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**REPORT ON
THE PATTERN OF GRADUATE EMPLOYMENT**



**DIRECTORATE GENERAL OF EMPLOYMENT & TRAINING
MINISTRY OF LABOUR & EMPLOYMENT
GOVERNMENT OF INDIA**

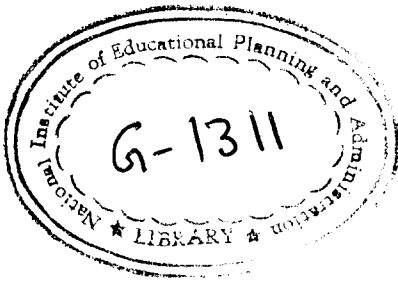
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PATTERN OF GRADUATE
EMPLOYMENT**

**DIRECTORATE GENERAL OF EMPLOYMENT AND TRAINING
MINISTRY OF LABOUR AND EMPLOYMENT
NEW DELHI
1963**

Donated by Sh. D. P. Nayar



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FOREWORD

Rational utilisation of manpower in relation to their level of education and skill is one of the central objectives of manpower planning. In view of the increasing output of educational institutions in our country, there has been considerable interest among the public in recent years with regard to the problem of employment among educated persons in general and the university graduates in particular. In 1958, a Survey on the employment pattern of the alumni of Delhi University was undertaken jointly by the Delhi University, Planning Commission and the Directorate General of Employment & Training (D.G.E.&T.). Need was subsequently felt to undertake a study of this type on a wider basis covering the alumni of all universities in the country. With this end in view, an all-India survey of the pattern of graduate employment was undertaken by the D.G.E.&T. in 1960. This survey was carried out under the technical guidance of a Committee of Direction composed of representatives from the Manpower Directorate in the Ministry of Home Affairs, Planning Commission, University Grants Commission, Ministry of Education, Central Statistical Organisation, Indian Statistical Institute and the D.G.E.&T. The main objective of the survey was to bring out the relationship between the courses of study in the universities and the nature of employment secured by their alumni. The survey was financed by a grant from the Ford Foundation which was made available to the D.G.E.&T. through the Directorate of Manpower.

A sample of university graduates was selected for the purpose of the survey from whom the required data were collected by mail questionnaires. A certain measure of non-response is perhaps inevitable in a survey of this kind. Due to this factor of non-response, the finding of the survey may not strictly reflect the situation affecting all the graduates concerned. Despite this limitation, however, the survey has brought out, for the first time, certain factual information about the pattern of employment among university graduates.

It is hoped that the results of the survey would be useful to those concerned with manpower planning in taking appropriate steps for better utilisation of educated persons, after they

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leave the portals of the universities and enter the employment market. The relationship between university education and employment prospects, as revealed by the survey, may also provide more positive basis for educational planning. In particular, the findings of the survey may be useful to educational authorities in considering reorientation, if any, required in the present organisation of various courses of study, so as to enrich the employment potential of the future alumni of our universities.



(S. A. QADIR)

*Director General of Employment & Training
and Joint Secretary to the Government of India*

ACKNOWLEDGEMENTS

We are grateful for the cooperation extended by the University authorities in the conduct of the survey. We also gratefully acknowledge the interest shown by the alumni of the Universities for the survey who took pains to send the required information which formed the basis of the present report. The collection and preliminary processing of data were done by Shri Vidya Sagar, Research Officer, under the guidance of Shri A. N. K. Nair, the then Additional Director of Employment Exchanges. The final analysis and interpretation of the data as well as the drafting of the report was done by Shri P. Sen Gupta, Statistical Officer to whom must go the credit of giving a final shape to the results of the survey. Shri Sen Gupta was assisted by Shri Suresh Chandra in the processing of the data for the report. The report was finally examined by a Committee comprising of representatives of Institute of Applied Manpower Research, Manpower Directorate (Ministry of Home Affairs), Planning Commission, Ministry of Education, University Grants Commission and the Central Statistical Organisation who made valuable suggestions for improvement.

A handwritten signature in cursive script, reading "S. N. Channa", is written above a horizontal line.

(S. N. CHANNA)

Director of Employment Exchanges

CHAPTER I

INTRODUCTION

The problem of educated unemployment

1.1. The problem of unemployment among the educated youth has attracted considerable attention of administrators, planners, educators and the public at large in recent years. A Study Group set up by the Planning Commission towards the end of 1955 to examine the problem and to suggest remedial measures emphasised, *inter-alia*, the need for an appraisal of the supply of and the demand for graduates in its regional and occupational aspects. A first step towards tackling the problem of educated unemployment would be to know as to what happens to our youth after they leave the portals of educational institutions, what types of jobs they enter into, how many of them remain unemployed and in particular what is the relationship between their education and the subsequent employment. Such a study will also be extremely useful from the angle of manpower planning as any attempt at estimating future manpower requirements has to be based on our existing knowledge of the fields in which educated persons find employment.

1.2. Graduates are perhaps the greatest of all national assets. They represent the best educated portion of the population on which the country has invested large sums of money. It is, therefore, felt that a study of the relationship between their field of education and the pattern of employment would help considerably in our understanding of the problem of educated unemployment. Such a study will also indicate the direction in which the present educational system might be modified to increase the employment potential of our university graduates.

Earlier surveys on the employment pattern of university graduates

1.3. A survey* of the employment pattern of the Delhi University alumni was conducted during 1958-59 under the joint auspices of the Delhi University, the Planning Commission and the Ministry of Labour & Employment (D.G.E. & T.). One of the main objectives of the survey was to examine the relationship between the education imparted in the University and the subsequent employment of its alumni. It was also intended to find out to what extent the instruction imparted in different faculties were useful in the job performance of graduates and to obtain information of the occupational preferences, the factors determining the choice of subjects and career pattern of university graduates. The survey covered all those who obtained a degree, diploma or certificate from the Delhi University in 1950 and 1954 and was conducted by the personal interview method. It threw up valuable information on the relationship between the education and the subsequent employment of the alumni in addition to providing useful sidelights on employment status, earnings, occupational preferences, etc. of University graduates.

*Employment Survey of the Alumni of Delhi University-Report of the Committee of Direction published in 1962.

1.4. Any account of the work done in this field cannot be complete without a special mention of a Sample Survey† of men graduates conducted in Great Britain in 1953 by the Political and Economic Planning (P.E.P.) with a view to collecting comprehensive information in regard to the various problems connected with employment of graduates particularly with reference to industry. This pioneering study was one of the main sources of inspiration for undertaking similar surveys of university graduates in India.

Progress in the University Education

1.5 During the first and the second five year plans, there has been a considerable expansion of education at all stages and particularly at the university stage. The following table shows the growth of institutions at the university stage in India between 1950-51 and 1960-61 :

TABLE 1(1)

*Number of universities and other institutions of higher education**

Item	1950-51	1955-56	1960-61
(1)	(2)	(3)	(4)
No. of Universities	27	32	45
No. of Research Institutions	18	11	41
No. of Colleges of General Education	498	712	1,039
No. of Colleges of Professional & Technical Education	208	346	852
No. of Colleges of Special Education	92	112	186

1.6. The enrolment in the universities and other institutions of higher education has also increased considerably during this period as the following table will show :—

TABLE 1(2)

*Enrolment of students in universities and other institutions of higher education**

Item	1950-51		1955-56		1960-61	
	Boys	Girls	Boys	Girls	Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Universities	28,498	2,733	43,827	5,649	62,297	9,091
Research Institutions	586	48	1,869	91	2,753	199
Colleges of General Education	2,72,150	37,973	4,44,841	77,689	5,61,345	1,30,287
Professional and Technical Colleges	49,988	4,162	85,512	8,386	1,66,807	27,470
Special Education Colleges	5,624	1,757	8,959	4,356	14,925	10,121
TOTAL	3,56,846	46,673	5,85,008	96,171	8,08,127	1,77,168

†Graduate Employment—A Sample Survey (Sept. 1956) published by Political and Economic Planning, London

*Source: Ministry of Education.

All India survey of the pattern of Graduate Employment

1.7 It is not an uncommon experience to find graduates working in vocations not related to their education. Thus, we come across the unhappy spectacle of graduates in science employed as clerks while at the same time shortage of science teachers for educational institutions are being reported by the Employment Exchanges. Such instances of maladjustment between education and employment of the university graduates which can be multiplied have posed some basic questions such as whether the universities are supplying the right type of manpower needed for the economic development of the country, whether the university education needs to be reformed so as to be more in line with the employment opportunities. We do not, unfortunately, have dependable statistics at present to answer these queries. The Delhi Alumni Survey as referred to earlier did provide very valuable information on this subject but the results, being confined to only one university, naturally, could not reflect the conditions of the alumni in the country as a whole.

1.8. With more and more graduates coming out of the portals of the Universities, the need for reliable information of the employment pattern of these graduates was all the more being felt. The response which university graduates gave to the Delhi alumni survey (the overall response being more than 50 per cent) provided a further impetus to undertaking a comprehensive survey on similar lines covering all the universities in the country. Keeping in view the above requirements, the Manpower Steering Committee of the Ministry of Home Affairs proposed in August 1958 that a sample survey of the pattern of graduate employment be undertaken on an all-India basis by the Directorate General of Employment and Training (D.G.E. & T.) primarily with a view to bringing out the relationship between university education and employment.

CHAPTER II

PURPOSE, SCOPE AND METHOD OF THE STUDY

Purpose of the Survey

2.1. An all-India survey of the pattern of graduate employment was undertaken by the Directorate General of Employment and Training towards the beginning of 1960, primarily with a view to bringing out the relationship between the courses of study at college and the type of employment secured by graduates. The enquiry also intended to throw up valuable sidelights regarding the post educational careers of graduates such as the occupation in which employed, the earnings, the extent of unemployment, if any, their attitude towards job etc.

2.2. The Survey was confined to university graduates who obtained degrees in the years 1950 and 1954. The choice of these two years was based on the object of ensuring uniformity of reference years with the Delhi Alumni Survey for the sake of comparability of results wherever possible. In addition to this, it was felt that the interval between 1954 and 1960 (i.e. the date of survey) would be long enough to throw light on the early employment history of the graduates.

Scope and Coverage

2.3 The Survey covered all men and women graduates who took their degrees as well as those who passed Master's or higher degrees in 1954 from all the universities in the country except Delhi and Madras. Delhi University was not included as a similar survey (i.e. the Delhi Alumni Survey) was recently conducted in respect of its alumni, whereas Madras University had to be left out as the University authorities decided to await the results in respect of other universities before considering the question of conducting a similar survey of their own alumni. The total number of universities in the country in 1954 being 31, the number of universities covered in the survey in so far as the 1954 batch is concerned was 29. In regard to the 1950 alumni the survey covered graduates who passed only from three universities—Andhra, Agra and Patna. A list of universities covered in the survey is given at Appendix I.

2.4 For purposes of selection of samples, graduates were classified under the following 15 subject groups/faculties on the basis of the degree obtained in the reference year (1950 or 1954 as the case may be) :

Sl. No.	Subject group/faculty	Degrees included
1.	B.A.	B.A., B.A.(Hons), B.A.(Home Arts).
2.	B.Sc.	B.Sc., B.Sc.(Hons.), B.Sc.(Home Science), B.Sc. (Pharmacy), B.Sc.(Medical).
3.	B.Com.	B.Com., B.Com(Hons).
4.	B. Sc. (Agr.)	B. Sc. (Agr.).
5.	LL.B.	B.L., LL. B.
6.	B.T.	B.T., B.Ed.
7.	Engineering and technology	B.E., B.Sc. (Eng.), B.Sc. (Tech.), B. Textile, B. Fuel Technology.
8.	Medicine	M.B.,B.S., B.D.S.
9.	Veterinary Science	B. V. Sc.

Sl. No.	Subject group/faculty	Degrees included
10.	Other graduates	B.Sc. (Nursing), B.Sc. (Sanitary), Degree in Music, Diploma in Library Science, Diploma in journalism, Diploma in public administration, Bachelor of Oriental learning, Ayurvedacharya, B.I.M.S.
11.	M.A.	M.A., M.A.(Social work), Master of Social Work.
12.	M.Sc.	M.Sc., M.Sc. (Agricultural), M.Sc. (Pharmacy).
13.	M.Com.	M.Com.
14.	Other post graduates	M.Ed., M.E./M.Sc. (Engineering), M.Sc. (Technology) and other post graduate diploma in engineering, M.Sc. (Veterinary Science), Master of Law, Master of Library Science, M. O. L., M.S., A.I.Sc.
15.	Ph.D.	Ph.D. and M.D.

In regard to the 1950 alumni, only the first degree faculties, at Sl. Nos. 1 to 8 above were covered.

Sampling Procedure

2.5. Lists of names of graduates who passed in 1950 and 1954 as obtained from the universities concerned constituted the "frame" of the survey, the total number that comprised the frame being 76,924 and 8,882 for 1954 and 1950 respectively. For purposes of sampling graduates who passed out in the two reference years were stratified according to faculties—the alumni belonging to the subject-groups/faculties referred to above provided the strata. In respect of each stratum a systematic sample was selected with a random start from the lists of graduates supplied by the universities, for purposes of investigation. The sampling fraction, however, varied from one stratum to another—a greater fraction of graduates were selected from strata with smaller sizes so as to ensure that the sample size is adequate for drawing conclusions with reasonable degree of precision in regard to the various subject groups. The overall sampling fraction was of the order of $\frac{1}{4}$ for both the 1950 and 1954 batch. The size of the strata and the allocation of sample in different strata are given in the table below separately for the 1950 and 1954 alumni and the same is shown graphically in Chart I.

TABLE 2(1)
Size of Strata and allocation of Samples

1950—Alumni				
Sl. No.	Faculty/Subject group	Size of Strata.	Sample size	Sampling fraction [% of Col. (4) to (3)]
(1)	(2)	(3)	(4)	(5)
1.	B.A.	4,553	455	10
2.	B.Sc.	1,284	256	20
3.	B.Com.	1,298	433	33
4.	B.Sc. (Agr.)	372	372	100
5.	LL.B.	767	256	33
6.	B.T.	256	103	50
7.	Engineering and Technology	145	72	50
8.	Medicine	257	128	50
TOTAL		8,882	2,075	23

1954—Alumni

Sl. No.	Faculty/Subject group	Size of Strata.	Sample size	Sampling fraction [% of Col. (4) to (3)]
(1)	(2)	(3)	(4)	(5)
1.	B.A.	30,464	3,036	10
2.	B.Sc.	13,496	2,700	20
3.	B. Com.	6,311	2,086	33
4.	B.Sc. (Agr.)	806	806	100
5.	LL.B.	5,502	1,819	33
6.	B.T.	3,622	1,809	50
7.	Engg. & Technology	2,454	1,222	50
8.	Medicine	2,121	1,058	50
9.	Veterinary Science	155	155	100
10.	Other graduates	391	391	100
11.	M.A.	7,877	2,615	33
12.	M.Sc.	2,069	1,033	50
13.	M.Com.	860	860	100
14.	Other Post Graduates	510	510	100
15.	Ph.D.	286	286	100
TOTAL ..		76,924	20,386	27

The Questionnaire

2.6. The survey was conducted by the mail questionnaire method. The questionnaire was therefore kept as simple as possible so that the graduates might not face any difficulty at the time of filling in the same. A copy of the questionnaire used in the Survey along with the covering letter addressed to the graduates is given at Appendix II. Among the main items of information included in the questionnaire were particulars regarding father's occupation, family income, details of secondary school education, university education, activity since obtaining first degree, list of successive employments, attitude towards present job, employment preference of unemployed graduates, etc.

Operational arrangements

2.7. The survey was carried out by the Directorate General of Employment and Training under the technical supervision of a Committee of Direction consisting of representatives of the Manpower Directorate (Ministry of Home Affairs), Planning Commission, University Grants Commission, Ministry of Education, Central Statistical Organization, Indian Statistical Institute and the D.G.E. & T. Considerable co-operation was extended by the University authorities but for which the conduct of the survey would not have been possible.

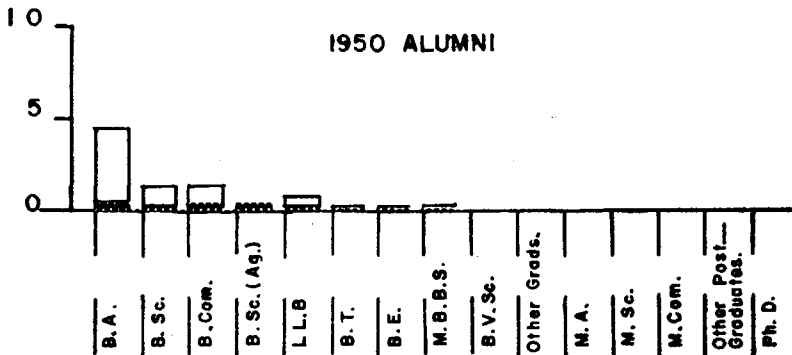
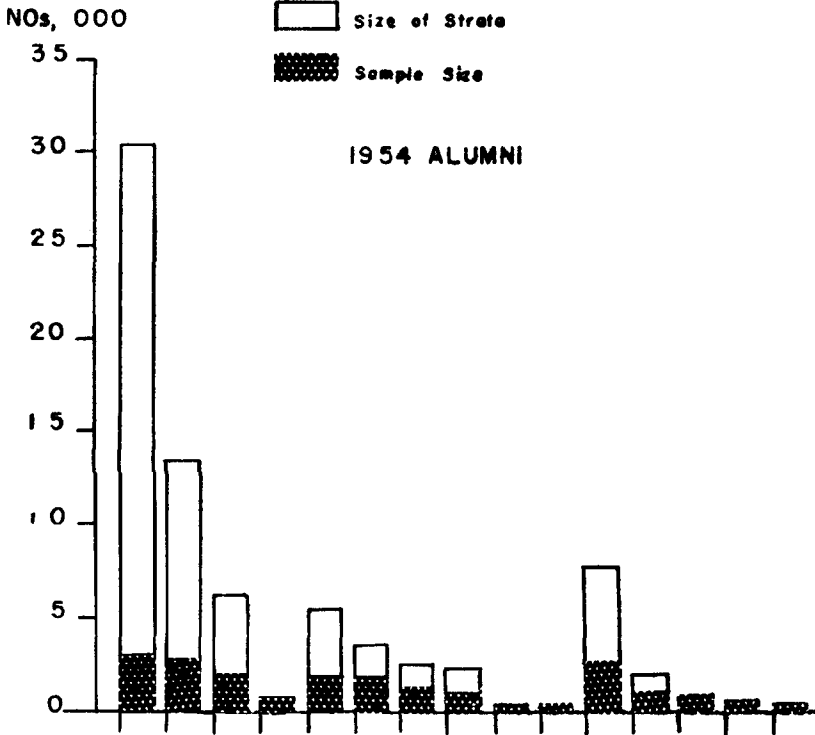
2.8. At the outset lists of graduates who passed in the two reference years were obtained from the Universities covered by the Survey. The names of the graduates contained in these lists were arranged according to the subject groups/faculties mentioned in para 2.4 above and a systematic sample was drawn from each faculty separately for the 1954 and 1950 batch. The addresses of the sampled graduates were then obtained from the Universities concerned and questionnaires were mailed accordingly along with reply-paid envelopes.

Degree of response

2.9. Out of the total number 20,386 and 2,075 graduates sampled from the 1954 and 1950 batch respectively the university authorities were able to provide addresses in respect of 17,972 and 2,026 graduate

Chart-1.

SIZE OF STRATA & SAMPLE SIZE



respectively to whom questionnaires were mailed. Completed questionnaires were received from 6,814 and 633 graduates of the 1954 and 1950 batch respectively, whereas 1,542 and 192 questionnaires relating to the two batches were returned undelivered. The proportion of individuals who responded to the total number addressed was 37.9 per cent and 31.2 per cent in respect of the 1954 and 1950 batch respectively. The lower rate of response among the 1950 alumni is obviously due to the longer time gap between the year of their passing examination and the date of the survey, so that many of them might have moved away from their previous addresses. Facultywise distribution of the number of individuals addressed and the number responded separately for the 1954 and 1950 alumni are given in the table below for each faculty and the figures have been shown graphically in Chart 2.

