Inter-gender differentials between college students’ earnings expectations and the experience of recent graduates

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Abstract

Earnings reported by 219 recent college graduates and earnings expected by 248 college seniors are estimated separately for men and women as functions of labor input, grade point average, age, type of employer, type of job, location, and ethnicity. The empirical evidence reveals that, while students’ expectations generally accord with the prevalent trends of recent graduates’ marketplace experiences, they are only partially aware of what the market bears. The model seems to describe better the behavior of men than the behavior of women. © 2000 Elsevier Science Ltd. All rights reserved.

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1. Introduction

The transition from attending college to holding a job is difficult and confusing for most recent graduates. What is expected from them changes abruptly. As students, they have been conditioned to perform on their own, whereas at work they must report to a boss and coordinate their tasks with fellow workers in the same department, committee, route, etc. In college, students encounter peer-group security, interacting with other students with similar experiences; at work, there is a broad range of people — of different ages and backgrounds, with various levels of education, and performing diverse functions. After approximately 17 years of formal education, their passage from academia into the labor force is characterized by a mixture of enthusiasm and apprehension about their ability to cope with change. By recognizing and addressing the difficulties inherent to this transition, both graduates and their employers can reduce substantially negative outcomes related to it (Graham & McKenzie, 1995).

Matching new graduates’ capabilities and expectations with the needs and realities of available jobs is a formidable challenge. When expectations and job realities do not match, which seems to occur often with recent college graduates (Hatcher & Crook, 1988), employees consider moving to another job, perhaps even another organization, thus increasing turnover and the expenses associated with it (i.e., looking for replacements, training them, etc.). When other opportunities are not readily available (Hecker, 1992b; Shelley 1992, 1994), or when employees are purposely excluded from job information networks (Braddock & McPartland, 1987; Morrison & Von Glinow, 1990), mounting dissatisfaction and frustration may lead to absenteeism, deterioration of interpersonal relations at the workplace, severe loss in productivity, and other dysfunctional manifestations.
Since pay is the primary reason why most people work, earnings expectations are very important to both college students and recent graduates. Individuals decide to invest in their college education as long as the expected discounted stream of lifetime increased earnings (over high school) exceeds costs (Boyd, 1991b; Cohn & Hughes, 1994; Cooper & Cohn, 1997; Daymont & Andrisani, 1984; Dominitz & Manski, 1996; Lazear, 1995; Morrison & Von Glinow, 1990; Smith & Powell, 1990). A clear expectation of these earnings is formulated, at least implicitly, by persons who have pursued the investment; that is, students and graduates. These individuals have opted to attend college during more or less four years, foregoing other alternatives, in the belief that this is the most rational utilization of their scarce financial and time resources. Obviously, if their earnings expectations do not accord with reality, the decision to attend college may not have been so rational, and such realization may give rise to feelings of failure and discontent.

One of two purposes of this study is to compare college students’ earnings expectations with the earnings reported by recent graduates with jobs. The comparison transcends a mere analysis of corresponding calculations, as separate earnings functions are estimated for students and graduates, and their respective coefficients and levels of significance, as well as elasticities, are evaluated. This approach allows identification of specific groups or earnings function variables that lead to expectation errors. Thus, it provides the basis for the development of the study’s other purpose, namely, measuring and assessing inter-gender disparities in both expected and actual earnings. It also is conducive to the estimation of expected and actual earnings elasticities, separately for men and women, with respect to the explanatory variables in the equations.

2. Method

Quality differences among colleges and universities affect the professional attainment and subsequent earnings of their graduates (Collins, 1971; Milner, 1972). Regardless of whether these differences measure curriculum rigor, networking effectiveness, or contributions to society by faculty and alumni of various institutions, the fact is that graduates of better-known colleges generally earn more than their counterparts from less-known universities. Alwin (1974) argues that students are not randomly allocated to colleges; they select themselves or are classified into groups, contexts, and social institutions, and such selection is influenced, among other factors, by gender. Consequently, the presence of inter-gender pay disparities in the labor market is not necessarily indicative of discrimination, but may reflect differences in recruitment, retention, and graduation of men and women by different colleges.

