers
   - 3.2 Computing Machine Operators
   - 3.3 Transport and Communication Clerks, Messengers, Operators, Conductors and Related Workers

4. Sales Workers
   - 4.1 Managers and Supervisors (wholesale and retail)
   - 4.2 Technical Salesmen, Traveling Salesmen and Manufacturer's Agents
   - 4.3 Insurance, Real Estate, Securities and Business Services, Salesmen and Auctioneers

5. Service Workers
   - 5.1 Catering and Lodging Managers and Related Workers
   - 5.2 Building Caretakers, Launderers, Beauticians, and Related Workers
   - 5.3 Protective Service Workers (Policemen, Fire fighters, etc.)

6. Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters

7. Production and Related Workers, Transport Equipment Operators and Laborers
   - 7.1 Miners, Quarrying, Metal Processor, Well Drillers, and Related Workers
   - 7.2 Wood Preparation Workers and Paper Makers
   - 7.3 Food and Beverage Processors
   - 7.4 Tailors, Dressmakers, Sewers, Upholsterers and Footwear Makers
   - 7.5 Electricians, Broadcasting Station and Sound Equipment Operators
   - 7.6 Construction Workers, Painters, Glass Formers and Related Workers

8. Members of the Armed Forces

Industrial Classification

1. Agriculture, Fishery and Forestry
   - 1.1 Agricultural Crops Production
   - 1.2 Production of Livestock, Poultry and Other Animals
   - 1.3 Agricultural Services
   - 1.4 Fishery: offshore, coastal and inland fishing; operation of fish farms
   - 1.5 Forestry, Logging operations and other Forestry Activities
   - 1.6 Hunting and Trapping and Game Propagation

2. Mining and Quarrying
   - 2.1 Metallic and Non-metallic Mining and Quarrying

3. Manufacturing
   - 3.1 Manufacture of Food Beverages and Tobacco
   - 3.2 Textile, Weaving Apparel and Leather Industries
   - 3.3 Manufacture of Wood and Wood Products
   - 3.4 Manufacture of Paper and Paper Products: Printing and Publishing
   - 3.5 Manufacture of Chemicals and of Chemical, Petroleum, Coal, Rubber and Plastic Products
   - 3.6 Manufacture of Non-metallic Mineral Products
   - 3.7 Manufacture of Basic Metal Industries
   - 3.8 Manufacture of Fabricated Metal Products, Machinery and Equipment

4. Electricity, Gas and Water
   - 4.1 Generating and Distributing Electricity
   - 4.2 Gas manufacture and distribution through systems
   - 4.3 Steam heat and power plants
   - 4.4 Water works and supply

5. Construction
   - 5.1 General Building Construction
   - 5.2 General Engineering Construction
   - 5.3 Special Trade Construction

6. Wholesale and Retail Trade

7. Transportation, Storage and Communication
   - 7.1 Transportation Services
   - 7.2 Storage and Warehousing
   - 7.3 Communications: Mail and express, Telephone, etc.

8. Financing, Insurance, Real Estate and Business Services
   - 8.1 Banking Institutions
   - 8.2 Financial Intermediaries
   - 8.3 Life and Non-life Insurance Companies
   - 8.4 Real Estate Development Companies
   - 8.5 Professional Business Services
   - 8.6 Advertising Services
   - 8.7 Machinery and Equipment Renting and Leasing

9. Community, Social and Personal Services
   - 9.1 Public Administration and Defense
   - 9.2 Sanitary and Similar Services
   - 9.3 Education Services
   - 9.4 Medical, Dental, Other Health and Veterinary Services
   - 9.5 Restaurant and Hotels
   - 9.6 Recreational and Cultural Services
   - 9.7 Personal and Household Services

What are the problems encountered by the higher education graduates of the Philippines in obtaining employment? What factors contribute to obtaining employment? How has the phenomenon of transition of graduates evolved during the recent past? What forces influence the behaviour of the unemployment market? How do the content and structure of education respond to the problem of educational unemployment? What are the causes of graduate unemployment?

Based on a cohort of 1,284 students and a longitudinal study over time, the present report attempts to answer the above questions.

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