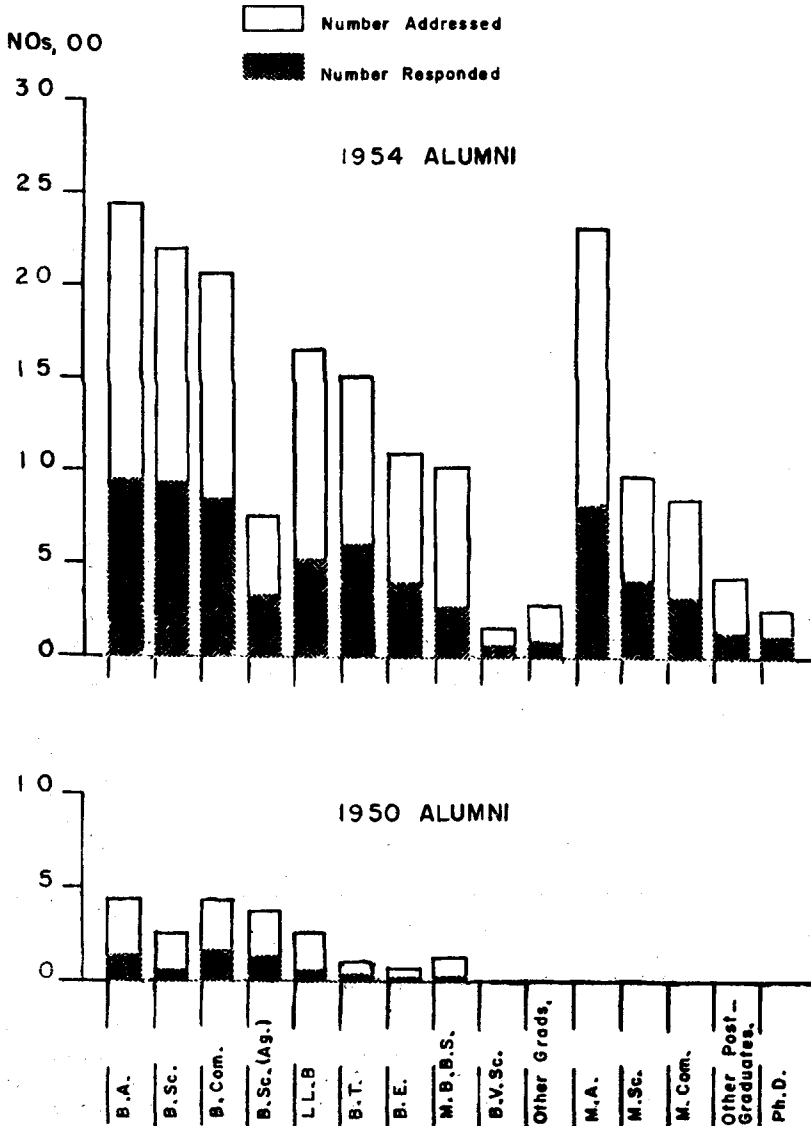
TABLE 2(2)
Number of graduates addressed and responded

Sl. No.	Faculty/ Subject group	1954 batch			1950 batch		
		No. addressed	No. responded	Degree of response (percentage)	No. addressed.	No. responded	Degree of response (percentage)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	B.A.	2,454	956	39.0	438	131	30.0
2.	B.Sc.	2,200	934	42.5	251	67	26.7
3.	B. Com.	2,063	840	40.7	427	159	37.2
4.	B.Sc. (Agr.)	757	331	43.7	370	140	37.8
5.	LL.B.	1,656	519	31.3	254	54	21.3
6.	B.T.	1,510	602	39.9	100	38	38.0
7.	Engg. & Tech.	1,092	403	36.9	64	21	32.8
8.	Medicine	1,020	285	27.9	122	23	18.9
9.	Vet. Science	149	51	34.2			
10.	Other Grads.	267	80	30.0			
11.	M.A.	2,326	819	35.2			
12.	M.Sc.	977	406	41.6			
13.	M.Com.	842	330	39.2			
14.	Other post graduates	417	161	38.6			
15.	Ph. D.	242	97	40.1			
TOTAL ..		17,972	6,814	37.9	2,026	633	31.2

It would be observed that the rate of response varied from one faculty to another—response in regard to the 1954 batch being more satisfactory among graduates in Science, Commerce, Agriculture, Teaching, post-graduates in Science and Commerce and doctorates. On the other hand, the degree of response was somewhat low in respect of graduates in Law and Medicine. The pattern of response was more or less similar among the 1950 alumni. The number of graduates addressed and the number responded in respect of each University are shown in Appendix I.

Chart 2.

NUMBER OF GRADUATES ADDRESSED AND RESPONDED



Period of the Survey

2.10. The blank questionnaires were mailed to the graduates with effect from March 1960 and filled in schedules from the respondents started pouring in from April 1960 and was staggered over a number of months. However, the bulk of the completed questionnaires were received towards the middle of 1960 and hence the findings of the present survey can be considered to show the position of the alumni roughly as it obtained round about the middle of 1960.

Limitations of the Survey

2.11. It will be seen that out of a total number of 76,924 and 8,882 graduates who constituted the frame of the survey for the 1954 and 1950 alumni respectively, 17,972 and 2,026 were addressed of whom 6,814 and 633 respectively responded. Thus, the degree of response (i.e. the proportion of the number responded to the number addressed) was 37.9 per cent and 31.2 per cent for the 1954 and 1950 alumni respectively. One of the reasons why response was not very satisfactory is the mobility of graduates, with the result that the addresses as extracted from the University records were in some cases not current. In addition to this, it is possible that a number of graduates received the questionnaire but did not respond for various reasons. No attempt was made to collect the relevant particulars from a sample of non-respondents by the method of personal follow-up. As such, the findings of the survey as given in the present report, though useful in itself, cannot strictly be regarded as reflecting the conditions of the alumni in general.

2.12. Another factor that should be borne in mind while interpreting the results of the survey is that the various aspects of employment and unemployment of the alumni, e.g. occupational pattern, earnings, incidence of unemployment etc. have been related to the degree obtained by them in the reference year (1950/1954 as the case may be) —no account being taken of the degrees, if any, secured by them subsequently. It is, however, felt that this will not vitiate our study of the relationship between university education and employment as attempted in the present survey to any significant extent.

2.13. As the 1950 sample is confined to the alumni of three selected universities whereas the 1954 sample embraces the alumni of 29 universities there is no strict comparability of overall results between the 1950 and 1954 batch. Besides, the number of respondents among the 1950 alumni being rather small any analysis which involves a somewhat detailed breakdown of the sample will not yield valid results. In view of this, the present report deals almost entirely with an analysis of the various characteristics of the 1954 alumni for which the number of respondents is relatively large.

Processing of data and report writing

2.14. The completed questionnaires were received in the D.G.E. & T. and were scrutinised for consistency of figures and tabulated with the help of mechanical tabulation equipments. The method of estimation applied for processing the data has been explained, *inter-alia*, in the note on statistical methodology given at Appendix III.

2.15. The present report contains all the major items of information thrown up by the survey. In respect of a few items of the questionnaire for which the information was not considered to be reliable, the required analysis has not been incorporated in the report. For reasons stated in para 2.13 above, chapters III to VIII of the report deal exclusively with the 1954 alumni whereas a separate chapter (IX) has been incorporated towards the end of the report giving some broad characteristics of the 1950 alumni. While studying this report it has to be borne in mind that the term graduates would normally include post-graduates unless specifically stated otherwise.

Expenditure

2.16. The survey was financed out of a grant made available by the Ford Foundation to the Manpower Directorate, Ministry of Home Affairs. The total expenditure incurred was of the order of about Rs. 34,000.

CHAPTER III

FAMILY AND EDUCATIONAL BACKGROUND

3.1. In this chapter we shall describe certain general characteristics of the alumni such as age, marital condition and family background at the time of the survey and also some aspects of their school and college education. Although these characteristics are not directly related to the main objective of the survey the data would be useful in understanding the general background of the alumni. For reasons stated in para 2.13 under Chapter II, the analysis given in this chapter as well as the subsequent Chapters IV to VIII relates to the 1954 alumni.

AGE, MARITAL STATUS AND FAMILY BACKGROUND

Age distribution

3.2. Distribution of the graduates according to their age at the time of the survey reveals that 5.2 per cent were aged below 25 years, 60.2 per cent aged 25 years or more but less than 30 years, 25.6 per cent aged 30 years or more but below 35 years, 8.8 per cent were 35 years of age or more and 0.2 per cent did not report their age. The following table shows the relevant data separately for men and women alumni.

TABLE 3(1)
Distribution of graduates by age-groups.

Age group (years)	Percentage of graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
Below 25	4.8	8.6	5.2
25 or more but less than 30	59.7	64.4	60.2
30 or more but less than 35	26.4	19.7	25.6
35 or more	9.0	6.3	8.8
Not available	0.1	1.0	0.2
TOTAL ..	100.0	100.0	100.0
Number in the sample	6,270	544	6,814

It is interesting to note that women obtained their degree at a younger age than men—the proportion of women graduates who were aged below 30 years at the time of the survey was 73 per cent as against a corresponding proportion of about 64 per cent in respect of men. While studying the results relating to women one special point deserves notice. In our country higher education among women is still largely confined to urban areas and to socially and economically advanced classes in the society. Thus the various characteristics of women graduates as revealed by the present survey are more applicable to the urban and socially or economically better off section

of society. This factor has to be kept in view while interpreting the findings of the survey in regard to women graduates. The detailed results in respect of women alumni have been presented in a separate Chapter (VIII).

Marital Status.

3.3. As regards marital status, it is observed that till the date of the survey, 26.5 per cent of the graduates remained single, 71.9 per cent were married, 0.5 per cent were widowed and the rest did not indicate their marital status. Separate figures of men and women are given in the table below :

TABLE 3 (2)

Distribution of graduates according to marital status.

Marital Status	Percentage of graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
Single	24.6	42.0	26.5
Married	73.9	55.1	71.9
Widowed	0.4	1.8	0.5
Not available	1.1	1.1	1.1
TOTAL ..	100.0	100.0	100.0
Number in the sample	6,270	544	6,814

The above figures reveal that a greater proportion of women graduates remained single till the date of the survey as compared to men graduates.

Family Income.

3.4. Bulk of the graduates belonged to families of the lower or middle income groups. The following table shows the distribution of graduates by average monthly income of family.

TABLE 3 (3)

Distribution of graduates by average monthly income of family.

Average monthly income of family (Rs.)	Percentage of graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
Below 200	29.9	22.1	29.1
200 to 499	45.8	44.5	45.7
500 and above	22.7	28.4	23.3
Not available	1.6	5.0	1.9
TOTAL ..	100.0	100.0	100.0
Number in the sample	6,270	544	6,814

It will be seen that 29.1 per cent of the graduates had an average family income of less than Rs. 200 per month, 45.7 per cent had a family income of Rs. 200 or more but below Rs. 500 per month and the family income of 23.3 per cent ranged above Rs. 500 per month. The remaining 1.9 per cent did not report their family income. Women graduates, it will be noted, came from families of a somewhat higher income group—the proportion of such graduates having family income of below Rs. 500 per month was 66.6 per cent as against a corresponding proportion of 75.7 per cent for men. To a certain extent this may reflect the tendency that persons in the lower income group may not afford university education for their sons as well as their daughters as in the case of families in higher income groups.

Family Occupation.

3.5. Distribution of the graduates by their principal family occupation reveals that only about 28 per cent of them came from the agricultural class which is the most numerous class in the society. Minority groups which had a lion's share were Government servants who accounted for 20 per cent of the graduates and business communities who accounted for 24 per cent. Only 0.9 per cent came from families of artisans and 2.9 per cent did not report on this item. The percentage distribution of the graduates by their principal family occupation is presented in a tabular form below.

TABLE 3(4)

Distribution of graduates by principal family occupation.

Principal family occupation	Percentage of graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
Agriculture	30.2	7.0	27.7
Govt. service	19.1	30.9	20.3
Other services	23.6	27.7	24.1
Business	23.9	25.5	24.1
Artisans	1.0	0.3	0.9
Not available	2.2	8.6	2.9
TOTAL	100.0	100.0	100.0
Number in the sample	6,270	544	6,814

Comparing the figures of men and women given above, it is observed that a larger fraction of the women graduates came from families of Govt. servants as compared to men graduates—the relevant proportion being 19 per cent and 31 per cent for men and women respectively. On the other hand, agricultural families accounted for the largest share (30 per cent) of the men graduates.

Size of Family.

3.6. An analysis of the alumni by the number of members maintained by their family reveals that most of the graduates came from fairly big families. The number of members maintained would include all persons financially supported by the total earnings of the family. The following table shows the relevant data :

TABLE 3(5)

Distribution of graduates by number of members maintained by the family.

No. of members maintained (including the alumni)	Percentage of graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
One	1.2	2.5	1.3
2—4	16.6	26.2	17.6
5—7	33.7	40.1	34.4
8 and above	47.5	26.1	45.2]
Not available	1.0	5.1	1.5
TOTAL	100.0	100.0	100.0
No. in the sample	6,270	544	6,814

It will be seen that about 45 per cent of the graduates came from families maintaining 8 or more members while 34 per cent of them had a family size between 5 and 7. Thus about 80 per cent of the graduates came from families maintaining 5 or more members. Women graduates, it will be observed, came from families of a smaller size as compared to men graduates—66 per cent of the former had a family size of 5 or more as against a corresponding proportion of 81 per cent among male graduates. This is explained by the fact that, as observed earlier, women graduates came from the better off class of the society in respect of whom the number of members maintained by the family may not be very large.

School Education

3.7. Let us now examine some aspects of the school education of the alumni.

Nature of financial help obtained at school.

3.8. It will be of interest to note that half of the graduates did not obtain any financial help for their school education. The following table shows the relevant data in regard to the nature of financial assistance obtained at school.

TABLE 3(6)

Distribution of graduates according to nature of financial help obtained at school.

Nature of financial help	Percentage of graduates.
(1)	(2)
Government stipends	25.0
Other stipends	2.6
Concessions	0.4
No help	50.9
Not available	21.1
TOTAL ..	100.0
Number in the sample	6,814

It will be seen that one-fourth of the graduates had secured government stipends at school and nearly 3 per cent depended on other stipends. An insignificant proportion (0.4 per cent) availed of fee concessions.

Class obtained in school.

3.9. Among the graduates 23.3 per cent had obtained a first division at the school leaving examination, 47.3 per cent had secured a second division and 23.3 per cent a third division while 6.2 per cent did not report the division/class obtained by them.

Age at which passed from school.

3.10. Slightly less than three-fourths of the graduates passed from schools at an age below 18 years. This includes about 12 per cent of the graduates who completed school education below 15 years of age. Nearly 27 per cent were 18 years of age or older at the time of the school leaving examination (including 2.6 per cent who were aged 21 years or more). The following table presents the relevant data:

TABLE 3(7)

Distribution of graduates according to age at which passed from schools.

Age at which passed from schools (years)	Percentage of graduates.
(1)	(2)
Below 15	11.6
15 and above but below 18	60.5
18 and above but below 21	24.2
21 and above	2.6
Not available	1.1
TOTAL ..	100.0
Number in the sample	6,814

University Education

3.11. We shall now study some aspects of the university education of the alumni.

Distribution of graduates according to types of degrees

3.12. As stated in para 2.5 of Chapter II, the 'universe' covered by the present survey comprised of a total number of 76,924 graduates in so far as the 1954 batch is concerned. A study of their distribution by subject-groups will give an idea of the relative output of university graduates in different faculties. The following table shows the relevant data :

TABLE 3(8)

Distribution of graduates according to faculties (1954 batch)

Faculty/Subject group	Total No. of graduates	Percentage to total
(1)	(2)	(3)
B.A.	30,464	39.6
B.Sc.	13,496	17.5
B. Com.	6,311	8.2
B.Sc. (Agr.)	806	1.0
LL.B.	5,502	7.2
B.T.	3,622	4.7
B.E.	2,454	3.2
M.B., B.S.	2,121	2.8
B.V.Sc.	155	0.2
Other graduates	391	0.5
M.A.	7,877	10.2
M.Sc.	2,069	2.7
M. Com.	860	1.1
Other Post Graduates	510	0.7
Ph. D.	286	0.4
TOTAL	76,924	100.0

It will be observed that about three-fourths of the alumni belonged to the faculties B.A. (39.6 per cent), B.Sc. (17.5 per cent), B.Com. (8.2 per cent) and M.A. (10.2 per cent). Graduates in law and teaching accounted for 7.2 per cent and 4.7 per cent respectively of the total. 3.2 per cent were graduates in engineering, 2.8 per cent in medicine while 2.7 per cent were post-graduates in Science. Graduates in Agriculture and post-graduates in commerce accounted for about 1 per cent each. The other faculties explained in significant proportions of the total—the percentage of Ph.D.'s being only 0.4 per cent.

Age at which passed first degree

3.13. The following table shows the distribution of graduates according to age at which first degree was obtained :

TABLE 3 (9)
Distribution of graduates according to age at which first degree was obtained.

Age at which passed first degree (years)	Percentage of graduates
(1)	(2)
Below 18	1.3
18 and above but below 21	35.1
21 and above but below 24	39.5
24 and above but below 27	14.9
27 and above	8.8
Not available	0.4
TOTAL	100.0
Number in the sample	6,814

It will be seen that 35 per cent of the graduates obtained their first degree at an age between 18 to 21 years and another 40 per cent passed between 21 to 24 years of age. Thus, about three-fourths of the total number of graduates passed their first degree examination between 18 to 24 years. It will be further seen that about 15 per cent of the graduates obtained first degree at an age between 24 and 27 years. Only 1 per cent secured first degree below 18 years of age.

Interval between passing from high school and joining college

3.14. Among the graduates, 69.9 per cent entered college immediately after passing school leaving examination, 12.2 per cent had a break before joining college and the rest did not report on this item. Reasons for a break before entering college were not given by quite a number of graduates but among those who indicated reasons, 34.1 per cent could not join college immediately after completing the school education because of domestic circumstances, 18.9 per cent suffered a break because of their having become employed, 7.9 per cent because of illness and the rest for various other reasons.

Class obtained at first degree examination

3.15. Of the graduates, 6.2 per cent obtained a first class at their degree examination, 33.6 per cent secured a second class, 46.3 per cent a third class and the remaining 13.9 per cent either obtained a degree in pass course, etc. for which no division was assigned in the examination results or did not report the class obtained.

Class secured at first degree examination in relation to performance at school.

3.16. It would be of interest to study as to how far consistency of academic record was maintained at the degree examination by students who had shown good performance at the school leaving

stage. The following two-way table shows the relevant figures in terms of percentages :

TABLE 3(10)

Distribution of graduates by class/division obtained at school and class secured at first degree examination.

Class secured at first degree examination	Class/division obtained at school leaving examination				
	I	II	III	Not specified	Total
(1)	(2)	(3)	(4)	(5)	(6)
I	16.7	3.6	1.2	5.1	6.2
II	43.7	35.8	19.5	31.3	33.6
III	27.7	45.9	63.4	53.9	46.3
Not specified*	11.9	14.7	15.9	9.7	13.9
TOTAL ..	100.0	100.0	100.0	100.0	100.0
Number in the sample	1,835	3,134	1,367	478	6,814

*Includes graduates who obtained degree in pass course etc. for which results were not declared according to class/division.

Thus, it is observed that among the graduates who had obtained a first division at the school leaving stage, only 16.7 per cent could secure a first class at the first degree examination while the rest obtained a lower division. Of the second divisioners at the school leaving examination, only 3.6 per cent could improve upon their academic record by securing a first class at the degree examination and 35.8 secured a second class (i.e. the same class/division as obtained in school) while the remaining had obtained a third class or belonged to the group for which the class obtained was not specified. Among those who had secured a third division at school, a small fraction could show better performance at the degree stage—1.2 having secured a first class, and 19.5 per cent a second class. The majority (63.4 per cent) of this group obtained a third class whereas in respect of 15.9 per cent the class secured was not specified.

3.17. The above analysis reveals that students who secured good marks at the school leaving examination, by and large, failed to keep up their standard of performance at the university level. This fall in scholastic standard which was also brought out by the Delhi Alumni survey may be due to various factors such as wrong choice of subjects in the University, change in the medium of instruction from mother tongue in school to a foreign language at the University stage, and perhaps to some extent due to the lack of maturity of students at the stage of entering college (nearly three-fourths of them, we have seen earlier, had left school aged below 18 years).

Class or division secured in first degree examination in relation to whole-time or part-time study.

3.18. Among the graduates 15.5 per cent obtained a degree through part-time study, 79.7 per cent were full-time students while the remaining 4.8 per cent gave no information on this item. Graduates

who obtained degree by part-time study were mostly students of B.A., B.Com. and B.T. courses.

3.19. The performance of graduates who studied part-time for the degree course was below that of students who studied full-time. This is brought out by the following table.

TABLE 3(11)

Distribution of part-time/whole-time students by class secured at first degree examination.

Class secured at first degree examination (1)	Percentage of graduates who obtained degree by	
	Part-time study (2)	Full-time study (3)
I	2.6	7.1
II	25.3	35.6
III	57.3	44.1
Not available	14.8	13.2
TOTAL	100.0	100.0
Number in the sample	876	5,655

The above table shows that among the graduates who passed through part-time study, only 2.6 per cent were able to secure a first class, 25.3 per cent a second class, 57.3 per cent a third class while the rest did not indicate the class obtained. In so far as full-time students of this batch are concerned, 7.1 per cent secured a first class, 35.6 per cent a second class and 44.1 per cent a third class while the rest did not specify the class.

Nature of financial help availed of at College

3.20. Distribution of the alumni according to the type of financial assistance availed of during their college education is given in the table below. It may, however, be noted that the proportion of graduates who availed of the different types of financial help as enumerated in this table are not mutually exclusive in as much as graduates who depended on more than one source of financial help have been counted under each of the appropriate heads.

TABLE 3(12)

Distribution of graduates according to source of financial help for college education.

Source of financial help (1)	Percentage of total number of graduates (2)
Parents	69.1
Other relatives	13.3
Merit scholarship	6.6
College or university aid	5.4
Charity	2.7
Self-financing through work	26.2
Past savings	2.1

It will be seen that about 70 per cent of the graduates were depending on parents either fully or partly for financing their education. Only 6.6 per cent of the alumni obtained merit scholarship and 26.2 per cent financed their education either fully or in part through work. Analysing the figures further by faculties it has been observed that the proportion of graduates who financed their education through work was comparatively high in respect of students in Arts and Commerce courses.

CHAPTER IV

CHOICE OF SUBJECTS FOR DEGREE COURSE

4.1. In this chapter the various factors which govern the choice of subjects by the alumni for their first degree course will be studied.

Class obtained in school leaving examination and the subjects chosen at college

4.2. In the first instance let us bring out the relationship, if any, between the class obtained in school leaving examination and the choice of subjects/course for university education. The following table which shows the distribution of the alumni in each faculty by class/division secured at school leaving examination throws some light on the subject :

TABLE 4(1)

Distribution of graduates in each faculty by class/division secured at school leaving examination.