The data for this study are gathered from graduates and students at Florida International University, Miami’s public institution of higher learning. (The wording of questions in the survey instruments administered to graduates and students appears in Appendix A and Appendix B, respectively.) Besides the obvious benefit of not having to control for variation in students’ admission and promotion policies, practices, and outcomes among several institutions, this choice offers three advantages. One is the great ethnic pool which characterizes both South Florida and students and alumni of this entity, especially Hispanics, frequently excluded from inter-ethnic research. A second advantage is that, as an urban university, the age ranges of students and graduates are wider than in many other colleges, thus allowing for broader comparisons. And third, since many students have jobs, a more direct link can be established between study and work, especially with respect to opportunity cost.\(^1\)

Daymont and Andrisani (1984) point out that excluding the choice of college major from income determination analysis tends to overestimate inter-gender earnings disparities. If gender-selective socialization patterns influence the process of occupational choice making (Danizer, 1983; McNair & Brown, 1983; Rotberg, Brown & Ware, 1987), in such a way that women major disproportionately in lower-paying fields of study which experience occupational crowding or for which demand is low (i.e., the Humanities, Social Sciences, or Education), while men concentrate in Business, Engineering, and other professional fields for which demand is substantially greater and expanding, the existence of pay disparities would not necessarily point to market discrimination, either. Only when inter-gender differences occur within narrowly defined occupations or occupational categories can discrimination be suspected.

In an effort to reduce unwarranted differences in academic fields as a source of variation in both expected and actual earnings, the scope of this study is restricted to Business graduates and students. It encompasses Accounting, Finance, Management, Decision Sciences, and Marketing majors. Business is chosen as the academic field of study because a large percentage of graduates generally join the labor force right after graduation. In addition, it is a field in which inter-gender differences in earnings have been identified consistently in the literature (National Center for Education Statistics, 1993).

\(^1\) Since the data are gathered from only one institution, the results may not be representative of college graduates in general. However, the methodological benefits obtained from ethnic diversity and not having to standardize policies and practices of different entities outweigh this disadvantage.
3. The experience of graduates

The College of Business at Florida International University conferred 808 baccalaureate degrees in 1994. At least three attempts were made to contact each alumnus/alumna during December 1995 to February 1996, with a success rate of 43.7%. Of the 353 persons contacted, 36 declined to be interviewed and the remaining 317 graduates responded as follows: 229 currently working; 18 searching for a job, which suggests an unemployment rate of 7.3%, somewhat higher than for the rest of the local labor market; 58 pursuing post-baccalaureate degrees; and 12 not in the labor force for personal reasons. Ten of the graduates currently working preferred not to report their earnings; they are excluded from the analysis. Thus, the sample for this portion of the study consists of 219 graduates. Its composition by major is similar to the composition of the universe. The results of a one-way analysis of variance (ANOVA) model reveal no statistically significant differences ($\alpha=0.10$) among majors in reported annual earnings. Therefore, all alumni are treated as part of a homogeneous data set. Instead of focusing on individual majors such as Accounting, Finance, etc., the 219 alumni are considered Business graduates, which increases the robustness of estimators throughout the study.

The graduates in the sample are evenly distributed — 109 men and 110 women. Non-Hispanic Whites account for less than a quarter (22.4%) of the observation units, Blacks constitute 8.7%, and Hispanics represent about two-thirds (64.4%); the remaining 4.5% are classified as belonging to other ethnic groups.

The overall mean salary reported by graduates is $29,331, men earning 7.1% more than women. (This and other mean comparisons of selected variables by gender appear in Table 1.) Although the inter-gender gap is statistically significant, it is not as broad as reported in other studies (Morrison & Von Glinow, 1990; National Center for Education Statistics, 1993).

The level of annual earnings of a person or a group is affected by the number of hours worked. Waite, Haggstrom, and Kanouse (1986) suggest that parenthood tends to decrease female earnings as women work less to devote more time to their families, exchange pay for convenience in choosing jobs, and forego training since they do not intend to work long enough to receive an adequate return on their investment. An analysis of pay differentials must take into account potential gaps in labor input. The 219 Business graduates in the sample report working an average of 43.0 hours per week, with no significant inter-gender variation.

Conventional wisdom dictates that the level of human capital be identified as a determinant in the estimation of any earnings function. Years of schooling is the most common variable used in the literature to measure the positive effect of education on earnings (Alwin, 1974; Amirault, 1994; Boyd, 1991a; Hecker, 1992a; Maxim, 1992; Shelley, 1994). In this study, schooling is the same for all alumni, so what is measured is the depth of their educational attainment using cumulative grade point average as a proxy. Graduates with higher grade point averages might be perceived by potential employers not only as more conscientious and possessing a broader and more specialized knowledge of job-related topics (Braddock & McPartland, 1987), but also capable of generating critical levels of commitment, effort, and success. Consequently, they may be offered higher starting salaries and more frequent promotions than their less accomplished peers. The data reveal that the overall grade point average is 2.87 (over 4.00). No significant differences between men and women are detected.

