

TIME TO SECURE EMPLOYMENT ANALYZED BY SETWISE REGRESSION ANALYSIS

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Abstract - Graduates of Trinity (Texas) University were surveyed regarding the length of time necessary for them to secure their first post-baccalaureate employment. Five different sets of predictor variables were used: biographical variables (age and sex); ethnic background and socio-economic status; academic major and perception of major and Trinity University; employment seeking behaviors (salary, number of resumes, number of interviews, and number of offers) and geographic and size of employer preferences. The employment seeking behaviors set was clearly the most important set of predictors. Those who took longer to find employment generally worked harder, sending out more resumes, having more interviews, but receiving lower salaries.

During World War II and for many years thereafter, the need was not great for placement assistance for graduating college students. However, with the onset of economic recession in the late 1960's and early 1970's, desirable employment was more difficult to obtain. Another change occurred affecting the number of available jobs usually filled by the previously small number of college graduates. With the availability of many forms of financial aid, the economic and sociologic level of the members of the student bodies changed considerably. People who formerly could not have afforded to attend college were now enrolled, were graduating and entering the already shrinking job market (Wolfbein, 1970).

In addition, the discontinuance of the draft also had an affect on the number of students seeking employment after obtaining a baccalaureate degree.

With the state of the national economy and the abundance of college graduates, employers became more selective. Therefore, recruiters of college graduates were faced with the task of finding the best qualified job applicants from a labor pool that was almost unlimited from their viewpoint.

A few favored career fields were still experiencing immediate employment but they were the exceptions. Some majors, particularly in the liberal arts, but also including fields such as biology and psychology, are experiencing difficulty in obtaining employment in their own field, and after some failures in obtaining suitable employment in their chosen career field, opt for unrelated employment.

The purpose of this study was to determine if there is a significant relationship between length of time it takes college graduates to obtain employment and job related variables. The group surveyed in this study was the Trinity (Texas) University graduates who had received bachelor's degrees in December 1978, May 1979, and August 1979. A questionnaire was sent to each of the Trinity University graduates; 370 useable questionnaires were returned (65 percent).

The Criterion: Time to Secure Employment

The questionnaire required the respondent to choose a predetermined category in regard to length of time to secure employment. In turn the time variable was transformed into a continuous variable as follows:

<u>Value</u>	<u>Time to Secure Employment</u>
0	Employed before graduation
1	1 week after graduation
3	2-4 weeks after graduation
6	5-7 weeks after graduation
10	8-11 weeks after graduation
20	3-6 months after graduation
39	6-12 months after graduation
52	Over one year after graduation
Not included in analysis	Attending graduate school
65	Unemployed

Several points should be made about the constructed criterion. For values up to $Y = 39$, the criterion represents weeks after graduation that employment was secured. Those who secured employment over a year after graduation should cause little distortion, since the maximum time since graduation would have been less than 14 months. Graduate students were excluded from the analysis for the simple reason that no acceptable value could be applied uniformly across persons and programs. Some people may go on to graduate school because they see little likelihood of securing employment utilizing the skills they learned as an undergraduate. At the other extreme, some students may be quite confident that suitable employment awaits them; they can afford the luxury of acquiring additional skills so that they may become even more marketable. One might suspect that most students who went on to graduate school may have had motives somewhere between these two extremes.

While 54 of the 367 graduates (14.71%) attended graduate school, such attendance was not uniform across disciplines. Among smaller departments (less than 15 graduates), half or more attended graduate school from the

following: environmental studies, art history, economics, social sciences, French, and chemistry. Among larger departments, 52.94% of political science majors, 33.33% of psychology majors and 27.27% of biology majors attended graduate school. At the other end of the spectrum, no graduates in either sociology or elementary education attended graduate school, while 3.03% of graduates in engineering related majors, 10.53% of business majors and 11.11% of business administration majors attended graduate school immediately upon their receiving their bachelor degrees.