Faculty	No. in the sample	Percentage distribution of graduates according to class secured in school leaving examination			
		First	Second	Third	Not specified
(1)	(2)	(3)	(4)	(5)	(6)
B.A.	956	15.2	49.3	30.4	5.1
B.Sc.	934	32.3	47.0	14.8	5.9
B.Com.	840	13.2	47.6	33.0	6.2
B.Sc. (Agr.)	331	20.2	51.4	17.5	10.9
LL.B.	519	16.6	49.5	26.0	7.9
B.T.	602	21.4	41.7	20.8	16.1
B.E.	403	61.8	28.0	3.0	7.2
M.B.B.S.	285	39.6	43.6	1.9	4.9
B.Vet. Sc.	51	15.7	60.8	23.5	—
Other graduates	80	17.5	46.3	22.5	13.7
M.A.	819	28.1	49.1	17.7	5.1
M.Sc.	406	45.8	40.1	8.1	6.0
M.Com.	330	20.9	55.5	20.0	3.6
Other post-graduates	161	44.0	39.8	8.1	8.1
Ph.D.	97	56.7	29.9	10.3	3.1
All faculties	6,814	23.2	47.3	23.3	6.2

It will be observed that the proportion of graduates who secured a first division/class at the school leaving examination was substantially high among graduates in engineering and doctorates. The percentage of first divisioners in high school examination was also fairly high among graduates in Science, medicine and M.Sc's. On the other hand, a sizeable fraction of the B.A.'s, B.Com.'s and law graduates were third divisioners in their school final examination. The above analysis reflects the admission policies of the higher educational institutions

according to which students with good academic background join courses in Science, Engineering or Medicine while those having poor academic record in school are obliged to seek admission in Arts or Commerce courses. The average level of students who joined law course was also not very high in so far as their performance at school is concerned.

Subjects actually chosen at College and those that were preferred.

4.3. We shall now study the extent of preference of different subjects/courses shown by the alumni for their first degree course in relation to the courses actually chosen. It is observed that among the alumni, 63.3 per cent had taken courses of their preference at the first degree stage, 24.7 per cent preferred subjects other than the one actually offered and the remaining 12.0 per cent gave no information on this item. The following table shows the distribution of graduates who did not offer their subject/course of preference for the first degree according to the subject/course actually preferred.

TABLE 4(2)

Distribution of graduates who did not offer their subject of preference for first degree course according to subject actually preferred.

Subject actually preferred	Percentage of graduates who preferred the subject.
(1)	(2)
B.A.	3.7
B.Sc.	21.1
B.Com.	3.2
B.Sc. (Agr.)	2.4
LL.B.	1.4
B.T.	0.6
B.E.	36.5
M.B/B.S.	27.1
B.Vet.Sc.	0.1
Other subjects	2.1
Not available	1.8
TOTAL	100.0
Number in the sample	1,701

It will be seen that of the graduates who did not take up their subjects of preference for the first degree course slightly more than one-third wanted to offer engineering, about one-fourth preferred the medical line and one-fifth desired to join science courses—the remaining graduates of this group wanted to take up various other subjects.

Reasons for not offering preferred subjects

4.4. The following table shows the distribution of the alumni who did not offer preferred subjects for the first degree course according to reasons for not doing so.

TABLE 4(3)

Distribution of graduates who could not take up preferred subjects for the first degree course by reasons

Reason for not taking preferred subjects (1)	Percentage (2)
Admission denied	29·8
Teaching facilities do not exist	12·3
Financial grounds	54·7
Prevented by parents	8·5
Other reasons	5·6
Not available	2·4
No. of graduates who could not take up their subject of preference for first degree course	1,701

It may be noted that the figures given above are not mutually exclusive in as much as graduates who had more than one reasons for not taking up preferred subjects have been counted under each of the appropriate heads. It will be observed that the predominant reason for the graduates not being able to offer subjects of their preference is lack of adequate finances to pursue the desired course—more than half of the graduates who could not offer subjects of preference quoted financial grounds as one of the contributing factors. About 30 per cent of the graduates of this group could not take up the preferred subjects due to admission being denied presumably because of poor performance at the school leaving examination, 12 per cent could not offer the desired subjects for lack of teaching facilities, about 8 per cent were prevented by parents from taking up the preferred subjects.

Class/division secured at first degree examination in relation to the liking for the subjects offered.

4.5. It will be interesting to study as to whether preference for subjects chosen for the first degree course has any influence on the performance of graduates at the examination. In the following table the distribution of graduates according to the class/division obtained in the first degree examination is given separately for those who preferred their subjects and those who did not :

TABLE 4(4)

Distribution of graduates according to class/division secured at first degree examination

Class/division secured at first degree examination (1)	Percentage of graduates who	
	preferred subjects taken (2)	did not prefer subjects taken (3)
I	6·7	6·3
II	34·8	33·7
III	44·7	47·8
Not available	13·8	12·2
TOTAL	100·0	100·0
Number in the sample	4,473	1,701

It will be seen that the distribution of graduates according to division/class secured at first degree examination in respect of those who preferred their subjects is similar to that in respect of the alumni who did not prefer their subject. This shows that, oddly enough, the performance of the alumni at the first degree examination has hardly any relationship with their liking for the subject offered. To some extent this may be due to lack of adequate care on the part of respondents in reporting on this item. Another probable reason may be that owing to lack of guidance facilities the graduates were not able to develop preferences according to their aptitudes and interests.

CHAPTER V
EMPLOYMENT

5.1. This chapter deals with the activity status of the alumni as also some characteristics of the employed alumni. Earnings of the employed alumni form the subject matter of a separate chapter (VI) while the aspect of unemployment has been taken up in detail in Chapter VII. At the outset it would be relevant to state briefly the concepts regarding employment and unemployment used for purposes of the present survey. The "reference period" in regard to the various items of the questionnaire used in the survey is the date on which the graduates actually filled in the questionnaire. The term "employed" would include all persons who were either at work or had a job but were temporarily absent from work on the date of reporting. The category "unemployed" would cover those persons who had not worked on the date of reference and were currently looking for full time jobs. A person who is neither employed nor unemployed is regarded as outside the labour force.

Volume of Employment

5.2. The bulk of the graduates (86.9 per cent) were found to be employed at the time of the survey, 9.8 per cent reported themselves to be unemployed, 3.2 per cent were not in the labour force—either prosecuting further studies or were not seeking work and the rest did not report on this item. The relevant figures are presented in the table below separately for men and women graduates :

TABLE 5(1)
Distribution of graduates by activity status

Activity status	Percentage of graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
Employed	89.9	61.4	86.9
Un-employed	7.9	25.3	9.8
Not in the labour force	1.9	13.3	3.2
Not available	0.3	—	0.1
TOTAL ..	100.0	100.0	100.0
Number in the sample	6,270	544	6,814

5.3. As may be expected the proportion of employed graduates among men (89.9 per cent) was considerably higher than that among women (61.4 per cent) whereas graduates who were not in the labour force accounted for a much smaller fraction of men as compared to women. It is rather odd to find that the proportion of women graduates who reported themselves to be unemployed was conspicuously high as compared to the corresponding proportion among men graduates—the figures being 7.9 per cent and 25.3 per cent for men and women respectively. It has been observed that about three-fourths of the women who reported themselves to be unemployed were married.

It is likely that a number of married women graduates who were house-wives and were not actually seeking work reported themselves to be unemployed. As such the extent of unemployment among women graduates as revealed by the survey may have an upward bias and should be viewed with some caution. We shall return to this subject in greater details subsequently in the chapter on unemployment.

5.4. An analysis of the employed graduates by type of degree taken reveals interesting variations from one faculty to another. Thus the proportion of the employed was substantially high among graduates in veterinary science (98.0 per cent), engineering (96.5 per cent), teaching (96.4 per cent), agriculture (94.6 per cent) and medicine (94.0 per cent) and among post-graduates in science (94.1 per cent) and doctorates (93.8 per cent). On the other hand, the proportion employed was comparatively less among graduates in Arts and Science (81.6 per cent and 85.9 per cent respectively).

Employment in relation to class/division secured in first degree examination

5.5. It is pertinent to enquire as to whether the class or division secured by the graduates at their degree examination has any bearing on the state of employment or unemployment of the alumni. The figures contained in the table below seek to answer this point :

TABLE 5 (2)

Distribution of graduates according to class/division secured in first degree examination and activity status

Activity status	Percentage of graduates according to class/ division secured in first degree examination			
	I	II	III	Not specified
(1)	(2)	(3)	(4)	(5)
Student	4.6	2.3	1.0	1.7
Employed	90.1	87.8	85.8	86.5
Un-employed	4.4	7.5	12.0	10.4
Not seeking work	0.7	2.2	1.0	1.0
Not available	0.2	0.2	0.2	0.4
TOTAL	100.0	100.0	100.0	100.0
Number in the sample	570	2,612	2,698	934

It will be seen that the proportion of the employed was the highest (90.1 per cent) and that of the unemployed the least (4.4 per cent) among graduates who secured first class in the degree examination. Further, the poorer the performance of graduates in the degree examination, the lesser is the proportion of employed and the higher the percentage of the unemployed. Thus, the proportion of the unemployed increased progressively from 4.4 per cent among first divisioners to 7.5 per cent among second divisioners and finally to 12.0 per cent in respect of those who obtained a third class. Likewise, the proportion employed among graduates tended to decrease with lowering of the standard of proficiency at the degree examination.

This confirms the popular belief that examination results is an important determinant of the state of employment or unemployment of the graduates. Another interesting feature revealed by the above table is that the proportion of the graduates who were prosecuting further studies at the time of the survey was the highest (4.6 per cent) among those who had obtained a first class and the least (1.0 per cent) among the third divisioners. This is perhaps natural considering that only those students who secure good results at the degree examination generally go in for higher studies whereas those whose performance at the degree examination is poorer enter the employment market without frittering away energy in pursuing further studies.

Time lag between passing examination and obtaining first employment

5.6. An important aspect of the problem is the time lag between completing education and obtaining first employment which may be termed as the "waiting period". Such an analysis would throw light on the initial spell of unemployment which the alumni had to undergo after leaving the educational institutions. In the questionnaire, separate item to collect information regarding waiting period was not provided. As such, a precise analysis of the waiting period of the alumni is not possible from the available data. However, the extent of time lag between their passing degree/post graduate examination and obtaining first employment can be assessed on the basis of the year in which the alumni secured their first employment. The relevant data is given in the following table. While interpreting these figures it should be borne in mind that some of the graduates did not terminate their education in 1954 but went in for further studies and as such the waiting period in respect of them did not commence from 1954. Information is not available regarding the number of alumni who went in for further studies after 1954 but some figures on the subject are available from the Delhi Alumni survey according to which 38 per cent of the 1954-alumni pursued and successfully completed further education till the date of the survey (1958).

TABLE 5(3)

Distribution of the currently employed graduates according to year in which first employment was obtained

Year of obtaining first employment	Percentage of employed graduates
(1)	(2)
Prior to 1954	25.0
1954	25.0
1955	18.2
1956	12.0
1957	6.9
1958	4.0
1959	1.7
1960	0.6
Not available	6.6
TOTAL	100.0
Number in the sample	6,148

One-fourth of the employed graduates, it will be seen, secured their first employment prior to 1954, i.e. before passing their examination in the year of reference, thereby showing that they were already employed during their period of education. Another 25 per cent of these graduates obtained their first employment in 1954, i.e. the year in which they passed the examination. 18.2 per cent of the graduates secured their first employment in 1955, 12 per cent took up first employment in the year 1956, 6.9 per cent in 1957 while 6.3 per cent got their first job in 1958 or later.

5.7. Studying the figures faculty-wise, it has been observed that graduates in teaching, engineering, veterinary science, post-graduates in science and commerce and the doctorates, generally, secured their first employment within a short period after passing the examination the proportion of the alumni who got their first employment before the end of 1955 being 93 per cent, 87 per cent, 90 per cent, 84 per cent, 85 per cent, and 98 per cent respectively as against a corresponding ratio of 68 per cent for all faculties. Seven in ten B.T.'s took up jobs during their period of education while nine out of ten doctorates were already employed while pursuing their Ph.D. course. The waiting period was also fairly short among graduates in agriculture, law and medicine and post-graduates in Arts—the percentage of the employed alumni who obtained first job latest by 1955 being 79 per cent, 75 per cent, 74 per cent and 80 per cent respectively. Roughly, half of the law graduates and the same proportion of the post-graduates in Arts were employed during their period of study. Unfortunately, the available data is inadequate to pin point those faculties in respect of which the alumni had to wait long before securing first employment. This is because as already stated earlier separate information is not readily available in regard to the number of graduates who went in for further studies after passing the examination in 1954.

Occupational Pattern of Employed graduates

Distribution by broad occupational group

5.8. We shall now study the occupational disposition of the employed graduates. Firstly, the distribution by broad occupational groups will be studied and subsequently further break-up by occupations will be analysed. The relevant data showing the distribution of employed graduates by broad occupational groups is given in table 5(4) in which separate figures for each faculty have also been shown. It will be seen from this table (Col. 17) that the first three occupational groups, viz. professional, technical and related workers, administrative, executive & managerial workers and clerical and related workers accounted for the bulk (86.9 per cent) of the employed graduates. It would be interesting to note that contrary to popular expectations, the majority (57.3 per cent) of the graduates were employed as professional, technical and related workers as opposed to clerical workers who accounted for about one fifth of the employed graduates. Less than 3 per cent were engaged in transport and communication occupations, 1.2 per cent were sales workers while the other occupations accounted for insignificant proportion of the employed graduates.

TABLE 5 (4)

Distribution of employed graduates according to occupational groups

Occupational Group	Percentage of employed graduates by faculty/subject group															
	B.A.	B.Sc.	B. Com.	B.Sc. (Agr.)	LL.B.	B.T.	B.E.	M.B. B.S.	B.Vet. Sc.	Other graduates	M.A.	M.Sc.	M. Com.	Other post graduates	Ph.D.	All faculties
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1. Professional, technical and related workers	45.9	59.0	32.6	64.8	53.9	92.1	93.1	93.7	98.0	67.8	66.4	81.9	46.6	92.9	91.2	57.3
2. Administrative, executive and managerial workers	12.4	7.2	10.9	11.5	16.9	3.6	3.6	0.8	—	1.7	9.9	8.1	14.7	3.9	6.6	10.1
3. Clerical and related workers	24.4	20.0	43.3	1.0	18.0	1.4	—	—	—	17.0	12.9	1.0	25.4	—	—	19.5
4. Sales workers	1.3	1.9	1.7	0.6	1.2	0.2	0.3	—	—	—	0.7	0.8	2.6	—	—	1.2
5. Agriculture, dairy and related workers	0.6	0.9	0.5	14.7	1.7	—	—	—	—	—	0.6	1.0	0.6	—	—	0.8
6. Workers in transport and communication occupations	4.2	3.0	1.9	—	0.8	—	—	—	—	3.4	1.9	1.0	2.0	—	—	2.6
7. Craftsmen, production process workers and labourers, n.e.c.	—	0.5	0.3	0.3	0.6	—	—	—	—	—	0.1	0.3	—	—	—	0.2
8. Service, sport and recreation workers	1.0	0.6	0.5	—	0.8	—	—	—	—	1.7	0.3	0.3	0.6	—	—	0.6
9. Workers not classifiable by occupations (including those who did not report their occupations).	10.2	6.9	8.3	7.1	6.1	2.7	3.0	5.5	2.0	8.4	7.2	5.6	7.5	3.2	2.2	7.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number in the sample	780	802	773	313	479	580	389	268	50	59	720	382	307	155	91	6,148

Occupational pattern in each faculty

5.9. An analysis of the occupational pattern of graduates in each faculty would be of considerable value in studying the relationship between education and the subsequent employment of the alumni. As the first three occupational groups in Table 5(4) accounted for the over-whelming majority of the employed graduates we shall confine our analysis in this section largely to these three groups. Taking *Arts graduates* first we observe that slightly less than half (46 per cent) of them were employed as professional workers mostly as teachers, slightly more than one tenth were working as administrative, executive and managerial workers, one in four were employed as clerical workers, 4 per cent were engaged in transport and communication occupations and the rest were employed in various other occupations. Among the *science graduates* six out of ten were employed as professional workers practically half of them as teachers, 7 per cent as administrative workers, one out of five as clerical workers and only 3 per cent were employed in transport and communication occupations. In so far as the *commerce graduates* are concerned, a substantial fraction, i.e. nearly 4 out of 10 were working in clerical occupations, one third were engaged as professional workers—majority of them working as Social scientists one in 10 as administrative workers and the rest in other occupations. *Graduates in agriculture* were mostly employed as agronomists, agricultural scientists or teachers under the group professional workers—this group accounted for about two third of the employed agricultural graduates. About one in ten of these graduates were working as administrative workers and one in seven as agricultural, dairy and related workers mostly as farm managers, farmers, etc. Less than one per cent of them were working as clerks. Just more than half of the *law graduates* were professional workers mostly working as jurists, about one in six were administrative workers, one in six clerical workers and the rest were engaged in various other occupations. Nine out of 10 *graduates in teaching* were employed as teachers. About 4 per cent of these graduates were engaged as administrative workers and only one per cent were working as clerks. In regard to *engineering graduates* we find that nine out of ten were professional and technical workers mostly working as architects and engineers. Only about 4 per cent of the engineering graduates were employed as administrative workers. *Graduates in medicine and in veterinary science* were both, almost wholly, employed as professional, technical and related workers—the former as doctors and the latter as veterinarians. Considering the post-graduate faculties we find that on an average, a larger proportion of the post-graduate degree holders were employed as professional, technical and related workers as compared to graduates. Among the *M.A.'s* two third were professional workers bulk of them being teachers, one in ten were administrative workers and nearly one in eight were employed as clerical workers. In so far as the *M.Sc.'s* are concerned, we find that eight out of ten of them were working as professional workers. More than half of this group were working as teachers and one in six as physical scientists. About one in twelve of the total number of employed *M.Sc.'s* were engaged as administrative workers and only one per cent were working as clerks. It is significant to note that a sizable fraction, i.e., one in

four of the *M.Com.*'s were engaged in clerical occupations, just less than half were employed as professional workers mostly as teachers and social scientists and about one in seven were employed as administrative workers. It is interesting to observe that nearly 3 per cent of the post-graduate degree holders in commerce were sales workers. Among the *doctorates*, nine out of ten were working as professional workers more than half of them being teachers and one out of fifteen were administrative workers.

5.10. Comparing the occupational pattern of the alumni in different faculties we observe that overwhelming majority of the graduates in teaching, engineering, medicine and veterinary science and of the *M.Sc.*'s and *Ph.D.*'s were employed as professional, technical and related workers. More than half of this group were teachers. On the other hand, a smaller fraction of the Arts and Commerce graduates were employed as professional workers. The percentage of graduates employed as administrative, executive and managerial workers was relatively high among graduates in law and post-graduates in commerce whereas very few of the graduates in teaching, engineering, medicine and veterinary science were working in this group. In so far as clerical occupations are concerned the two faculties that contributed a major share of the employed graduates were *B. Com.* and *M. Com.* It will be observed that clerical jobs provided the means of livelihood to one in four arts graduates, one in five science graduates, two out of five commerce graduates, one in six law graduates, one in eight *M. A.*'s and one out of four *M. Com.*'s. The fact that a fairly large fraction of these graduates had to depend on clerical jobs for their livelihood even after six years of passing degree/post-graduate examination indicates a considerable wastage of university education.

Employment Status

5.11. Most of the graduates were working as employees at the time of survey—the proportion being 89.3 per cent. 6.5 per cent of them were self-employed, 1.6 per cent engaged in family enterprise and only 0.7 per cent were employers. The information is presented in a tabular form below :

TABLE 5(5)

Distribution of employed graduates according to employment status

Employment status	Percentage of employed graduates
(1)	(2)
Employer	0.7
Employee	89.3
Self-employed	6.5
Family enterprises	1.6
Not available	1.9
TOTAL	100.0
Number in the sample	6,148

5.12. Analysing by subject groups, we observe that the proportion of graduates who were working as employees was conspicuously high in respect of all the faculties except law. A substantial fraction (35.5 per cent) of the law graduates were self-employed—most of them practising as lawyers. The percentage of the self-employed among medical graduates was also higher (13.1 per cent) as compared to the proportion for all faculties (6.5 per cent) as a number of them were working as private practitioners. It is, however, interesting to note that even among law and medical graduates, the proportion working as employees was considerably more than that of the self-employed—the percentage of employees being 58.7 per cent and 84.3 per cent among graduates in law and medicine respectively as against a proportion of 35.5 per cent and 13.1 per cent respectively of the self-employed. This shows that the majority of these graduates preferred salaried employment to private practice. The proportion engaged in family enterprises was relatively large among graduates and post-graduates in commerce, graduates in agriculture and law. Those who were working as employers were mostly graduates in commerce and engineering and post-graduates in arts.

Mobility in Employment

5.13. Mobility in employment can be studied in several aspects—in terms of numbers and duration of jobs held, shifts in occupations, changes in employing agency or changes in employment status. In the present section mobility in employment of graduates has been studied only from two aspects—change in employing agency and shifts in occupation. Information in respect of other aspects of mobility is not available. It would have been useful to relate the extent of employment mobility of graduates to their total duration of employment. This is, however, not possible as information on the latter aspect is not available.

Change in employing agency

5.14. The following table shows the distribution of employed graduates according to the number of changes in the employing agency till the date of the survey.

