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In recent years various studies of labor market for college graduates reveal sometimes substantial surplusses of graduates in various areas. According to a report by Carnegie Commission, "Nearly 30 percent of four-year male college graduates are now in blue-collar, sales, and clerical jobs, many of which do not make full use of their education." A survey made by the Bureau of the Census for the Bureau of Labor Statistics indicates that 50.7 percent of college graduates got their first jobs in areas not directly related to their major field of study.2

In education, maladjustment between supply and demand is quite significant. The Government figures<sup>3</sup> indicate that in 1972 the number of holders of bachelor and master degree exceeded the additional demand for teachers in primary and secondary education by 26.2 percent. The above mentioned BLS survey4 indicates that in October 1971 the percent of un-employed 1970 and 1971 bachelor's and advanced degree recepients ranged between 5.3 percent in business and commerce and 13.0 percent in humanities. On the other hand, projections in Occupational Outlook Quarterly and Occupational Outlook Handbook, both published by U.S.Department of Labor, as well as projections in the report by Carnegie Commission<sup>5</sup> indicate that in a number of areas the demand for college graduates is strong and on the increase.

There is, therefore, little doubt that quite a few high school graduates and college students chose wrong curricula. A pertinent observation on the subject has been made by Laure M. Sharp:<sup>6</sup> "But at times, the decision to major in a specific field is a fairly casual one, dictated by personal convenience rather than by a long-term occupational objective." In addition, a very large number of college graduates have a long waiting time between graduation and the first job<sup>7</sup> which is a good enough reason for suspicion that their job hunting methods are inadequate.

The problem of how to choose a major and how to find a job have been explored or touched upon by James A. Davis<sup>0</sup>, Robert Calvert Jr.<sup>9</sup>, Laure M. Sharp<sup>10</sup>, Vera C. Perrella<sup>11</sup>, and one or two others. Calvert's study is based on a survey of alumni by mail questionnaire. He got back about 11,000 usable questionnaires, but this was only 60 percent of questionnaires sent out. There is no indication in his study about the composition of those who did not respond. If those who did not respond are predominantly those who were not successful in finding satisfactory employment, then the results of the survey are of little value at least from this point of view.

In a similar situation Laure M. Sharp tried to reach a sample of 1,200 nonrespondents. She succeeded in obtaining only 697 usable responses. She seems to be satisfied with relatively few differences between respondents and nonrespondents, although it is not quite easy to see why. The sample of 697 is still only 58 percent of 1,200 people whom she tried to contact. In addition, in a sample of 697 there would be quite a few very small subsamples whose sampling variability would make a number of comparisons useless.

The present report provides some firm information in certain areas. but can be considered only a pilot study with respect to some other topics. The paper deals mainly with methods of choosing a major and with methods of choosing a job. The information comes from a survey of graduating seniors of Kent State University. The sample size was 500 of the total of about 2,000. The sampling error for sampling from dichotomous population is 3.8 percentage points for .95 confidence interval. The sampling errors for subsamples are larger, but in cases of too large a sampling error the results of the survey are simply not reported here.

The survey has been conducted by instructors and graduate assistants in the classrooms so that nonresponse problem has been eliminated. Some measure of proportionality of students in the sample with respect to the number of all graduating seniors in main areas of study has been achieved.

The results of the survey show that the choice of a major is in too many cases careless. This conclusion is supported by the fact that about 43 percent of students changed their majors. This figure is comparable with 36 percent obtained by Calvert.<sup>12</sup> Since, among others, difficulties in finding jobs in education were mentioned above, it may be noted that the percent of those who switched from education to something else is 25 percent for KSU and it is significantly higher that 15 percent in the Sharp<sup>15</sup> survey.

It would, of course, be interesting to see in detail which najors attract high school graduates and which become more popular as the students progress in their studies. Some information on this problem can be found in the book by Davis.14 The results of the present survey indicate that substantial proportion of students changed their major within a major area. For example, 55 percent of students who changed their major and whose original major was a business major, made a change to another business major. Comparable percentage for education is about 52 percent and it is not significantly different from business. The percentage for humanities and arts is 36. It is 39 percent for social and behavioral sciences and 22 percent for mathematics and sciences. The survey also indicates that the greatest winner of those who change from one major to another is business. The greatest loser is sciences. Large sampling error does not permit more de-

Decision to choose my first major was influenced by:		Rank numbers and percentages				Row totals
	1*	Per cent	2	Per cent	3	
My own considerations	423	82.3	11	6.2	1	435
Advice of parents	24	4.7	68	38.2	9	101
Advice of family & friends	17	3.3	40	22.5	8	65
My own friends	9	1.7	21	11.8	9	39
High school teachers	22	4.3	33	18.5	7	62
Other	19	3.7	5	2.8	3	27
Totals	5 <b>1</b> 4	100.0	178	100.0	37	

Table 1	Decision	t to	choose	first	maj	jor
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\*E.g.: Rank number 1 has been assigned to "My own considerations" by 423 students.