Age is another human-capital variable often included in the specification of earnings functions (Borjas & Bronars, 1989; Boyd, 1990). Generally earnings are expected to rise with age, as growing expertise enhances workers’ marginal productivity. Here age is not intended to measure experience after graduation for all observation units are recent graduates; rather, it measures experience in other job-related aspects and walks of life. The mean age is 27.0 years, somewhat older than the typical age of recent graduates from other universities. It reflects the urban nature of this institution. Men are slightly but significantly older than women.

Type of employer is yet another determinant of earnings differentials. If workers have preferences for certain types of employer, they may be willing to accept lower wages for a job requiring the same skills, experience, etc. relative to other employers. For example, Frank (1996) shows that workers have to be paid a compensating differential to work for firms that have a questionable moral reputation. Or some workers may prefer government employment, even though they may earn relatively less than in the private sector, because the public sector offers more job security; some people are willing to pay for more job security with lower salaries. Similarly, if recent graduates place a high priority on opportunities for advancement or availability of fringe benefits, they may accept a position with a well-established corpor-
Table 1
Means and standard deviations (in parentheses) of selected variables pertaining to recent graduates and college seniors, by gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Recent graduates</th>
<th>College seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total (n=219)</td>
<td>Men (n=109)</td>
</tr>
<tr>
<td>Annual earnings ($)</td>
<td>29,331&lt;sup&gt;a&lt;/sup&gt;</td>
<td>30,345&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>(8230)</td>
<td>(8853)</td>
<td>(7427)</td>
</tr>
<tr>
<td>Labor input (hours per week)</td>
<td>43.0&lt;sup&gt;d&lt;/sup&gt;</td>
<td>42.8</td>
</tr>
<tr>
<td>(7.9)</td>
<td>(7.9)</td>
<td>(7.9)</td>
</tr>
<tr>
<td>Grade point average (over 4.0)</td>
<td>2.87&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.85</td>
</tr>
<tr>
<td>(0.38)</td>
<td>(0.37)</td>
<td>(0.39)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>27.0&lt;sup&gt;e&lt;/sup&gt;</td>
<td>27.8</td>
</tr>
<tr>
<td>(4.8)</td>
<td>(4.9)</td>
<td>(4.5)</td>
</tr>
<tr>
<td>Type of employer (%)</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Large firm</td>
<td>49.8</td>
<td>48.6</td>
</tr>
<tr>
<td>Small/medium firm</td>
<td>29.7</td>
<td>33.0</td>
</tr>
<tr>
<td>Public sector</td>
<td>7.7</td>
<td>5.5</td>
</tr>
<tr>
<td>Self-employment</td>
<td>8.7</td>
<td>10.1</td>
</tr>
<tr>
<td>Non-profit institution</td>
<td>3.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Other</td>
<td>0.9</td>
<td>–</td>
</tr>
<tr>
<td>Place of residence (%)</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Miami metropolitan area</td>
<td>90.0&lt;sup&gt;e&lt;/sup&gt;</td>
<td>90.8</td>
</tr>
<tr>
<td>Outside Miami</td>
<td>10.0&lt;sup&gt;e&lt;/sup&gt;</td>
<td>9.2</td>
</tr>
</tbody>
</table>

<sup>a</sup> Mean of recent graduates significantly different from mean of college seniors (α<0.01).
<sup>b</sup> Gender means significantly different from each other (α<0.10).
<sup>c</sup> Gender means significantly different from each other (α<0.20).
<sup>d</sup> Mean of recent graduates significantly different from mean of college seniors (α<0.20).
<sup>e</sup> Mean of recent graduates significantly different from mean of college seniors (α<0.05).
<sup>f</sup> Gender means significantly different from each other (α<0.05).
<sup>g</sup> Mean of recent graduates significantly different from mean of college seniors (α<0.10).

Education, which offers excellent opportunities and benefits, but pays less, than would the same position with a smaller firm which cannot afford an extensive fringe-benefit package or offer a glamorous corporate future. Or perhaps some alumni are interested in exploring the challenges and rewards of entrepreneurship; they may choose to be self-employed, potentially trading off pay for the convenience of flexible hours or the joy of being one's own boss.

One-half (49.8%) of graduates report working for large firms. Small and medium firms are the second most common employment source, followed, distantly, by self-employment, the public sector, and non-profit institutions. No significant differences between men and women appear in any of these sources. For purposes of this study, the variable used to measure the effect of type of employer on level of earnings is whether or not the ith recent graduate works in a large firm. This category is selected not only because it is the most numerous, but also because it serves as a proxy for availability of advancement opportunities.