TABLE 5 (6)

Distribution of currently employed graduates according to change in employing agency

Number of changes in employing agency	Percentage of employed graduates
(1)	(2)
Nil	50.6
Once	23.9
Twice	11.7
Thrice	4.7
4 times and above	2.0
Not available	7.1
TOTAL	100.0
Number in the sample	6,148

Thus half of the employed graduates did not change their employing agency till the date of the survey, about one-fourth changed their employer once, 12 per cent changed twice, about 5 per cent thrice and 2 per cent four times or above. Analysing by subject groups, we observe that the proportion of the alumni who did not change their employer even once was higher among graduates (51.9 per cent) than among post-graduates (44.0 per cent). The extent of mobility measured in terms of the number of changes in employing agency was particularly high among professional degree holders such as engineers and doctors and among post-graduates in science. Mobility was in fact the maximum among the doctorates, 46 per cent of whom had changed their employer two times or more as against 18.4 per cent for all faculties. On the other hand, the extent of mobility was markedly low among graduates in Arts, Commerce, Law and Veterinary Science.

Shifts in occupations

5.15. In this paragraph the occupational mobility of graduates has been studied on the basis of change in occupation as between the first employment and the present employment. No account has, however, been taken of the intermediate shifts in occupations undergone by graduates. In the first instance we shall study the change in employment as between different occupational groups. The following table which shows the distribution of currently employed graduates by broad occupational groups separately in respect of their first and present employment presents the relevant data :

TABLE 5(7)

Distribution of the currently employed graduates by broad occupational groups separately in respect of the first and the present employment

Occupational group	Percentage distribution of employed graduates according to	
	first employment	present employment
(1)	(2)	(3)
Professional, technical and related workers	58.9	57.3
Administrative, executive and managerial workers	6.2	10.1
Clerical and related workers	22.1	19.5
Sales workers	1.3	1.2
Agricultural, dairy and related workers	0.8	0.8
Miners, quarrymen and related workers	0.1	—
Workers in transport and communication occupation	2.0	2.6
Craftsmen, production process workers and labourers, n.e.c.	0.3	0.2
Service, sports and recreation workers	0.5	0.6
Workers not classifiable by occupations (including those who did not report their occupations)	7.8	7.7
TOTAL	100.0	100.0
Number in the sample	6,148	

It will be seen that there is no marked variation in the distribution of employed graduates by broad occupational groups in respect

of their first and the present employment except for a slight decrease in the proportion currently employed as clerical workers and an increase in the percentage of administrative, executive and managerial workers. This indicates that some of the graduates who started their career as clerks shifted to other more satisfying occupations in course of time. On the other hand, a number of graduates changed over to administrative, executive and managerial jobs with passage of time. However, the overall picture that emerges from the above figures is that the extent of mobility of graduates from one occupational group to another is not of a significant order. Analysing the position in different occupations, we find that a number of graduates did change their occupations in course of time although due to cross movements as between different occupations in the same group the net effect for the group as a whole is not marked. Thus, a number of graduates mostly B.Sc.'s who started their career as teachers changed over to other jobs in course of time. On the other hand, a number of graduates, mostly degree holders in commerce, changed their occupations to become social scientists. Quite a number of law graduates shifted from clerical occupations to take up legal profession in course of time.

Sector of Employment

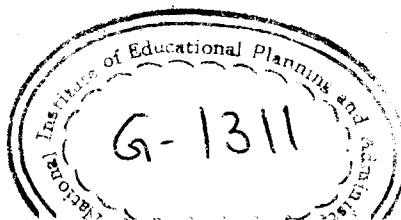
5.16. The distribution of employed graduates by the sector of first employment and that of the present employment is shown in the table below :

TABLE 5 (8)

Distribution of employed graduates by sector of employment

Sector	Percentage distribution of employed graduates according to	
	First employment	Present employment
	(2)	(3)
(1)		
<i>Public Sector</i>	58.2	63.9
Central Govt.		17.2
State Govt.		30.6
Quasi Govt.		10.9
Local Bodies		5.2
<i>Private enterprises</i>	35.1	29.4
<i>Not available</i>	6.7	6.7
TOTAL	100.0	100.0
Number in the sample	6,148	

The bulk of the graduates, it will be seen, were employed in the Public Sector—about 58 per cent took up their first employment in the public sector while 64 per cent were currently employed in the same sector. The private sector absorbed 35 per cent and 29 per cent of the employed graduates in so far as their initial employment and present employment respectively are concerned. Under the public sector, majority of the graduates were employed in the State Governments. It will also be observed that with passage of time quite a number of graduates who had secured their initial employment in the Private Sector changed over to jobs under the Public Sector.



5.17. Analysing by faculties, we find that in so far as Central Government is concerned the proportion of graduates employed was slightly higher than the average for all faculties in respect of B. Sc.'s (22 per cent), B. Com.'s (21 per cent) and M. Com.'s (22 per cent). The State Governments provided the major source of employment to graduates in agriculture, engineering, medicine and veterinary science—the proportion employed under this sector being 70 per cent, 40 per cent, 51 per cent and 82 per cent respectively. Quasi-Government establishments employed a sizeable fraction (27 per cent) of the Ph.D's. The proportion of graduates employed under Local Bodies was 17 per cent among graduates in teaching as compared to about 5 per cent for all faculties. In so far as the private sector is concerned, the largest proportion employed were graduates in Law of whom nearly half were working in this sector. Most of them were practising as lawyers and were actually self-employed. The proportion employed in the private sector was also fairly high (30 to 33 per cent) among post-graduates in Arts as well as graduates and post-graduates in Commerce.

Means of Securing Employment

5.18. The following table shows the distribution of employed graduates according to the manner of obtaining their first and present employment :

TABLE 5(9)

Distribution of employed graduates according to the manner of getting first and present employment

Manner in which employment was obtained	Percentage of employed graduates according to	
	First employment	Present employment
(1)	(2)	(3)
1. Public Service Commissions	8.3	16.4
2. Direct application	64.8	57.3
3. Employment Exchanges	6.7	6.3
4. Other channels	14.4	14.1
5. Not available	5.8	5.9
TOTAL	100.0	100.0
Number in the sample	6,148	

It will be observed that among the employed graduates 8.3 per cent obtained their first employment through public service commissions, 64.8 per cent by direct application, 6.7 per cent through employment exchanges and 14.4 per cent by other means. In so far as their present employment is concerned 16.4 per cent secured job through public service commissions, 57.3 per cent by direct application, 6.3 per cent through employment exchanges and 14.1 per cent through other channels. Thus in obtaining their first employment graduates largely depended on direct application and only a small fraction made use of the recognised modes of recruitment such as public service

commissions, employment exchanges, etc. But with the passage of time a number of graduates who had earlier obtained jobs by direct application changed over to other employment through recognised mode of recruitment such as Public Service Commission.

Job Satisfaction

5.19. Information was collected during the Survey to ascertain whether the alumni considered their present job suited to their education and liking. It is observed that nearly half (49.8 per cent) of the employed graduates were satisfied with their present job, 48.2 per cent were dissatisfied and the rest did not report on this item. The proportion of graduates who expressed satisfaction with their present employment was substantially high among graduates in engineering (75.1 per cent), medicine (69.8 per cent), teaching (69.1 per cent), agriculture (69.3 per cent) and veterinary science (72.0 per cent) and among post-graduates in science (64.1 per cent). A very large proportion of the doctorates *i.e.* 8 out of 10 were satisfied with their current employment. On the other hand, the extent of job satisfaction was low among the employed graduates in Arts (45.0 per cent) Commerce (39.7 per cent), Law (34.7 per cent) and post-graduates in commerce (41.7 per cent).

CHAPTER VI

EARNINGS

6.1. We shall now study the pattern of earnings of the employed alumni. For purposes of analysis in this chapter the term earnings would imply the total monthly income that an employed graduate obtains from his principal economic activity.

Distribution of graduates by monthly earnings

6.2. The distribution of employed graduates according to their income in first employment and income in present employment is given below:

TABLE 6(1)

Distribution of employed graduates by income

Monthly earnings (Rs.)	Percentage distribution of graduates according to	
	Income in first employment	income in present employment
(1)	(2)	(3)
Below 100	35.5	8.2
100 to 199	39.0	41.6
200 to 299	8.6	21.0
300 to 399	2.5	8.4
400 to 499	0.5	3.4
500 and above	0.6	3.9
Not available	13.3	13.5
TOTAL	100.0	100.0
Number in the sample	6,148	

An analysis of the alumni by income in *first employment* reveals that 74.5 per cent had monthly income below Rs. 200, 11.6 per cent were earning Rs. 200 to Rs. 499 per month and only 0.6 per cent had an income of Rs. 500 and above per month. In so far as their *present employment* is concerned 49.8 per cent of the employed graduates had a monthly earning of below Rs. 200, 32.8 per cent were getting an income of Rs. 200 to Rs. 499 and 3.9 per cent had an income of Rs. 500 and above per month. The above figures reveal that graduates were earning a higher salary in their present employment as compared to their initial employment, thus showing that earnings tend to improve with length of service.

Earnings in relation to examination passed

6.3. With a view to studying the extent of improvement in earnings over a given time and its relationship with the examination passed the distribution of the alumni by income in first employment and income in present employment has been worked out in the table below :

TABLE 6(2)

Percentage distribution of the alumni by monthly earnings in first employment and in present employment

Faculty/Subject group	MONTHLY EARNINGS (Rs.)					
	Below 200		200 to 499		500 and above	
	First employment	Present employment	First employment	Present employment	First employment	Present employment
(1)	(2)	(3)	(4)	(5)	(6)	(7)
B.A.	79.9	65.4	6.8	20.1	0.3	1.3
B.Sc.	75.3	50.8	14.0	36.2	0.4	3.0
B.Com.	80.3	54.1	6.7	31.1	0.9	3.4
B.Sc. (Agriculture)	82.4	48.9	9.9	41.2	—	1.9
LL.B.	62.2	32.8	9.0	31.1	0.2	3.1
B.T.	87.4	69.0	1.7	20.2	—	0.3
B.E.	45.5	3.1	46.3	67.4	1.8	24.4
M.B.B.S.	40.7	3.7	30.6	57.8	4.5	19.4
B.V.Sc.	82.0	42.0	14.0	50.0	—	2.0
Other Graduates	55.9	27.1	28.8	49.2	—	6.8
M.A.	75.1	38.2	11.2	46.4	1.0	3.1
M.Sc.	64.9	12.6	27.2	74.1	0.8	5.5
M.Com.	74.3	39.4	15.3	44.6	0.6	4.9
Other post-graduates	57.4	11.6	32.9	60.0	1.9	21.3
Ph.D.	50.6	1.1	38.5	39.6	—	51.7
All Faculties	74.5	49.8	11.6	32.8	0.6	3.9

It will be observed that in respect of all the faculties graduates were in receipt of a higher income in their present employment as compared to their first employment, thus corroborating the observation made earlier that earnings improved with length of service. The extent of improvement over a given period of time, however, varies from one faculty to another considerably. This is clearly brought out by the following table derived from Table 6(2) which shows the improvement in the proportion of graduates as between their income in present employment and income in first employment separately in respect of the lowest, middle and the highest income group.

TABLE 6(3)

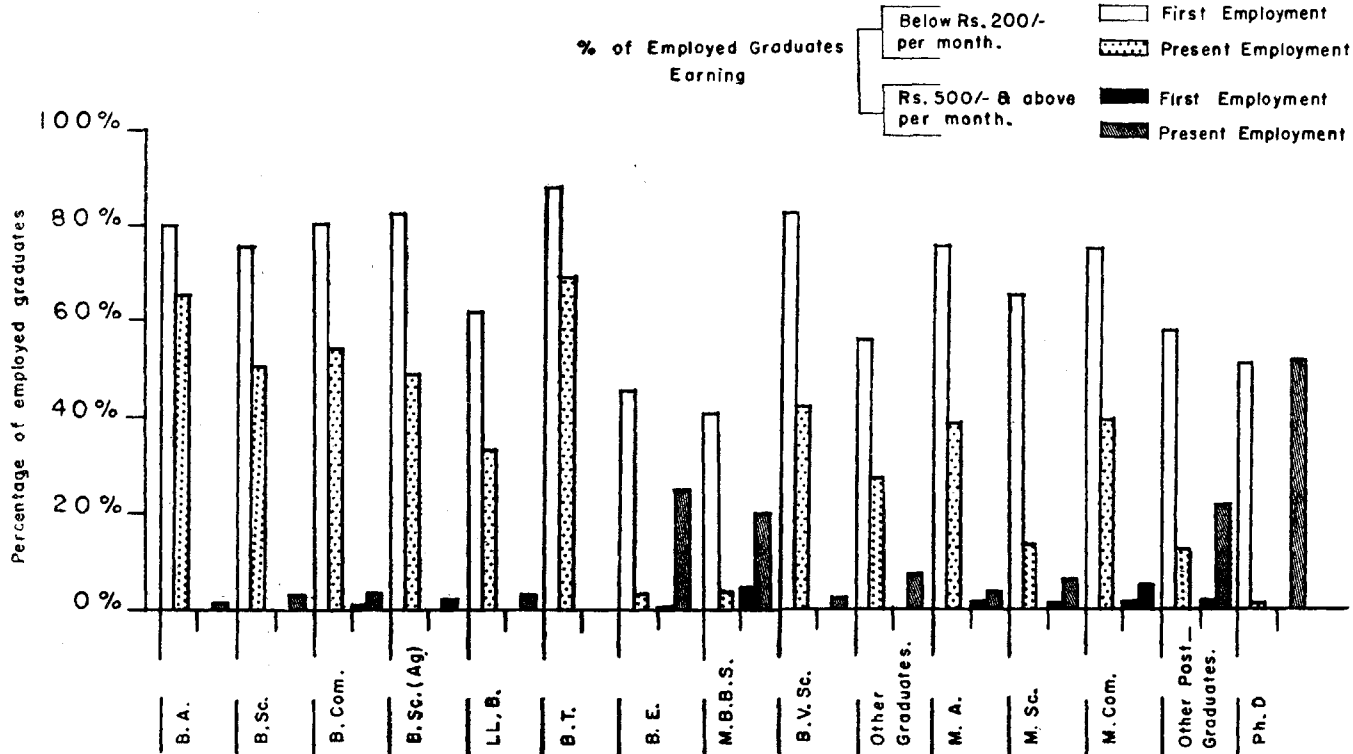
Improvement in the percentage of graduates of the 1954 batch as between their income in present employment and income in first employment

Faculty/ Subject group	Improvement in the percentage of graduates by income in present employment & income in first employment.		
	Lowest income group (Below Rs. 200)	Middle income group (Rs. 200 and above but below Rs. 500)	Highest income group (Rs. 500 & above)
(1)	(2)	(3)	(4)
B.A.	14.5	13.3	1.0
B.Sc.	24.5	22.2	2.6
B.Com.	26.2	24.4	2.5
B.Sc. (Agriculture)	33.5	31.3	1.9
LL.B.	29.4	22.1	2.9
B.T.	18.4	18.5	0.3
B.E.	42.4	21.1	22.6
M.B.B.S.	37.0	27.2	14.9
B.V.Sc.	40.0	36.0	2.0
Other graduates	28.8	20.4	6.8
M.A.	36.9	35.2	2.1
M.Sc.	52.3	46.9	4.7
M.Com.	34.9	29.3	4.3
Other post graduates	45.8	27.1	19.4
Ph.D.	49.5	1.1	51.7
All faculties	34.7	21.3	3.3

6.4. Thus the extent of improvement in earnings, over time, was conspicuously high among professional and technical degree holders such as engineers and doctors and among Ph.D's. The rise in income level was also fairly significant among the post-graduates—M.Sc.'s and M.Com.'s faring better than M.A.'s. In regard to graduates in Science, Commerce, Agriculture, Law and Veterinary Science the increase in earnings was to a moderate extent as is evidenced by a substantial decrease in the proportion of graduates in the lowest income bracket coupled by a small increase in the highest income range. The position of graduates in Arts and Teaching was, however, not satisfactory as the increase in the level of earnings was marginal. The extent of improvement in income over time in respect of different faculties is shown graphically in chart 3.

IMPROVEMENT IN MONTHLY EARNINGS BETWEEN FIRST & PRESENT EMPLOYMENT

1954 ALUMNI



6.5. Distribution by earnings as given in Table 6(2) also reveals the relationship between the type of degree taken and the earning capacity of graduates. Thus it is observed that the doctorates were in the highest income group followed by graduates with professional and technical degrees like engineering and medicine. The earnings were also fairly high among post-graduates in science. Among graduates in science, commerce, agriculture, veterinary science and law and post-graduates in arts and commerce the income level was moderately satisfactory. The level of earnings was definitely less satisfactory among graduates in arts and teaching. The relationship between the examination passed and the level of earnings as revealed above are in conformity with the popular belief.

Occupational pattern of earnings

6.6. It would be of interest to study the pattern of earnings of graduates employed in different occupations. The following table shows the income distribution of graduates employed in selected occupations. Only those occupations belonging to the three major occupational groups in which the number of employed graduates is at least fifty have been covered.

TABLE 6(4)
Distribution of employed graduates by earnings in selected occupations

Occupation	No. in the sample	Income Range (Rs.)			No information
		Below 200	200 & above but less than 500	500 & above	
(1)	(2)	(3)	(4)	(5)	(6)
Architects, engineers, etc.	409	7.2	69.7	21.2	1.9
Physical scientists	176	10.3	80.4	6.3	3.0
Biologists, veterinarians and agronomists, etc.	246	49.5	44.3	2.6	3.6
Physicians, surgeons & dentists	289	8.9	53.4	20.3	17.4
Teachers	1,987	60.9	32.0	1.2	5.9
Social scientists	393	42.6	49.1	4.8	3.5
Administrators, executive officials, Government	455	50.9	42.5	4.6	2.0
Directors, managers & working proprietors, others	35	18.1	41.3	19.7	20.9
Book-keepers and cashiers	144	70.3	28.3	—	1.4
Stenographers & typists	54	71.3	24.7	1.1	2.9
Clerical workers, miscellaneous	760	79.9	18.0	0.6	1.5
All occupations	6,148	49.8	32.8	3.9	13.4

It is clear from the above table that the best off in earnings were architects, engineers and physicians and surgeons followed by directors and managers (other) (this category includes graduates employed in manufacturing concerns, etc.), physical scientists, social scientists and administrators and executive officials Govt. Graduates in the last category were largely employed under the State Governments. Teachers came next and were badly placed. Worst off were clerical workers.

Income Satisfaction

6.7. Separate information was collected during the survey to ascertain as to whether graduates considered their salary adequate in relation to their attainments. About one-fifth of the graduates expressed satisfaction with their current income, roughly three-fourths stated that they were not satisfied while the remaining graduates did not report on this item. Studying the position faculty-wise we find that the proportion of the alumni who were satisfied with their present income was relatively high among graduates in engineering (33.9 per cent), medicine (30.6 per cent) and Agriculture (26.8 per cent). M. Sc's (25.1 per cent) and Ph.D's. (25.3 per cent). On the other hand, the number of graduates who were satisfied with their present income accounted for a smaller fraction of the total employed graduates in the faculties B. Com. (15.8 per cent) and LL. B. (13.8 per cent).

CHAPTER VII UNEMPLOYMENT

Volume of unemployment

7.1. As observed in Chapter V, the proportion of graduates who reported themselves as unemployed was 9.8 per cent—the percentage of unemployed among men and women alumni being 7.9 per cent and 25.3 per cent respectively. The unusually high proportion of women graduates who reported themselves to be unemployed needs to be viewed with caution. It has been observed that most of the women graduates who stated that they were unemployed were married. It is possible that a number of married women graduates who were house-wives and were not actively in search of a job reported themselves to be unemployed. Thus there is the possibility of some over-reporting in the proportion of unemployed women graduates as revealed in the survey. In spite of this factor, it appears that unemployment among women graduates is more acute than that among their male counterparts. A number of factors seem to be responsible for this phenomenon such as concentration of women graduates over narrower fields of occupations, lower geographical mobility, etc.

7.2. Graduates who reported themselves as unemployed were not all without work continuously since their graduation. Some of them did have intermittent spells of employment. Not all of them were wholly unemployed at the time of the survey—about 11 per cent of the graduates who reported themselves to be unemployed were found to be subsisting on part-time jobs.

Unemployment in relation to examination passed

7.3. The proportion of unemployed graduates in each faculty is given in table below :

TABLE 7(1)
Proportion of unemployed graduates in different faculties

Faculty	Percentage of un-em- ployed graduates
(1)	(2)
B.A.	15.1
B.Sc.	7.1
B.Com.	7.0
B.Sc. (Agr.)	2.1
LL.B.	6.0
B.T.	2.5
B.E.	0.7
M.B.B.S.	4.9
B.V.Sc.	2.0
Other Graduates	16.2
M.A.	9.4
M.Sc.	3.9
M.Com.	6.7
Other post-graduates	2.5
Ph. D.	5.2
All Faculties	9.8

The incidence of unemployment, it will be seen, was high among Arts graduates. Unemployment was of a fairly high order among M.A.s. The extent of unemployment among graduates in Science, Law and Commerce and post-graduate degree holders in Commerce was of a moderate degree. Unemployment was insignificant (below 1 per cent) among graduates in engineering and technology. It seems desirable to study the particulars of the unemployed Ph.D's in somewhat more details. It is observed that there were five doctorates (three were men and two women) in the sample who reported themselves to be unemployed. Among the men one was superannuated, another had just returned from abroad and was in search of a job for less than a month while the third one was still abroad and would accept a job in India with a very high salary. Of the women doctorates, one was unemployed for less than a month and was, therefore, suffering from frictional unemployment and the other preferred a Government job in Bombay only.