Inclusion of those unemployed in the analysis was done for reasons of best exploiting the data. It was felt that including them in the analysis with the highest possible value for the criterion ($Y = 65$) was better than excluding them in finding relationships among the data. To take an example of a particular department, seven of the fifteen graduates in psychology were employed no later than four weeks after graduation; one person was employed after one year; five went on to graduate school and two were unemployed. If these last seven graduates had been left out of the analysis, it would appear that all but one graduate was hired immediately upon graduation. While the value 65 does not represent 65 weeks, it does assign a reasonable number to be used in a regression analysis.

Predictor Variables Used in the Analysis

The following variables were used in the analysis:

Biographical Variables

X_1 = age;

X_2 = sex; 1 if male, 0 if female;

Ethnic Background and Socio-Economic Status (SES)

X_3 = White = 1, 0 otherwise;

X_4 = Black = 1, 0 otherwise;

X_5 = American-Indian, 0 otherwise;

(The zero coded variable for X_3 , X_4 and X_5 is Mexican-American)

X_6 = SES;

Academic Major

X_7 = major, 1 if engineering related, 0 otherwise

X_8 = value of major;

X_9 = value of Trinity degree;

Employment Seeking Behaviors

X_{10} = salary;

X_{11} = number of resumes;

X_{12} = number of interviews;

X_{13} = number of job offers;

Geographic and Size of Employer Preference

X_{14} = geographic preference, 1 = yes, 0 = no; and

X_{15} = size of employer preference, 1 = yes, 0 = no.

Before an analysis was completed, the 54 graduates who attended graduate school full time were eliminated; also, any graduate who was missing data on any of the predictor variables was not included. A setwise regression (Williams and Lindem, 1971, a, b) was used to analyze the data. Results are shown in Table 1.

Table 1

Setwise Regression Analysis Using all Five Sets of
Variables and Time to Secure Employment
(N = 269)

Step	Set Eliminated	r	R for Set Eliminated	R
1	None			.40847 ^a
2	Biographical Variables		.06984	.40746 ^a
	X ₁ : age	-.042		
	X ₂ : age	-.056		
3	Ethnic Background and SES		.03254	.40521 ^a
	X ₃ : White	-.002		
	X ₄ : Black	.009		
	X ₅ : American-Indian	.030		
	X ₆ : SES	-.001		
4	Geographic and Size Preference		.03572	.39594 ^a
	X ₁₄ : Geographic Pre- ference	.036		
	X ₁₅ : Size of Employer Preference	.014		
5	Academic Major		.17079 ^b	.38611 ^a
	X ₇ : Major	-.112		
	X ₈ : Value of major	.135 ^b		
	X ₉ : Value of Trinity degree	.115 ^b		
6	Employment Seeking Behaviors		.38611 ^a	
	X ₁₀ : Salary	-.212 ^a		
	X ₁₁ : Number of resumes	.255 ^a		
	X ₁₂ : Number of Interviews	.248 ^a		
	X ₁₃ : Number of job offers	-.028		

a_p < .01

b_p < .05

First, if the zero-order correlations are inspected, age and sex show no significant relationship, suggesting that at least these forms of discrimination don't occur in regard to length of time to obtain employment. However, discrimination may exist even in regard to time; while it is not reported in Table 1, sex correlates .28 with initial salary; even in the presence of the remaining variables, the partial relationship of sex to salary remains significant, and favors men. It might well be that women graduates "settle" on a less attractive employment situation in approximately the same time frame that men acquire somewhat more attractive (in terms of salary at least) employment.

Ethnicity seems to be unrelated to length of time to secure employment; geographic and size of employer preferences also appear to be only slightly related to length of time to secure employment.

The academic major variables are significant as a set; engineering related majors are becoming employed sooner. On the other hand, those who see their majors or their degree from Trinity as being valuable take longer to become employed.

The most important set is the employment seeking behaviors set. The interpretation of that set is not particularly encouraging to those who are having difficulty finding employment. Those who take longer to find employment tend to send more resumes, have more interviews, and then get a smaller salary. But then, who said life was fair?

Although they are not shown here, other predictor variables were thought relevant and used in an initial analysis. Such variables, discarded because they showed little relationship to the time criterion included: relatedness of major to field of employment, grade point average, marital status, perceived number of jobs available in the major, and necessity of seeking employment.

References

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