I chose my first major for following r <b>e</b> asons:		Rank numbers and percentages					
	1*	Per cent	2	Per cent	3	4	
Good paying job	66	13.1	50	23.2	10	5	131
Strong demand for graduates	75	14.9	47	21.8	14	3	139
Employment secu- rity	35	7.0	27	<b>1</b> 2.5	<b>1</b> 5	<sup>.</sup> 5	82
I love this area of study	235	46.7	23	10.6	12	-	274
Reasons other than employment	57	11.3	45	20.8	11	3	116
Want to go to graduate school	11	2.2	21	9.7	5	5	42
Other	24	4.8	3	1.4	1	3	31
Totals	503	100.0	216	100.0	68	24	

Table 2 Reasons for choosing first major.

\*E.g.: Rank number 1 has been assigned to "Good paying job" by 66 students.

tailed comparisons.

We note further that only 39 percent of high school graduates chose their major before entering college. Also the percent of changes of a major during junior year was about as high as during sohpomore and freshman year. It would certainly be interesting to find out why such a large number of changes persists into the junior year.

Let us now make a few observations on decisions concerning the <u>choice</u> of a ma-

jor and decisions and reasons for <u>change</u> of a major. It appears from Table 1 that parents and high school teachers have little to do with the choice of a major by a high school graduate. The statement "My own considerations" in the choice of a major category was marked as the first choice 82 percent of times. Rank number two is given parents and high school teachers often. However, the proportion of students who checked off only one determinant of their decision to choose a major was 61 percent. Those who marked two determinants represent 33 percent; and only 6 percent checked off more than two determinants. Thus the percent of students who make decisions concerning the choice of a major on their own and who do not benefit from any advice on the matter must be considered excessively high. There is little doubt that this is the main reason for excessive changes of majors in subsequent years.

Why does a student choose a certain major? The reasons for choosing the <u>first major can be inferred from Table 2.</u> The reasons related to labor market were

I changed my major mainly due to:	Rank numbers and percentages				Row totals	
	1*	Per cent	2	Per cent		
My own decision	192	83.1	19	19.8	211	
Advice of parents	16	6.9	15	15.6	31	
Advice of family	5	2.2	10	10.4	15	
My own friends	1	0.4	15	15.6	16	
Professors or advisors	5	2.2	28	29.2	32	
Other	12	5.2	9	9.4	21	
Totals	231	100.0	96	100.0		

Table 3 Decision to change major.

"E.g.: Rank number 1 has been assigned to "My own decision" by 192 students.

I changed major for following reasons:	R ק	ank num ercenta	Row totals		
	1*	Per cent	2	Per cent	
Better employment prospects	68	30 <b>.1</b>	23	38.2	94
Low grades	37	16.4	9	13.2	46
Appeal of new major	87	38.5	16	23.6	103
Preparation for gradu te school	7	3 <b>.1</b>	12	17.6	19
Other	27	11.9	5	7.4	32
Totals	226	100.0	68	100.0	

## Table 4 Reasons for change of major.

\*E.g.: Rank number 1 has been assigned to "Better employment prospects" by 68 students.

given rank 1 only 35 percent of times. However, rank 2 was given this category of reasons 45 percent of times. But even so it seems that a rather large proportion of high school graduates choose their major without too much preoccupation with the necessity of finding a job after four years of study. It may be mentioned again that 54 percent of students gave only one reason for their choice of a major. Two reasons were given by 31 percent of students and 10 percent of

## students gave three reasons.

The information concerning the decisions to <u>change</u> a major is provided in Table 3. Apparently, professors and advisors have little to do with students' decisions to change their majors. Their relative importance as secondary factor is somewhat greater, but again 73 percent of students checked off only one determinant of their decision to change a major.

The two major reasons for a change of a major are individual interest of the student and employment considerations. This can be seen in Table  $\mu$ . How do these two reasons for a change of a major compare numerically with the reasons for a first choice of a major? The 35.0 percent of students who gave employment related reasons for the choice of the first major in Table 2 is statistically not significantly different from the 30.1 percent of students who marked "Better employment prospects" in Table 4. However, the 46.7 percent for "I love this area of study" in Table 2 is significantly greater than the 38.5 per-cent for "Appeal of new major" in Table 4. It appears also that the students do become more job oriented as they progress with their studies.