Duration of unemployment

7.4. An important index of unemployment is the duration or the period for which a person remains unemployed. For unemployed persons who had never secured a job the period of unemployment naturally commences from the day they started looking for work. In the case of those who were employed intermittently the period of unemployment would relate to the last spell of continuous unemployment. It is observed that about half of the unemployed alumni did not indicate their previous employment history, if any, from which their duration of unemployment could be derived. Due to this high rate of non-response, the information in regard to the period of unemployment as available from those unemployed alumni who reported on this item may not reflect correctly the duration of unemployment as it prevails among all the unemployed graduates covered by the survey. In view of the large extent of non-reporting as stated above, it is also not possible to ascertain the proportion of unemployed graduates who were employed earlier. Leaving out the part-time workers, the distribution of the unemployed alumni by duration of unemployment in regard to those graduates for whom this information is available works out as below. While studying these figures, it should be borne in mind that the duration of unemployment as indicated here may not hold good for the alumni as a whole due to the factor of a high degree of non-reporting on this item as stated above.

TABLE 7(2)
Duration of unemployment

Period	Percentage distribution of unemploy- ed graduates
(1)	(2)
Below six months	32.2
6 months or more but below 1 year	26.6
1 year or more but below 2 years	23.0
2 years or more but below 3 years	11.3
3 years and above	6.9
TOTAL	100.0
Number in the sample for whom the information is available	214

It will be seen that just less than 60 per cent of the graduates for whom the information is available were unemployed for less than a year, 23 per cent were unemployed for 1 year or more but less than 2 years and the remaining 18.2 per cent were unemployed for 2 years or more. In view of the small number of graduates involved, faculty-wise analysis has not been attempted.

Job Preference

7.5. The following table shows the distribution of the un-employed graduates according to occupation preferred—figures have been given according to broad occupational groups :

TABLE 7(3)
Distribution of unemployed graduates according to occupation preferred

Occupation preferred	Percentage of unemployed graduates
(1)	(2)
Professional, technical & related workers	64.9
Administrative, executive & managerial workers	11.4
Clerical and related workers	8.0
Sales workers	1.0
Agricultural, dairy and related workers	0.4
Miners, quarrymen and related workers	—
Workers in transport and communication occupations	3.3
Craftsmen, production process workers and labourers not elsewhere classified	0.4
Service, sports and recreation workers	0.7
Workers not classifiable by occupation	1.0
Not available	8.9
TOTAL	100.0
Number in the sample	477

It will be seen that about two-third of the unemployed graduates were seeking professional, technical and related jobs—more than half of this group wanted to become teachers while about one-fifth desired employment as social scientists. Slightly more than one-tenth of the unemployed graduates desired administrative, executive and managerial jobs—most of them were seeking job as administrative and executive officials in Government Departments. 8 per cent of the unemployed graduates wanted clerical jobs, 3 per cent wanted employment in transport and communication occupations and only 1 per cent desired to become sales worker. The other occupational groups accounted for insignificant proportion of the unemployed graduates.

Registration at Employment Exchanges

7.6. The proportion of unemployed graduates registered with the Employment Exchanges is shown in the table below separately for men and women :

TABLE 7(4)

Proportion of unemployed graduates registered with the Employment Exchanges

Item	Percentage of unemployed graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
Registered	26.6	10.9	22.2
Not registered	65.2	86.8	71.2
Not available	8.2	2.3	6.6
TOTAL	100.0	100.0	100.0
Number in the sample	362	115	477

Thus about 22 per cent of the unemployed graduates were registered with the Employment Exchanges. The proportion of registered unemployed was considerably less among women— being 10.9 per cent as against 26.6 per cent among men. Thus men graduates seem to be more inclined to seek employment assistance through the Employment Service than women. It is felt that a faculty-wise analysis of the proportion of the unemployed who were registered with the Employment Exchanges may not yield valid conclusions in view of the small numbers involved. However, for the sake of comparison the proportion of the unemployed alumni registered with the Employment Exchanges has been shown below in respect of a few selected faculties for which the number in the sample is more than 50 :

TABLE 7(5)

Proportion of unemployed graduates registered with the Employment Exchanges in respect of selected faculties

Faculty	Percentage of unemployed graduates registered with Exchanges	Number unemployed in the sample
(1)	(2)	(3)
B.A.	21.5	144
B.Sc.	36.4	66
B.Com.	22.0	59
M.A.	14.3	77
All faculties	22.2	477

It will be seen that of the faculties given above a comparatively large proportion of the unemployed graduates in Science were registered with the Exchanges. Also a lesser proportion of M.A.s were registered with the Exchanges as compared to B.A.s.

Salary expectations of unemployed graduates

7.7. Distribution of the unemployed graduates by the minimum salary expected is given below :

TABLE 7(6)

Distribution of unemployed graduates according to minimum salary expected

Minimum salary expected per month	Percentage distribution of unemployed graduate		
	Men	Women	Total
(1)	(2)	(3)	(4)
Below Rs. 200	28.6	26.9	28.1
Rs. 200 and above but below Rs. 500	53.5	66.5	57.1
Rs. 500 and above	5.9	0.8	4.5
Not available	12.0	5.8	10.3
TOTAL	100.0	100.0	100.0
Number in the sample	362	115	477

It will be seen that more than half (57.1 per cent) of the unemployed graduates expected a minimum salary between Rs. 200 and Rs. 500 per month while another 28.1 per cent desired a minimum salary of below Rs. 200 per month. Only about 4.5 per cent wanted a salary of Rs. 500 or more. The salary expectation of women graduates was less than that of men—93.4 per cent of the unemployed women wanted a monthly salary of less than Rs. 500 as against 82.1 per cent for men.

Means of livelihood

7.8. The distribution of unemployed graduates by their present means of livelihood is given in the table below :

TABLE 7(7)

Distribution of unemployed graduates by present means of livelihood

Means of livelihood	Percentage distribution of unemployed graduates		
	Men	Women	Total
(1)	(2)	(3)	(4)
Depending on parents, relatives or friends	54.3	92.6	64.9
Past Savings	3.5	0.5	2.7
Part-time jobs	15.7	0.4	11.4
Other means	15.0	0.2	10.9
Not available	11.5	6.3	10.1
TOTAL	100.0	100.0	100.0
Number in the sample	362	115	477

Thus the overwhelming majority (65 per cent) of the unemployed graduates depended on parents, relatives or friends for their livelihood. The proportion was considerably high among women—the figures being 93 per cent as against 54 per cent for men. 11.4 per cent of the unemployed graduates subsisted on part-time jobs and therefore could not be regarded as wholly unemployed. The percentage of unemployed alumni who depended on part-time work was considerably high among men—15.7 per cent for men as against only 0.4 for women.

CHAPTER VIII

WOMEN GRADUATES

Number Addressed and Responded

8.1. The total number addressed in respect of the 1954 and 1950 alumni was 17,972 and 2,026 respectively of whom 1,731 and 101 respectively were women. In all 6,814 and 633 graduates of the 1954 and 1950 batch respectively responded to the questionnaire. The respondents included 544 and 19 women in so far as the 1954 and 1950 batches are concerned. The degree of response among women graduates was therefore 31.4 per cent and 18.8 per cent in regard to the 1954 and 1950 alumni respectively as against a corresponding proportion of 38.6 per cent and 31.9 per cent respectively for men. Thus a smaller fraction of women graduates responded to the questionnaire as compared to men. The disparity between the degree of response of men and women alumni being for the 1950 batch. The number of women addressed and responded in so far as 1954 batch is concerned is given below in respect of each faculty :

TABLE 8(1)

Number of women graduates addressed and responded

Faculty	No. addressed	No. responded
B.A.	471	153
B. Sc.	175	65
B. Com.	11	4
B. Sc. (Agr.)	1	1
LL. B.	35	11
B.T.	374	117
M.B.B.S.	112	25
Other Graduates	21	5
M.A.	380	130
M.Sc.	58	14
M.Com.	2	—
Other Post Graduates	70	12
Ph. D.	21	7
TOTAL	1,731	544

As the number of women of the 1950 batch who responded is very small (19) analysis of their characteristics has not been presented here. The following paragraphs are, therefore, confined solely to a description of the various aspects of the 1954 alumni. In this connection one special point deserves notice. Higher education among women is still largely confined to urban areas and to the socially and economically better off classes in society. The group of women graduates represented here exhibits, therefore, some characteristics which are more applicable to the urban and socially or economically advanced sectors of society. These cannot be regarded solely as characteristics which distinguish women graduates from men.

Age Distribution

8.2. An analysis of the age distribution of women graduates reveals that 8.6 per cent were aged below 25 years at the time of the survey, 64.4 per cent were aged 25 years or more but below 30 years, 19.7 per cent were 30 years or more but below 35 years and 6.3 per cent were aged 35 years or more [please see table 3(1) under Chapter III]. It will be of interest to see that 73 per cent of the women graduates were aged below 30 years at the time of the survey as against 64 per cent of men graduates. It is also observed that about half of the women alumni passed their first degree examination at an age below 21 years as against a corresponding proportion of slightly more than one third for all graduates. The above observations reveal that women graduate at a younger age than men. This is mainly due to the fact that they belong to the urban and socially advanced groups among which education is generally begun earlier.

Marital Status

8.3. Of the women alumni, 42.0 per cent remained single till the date of the survey, 55.1 per cent were married and 1.8 per cent were widowed [please see table 3(2) in Chapter III]. The proportion of men alumni who were single was 24.6 per cent and married 73.9 per cent. Thus as compared to men a greater proportion of women remained single till the date of the survey. This shows that women who go in for higher education have a tendency to postpone their marriage presumably because they think it may interfere with their education and career.

Family Income

8.4. About 22 per cent of the women graduates came from families with an average monthly family income of below Rs. 200, 44.5 per cent had a family income of Rs. 200 or more but below Rs. 500 and 23.4 per cent had a family income of Rs. 500 or more (*vide* Table 3(3) of Chapter III). It will also be observed that while 66.6 per cent of the women alumni had a family income of below Rs. 500 per month, the corresponding ratio for men graduates is 75.7 per cent. This shows that as already stated earlier, women alumni, by and large, come from the economically better off section of the society as compared to their male counterparts.

Family Occupation

8.5. Majority of the women alumni came from families engaged in Govt. Services and those engaged in other services—these two categories accounted for 30.9 per cent and 27.7 per cent respectively of the total number of women graduates [*vide* table 3(4) under Chapter III]. Only about 7.0 per cent of the women alumni came from agricultural families, 25.5 per cent from business communities and only 0.3 per cent from families of artisans. It will also be observed that the proportion of alumni who came from agricultural families was much higher among men (30.2 per cent) than among women.

School Education

Class secured at school leaving examination

8.6. Of the women alumni 19.2 per cent secured first class at the school leaving examination, 50.0 per cent obtained second class, 24.5 per cent got a third class while the remaining did not report on this item. The pattern of distribution is more or less similar to that among men graduates.

Financial help availed of at school

8.7. The following table shows the distribution of women alumni according to nature of financial help availed of at school.

TABLE 8(2)

Distribution of women alumni according to nature of financial help availed of at school

Nature of financial help	Percentage of women alumni
(1)	(2)
Government stipend.. .. .	16.4
Other stipends	1.0
Concessions	0.3
No help	53.4
Not available.. .. .	28.9
TOTAL	100.0
Number in the sample	544

It will be observed that more than half of the women alumni did not obtain any kind of financial help for their school education. About 16 per cent secured Government stipend. The proportion of women alumni who obtained other stipends or concessions was negligible. As these alumni came from economically advanced groups, the assistance received by them was less than that received by men alumni [*vide* Table 3(7) in Chapter III].

University Education

Class/Division secured at First Degree Examination

8.8. Of the women alumni 3.5 per cent secured a first class at the first degree examination, 34.4 per cent obtained a second class while 43.1 per cent secured a third class and the rest did not indicate the class/division obtained. On a comparison with the distribution of

all graduates by class secured at school leaving examination [*vide* Table 3(11) in Chapter III] we find that as in the case of men graduates there is an evidence of a fall in scholastic standards of the women alumni at their first degree examination as compared to their performance at school. It is also observed that the distribution of women graduates by class secured at first degree examination is similar to that in respect of all graduates showing thereby that there is no difference in the average standard of performance of men and women alumni at the degree examination.

Financial Help Availed of at College

8.9. The nature of financial help availed of by women alumni during their college education is shown in the table below:—

TABLE 8(3)

Distribution of women alumni according to nature of financial help availed of at college

Nature of financial help	Percentage of women alumni
(1)	(2)
Parents	75.6
Other relatives	10.4
Merit Scholarship	6.9
College/University aid	6.7
Charity	1.3
Self-financing through work	11.0
Past savings	1.1

It may be noted that the proportion of graduates who availed of different types of help enumerated in the above table are not mutually exclusive in as much as graduates who depended for more than one type of financial help have been counted under each of the appropriate heads. It will be observed that three-fourths of the women alumni depended, either fully or partly, on parents for financing their education as against a corresponding proportion of two third in respect of all graduates [*vide* Table 3(13) under Chapter III]. Just more than one in ten of the women alumni financed their education either fully or partly through work as compared to a corresponding proportion of one in four in respect of all graduates. Thus a substantively greater fraction of the men alumni self-financed their education through work as compared to women. This is due to the fact that women graduates belong to economically advanced groups.

Activity Status

8.10. We shall now study the activity status of the women alumni. The following table shows the relevant data:

TABLE 8(5)

Distribution of women graduates according to activity status

Activity status	Percentage of women alumni
(1)	(2)
Employed	61.4
Unemployed	25.3
Student	1.8
Not seeking work	11.5
TOTAL	100.0
Number in the sample	544

It will be seen that nearly 9 out of 10 women alumni were in the labour force—either in employment or seeking jobs. This indicates that most of the women who obtain a degree from the University have career aspirations and therefore disproves the popular belief that women pursue their university education primarily to mark time pending marriage. The proportion of unemployed women graduates may be inflated to some extent due to a possible over-reporting in this respect on the part of women alumni [*vide* para 5.3 in Chapter V]. This factor needs to be borne in mind while interpreting these figures.

8.11. As the number of women respondents is small in most of the subject groups, a faculty-wise analysis of the activity status may not yield valid results. However, for the sake of comparison, distribution of women alumni by activity status has been shown in the following table in respect of four selected faculties for which number of respondents is more than 50.

TABLE 8(6)

Distribution of women graduates by activity status in respect of selected faculties.

Faculty.	Number in the sample	Percentage of women graduates			
		Employed	Unemploy- ed	Students	Not seeking work
(1)	(2)	(3)	(4)	(5)	(6)
B.A.	153	54.9	29.4	1.3	14.4
B.Sc.	65	69.2	18.5	4.6	7.7
B.T.	117	88.0	7.8	0.8	3.4
M.A.	130	58.5	28.5	1.5	11.5
ALL FACULTIES	544	61.4	25.3	1.8	11.5

It will be seen that as between the four faculties given above, the proportion of employed women was the highest amongst graduates in teaching followed by science graduates. The proportion of employed women alumni was at par amongst graduates and post-graduates in arts. The ratio of unemployed women alumni as shown above has, of course, to be viewed with some reservation in view of the element of over-reporting as already referred to earlier. Nevertheless, it is clear that unemployment was more acute amongst arts graduates while a comparatively small fraction of graduates in teaching remained unemployed. The percentage of women who did not seek work was high among arts graduates followed by post-graduates degree holders in arts. On the other hand, the proportion not in search of work was comparatively low among graduates in teaching followed by science graduates showing thereby that women B.T.'s and B.Sc.'s were primarily interested in pursuing a career.

Time lag Between Passing Examination and Obtaining First Employment

8.12. An idea of the waiting period of the women alumni before they take up their first employment can be had from the year in which they obtained the first employment. The following table shows the distribution of the employed women alumni according to the year of obtaining first employment :

TABLE 8(7)

Distribution of the employed women alumni according to the year in which first employment was obtained

Year of obtaining first employment	Percentage of employed graduates.
(1)	(2)
Prior to 1954.. .. .	19.8
1954	19.5
1955	17.2
1956	11.1
1957	10.8
1958	5.8
1959	2.4
1960	2.3
Not available	11.1
TOTAL	100.0
Number of the sample	370

Thus one out of five of the employed women alumni secured their first employment prior to 1954, *i.e.*, during their period of education. Comparing with the corresponding figures for all graduates as given in Table 5(3) in Chapter 5 we find that there is evidence that a somewhat lesser proportion of women alumni take up their first employment during their period of education as compared to

men alumni. Again we observe that while 21.3 per cent of the women alumni secured their first job in 1957 or later, the corresponding proportion for all graduates is 13.2 per cent. This shows that, as compared to men; women alumni generally wait longer before taking up first employment. While this longer waiting period indicates the initial difficulties which the women alumni encounter in getting employment it may be to some extent accounted for by the fact that a number of women graduates enter the labour force with a time-lag after passing examination when their family circumstances either permit or compel them to do so.

Occupational Pattern of Employed graduates

8.13. The following table shows the distribution of employed women alumni by board occupational groups:

TABLE 8(8)

Distribution of employed women alumni by broad occupational groups

Occupational group	Percentage of employed women graduates
(1)	(2)
Professional, technical & related workers	74.6
(a) Teachers	63.7
(b) Others	10.9
Administrative, executive and managerial workers	3.3
Clerical & related workers	11.2
Other occupations	0.2
Not available	10.7
TOTAL	100.0
Number in the sample	370

Thus three-fourths of the employed women graduates were professional workers of whom teachers constituted the overwhelming majority. In fact, the number of women graduates employed as teachers accounted for nearly two-third of the total number of employed women. The preponderance of the teaching profession as a source of employment to women graduates is marked in respect of all the faculties, except, law and medicine. A few of the women employed in the professional group were working as physicians and social scientists. Just more than one tenth of the employed women alumni mostly B.A.'s and B.Sc.'s were working as clerks. A comparative study of the occupational pattern of all employed graduates [vide Table 5(4) under Chapter V] with that of women alumni as given above reveals a lesser extent of occupational diversity among women graduates as compared to their male counterpart to which we have already made a reference earlier.

Sector of Employment

8.14. Distribution of employed women graduates according to the sector of their present employment is shown in the table below.

TABLE 8(9)

Distribution of employed women graduates by sector of present employment

Sector	Percentage of employed women graduates	Percentage of teachers included in Col. (2) to total employed women
(1)	(2)	(3)
<i>Public Sector</i>	51.1	29.0
Central Govt.	8.7	1.0
State Govt.	28.1	17.4
Quasi Govt.	9.5	7.1
Local Bodies	4.8	3.5
<i>Private Enterprise</i>	34.8	30.5
<i>Not Available</i>	14.1	4.2
TOTAL ..	100.0	63.7
Number in the sample	370	245

The above figures reveal that about half of the employed women alumni were working under the public sector of whom the majority were in State Govt. jobs, nearly one third were employed in private enterprise while the information was not available for the remaining graduates. Teachers, it will be observed, constituted the bulk of the women employed graduates in all the sectors except the Central Govt.

Earning

8.15. The following table shows the distribution of the employed women alumni by earnings in their present employment :

TABLE 8(10)

Distribution of employed women alumni by current earnings

Monthly earnings (Rupees)	Percentage of em- ployed women graduates
(1)	(2)
Below 100	14.8
100 to 199	43.0
200 to 299	18.6
300 to 399	5.3
400 to above	0.8
Not available	17.5
TOTAL ..	100.0
Number in the sample	370

Thus 76.4 per cent or nearly three-fourths of the employed women alumni were earning below Rs. 300 per month whereas 6 per cent were having a monthly earning of Rs. 300 and above. The corresponding proportion among all graduates were 70.8 per cent and 15.7 per cent respectively — thus showing that women alumni were earning less than men alumni. The lower level of earning among women graduates is clearly due to the predominance of teaching profession as their principal source of livelihood.

CHAPTER IX

THE 1950 ALUMNI

Introductory

9.1. As stated in Chapter II, the present survey covered, in addition to graduates and post-graduates who passed in 1954 from 29 universities, the alumni who obtained a degree in the year 1950 from 3 selected universities—Andhra, Agra and Patna. In view of the difference in coverage of the 1954 and 1950 samples the overall results of these two batches are not strictly comparable. For this reason the characteristics of the 1950 alumni have been described in a separate chapter. However, although, strict comparability of results is not possible we shall attempt some broad comparisons between the 1950 and 1954 alumni in regard to certain selected characteristics wherever necessary primarily with a view to ascertaining the direction of change that occurs in the conditions of the alumni with passage of time. Only certain important aspects of the alumni have been considered.

Activity Status

9.2. We shall first take up the activity status. The following table shows distribution of the alumni by activity status :

TABLE 9(1)
Distribution by activity status

Activity Status	Percentages	
	1950 batch	1954 batch
(1)	(2)	(3)
Employed	96·4	86·9
Unemployed	2·2	9·8
Not in the labour force	1·4	3·3*
TOTAL ..	100·0	100·0
Number in the sample	633	6,814

*Includes 0·1 per cent alumni in respect of whom the information is not available

It will be observed that the proportion of employed alumni was substantially higher for the 1950 batch as compared to the 1954 batch. On the other hand, the proportion of unemployed persons and of those outside the labour force was considerably less in respect of the 1950 alumni. This indicates that with passage of time not only do more graduates settle themselves in employment but also more of them give up their state of voluntary unemployment and thus become part of the labour force.

Occupational Pattern of Employed Graduates

9.3. Let us now consider the occupational pattern of the alumni. The distribution of the employed graduates of the 1950 batch by broad occupational groups is given in the table below :

TABLE 9(2)
Occupational distribution of Employed Graduates

Occupational Group (1)	Percentage of employed graduates (1950 batch) (2)
Professional, technical and related workers	65.5
Administrative, executive and managerial workers	13.0
Clerical and related workers	10.7
Sales workers	0.8
Agricultural dairy and related workers	1.3
Miners, quarrymen and related workers	—
Workers in transport and communication occupations	1.4
Craftsmen, production process workers and labourers n.e.c.	0.1
Service, sports & recreation workers	1.3
Workers not classifiable by occupation (including those who did not report their occupations)	5.9
TOTAL	100.0
Number in the sample	610

It will be observed that as in the case of the 1954 alumni [vide table 5(4) under Chapter V], majority of the graduates of 1950 batch were employed as professional workers who accounted for roughly 2/3rd of the total number of employed graduates. More than half of this group were teachers. Administrative workers and clerical workers each accounted for slightly more than one tenth of the employed graduates. The other occupations explained an insignificant proportion of the employed alumni.

Sector of Employment

9.4. An analysis of the employed graduates of the 1950 batch by the sector of employment will now be presented separately in so far as their first employment and the present employment are concerned. The following table shows the relevant data :

TABLE 9(3)
Distribution of employed graduates by sector of employment

Sector (1)	Percentage of employed graduates (1950 batch)	
	First employment (2)	Present employment (3)
<i>Public Sector</i>	57.5	65.6
Central Govt.	8.8	12.2
State Govt.	28.0	32.8
Quasi-Govt.	12.4	13.3
Local Bodies	8.3	7.3
<i>Private enterprise</i>	36.3	27.2
<i>Not available</i>	6.2	7.2
TOTAL	100.0	100.0
Number in the sample		

Thus, as in the case of 1954 batch [*vide* table 5(8) under Chapter V], bulk of the graduates of the 1950 batch were employed under the public sector—State Governments accounting for the major share of the employed graduates in this sector. We also find that with passage of time, a number of graduates who took up their first employment under the private sector changed over to jobs under the public sector.

Means of Securing Employment

9.5. The following table shows the distribution of employed graduates according to the manner of obtaining their first and present employment :

TABLE 9(4)

Distribution of employed graduates according to the manner of obtaining first and present employment

Manner in which employment was obtained (1)	Percentage of employed graduates (1950 batch)	
	First employment (2)	Present employment (3)
Public Service Commissions	8.7	16.2
Direct application	68.0	57.1
Employment Exchanges	3.0	3.9
Other channels	16.2	17.2
Not available	4.1	5.6
TOTAL	100.0	100.0
Number in the sample	610	

We find that majority of the graduates secured employment by direct application and a comparatively small fraction made use of the recognised modes of recruitment such as Public Service Commissions, Employment Exchanges, etc. But with passage of time, more and more graduates who had earlier obtained jobs by direct application, changed over to other employment through recognised means of recruitment such as Public Service Commissions.

Earnings

9.6. We shall now study the pattern of earnings of the 1950 alumni. The following table shows the relevant data :

TABLE 9(5)

Distribution of employed graduates by monthly earnings

Monthly earnings (Rs.) (1)	Percentage of employed graduates according to earnings in	
	First employment (2)	Present employment (3)
Below 100	34.4	2.8
100 to 199	38.6	35.6
200 to 299	9.2	26.5
300 to 399	2.1	10.5
400 to 499	0.7	2.7
500 and above	0.1	4.2
Not available	14.9	17.7
TOTAL	100.0	100.0
Number in the sample	610	

The important feature that is revealed by the above figures is that earnings of graduates tend to improve with length of service as we observe that the graduates were earning a higher salary in their present employment as compared to first employment. A further support to this observation is lent by the fact that in so far as the current earnings are concerned, the 1950 alumni was somewhat better placed than the 1954 alumni [*vide* Table 6(1) under Chapter VI] which is clearly the influence of four additional years of employment and the effect that this longer duration of service and the opportunities accompanying it had on earnings.

CHAPTER X

RELATIONSHIP BETWEEN UNIVERSITY EDUCATION AND EMPLOYMENT

10.1. The present survey is intended primarily to bring out the relationship between the university education and the subsequent employment of the alumni. In the preceding chapters, we have examined, *inter-alia*, the various aspects concerning employment, earnings, unemployment, etc. of the alumni in relation to the degrees obtained by them. It would, however, seem useful to juxtapose all the bits of information bearing on the employment aspects of the alumni as given in the earlier chapters so that a comprehensive picture of the relationship between the university education and employment could emerge. An attempt in the direction will now be made in the present chapter. To facilitate a closer study of the relationship between the occupational pattern of the employed alumni and their education, a table has been given in appendix IV showing the distribution of employed graduates in selected occupations.

Professional, technical and specialised courses

10.2. Taking the *professional and specialised courses* like engineering and medicine, first, we observe that the alumni who passed in these faculties were in the best position in the employment ladder. The incidence of unemployment among them was either low or insignificant—the proportion of unemployed being 0.7 per cent among engineers and 4.9 per cent among doctors. They had to wait for a short period after graduation before taking up first employment—7 out of 8 engineering graduates and three-fourths of the medical graduates of the 1954 batch were fixed up in employment before the end of 1955. Overwhelming majority of them were engaged in occupations within their field of study—80 per cent of the engineering graduates were employed as architects, engineers, etc. while 86 per cent of the medical graduates were engaged as physicians and surgeons. In so far as current earnings are concerned, these graduates were decidedly better off than graduates in other subjects—about one-fourth and one-fifth of the engineering and medical graduates respectively were earning more than Rs. 500 per month against a corresponding proportion of only 4 per cent of all graduates. We also observe that while 40—45 per cent of these graduates started their career with a salary of below Rs. 200 per month, only 3 per cent of them were drawing the same salary in their current employment. This shows that such of these graduates who had a low start in their initial career employment were able to make up this deficiency in course of time to a great extent. If we compare graduates in engineering with those in medicine, we find that the former were in a slightly better position in as much as the incidence of unemployment among them was almost insignificant (less than 1 per cent) and their waiting period before initial employment was of a shorter duration. An interesting feature that we notice about medical graduates is that a substantial majority of them (84 per cent) were engaged in salaried employment as opposed to private practice. It is definite that the employment prospect of engineers and doctors

which is encouraging would improve further in view of the growing demand of these personnel as a result of planned development in our country.

10.3. Next we take up graduates in *agriculture and veterinary science*. We find that their employment situation was fairly satisfactory. Thus, the incidence of employment among them was low—about 2 per cent. Bulk of the veterinary graduates were employed in occupations which were directly related to their subjects of study while a sizeable fraction of the agricultural graduates were engaged within their field of study. This is revealed by the fact that 88 per cent of the veterinary graduates were employed as veterinarians while 60 per cent of the agricultural graduates were working as agronomists, agricultural scientists, farm managers, etc. The time lag between graduation and securing initial employment was fairly short in respect of the agricultural graduates—more than three fourths of them took up their first employment before the end of 1955, while the bulk of the degree holders in veterinary science obtained employment almost immediately after graduation—about 9 in 10 of them having secured first job latest by 1955. The average income level in regard to these graduates was moderate—about 40–50 per cent of the alumni in these faculties were earning between Rs. 200 to Rs. 500 per month while almost an equal fraction had an earning of below Rs. 200 p.m. In short, we find that the employment of graduates in agriculture and those in veterinary science was, by and large, fairly well adjusted with their education although in regard to the former category, the level of earnings may not be as high as one would have liked in the context of the various developments taking place in the field of agriculture in our country.

10.4. In regard to *law graduates*, the position is not very satisfactory. Although, law is considered to be a professional subject and is presumably intended to enable the law graduates to practise as lawyers, we find that majority of them (59 per cent) were engaged in salaried employment. A study of their employment pattern has revealed that about half of them were employed as professional workers—40 per cent were employed as jurists and 6 per cent were teachers—nearly 1 in 6 of the employed graduates were in administrative jobs and an equal number were working as clerks. Although a few of them who started their career as clerks, took up private practice as lawyer in course of time, quite a number of them (18 per cent) seem to be tied up with clerical occupations. In so far as their average earning is concerned, we find that this was at a moderate level—slightly less than one third were drawing between Rs. 200 to Rs. 500 per month while only 3 per cent were earning above Rs. 500 per month. The incidence of unemployment among these graduates was also moderate—the proportion of unemployed being 6 per cent. However, taking stock of the entire position of law graduates, we are led to the conclusion that a minority of them were engaged in vocations suited to their educational attainments and for quite a number of them their legal background had no relationship with their employment.

10.5. Let us now consider *graduates in teaching*. We find that, but for their earnings, the employment conditions among these graduates

were quite satisfactory; they had to wait for a very short period before taking up initial employment—7 out of 10 having already taken up employment during their period of study, while 23 per cent got job before the end of 1955; overwhelming majority (91 per cent) of them were engaged in teaching jobs and only about 1 per cent were employed as clerks. It is interesting to observe that majority of these graduates (about 70 per cent) considered their present jobs suited to their education and liking. The only disconcerting feature regarding their state of employment was the low level of earnings—about 7 out of 10 were getting below Rs. 200 per month. The level of earnings also showed no tendency to increase with passage of time. In view of the large demand for trained teachers in our country as a result of developmental programmes in the field of education, this low level of earning as revealed above may stand in the way of attracting persons of good calibre for teaching jobs. It is indeed gratifying to note that Government has already taken a number of steps to improve the salary of teachers.

Science Courses

10.5. Let us now examine the science faculties—*B.Sc.'s* and *M.Sc.'s*. In so far as the science graduates are concerned, we find that the incidence of unemployment among them was moderate—about 7 per cent. 6 out of 10 employed *B.Sc.'s* were professional workers—a sizeable fraction of them earned their livelihood from the teaching profession which accounted for 27 per cent of the total number of employed science graduates, while one in ten of the total employed were engaged as physical scientists. A fairly large proportion (1 out of 5) of the employed graduates worked as clerks. Their level of earning was moderate. Slightly more than one-third were drawing between Rs. 200 to Rs. 500 per month, while only 3 per cent were earning above Rs. 500 per month. Although a substantial majority of them started their career with a low income—about three-fourths were drawing below Rs. 200 per month in their initial employment, a number of them were able to improve their earnings in course of time, half of them were earning below Rs. 200 p.m. in their current employment. In short, the conditions of employment of the *B.Sc.'s* cannot be regarded as unsatisfactory but at the same time were not as encouraging as one would have wished in the context of the industrial revolution taking place in our country which is generating a large demand for scientific and technical personnel. In contrast, we find that the post-graduate degree holders in science were definitely better placed than the science graduates not only from the point of view of earning which was satisfactory (three-fourths of the *M.Sc.'s* were drawing between Rs. 200 to Rs. 500 per month as against a corresponding proportion of about one-third for *B.Sc.'s*) but also from the angle of their occupational disposition. Thus, we find that more than 80 per cent of the post-graduate degree holders in science were employed as professional workers, mostly as teachers and to some extent as physical scientist as against a corresponding proportion of 60 per cent among *B.Sc.'s*. While 20 per cent of the science graduates were tied up with clerical jobs, only 1 per cent of the *M.Sc.'s* were employed as clerks. The incidence of unemployment among the *M.Sc.'s* was also low (nearly 4 per cent).

Commerce Courses

10.6. While examining the employment conditions of the graduates and post-graduates in commerce, the significant feature that comes to our notice is the importance of clerical occupations as a source of livelihood of these alumni. In fact, we find that more than 4 out of 10 employed B.Com.'s and 1 in 4 employed M.Com.'s were working as clerks even after six years of passing degree/post-graduate examination. This involves a considerable wastage of university education and should attract urgent attention of both administrators and educators. Some rethinking appears to be necessary about the utility of the commerce courses from the point of view of employment. We also find that the incidence of unemployment among the commerce graduates and post-graduates was moderate (6—7 per cent). In regard to their level of earnings, we observe that this was not very high, the proportion of employed alumni earning between Rs. 200 to Rs. 500 being 31 per cent and 44 per cent for B.Com.'s and M.Com.'s respectively. The M.Com.'s were, no doubt, earning more than the B.Com.'s as is natural. Also, in respect of the M.Com.'s there is evidence that earnings tend to improve with passage of time.

Arts Courses

10.7. Our analysis has revealed that the conditions of employment among the arts graduates were definitely not satisfactory. Thus, we find that incidence of unemployment among them was of a high order (about 15 per cent). A large fraction of them (38 per cent) had to take up teaching jobs, 1 in 4 were employed as clerks, and slightly more than one-tenth were engaged in administrative jobs. Their extent of employment mobility as well as the level of earnings was low, about two-third of the alumni were earning below Rs. 200 per month at the time of survey. Increase in earnings over time was marginal. Majority of them were dissatisfied with their present jobs. As might be expected, the position was better among *post-graduate degree holders in arts*. Although the incidence of unemployment among them was fairly high (9 per cent), we find that their income level was moderate, about 38 per cent were earning below Rs. 200 per month. There was also some evidence for increase in earnings over time. Half of them were employed as teachers, one-tenth were social scientists, one in eighth were working as clerks and one-tenth were in administrative jobs.

The Doctorates

10.8. The employment situation among the Ph.D.s was very satisfactory as might be expected. Although, oddly enough, a small fraction (about 5 per cent) of the Ph.D.s reported themselves to be unemployed, we have observed earlier that this unemployment was either frictional in nature or occasioned by circumstances peculiar to the individuals such as demand of a very high salary, superannuation, etc. Their waiting period before taking up initial employment was extremely short—9 out of 10 were already working while studying for a doctorate. 90 per cent of the employed Ph.D.s were professional workers of whom more than half were teachers, over one-tenth of the total number employed were physical scientists

while 1 out of 15 were administrative workers. We also find that the extent of change in employing agency among them was the maximum—slightly less than half of them having changed their employer twice or more. Their level of current earnings was the highest—more than half were getting more than Rs. 500 per month. Among them those who had started their career with a low salary were able to improve their earnings to a substantial extent in course of time.

CHAPTER XI

SUMMARY OF THE FINDINGS

General (CHAPTER II)

An all-India sample survey of the pattern of graduate employment was undertaken in 1960 by the Directorate General of Employment and Training primarily with a view to bringing out the relationship between university education and the subsequent employment of the alumni. The survey covered all persons who obtained a degree as well as those who passed Master's or higher degrees in 1954 from 29 universities in the country (except Madras and Delhi Universities). Graduates who passed in 1950 from three selected universities—Andhra, Agra and Patna were also included within the scope of the survey. For purposes of investigation a sample of 20,386 and 2,075 graduates of the 1954 and 1950 batch respectively were selected according to the technique of stratified systematic sampling out of a total number of 76,924 and 8,882 respectively who comprised the "frame" for the two batches. The university authorities could provide addresses in respect of 17,972 and 2,026 sampled alumni of the 1954 and 1950 batch respectively to whom questionnaires were mailed. Completed questionnaires were received from 6,814 and 633 graduates of the 1954 and 1950 alumni—the degree of response being 37.9 per cent and 31.2 per cent respectively. The present report deals largely with the various characteristics of the 1954 alumni, while some broad features of the 1950 alumni have been embodied in a separate chapter towards the end of the report. The summary of the results under Chapters III to VIII as given below relate to the 1954 alumni while Chapter IX refers to the 1950 alumni. The limitations of the findings of the Survey have been described in paras 2.11 to 2.13 under Chapter II.

(2.1 & 2.14)

FAMILY AND EDUCATIONAL BACKGROUND (CHAPTER III)

Age Distribution

2. Women graduates obtained their degree at a younger age than men graduates—the proportion of women graduates who were aged below 30 years at the time of the survey being 73 per cent as against a corresponding proportion of about 64 per cent in respect of men.

(3.2 & 8.2)

Marital Status

3. A larger proportion of women graduates remained single till the date of the survey as compared to men graduates—the relevant figure being 24.6 per cent for men as against 42.0 per cent for women. This shows that women who go in for higher education have a tendency to postpone their marriage presumably because they think that it may interfere with their education and career.

(3.3 & 8.3)

Family Income

4. The bulk of the graduates belonged to families of the lower or middle income groups—the proportion of graduates having an average family income of less than Rs. 500 was 74.8 per cent. In the Delhi alumni survey, however, it was observed that students belonging to the lower middle class formed a small minority of the alumni. This is obviously a peculiar feature of a metropolitan city like Delhi with its society dominated by the higher income class. The position seems to be different when we consider the alumni of all the universities in country. It is interesting to observe that the women alumni came from families with a somewhat higher income level as compared to men. The proportion of graduates having a family income of below Rs. 500 per month being 75.7 per cent and 66.6 per cent in respect of men and women alumni respectively.

(3.4 & 8.4)

Family Occupation

5. Of the alumni 28 per cent came from the agricultural class, 20 per cent came from families of government servants, 24 per cent each came from families engaged in other services and from the business community, 0.9 per cent came from families of artisans. A larger fraction of women graduates came from families of government servants as compared to men graduates—the relevant proportion being 19 per cent and 31 per cent for men and women respectively. Agricultural families, on the other hand, accounted for the larger share (30 per cent) of the men graduates.

(3.5 & 8.5)

Nature of financial help availed of at school

6. Half of the graduates did not obtain any financial help for their school education while one-fourth had secured government stipends at school.

(3.9)

Age at which passed from school

7. Slightly less than three-fourths of the graduates passed from school at an age below 18 years. This includes about 12 per cent of the graduates who completed school education below 15 years of age.

(3.11)

Age at which first degree was obtained

8. Of the graduates 35% obtained their first degree at an age between 18—21 years and another 40% passed between 21—24 years of age. Thus about three-fourth of the total number of graduates passed their first degree examination between 18—24 years.

(3.14)

Interval between passing from high school and joining college

9. Among the graduates, 69.9 per cent entered college immediately after passing school leaving examination, 12.2 per cent had a break before joining college and the rest did not report on this item. (3.15)

Class obtained at first degree examination

10. Of the graduates 6.2 per cent obtained a first class at their degree examination, 33.6 per cent secured a second class and 46.3 per cent a third class while the remaining graduates either did not report the class secured or obtained a degree in pass-course etc. for which no division was assigned to the examination result. (3.16)

Fall in scholastic standard at the university stage

11. Graduates who had shown good performance at the school leaving examination, by and large, failed to maintain consistency of academic record at the degree examination. This fall in scholastic standard which was also revealed by the Delhi alumni survey may be due to various factors such as wrong choice of subjects at the university, change in the medium of instruction from mother tongue in school to a foreign language in college etc. (3.17 & 3.18)

Part-time Study

12. Of the alumni 15.5 per cent obtained a degree through part-time study, 79.7 per cent were full-time students while the remaining did not report on this item. The performance of graduates who studied part-time for degree course was below that of the alumni who studied full-time. (3.19)

Nature of financial help availed of a college

13. About 70 per cent of the graduates were depending on parents either fully or partly for financing their education. Only 6.6 per cent of the alumni obtained merit scholarships and 26.2 per cent financed their education either fully or in part through work. (3.20)

CHOICE OF SUBJECTS FOR DEGREE COURSE (CHAPTER IV)

Class obtained in school leaving examination and the subjects chosen at college.

14. The percentage of first divisioners in high school examination was substantially high among graduates in engineering and the doctorates. The proportion was fairly high among graduates in science and medicine and M.Sc.'s. On the other hand sizable fraction of the B.A.'s, B.Com.'s and law graduates were third divisioners in their school final examination. This reflects the admission policies of the higher educational institutions according to which stu-

dents with good academic background join courses in science, engineering or medicine while those having poor academic record in school are obliged to seek admission in arts or commerce courses.

(4.2)

subjects actually chosen at College an those that were preferred

15. Of the graduates 63.3 per cent had taken course of their preference at their first degree stage, 24.7 per cent wanted to take subjects other than the one actually offered and the remaining 12.0 per cent did not report on this item. Among those who wanted to take a different subject in their first degree course, more than one-third wanted to offer engineering, about one-fourth preferred the medical line and one-fifth desired to join science courses.

(4.3)

Reasons for not offering preferred subjects

16. The predominant reason for the graduates not being able to offer their subject of preference is lack of adequate finance to pursue the desired course—more than half of the graduates who could not take up their preferred subjects quoted financial ground as one of the contributing factors. About 30 per cent of these graduates could not offer the desired subjects due to admission being denied in college, 12 per cent for lack of teaching facilities and about 8 per cent were prevented by parents from taking up the preferred subjects.

(4.4)

Performance at first degree examination in relation to the liking for the subjects offered.

17. It is curious to observe that the standard of performance of the graduates at the first degree examination in respect of those who preferred their subjects is the same as that in respect of the alumni who did not prefer their subjects. This may suggest that the alumni did not perhaps report their preference for the subjects taken with due care. Another probable reason may be that owing to lack of guidance facilities, the graduates were not able to develop preferences according to their aptitudes and interests.

(4.5)

EMPLOYMENT (CHAPTER V)

Volume of employment

18. The bulk of the graduates (86.9 per cent) were employed, 9.8 per cent reported themselves to be unemployed and 3.2 per cent were not in the labour force—either prosecuting further studies or were not seeking work. 0.1 per cent of the graduates did not report on this item.

(5.1)

Employment in relation to class/division secured in first degree examination.

19. The proportion of the employed graduates was the highest (90.1 per cent) and that of the unemployed the least (4.4 per cent) among graduates who secured first class in the degree examination. The poorer the performance of the graduates in the degree examination, the lesser is the proportion of the employed and the higher the percentage of the unemployed. This confirms the popular belief that examination result is an important determinant of the state of employment or unemployment of the alumni.