The above information suggests the following conclusions. Employment considerations figure strongly in the choice of the first major and in the change of a major and yet the students do not take advantage of experienced advisors either in the high school or in the college. A telephone interview of twenty high schools in Kent-Akron-Cleveland area indicates that the advisors are competent and use such publications as U.S.Department's of Labor Occupational Outlook Quarterly and Occupational Outlook Handbook. However, they seem to play a passive role. There is little doubt that much more could be done to make the students and their parents aware of career and employment prospects for various majors.

It is also obvious that college advisors should not restrict their activity to help students find a job. The percent of students who chose their major after entering college is in the vicinity of 60 percent. In addition, about 40 percent of students changed their major. Finally, the percent of students who are making these decisions entirely on their own, that is, without consultation with anybody, is unreasonably high by any standards. Therefore, college employment officers and advisors should play much more prominent role in providing these students with pertinent and useful information.

The information concerning job hunting methods is also quite revealing. About 44 percent of students did not look for

Table 5 Students who did not look for job during senior year.

I did not look for a job during senior year because I:	No	Per cent
intend to go to graduate		
or professionsl school	56	25.3
have a job waiting for me	35	<b>1</b> 5.8
was too busy with coursework	68	30.8
do not intend to work for		
awhile	46	20.8
Other	16	7.3
	221	100.0

Table 6 When did graduating seniors look for jobs?

· · · · · · · · · · · · · · · · · · ·	No	Per cent
Before September	15	5.4
Between September and November	- 39	<b>1</b> 4.0
Between December and Febru- ary	80	28.8
After February	<u>1/1/1</u> 278	<u>51.8</u> 100.0

Table 7 Job hunting methods. A comparison with BLS-BC survey.

Method	BLS-BC (1) Percent	KSU (2) Percent
College placement	17.6	37.2
Public employment service	• <b>1.</b> 5	2.4
Private employment agency	3.6	4.3
Newspapers	3.9	7.8
Direct application to employers	41.4	32.0
Friends or relatives	21.3	14.8
Other	<u>10.7</u> 100.0	<u>1.5</u> 100.0

 The column lists percentages of recent college graduates who got their first jobs by one of the methods listed.
Source: Perella, Vera C., "Employment of Recent College Graduates," op. cit., p.46.

(2) These are percentages of times a job hunting method was checked off by students who looked for jobs. a job during their senior year. As may be seen in Table 5, of those who did not look for a job, 31 percent were too busy with their courses and 21 percent declared that they did not intend to work for awhile. Of those who looked for a job, a

huge 52 percent (see Table 6) started looking for a job after February. The only explanation for this phenomenon of missed opportunities on such a large scale is that students are simply not aware of the fact that most intensive recruiting and interviewing occurs in late Fall and early Spring.

Of those who looked for a job, 26 percent did not get a single interview at the employer's headquarters. Only 29 percent got more than two interviews. These two percentages must be considered very large in spite of a difficult labor market due to economic recession. One explanation of these figures can be found in Table 6 where we note again that too many students started looking for a job too late. However, this is certainly not the only explanation. It is also important to have a closer look at job hunting methods.

The job hunting methods listed in the questionnaire can be seen in Table  $\delta$ .

The results of the survey indicate that a graduating senior used, on the average, 2.8 job hunting methods. But if the methods "Letters to employers," "Telephone calls to employers," and "Visited employers" are combined into one, the average number of methods used drops to 2.3. 0f course, some areas lend themselves better to one method than to another (for example, graduates of college of education have to depend more on letter writing). but even so, an increase in the number and intensity of job hunting methods would undoubtedly land the students more interviews.

We note in Table 7 that the students' use of college placement service (37.2 percent) is much heavier than the proportion of first jobs (17.6 percent) secured with the help of this service by recent college graduates. Direct application to employers and reliance on friends and relatives are significantly lower for graduating seniors than for recent college graduates. Other differences cannot be declared significant due to small subsamples. However, the use of such means as employment services, newspapers, and "Other" is numerically very small.

Information in Table 8 suggests strong-

Method:	<b>(1</b> ) No	(2) No	(3) Percent
College placement	191	92	48.2
Letters to employers	176	62	35.2
Telephone calls to employers	75	32	42.7
Visited employers	99	56	56.6
Answered ads	47	16	34.0
Family and friends	99	30	30.3
Professors	45	13	28.9
Other (state and private employment agencies, etc.)	58	20	34.5

Teble 8 Job hunting methods that resulted in interviews at employers' place of business.