(5.4)

Time lag between passing examination and obtaining first employment

20. One-fourth of the employed graduates secured their first employment prior to 1954, i.e., before passing their degree/post-graduate examination, thereby showing that they were already employed during their period of education. Another 25 per cent of these graduates obtained their first employment in 1954. 18.2 per cent secured their first employment in 1955, 12 per cent in 1956, 6.9 per cent in 1957 and 6.3 per cent in 1958 or later. Graduates in teaching engineering, veterinary science, post-graduates in science and commerce and the doctorates secured their first employment within a short period after passing the examination. 7 out of 10 B.T.'s and 9 in 10 doctorates were already employed during their period of study.

(5.6)

Occupational pattern of employed graduates

21. 86.9 per cent of the employed graduates were engaged in occupation belonging to the three major occupational groups—professional, technical and related workers, administrative, executive and managerial workers and clerical and related workers. Contrary to popular expectations, the majority (57.3 per cent) of the graduates were employed as professional, technical and related workers as opposed to clerical workers who accounted for about one-fifth of the employed graduates. Less than 3 per cent were engaged in transport and communication occupations, 1.2 per cent were sales workers and the other occupations accounted for insignificant proportions of the employed graduates. A faculty-wise analysis reveals that the overwhelming majority of the graduates in teaching, engineering, medicine and veterinary science and of the M.Sc.'s and Ph.D.'s were employed as professional, technical and related workers. More than half of this group were teachers. The percentage of graduates employed as administrative, executive and managerial workers was relatively high among graduates in law and post-graduates in commerce. In so far as clerical occupations are concerned, the two faculties that contributed a major share of the employed alumni were B.Com. and M.Com.—the proportion of employed alumni of these two faculties who were engaged in clerical jobs being 43.3 per cent and 25.4 per cent respectively. A sizeable fraction of graduates

in arts, science, law and post-graduates in arts were employed in clerical occupations.

(5.7 & 5.9)

Employment Status.

22. Most of the graduates (89.3 per cent) were working as employees—6.5 per cent of them were self-employed, 1.6 per cent were engaged in family enterprise and only 0.7 per cent were employers. The proportion of the self-employed was higher among graduates in law and medicine as compared to the figures for all faculties as a number of them were doing private practice. It is, however, interesting to note that even among law and medical graduates, the proportion working as employees was considerably more than that of the self-employed thus showing that the majority of these graduates preferred salaried employment to private practice.

(5.10 & 5.11)

Change in employing agency.

23. Half of the employed graduates did not change their employer till the date of the survey, about one-fourth changed their employer once, 12 per cent changed twice, about 5 per cent thrice and 2 per cent four times or above. The extent of change in employer was particularly high among professional degree holders such as engineers and doctors among M.Sc.'s and Ph.D.'s. On the other hand, the extent of this type of mobility was low among graduates in Arts, commerce and law and veterinary science.

(5.13)

Change in Occupation.

24. While 22.1 per cent of the alumni took up their first job in clerical occupations, 19.5 per cent of them were currently employed in the same group—thus showing that some of the alumni who started their careers as clerks shifted to other more satisfying occupations in course of time. Also it is observed that whereas 6.2 per cent of the employed graduates took up administrative, executive and managerial jobs in their first employment, 10.1 per cent of the graduates were currently employed in this group. This indicates that a number of graduates changed over to administrative, executive and managerial jobs with passage of time.

(5.14)

Sector of employment.

25. The bulk of the graduates were employed in the public sector—about 58 per cent took up their first employment in the public sector while 64 per cent were currently employed in the same sector. The private sector absorbed 35 per cent and 29 per cent of the employed graduates insofar as their initial employment and present employment respectively are concerned. It is also observed that with passage of time quite a number of graduates who had secured their initial employment in the private sector changed over to jobs under the public sector.

(5.15)

Means of securing employment.

26. Bulk of the graduates obtained their employment by direct applications—the proportion who obtained their initial employment and present employment in this manner being 64.8 per cent and 57.3 per cent respectively. The proportion of graduates who obtained employment through Public Service Commissions was 8.3 per cent and 16.4 per cent insofar as their first employment and current employment respectively are concerned. About 6—7 per cent of the graduates secured employment through the Employment Exchanges. It is observed that with passage of time more and more graduates who had earlier obtained jobs by direct application changed over to other employment through recognised mode of recruitment such as Public Service Commissions.

(5.17)

Job satisfaction.

27. Nearly half (49.8 per cent) of the employed graduates considered that present jobs suited to their education and liking.

(5.18)

EARNINGS (CHAPTER VI)

Distribution of monthly earnings.

28. 74.5 per cent of the currently employed alumni were earning below Rs. 200 per month in their initial employment, 11.6 per cent were earning Rs. 200 to Rs. 499 per month and only 0.6% had a monthly earning of Rs. 500 and above. Insofar as their present employment is concerned 49.8 per cent of the employed graduates had a monthly earning of below Rs. 200, 32.9% were getting an income of Rs. 200 to Rs. 499 and 3.9 per cent had an income of Rs. 500 and above per month. This reveals that graduates were earning a higher salary in their present employment as compared to their initial employment, thus showing that earnings tend to improve with length of service.

(6.2)

Earnings in relation to the examination passed.

29. As may be expected a good deal of variation exists in the extent of improvement in earnings of graduates belonging to different faculties over time. Thus improvement in earnings with passage of time was conspicuously high among professional and technical degree holders such as engineers and doctors and among Ph.D's. The rise in income level was also fairly significant among the post-graduates degree holders—M.Sc.'s and M.Com.'s fared better than M.A.'s. In regard to graduates in science, commerce, agriculture, law and veterinary science the increase in earnings was to a moderate extent. The position of graduates in arts and teaching was, however, not satisfactory as the increase in the level of earnings was marginal. An analysis by current income of the alumni reveals that the doctorates were in the highest income group followed by graduates with

professional and technical degrees like engineering and medicine. The earnings were also fairly high among post-graduates in science. Among graduates in science, commerce, agriculture, veterinary science and law and post-graduates in arts and commerce the income-level was moderately satisfactory. The level of earnings was definitely less satisfactory among graduates in arts and teaching.

(6.4 and 6.5)

Income Satisfaction.

30. About one-fifth of the graduates expressed satisfaction with their current income, roughly three-fourth stated that they were not satisfied with their earnings and the remaining graduates did not report on this item.

(6.7)

UNEMPLOYMENT (CHAPTER VII)

Volume of unemployment.

31. 9.8 per cent of the alumni reported themselves to be unemployed at the time of the survey—the percentage of unemployed among men and women alumni being 7.9 per cent and 25.3 per cent respectively. The high incidence of unemployment among women graduates should be interpreted with some caution, as it is possible that a number of married women graduates who were housewives and were not actively in search of a job reported themselves to be unemployed. In spite of this it appears that unemployment among women graduates is more acute than among men graduates. This may be explained by several factors such as concentration of women graduates over narrower fields of occupation, lower geographical mobility etc.

(7.1)

Unemployment in relation to examination passed.

32. The incidence of unemployment was high (15 per cent) among arts graduates. The proportion of unemployed was fairly high (9 per cent) among post-graduate degree holders in arts. The extent of unemployment among graduates in science, law and commerce and post-graduates degree holders in commerce was of a moderate degree (6.7 per cent). Unemployment was insignificant (below 1 per cent) among graduates in engineering.

(7.3)

Duration of unemployment.

33. About half of the unemployed alumni did not give information above their period of unemployment. However, among those who had indicated their duration of unemployment, 60 per cent were unemployed for less than a year, 23 per cent were unemployed for one year or more but less than 2 years and the remaining 18.2 per cent were unemployed for 2 years or more.

(7.4)

Job preference.

34. Two-third of the unemployed graduates were seeking professional, technical and related jobs—more than half of this group wanted to become teachers while about one-fifth desired employment as social scientists. Slightly more than one-tenth of the total number of unemployed graduates desired administrative, executive and managerial jobs, 8 per cent wanted clerical jobs, 3 per cent desired employment in transport and communication occupations and only one per cent wanted to become sales workers.

(7.5)

Registrations at employment exchanges.

35. About 22 per cent of the unemployed graduates were registered with the employment exchanges. The proportion of registered unemployed was considerably less among women than among men—the relevant proportions being 26.6 per cent and 10.9 per cent for men and women respectively.

(7.6)

Salary expectation.

36. More than half (57.1 per cent) of the unemployed graduates expected a minimum salary between Rs. 200 and Rs. 500 per month. 28.1 per cent desired a minimum salary of below Rs. 200 per month while only 4.5 per cent wanted a monthly salary of Rs. 500 or more. The salary expectations of women graduates was less than that among men.

(7.7)

Means of livelihood.

37. Majority (65 per cent) of the unemployed graduates depended on parents, relatives or friends for their livelihood—the proportion being considerably high among women alumni (93 per cent). 11.4 per cent of the unemployed graduates subsisted on part-time jobs and therefore could not be regarded as wholly unemployed. The proportion of unemployed women alumni who depended on part-time work was of an insignificant order (0.4 per cent).

(7.8)

WOMEN GRADUATES (CHAPTER VIII)

Nature of financial help availed at schools.

38. More than half of the women alumni did not obtain any kind of financial help for their school education. About 16 per cent secured Government stipends.

(8.7)

Class obtained at first degree examination.

39. Of the women alumni 3.5 per cent secured a first class at the first degree examination, 34.4 per cent obtained a second class while

43.1 per cent secured a third class and the rest did not indicate the class/division obtained. The standard of performance of men and women alumni at the first degree examination was at par.

(8.8)

Nature of financial help availed at college.

40. Three-fourth of the women alumni depended either fully or partly on parents for financing their education as against a corresponding proportion of two third in respect of all graduates. Just more than one in ten of the women alumni financed their education either fully or partly through work.

(8.9)

Activity status.

41. 61.4 per cent of the women alumni were employed, 25.3 per cent reported themselves to be unemployed and 13.3 per cent were not in the labour force. As already stated earlier the incidence of unemployment among women alumni as revealed in the survey should be read with caution as this may be subject to an upward bias in view of a possible over-reporting in this regard on the part of the women alumni. It will be observed that about 9 out of 10 women alumni were in the labour force—either in employment or seeking jobs. This indicates that most of the women who obtain a degree from the university have career aspirations.

(8.10)

Time-lag between passing examination and obtaining first employment.

42. 21.3 per cent of the women alumni secured their first jobs in 1957 or later as against a corresponding proportion of 13.2 per cent in respect of all graduates. This shows that, as compared to men, women alumni generally wait longer before taking up first employment. While this longer waiting period indicates the initial difficulties which the women alumni encounter in getting employment it may be to some extent explained by the fact that a number of women graduates enter the labour force with a time lag after passing examination when family circumstances either permit or compel them to do so.

(8.12)

Occupational pattern of employed graduates.

43. Three-fourth of the employed women graduates were professional workers of whom teachers constituted the overwhelming majority. In fact, nearly two-third of the employed women alumni were engaged as teachers. A few of the women employed in the professional group were working as physicians and social scientists. Just more than one-tenth of the employed women alumni were working as clerks. As is natural, the pattern of employment of women alumni exhibited a lesser extent of occupational diversity as compared to that among men alumni.

(8.13)

Sector of employment.

44. About half of the employed women alumni were working under the public sector and nearly one-third were engaged in private enterprises. Teachers constituted the bulk of the employed women alumni in all the Sector except the Central Govt.

(8.14)

Earnings.

45. About three-fourth of the employed women alumni were earning below Rs. 300 per month whereas 6% were having a monthly income of Rs. 300 and above. The corresponding proportions among all graduates were 70.8 per cent and 15.7 per cent respectively—thus showing that women alumni were earning less than men alumni.

(8.15)

THE 1950 ALUMNI (CHAPTER IX)

Lack of comparability of results between 1950 and 1954 alumni.

46. As the 1950 sample is confined to three selected universities—Andhra, Agra and Patna while the 1954 sample embraces the alumni of 29 universities, the overall results of the two batches are not strictly comparable. However, although strict comparability of results is not possible, some broad comparisons between the 1950 and 1954 alumni would bring out useful conclusions in regard to the change that occurs in the conditions of the alumni with passage of time.

(9.1)

Activity status.

47. Of the 1950 alumni, 96.4 per cent were employed, 2.2 per cent were unemployed and 1.4 per cent were not in the labour force. On a comparison with corresponding proportions for the 1954 batch it is observed that the proportion of employed alumni was substantially higher for the 1950 batch as compared to the 1954 batch. On the other hand, the proportion of unemployed persons and of those outside the labour force was considerably less in respect of the 1950 alumni. This indicates that with the passage of time not only do more graduates settle themselves in employment but also more of them give up their state of voluntary unemployment and thus become part of the labour force.

(9.2)

Occupational pattern of employed graduates.

48. Majority (two-third) of the employed graduates of 1950 batch were professional workers—more than half of them being teachers. Administrative workers and clerical workers each accounted for slightly more than one-tenth of the employed graduates.

(9.3)

Sector of employment.

49. Bulk of the graduates of the 1950 batch were employed under the public sector—State Governments accounted for the major share of the employed graduates in this sector. A number of graduates who took up their first employment under the private sector changed over to jobs under the public sector with passage of time.

(9.4)

Means of securing employment.

50. As in the case of 1954 alumni, majority of the 1950 batch secured employment by direct application and a comparatively small fraction made use of the recognised modes of recruitment such as public service commissions, employment exchanges, etc. But with the passage of time, a number of graduates who had earlier obtained jobs by direct application changed over to other employment through recognised channels of recruitment such as public service commissions.

(9.5)

Earnings.

51. As in respect of the 1954 alumni, the employed graduates of the 1950 batch were having higher earning in their current employment as compared to their earnings in first employment thus showing that earnings tend to improve with length of service. A further support to this observation is provided by the fact that the 1950 alumni were better placed in regard to their current earnings than the 1954 alumni.

(9.6)

APPENDIX I

List of universities covered by the all-India survey of the pattern of graduate employment showing the number of graduates addressed and responded

1954 ALUMNI				1950 ALUMNI			
Name of University	No. addressed	No. responded	Degree of response (Percentage of col. 3 to col. 2)	Name of University	No. addressed	No. responded	Degree of response (Percentage of col. 3 to col. 2)
(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
1. Agra ..	3,544	1,253	35.4	1. Agra ..	1,082	329	30.4
2. Aligarh ..	352	112	31.6	2. Andhra ..	454	161	35.5
3. Allahabad	757	235	31.0	3. Patna ..	490	143	29.2
4. Andhra ..	752	360	47.9				
5. Annamalai	126	40	31.8	TOTAL	2,026	633	31.2
6. Banaras ..	900	366	40.7				
7. Baroda ..	230	97	42.2				
8. Bihar ..	639	244	38.2				
9. Bombay ..	586	202	34.5				
10. Calcutta ..	2,249	818	36.4				
11. Gauhati ..	207	74	35.8				
12. Gujarat ..	663	298	45.0				
13. J & K ..	80	26	32.5				
14. Karanatak ..	302	111	36.8				
15. Kerala ..	625	378	60.5				
16. Lucknow ..	935	347	37.1				
17. Mysore ..	631	249	39.5				
18. Nagpur ..	575	249	43.3				
19. Osmania ..	614	189	30.8				
20. Patna ..	596	195	32.7				
21. Poona ..	598	235	39.3				
22. Punjab ..	694	206	29.7				
23. Rajasthan ..	797	311	39.0				
24. Roorkee ..	28	15	53.6				
25. Sagar ..	340	143	42.1				
26. S.N.D.T. ..	17	7	41.2				
27. Utkal ..	82	35	42.7				
28. Viswa Bharati ..	2	—	—				
29. Indian Instt. of Science, Bangalore ..	51	19	37.2				
TOTAL ..	17,972	6,814	37.9				

APPENDIX II

No. EMI-12 (12) /59
GOVERNMENT OF INDIA

DIRECTORATE GENERAL OF RESETTLEMENT AND
EMPLOYMENT

New Delhi-2, Dated 1960.

SUBJECT—*All-India Survey of the pattern of graduate employment.*

Dear Sir,

As you know, our educational programmes have, in response to public demand, developed rapidly and this has occurred, simultaneously with tremendous developments in the industrial life of the nation. This has in turn, brought about some imbalance between the supply and demand for educated persons. In consequence, some types of graduates are in short supply while at the same time others are found surplus to requirements.

Quite a number of steps have been taken to adjust surpluses and shortages but it is not always easy to prepare accurate estimates for lack of correct information about the employment status of graduates, the difficulties which they are experiencing in finding employment, the relationship between the type and quality of degree which they have received and their percent employability etc. Because of this we are writing to you, direct, seeking your collaboration in an all-India sample survey of the pattern of graduate employment. It is our hope that in response to this appeal, you will answer the questions in the enclosed questionnaire. You may rest assured that the information given will be treated as confidential and that it will, to the extent possible, be fully and effectively used so that difficulties of the past can be minimised in the future. You will I am sure, agree that the graduates in the country, representing as they do the best educated portion of the population have a special responsibility for aiding Government in studies of the sort. It is hoped, therefore, that you will see your way to taking the necessary time and trouble to reply to this questionnaire. To make this easy, we have made it as simple as possible and have also provided you with a reply-paid envelope so that you would be put to no expense. As we are only addressing a sample of all the graduates (about 22,000 out of 84,000 coming within the period of study) you will realise that if you do not reply the sample will be less useful to that extent. It is hoped, therefore, that you will kindly return the questionnaire, duly completed, at your earliest convenience.

Yours sincerely,

H. DAVENPORT

Director of Employment Exchanges

Ministry of Labour and Employment
DIRECTORATE GENERAL OF RESETTLEMENT AND EMPLOYMENT
ALL INDIA SURVEY OF THE PATTERN OF GRADUATE EMPLOYMENT

Serial No.

THE QUESTIONNAIRE
(Confidential)

Please answer the following questions by answering in full in the space provided or by using appropriate code no. or putting a circle round the appropriate code No. where possible

Questions in Section I need not be answered. Individual answers will be kept confidential

I. IDENTIFICATION PARTICULARS :
(not to be filled by informant).

II. OTHER CURRENT PARTICULARS :
(Please put a circle round the appropriate code no.)

- | | |
|--|---|
| <p>(1) University:
</p> <p>(2) Subject Group

</p> <p>(3) Degree
</p> <p>(4) Year of pass
</p> <p>(5) Sub-sample
</p> <p>(6) Multiplier
</p> <p>(7) Sample unit
</p> | <p>(1) Name.....</p> <p>(2) Age last birthday :
 (in completed years)
</p> <p>(3) Sex :
 Male 1
 Female 2</p> <p>(4) Marital status :
 Single 1
 Married 2
 Widowed 3</p> <p>(5) Activity status :
 Student 1
 Employed 2
 Unemployed 3
 Not seeking work 4</p> |
|--|---|

III. PARTICULARS OF FAMILY :

- | | |
|---|---|
| <p>(1) Degree
</p> <p>(2) Year of pass
</p> <p>(3) Sub-sample
</p> <p>(4) Multiplier
</p> <p>(5) Sample unit
</p> | <p>(1) If father alive and working, his present principal occupation
</p> <p>(2) If not working, his last principal occupation :
</p> <p>(3) If not alive at present, principal family occupation :
</p> <p>(4) Average monthly income of family :
 Rs.</p> <p>(5) Number of persons maintained :
</p> |
|---|---|

IV. DETAILS OF SECONDARY SCHOOL EDUCATION :

 (Please put a circle round the appropriate code no. where code is given)

- | | |
|---|---|
| (1) Type of school from which passed :
Private, non-aided 1
Private, Government-aided .. 2
Government 3
Public 4
Other 5 | (2) Type of examination passed :
School final or school leaving certificate
or Matriculation 1
Higher Secondary 2
Senior Cambridge 3
Other 4 |
| (3) Year in which passed :
..... | (4) Proficiency :
(i) Class Division secured :
First 1
Second 2
Third 3
(ii) Scholarship secured :
Yes 1
No. 2 |
| (5) Financial help availed of, if any :
Government stipend 1
Other stipends 2
Concessions (<i>i.e.</i> fee conces-
sion) 3 | (6) Age (in years) at which left school.
..... |
-

V. PARTICULARS OF FIRST DEGREE EXAMINATION PASSED :

 (Please put a circle round the appropriate code no. where code is given)

- | | |
|--|--|
| (1) Degree :
Pass 1
Honours 2 | (2) Whether obtained through part-time study :
Yes 1
No 2 |
| (3) Subjects offered (Pass course) :
.....
.....
If honours, subject in which honours
taken :
..... | (4) Class/Division secured :
First or distinction 1
Second 2
Third 3
(5) Age (in years) at which passed :
..... |
-

VI. RELATED CONDITIONS WHILE STUDYING FOR FIRST DEGREE :

 (Please put a circle round the appropriate code No. where code is given)

- | | |
|--|--|
| (1) Whether wanted to take different
subjects or course :
Yes 1
No. 2 | (2) If yes in (1), field of study :
.....
.....
..... |
|--|--|

- (3) If yes in (1), reasons for not offering proposed subjects or course :
- Admission to preferred one denied 1
 - No provision for teaching .. 2
 - Financial grounds 3
 - Prevented by parents.. .. 4
 - Others 5
- (4) No. of years spent in college
- (5) Gap between leaving school and joining college for the first time
- (6) If any in (5) reason.....
- (7) How financially supported when in college (Include all educational expenses, also maintenance, if stayed away from home):
- Parents 1
 - Other relatives 2
 - Merit scholarship 3
 - College or University aid .. 4
 - Charity 5
 - Self-(through work) 6
 - Self-(past savings) 7
 - Others 8
- (8) If through work in (7) :
- Full time 1
 - Part time 2
- (9) If part-time work, hours worked per day.....

VII. DETAILS OF BACHELOR'S DEGREE OBTAINED, IF ANY, OTHER THAN THE FIRST:

(Please give the appropriate code no. where code is given).

VIII. DETAILS OF MASTER'S DEGREE OBTAINED, IF ANY :

(Please give the appropriate code no. where code is given).

	(i)	(ii)	(i)	(ii)
(1) Degree				
(2) Whether obtained through part-time study :				
Yes .. 1				
No .. 2				
(3) Subjects offered :				
(4) Class/Division secured :				
First .. 1				
Second .. 2				
Third .. 3				
(5) Age (in years) at which passed.				

XIII.—LIST OF SUCCESSIVE EMPLOYMENTS SINCE FIRST DEGREE OBTAINED IN 1950/1954 :
(Please give the appropriate code no. where code is given).

Order of employment	How obtained (a)	Month/year of commencement	Duration (months)	Employment status	Where employed (Code :	Office/enterprise where employed	Occupation (Please give code no. from the attached list of occupations)	Average monthly income	
				(Code: employer 1 employee 2 self-employed 3 family enterprise 4)	Central Govt. 1 State Govt. 2 Quasi-Govt. 3 Local Bodies 4 or Private enterprise 5)			Starting pay	Last pay drawn
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1									
2									
3									
4									
5									

(a) Code : Through Public Service Commission 1
Direct application to Department/enterprise 2
Through employment exchange 3
Other means 4

XIV. SUITABILITY OF PRESENT JOB:— XV. IF NOT EMPLOYED, BUT AVAIL-
ABLE FOR WORK, PREFERENCES:

(Please put a circle round the appropriate
code no. where code is given).

-
- | | |
|--|---|
| <p>(1) Do you consider your present job suited to your education and liking ?</p> <p style="padding-left: 40px;">Yes .. 1
No .. 2</p> <p>(2) Is your salary adequate in relation to your attainments?</p> <p style="padding-left: 40px;">Yes .. 1
No .. 2</p> <p>(3) What work do you consider yourself best suited for?</p> | <p>(1) Are you now registered with an employment exchange?</p> <p style="padding-left: 40px;">Yes. .. 1
No .. 2</p> <p>(2) Occupation preferred.....</p> <p>(3) Minimum salary expected.....</p> <p>(4) How maintained now.....</p> <p>.....</p> <p>.....</p> |
|--|---|

Signatures in full of informant.....

Date.....

*This list need not be returned
while sending the complete ques-
tionnaire.*

List of Occupations with Code Numbers
(Please see Section XIII of questionnaire, col. 8)

OCCUPATION	CODE	OCCUAPTION
<i>Architects, Engineers and Surveyors.</i>		
000 Architects	050	<i>Teachers</i> Teachers, University
001 Civil Engineers (including overseers)	051	Teachers, Secondary Schools
002 Mechanical Engineers	052	Teachers, Middle and Primary Schools
003 Electrical Engineers	053	Teachers, Nursery and Kindergarten schools
004 Chemical Engineers		
005 Metallurgical Engineers	059	Teachers, n.e.c.
006 Mining Engineers		<i>Jurists</i>
007 Surveyors		
009 Architects, Engineers, and Surveyors, n.e.c.	060	Judges and Magistrates
	061	Legal Practitioners and Advisers
	062	Law Assistants and Advisers
	063	Jurists and legal Technicians, n.e.c. (including Petition Writers)
<i>Chemists, Physicists, Geologists, and other Physical Scientists.</i>		
010 Chemists		<i>Social Scientists and related workers</i>
011 Pharmaceutical Chemists	070	Economists
012 Physicists	071	Accountants and Auditors
013 Meteorologists	072	Statisticians
014 Geologists and Geophysicists	073	Actuaries
015 Mathematicians	074	Psychologists
019 Chemists, Physicists, Geologists, and other Physical Scientists, n.e.c.	075	Personnel Specialists
	076	Labour and Social Welfare Workers
	077	Sociologists and Anthropologists
	078	Historians, Archeologists, Political Scientists and related workers
	079	Social Scientists and related workers, n.e.c.
<i>Biologists, Veterinarians, Agronomists and related Scientists.</i>		
020 Biologists and Animal Scientists		<i>Artists, writers and related workers</i>
021 Veterinarians	080	Authors
022 Silviculturists	081	Editors, Journalists and related Workers
023 Agronomists and Agricultural Scientists	082	Translators, Interpreters and Language Specialists
029 Biologists, Veterinarians and Agronomists and related Scientists, n.e.c.	083	Painters, Decorators and Commercial Artists
	084	Sculptors and Modellers
	085	Actors and related Workers
	086	Musicians and related workers
	087	Dancers and related workers
	089	Artists writers, and related workers, n.e.c.
<i>Physicians, Surgeons and Dentists</i>		
030 Physicians and Surgeons, Allopathic		<i>Draughtsmen and Science and Engineering Technicians, n.e.c.</i>
031 Physicians, Ayurvedic	090	Draughtsmen
032 Physicians, Homoeopathic	091	Laboratory Assistants
033 Physicians, Others	092	Science and Engineering Technicians, n.e.c.
034 Physiologists		
035 Dentists		<i>Other Professional, Technical and related workers</i>
039 Physicians, Surgeons and Dentists, n.e.c.		
<i>Nurses, Pharmacists and other medical and health Technicians</i>		
040 Nurses	0x0	Ordained Religious Workers
041 Midwives and Health Visitors	0x1	Non-ordained Religious Workers
042 Nursing Attendants and related workers		
043 Pharmacists and Pharmaceutical Technicians.		
044 Vaccinators		
045 Physiotherapists, Masseurs and related Technicians		
046 Sanitation Technicians		
047 Opticians		
049 Medical and Health Technicians, n.e.c. (excluding Laboratory Assistants— See 091)		

CODE	OCCUPATION	CODE	OCCUPATION
0x2	Astrologers, Palmists and related workers		<i>Clerical Workers, Miscellaneous</i>
0x3	Librarian, Archivists and related workers	280	Ministerial Assistants and Clerks
0x4	Geographers	289	Clerical Workers, Miscellaneous, n.e.c.
0x9	Other Professional, Technical and related workers, n.e.c. <i>Administrative and Executive Officials, Government</i>		<i>Working Proprietors, wholesale and retail trade</i>
100	Administrators and Executive Officials, Central Government.	300	Working Proprietors, Wholesale trade
101	Administrators and Executive Officials, State Government	301	Working Proprietors, retail trade <i>Insurance and real estate salesman, salesmen of securities and Services and Auctioneers</i>
102	Administrators and Executive Officials, Local Bodies	310	Agents and Salesmen, Insurance
103	Administrators and Executive Officials, Quasi-Government	311	Agents, Brokers and Salesmen real Estate
104	Village Officials	312	Brokers and Agents, Securities and Shares
109	Administrators and Executive Officials Government, n.e.c. <i>Directors and Managers, wholesale and retail trade.</i>	313	Auctioneers
110	Directors and Managers, Wholesale Trade	314	Valuers and Appraisers <i>Commercial travellers and Manufacturers, Agents</i>
111	Directors and Managers, Retail Trade <i>Directors, Managers and Working Proprietors, Financial Institutions</i>	320	Commercial Travellers
120	Directors, Managers and Working Proprietors, Banks	321	Manufacturers' Agents
121	Directors, Managers and Working Proprietors, Insurance <i>Directors, Managers and Working Proprietors, Other</i>	329	Commercial Travellers and Manufacturers' Agents, n.e.c. <i>Salesmen, Shop Assistants and related Workers</i>
130	Directors, Managers and Working Proprietors, Mining, Quarrying and Well-Drilling	330	Salesmen and Shop Assistants, Wholesale and Retail trade
131	Directors, Managers and Working Proprietors, Construction	331	Hawkers, Peddlers and Street Vendors <i>Money-Lenders and Pawn Brokers</i>
132	Directors, Managers and Working Proprietors, Electricity, gas, water and sanitary	340	Money-Lenders (including Indigenous Bankers)
133	Directors, Managers, and Working Proprietors, Manufacturing	341	Pawn-Brokers <i>Farmers and farm workers</i>
134	Directors, Managers and Working Proprietors, Transport and Communication	400	Cultivators (Owners)
135	Directors, Managers and Working Proprietors, Recreation, Entertainment and Catering Services.	401	Cultivators (Tenants)
136	Directors, Managers and Working Proprietors, Other Services <i>Book Keepers and Cashiers</i>	402	Farm Managers, Inspectors and Overseers
200	Book-keepers, Book-Keeping and Accounts Clerks	403	Planters and Plantation Managers
201	Cashiers	404	Farmers and Farm Managers, Animals, Birds and Insects rearing <i>Farm Workers</i>
202	Ticket Sellers and Takers <i>Stenographers and typists</i>	410	Farm Machinery Operators
210	Stenographers	411	Farm Workers, Animals, Birds and Insects rearing <i>Loggers and other Forestry Worker</i>
211	Typists and Tele-typists <i>Office Machine Operators</i>	440	Forest Rangers and Related Workers
220	Computing Clerks and Calculating Machine Operators	441	Harvestors and Gatherers of Forest products including lac (except logs)
221	Punch Card Machine Operators	510	Well Drillers, Petroleum and Gas <i>Deck Officers, Engineer officers and Pilots, Ship</i>
229	Office Machine Operators, n.e.c.	600	Deck Officers and Pilots, Ship
		601	Ship Engineers <i>Aircraft Pilots, Navigators and Flight Engineers</i>
		620	Aircraft Pilots
		621	Flight Engineers
		622	Flight Navigators <i>Drivers and Firemen, Railway Engine</i>
		630	Drivers
		631	Firemen

CODE	OCCUPATION	CODE	OCCUPATION
	<i>Drivers, Road Transport</i>		<i>Workers in Transport and Commu- nications Occupations, n.ec.</i>
640	Tramcar Drivers	690	Ticket Collectors and Ticket Examiners
641	Motor Vehicle and Motor Cycle Drivers	691	Conductors, Road Transport
	<i>Conductors, Guards and Brakesmen (Railway)</i>	692	Workers in Transport Occupations n.e.c.
650	Conductors	710	Tailors
651	Guards		<i>Fire Fighters, Policemen, Guards and related Workers</i>
652	Brakesmen	901	Police Constables, Investigators and related Workers
	<i>Inspectors, Supervisors, Traffic Controllers and Despatchers, Trans- port</i>	902	Customs Examiners, Patrollers and related Workers
660	Inspectors, Supervisors and Station Masters		<i>Launderers, Dry Cleaners and Pressers</i>
661	Traffic Controllers	950	Launderer
	<i>Telephone, Telegraph and related Tele-Communication Operators</i>		<i>Atheletes, Sportsmen and related Workers</i>
670	Telephone Operators	960	Atheletes, Sportsmen and related Workers
671	Telegraphists and Signallers		<i>Photographers and related Camera Operators</i>
672	Radio Communication and Wireless Operators	970	Movie Camera Operators
		979	Other Photographers
		X	<i>Other Occupations (Please specify)</i>

APPENDIX III

NOTE ON STATISTICAL METHODOLOGY

I. The sampling design for the survey

As stated in chapter II (para 2.5), the "universe" of the survey comprised of 76,924 and 8,882 alumni of the 1954 and 1950 batch respectively for whom lists were obtained from the university authorities. The universe for the 1954 and 1950 alumni was divided into 15 and 8 "strata" (or homogeneous classes) respectively according to the subject groups/faculties referred to in para 2.4 of chapter II, based on the degree obtained by the alumni in 1950/1954 as the case may be. The above-mentioned "stratification" of the universe according to faculties was done on an all-India basis without taking separate note of persons belonging to same faculty in different universities. The total size of the sample selected out of the universe for purposes of the survey was 20,386 and 2,075 for the 1954 and 1950 batch respectively representing about one-fourth of the universe. The allocation of the total sample in different strata was done on the principle of variable sampling fraction in such a way that a larger proportion was sampled from strata of smaller sizes. In other words, the sampling fraction varied inversely with the size of the strata. Thus, in respect of the B.A. faculty which had the largest number of alumni (30,464 for 1954 batch) the sampling fraction was 10 per cent whereas in the case of faculties like B.Sc. (Agriculture), B. Vet.Sc., M.Com., Ph.D. etc. for which the size of stratum was comparatively small all the alumni who comprised the universe were sampled (i.e., the sampling fraction was 100 per cent). The scheme of variable sampling fraction was adopted primarily to ensure that the sample size was adequate for each stratum so as to provide estimates with reasonable degrees of precision. The specified number of individuals were then selected in each stratum from the lists supplied by the universities according to the technique of systematic sampling coupled with a random start.

II. Non-response

Of the total sample of 20,386 and 2,075 in respect of the 1954 and 1950 batch respectively, addresses could be obtained from the universities for 17,972 and 2,026 alumni respectively to whom questionnaires were mailed. The number of graduates who responded to the questionnaire was 6,814 and 633 for the 1954 and 1950 alumni respectively the proportion of the number of respondents to the number addressed being 37.9 per cent and 31.2 per cent for the two batches under consideration. There are two types of non-response which affected the sample. Firstly, addresses of some of the graduates included in the sample could not be furnished by the university authorities which reduced the size of the sample initially. Secondly, completed questionnaires were not received back from a number of graduates among those who were addressed. The second category of non-response could

be divided into two types of cases—(i) the blank questionnaires did not reach the graduates as they had moved away from their previous addresses (ii) the graduates received the questionnaires but did not care to reply. It is unlikely that any bias was introduced in the sample due to non-response on account of failure on the part of the universities to supply list of graduates or because some of the alumni have moved away from their previous addresses. In regard to graduates who did not respond even after receiving the questionnaire it has been assumed, for purpose of statistical analysis that no 'bias' was introduced in the results. In this connection it would be relevant to mention that a separate analysis of the activity status of a small sample of graduates who had replied as a result of two reminders has revealed no significant difference from the characteristics of the other graduates who responded earlier.

III. Method of estimation

It is well-known that systematic sampling is a kind of random cluster sampling. If there is no periodicity of the characteristics under study in the population, systematic sampling is equivalent to simple random sampling. It is very unlikely that the lists of graduates for each faculty which provided the "frame" of the survey exhibited any kind of periodicity. Thus in respect of the sampling design adopted for the Survey, unbiased estimate of the proportion of individuals in the universe possessing a particular characteristics is given by the following formula :

$$X = \sum_{i=1}^t \frac{N_i X_i}{N} \dots\dots\dots (i)$$

where :

- X=population value of the proportion of individuals possessing the particulars characteristic under study.
- x_i =Sample proportion of the individuals possessing the characteristic in the i th stratum.
- N_i =Size of the i th stratum.
- t =number of strata comprising the universe.
- N =Total size of the universe ($=\sum_{i=1}^t N_i$).

Now let

- r_i =number of individuals possessing the characteristic under study among the respondents in the i th stratum.
- n_i =total no. of respondents in the i th stratum.

With the help of these notations the formula at (i) above reduces to :

$$X = \sum_{i=1}^t \frac{\frac{N_i}{n_i} r_i}{N} = \sum_{i=1}^t \frac{K_i r_i}{N} \dots\dots\dots (ii)$$

where K_i is equal to $\frac{N_i}{n_i}$ and is what may be termed as the multi-

plier for the i th stratum. Thus (ii) above gives the estimation formula for processing the results. Values of the multipliers are shown in the following table :

Table showing values of multipliers

Faculty	1954—alumni			1950—alumni		
	Size of stratum N_i	No. of respondents n_i	Multiplier $K_i = N_i/n_i$	Size of stratum N_i	No. of respondents n_i	Multiplier $K_i = N_i/n_i$
(1)	(2)	(3)	(4)	(5)	(6)	(7)
B.A.	30,464	956	31.87	4,553	131	34.76
B.Sc.	13,496	934	14.45	1,284	67	19.16
B.Com.	6,311	840	7.51	1,298	159	8.12
B.Sc. (Ag.)	806	331	2.44	372	140	2.66
LL. B.	5,502	519	10.60	767	54	14.20
B.T.	3,622	602	6.02	206	38	5.42
B.E.	2,454	403	6.09	145	21	6.90
M.B.,B.S.	2,121	285	7.44	257	23	11.17
B.Vet. Sc.	155	51	3.04			
Other grads.	391	80	4.89			
M.A.	7,877	819	9.62			
M.Sc.	2,069	406	5.10			
M.Com.	860	330	2.61			
Other post-grads.	510	161	3.17			
Ph.D.	286	97	2.95			

APPENDIX IV

Distribution of employed graduates according to selected occupations

Occupations	Percentage of employed graduates by faculty.*															
	B.A.	B.Sc.	B. Com.	B.Sc. (Ag.)	LL.B.	B.T.	B.E.	M.B. B.S.	B.V. Sc.	Other graduates	M.A.	M.Sc.	M. Com.	Other post graduates	Ph.D.	All Faculties
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1. Architects, engineers and surveyors	—	7.4	0.1	0.3	—	—	80.2	—	—	—	—	0.8	—	20.7	—	4.3
2. Physicists, chemists, geologists and other physical scientists	—	10.0	0.1	1.3	—	0.2	1.5	—	—	3.4	0.6	14.4	—	7.7	11.0	2.4
3. Biologists, veterinarians, agronomists and related scientists	—	2.0	—	45.4	—	—	—	—	88.0	1.7	0.1	9.4	—	—	6.6	1.4
4. Physicians, surgeons and dentists ..	0.1	0.6	—	—	—	—	—	85.5	—	22.0	0.1	—	—	18.7	12.1	3.1
5. Nurses, pharmacists and other medical and health technicians	—	0.8	—	0.3	—	0.2	—	0.7	—	1.7	—	0.3	—	—	—	0.2
6. Teachers	38.2	27.4	9.2	15.3	6.3	90.7	5.8	6.7	10.0	16.9	50.4	49.5	22.8	42.6	57.1	33.1
7. Jurists	2.3	1.6	4.2	—	40.1	0.5	0.3	—	—	5.1	4.3	0.8	3.6	—	—	5.1
8. Social Scientists	4.0	3.8	18.6	0.6	5.6	0.5	—	0.4	—	3.4	9.2	5.7	19.5	1.3	4.4	5.6
9. Artists, writers and related workers ..	0.4	0.4	0.3	0.8	1.0	—	—	—	—	5.1	0.8	0.3	0.3	—	—	0.4
10. Draughtsmen and science and engineering technicians, n.e.c.	—	3.5	—	1.0	—	—	2.1	—	—	—	—	0.3	—	1.9	—	0.7
11. Other professional, technical and related workers	0.9	1.5	0.1	0.3	0.4	—	3.1	0.4	—	8.5	1.0	0.5	0.3	—	—	0.9
12. Administrators and executive officials, government	11.4	5.4	7.4	10.5	13.6	3.6	1.5	0.7	—	1.7	8.3	7.3	12.4	3.9	6.6	8.5
13. Directors and managers, wholesale and retail trade	0.3	0.1	0.6	0.3	1.5	—	0.8	—	—	—	0.6	—	—	—	—	0.4

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14. Directors, managers and working proprietors, financial institutions	0.1	0.2	0.8	0.3	0.8	—	—	—	—	—	0.1	0.3	1.0	—	—	0.3
15. Directors, managers and working proprietors, other	0.6	1.5	2.1	0.3	1.0	—	1.3	—	—	—	0.8	0.5	1.3	—	—	0.9
16. Book keepers and cashiers	1.9	2.0	10.7	—	1.3	—	—	—	—	—	1.4	—	4.6	—	—	2.3
17. Stenographers and typists	1.5	0.3	3.6	—	1.3	—	—	—	—	—	0.3	—	1.3	—	—	1.1
18. Office machine operators	—	0.5	—	—	0.2	—	—	—	—	—	0.1	—	0.7	—	—	0.1
19. Clerical workers, miscellaneous	21.0	17.2	29.0	1.0	15.2	1.4	—	—	—	16.9	10.8	0.8	18.8	—	—	16.1
20. Farmers and farm managers	0.5	0.5	—	14.1	1.7	—	—	—	—	—	0.1	0.5	0.7	—	—	0.6
21. Deck officers, engineer officers and pilots, ship	0.1	0.1	—	—	—	—	—	—	—	1.7	—	—	—	—	—	0.1
22. Aircraft pilots, navigators and flight engineers	0.3	0.2	—	—	—	—	—	—	—	—	—	—	0.3	—	—	0.1
23. Conductors, guards and breakesmen (Railway)	0.4	0.4	0.5	—	—	—	—	—	—	1.7	0.4	—	1.0	—	—	0.3
24. Inspectors, supervisors, traffic controllers and despatchers transport	1.2	1.1	1.2	—	0.2	—	—	—	—	—	1.1	0.8	0.3	—	—	0.9
25. Telephone, telegraphs and related telecommunication operators	1.0	0.9	0.3	—	0.4	—	—	—	—	—	0.3	0.3	—	—	—	0.6
26. Workers in transport and communication occupations, n.e.c.	1.2	0.2	—	—	0.2	—	—	—	—	—	0.1	—	—	—	—	0.5
27. Other occupations	2.6	4.0	3.0	1.6	2.7	0.2	0.3	—	—	1.7	1.8	2.0	3.6	—	—	2.4
28. Workers not classifiable by occupation (including those who did not report their occupation)	10.0	6.4	8.2	7.1	6.5	2.7	3.1	5.6	2.0	8.5	7.3	5.5	7.5	3.2	2.2	7.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number in the sample	780	802	773	313	479	580	389	268	50	59	720	382	307	155	91	6,148

*NOTE : This refers to the degree taken by the alumni in 1954 and does not take into consideration subsequent degrees, if any, obtained by the alumni after that year.

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