- (1) Number of times a method was checked off on the questionnaire.
- (2) Number of times one or more interviews were attributed, to a job hunting method.
- (3) Column (2) as percent of Column (1).

ly that no major job hunting method should be disregarded. The proportions of interviews secured by such methods as employment services and newspaper ads are relatively high. These methods should be used much more often.

The importance of obtaining more interviews becomes more evident when it is realized that there is a relationship between the number of interviews and job offers. For example, of those graduating seniors, who got one interview, 32 percent got a job offer, but of those who got two interviews, 55 percent got a job offer. There is also a correlation between the number of interviews, and the number of job offers, although the size of the sample does not warrant precise comparisons.

Another piece of information should be of interest both to graduating seniors and to college advisors. As already mentioned, of those who looked for jobs, 26 percent - a very high proportion - did not get a single interview and only 45 percent got a job offer. Furthermore, the average salary of those who had 5 or more interviews and 3 or more job offers, was by \$1,500 higher than the average salary of those with fewer interviews and job offers. It is, therefore, of basic importance for the graduating seniors to use more job hunting methods and to use them more efficiently in order to increase their chances to get more interviews and to get at least one job offer.

It may be noted that of those students who got a job, about 18 percent feel that their college studies are either irrelevant, or not quite pertinent to the kind of work they are going to do. This percentage is not too high, considering the difficult economic situation. But this observation can be qualified by answers to another question: only 56 percent of those who accepted a job offer, declared that they will like the job.

Another important purpose of this survey was to test the intensity of demand for graduates in different areas. This can be accomplished by relating the number of interviews, the number of job offers, and the salaries, to various majors. Certain kinds of graduates are in demand early before graduation, while others have to wait a year or more to find a job. Thus a survey of graduating seniors presents a unique opportunity to measure the intensity of demand for various majors and could become a major ingredient in forecasting such demand. The questionnaire used in this survey was designed with this purpose in mind, but very restricted budget did not permit to take a large enough sample in order to come up with valid conclusions.

Finally, some of the information on topics, discussed above, is being collected by many universities, but in most cases the information seems to be very spotty. A questionnaire, similar to the one used for this survey, should become a standard tool for the purpose of advising the students. And, as the above results indicate, considerable improvement in advising the students with respect to the choice of a major, a career, and methods of finding a job, is badly needed.

## REFERENCES

The author would like to acknowledge financial assistance from KSU College of Business, without which this project would not be possible.

- 1. <u>College Graduates and Jobs</u>, A Report and Recommendations by the Carnegie Commission on Higher Education, New York: McGraw Hill, 1973, p.4.
- Perrella, Vers C., "Employment of Recent College Graduates," <u>Monthly Labor Review</u>, Feb. 1973, p.44.
- 3. Frankel, Martin M. & Beamer, J. Fred, <u>Projections</u> of <u>Educational</u> <u>Statistics</u> <u>to 1982-83</u>, Washington, D.C.: U.S. <u>Department</u> of Health, Education, and Welfare, 1974.
- 4. Perrella, Vera C., "Employment of Recent College Graduates," op. cit.
- 5. College Graduates and Jobs, op. cit.
- 6. Sharp, Laure M., <u>Education and Em-</u> ployment, Baltimore, Maryland: Johns Hopkins Press, 1970, p. 6.
- 7. See Perrella, Vera C., "Employment of Recent College Graduates," op. cit.
- 8. Davis, James A., <u>Undergraduate Career</u> <u>Decisions</u>, Chicago, Ill.: Aldine <u>Publishing</u> Co., 1965.
- 9. Calvert, Robert Jr., <u>Career Patterns</u> of Liberal Arts <u>Graduates</u>, Cranston, R.I.: Carroll Press, 1969.
- 10. Sharp, Laure M., Education and Employment, op. cit.
- 11. Perrella, Vera C., "Employment of Recent College Graduates," op. cit.
- 12. Calvert, Robert Jr., <u>Career Patterns</u> of <u>Liberal Arts</u> <u>Graduates</u>, <u>op</u>. <u>cit</u>., <u>p</u>. 28.
- 13. Sharp, Laure M., Education and Employment, op. cit., p. 7.
- 14. Davis, James A., <u>Undergraduate</u> <u>Career</u> Decisions, <u>op. cit.</u>, pp. 4-77.