Type of job also is viewed as a determinant of earnings. Regardless of whether one is hired by a large firm, a small/medium firm, or the public sector, or is self-employed, managerial positions usually carry greater responsibility and tend to pay more than others. Less than a third (29.2%) of recent graduates work as managers. More than half (56.2%) classify their job as professional in nature, and 9.6% view themselves as technicians. The remaining 5.0% choose 'other', a category which probably embraces different shades of underemployment. Only inter-gender differences in percentage of technical employment is statistically significant. Holding a managerial position is the variable used to measure the impact of type of job on earnings.

Finally, the model contains a residence location variable that measures the effect of migration. Migration is perceived by human-capital proponents as a purposeful
way in which a population responds to its perception of changing economic opportunities (Carvajal & Upadhyaya, 1986). If indeed people migrate because they believe that, by doing so, they will improve their condition and that of their family, the earnings of recent graduates who have moved out of the Miami Metropolitan Area should exceed, on average, the earnings of those who have stayed. The data suggest that 90.0% of graduates live in the Miami Metropolitan Area. This estimate, however, is probably inflated; graduates who have moved away, especially to other states, are more difficult to locate and, consequently, less likely to be present in the sample. There are no significant inter-gender location differences.

4. Expectations of students

Betts (1996) and Smith and Powell (1990) point out that since college seniors, near the end of their didactic training, are on the verge of entering the job market, they may possess more accurate job-related information and more realistic earnings aspirations vis-à-vis other students. In line with such reasoning, this analysis of students’ expectations is restricted to seniors. It is based on an initial sample of 362 fourth-year students enrolled in 36 senior-level courses chosen randomly out of a total of 96 senior-level courses offered by the College of Business in the Spring 1996 semester.

Most foreign students are precluded from entering the US labor market, and their presence in the sample would distort the profile of those eligible to compete for jobs after graduation. Thus, this study is limited to the 315 college seniors who are either US citizens or hold resident-alien status; that is, who possess the capability to work legally. Of these, 248 students (78.7%) indicate their intention to work immediately after graduation. They are both willing and able to work; as such, they constitute the sample used for estimating students’ expectations.

Here the results of a one-way ANOVA model also reveal an absence of significant differences (α=0.10) in expected earnings among majors. Consequently, following the guidelines applied to the alumni data set, seniors are treated homogeneously, which increases the robustness of the estimates. Men outnumber women 145 (58.5%) to 103 (41.5%). Ethnically, Non-Hispanic Whites represent 15.7% of the students’ sample, Blacks account for 10.9%, and Hispanics constitute almost two-thirds (64.9%); the remaining 8.5% fall under the classification of other ethnic groups.

On average, students expect to earn in their first job after graduation $31,782 annually. (Mean comparisons by gender and ethnic group of this and other selected variables are presented in Table 1.) Male students expect to earn 6.3% more than their female peers, the difference being statistically significant. This gap is consistent with the inter-gender pay differential experienced in the market by recent graduates.

Table 2 shows the mean ratios, by gender, of values for earnings and other variables anticipated by seniors to actual values reported by alumni. Expected earnings exceed actual earnings by only 8.4%, thus suggesting that students are well informed about pay in the labor market. This modest overexpectation is similar for both genders.

Students’ average expected work week is 44.2 hours, close to, but significantly different from, the average work week reported by recent graduates; there are no significant differences in this variable between men and women. No inter-gender differences appear in seniors’ reported grade point averages, either, although the overall mean value is significantly greater than the alumni’s grade point average mean; this disparity probably reflects a reporting bias — the value recorded for graduates is the official grade point average, while, in the students’ distribution, the value is reported by the students themselves. Male and female students show identical age means (26.0 years), slightly lower than the means of graduates, which one would expect by the nature of the data.

Table 2: College seniors’ to recent graduates’ mean ratios for selected variables, by gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Men</td>
</tr>
<tr>
<td>Annual earnings</td>
<td>1.084</td>
<td>1.074</td>
</tr>
<tr>
<td>Labor input</td>
<td>1.028</td>
<td>1.047</td>
</tr>
<tr>
<td>Grade point average</td>
<td>1.044</td>
<td>1.055</td>
</tr>
<tr>
<td>Age</td>
<td>0.963</td>
<td>0.936</td>
</tr>
</tbody>
</table>

5 The presence of foreign students in the sample (13.0%) is very similar to the estimated percentage of graduates who do not reside permanently in the United States.

6 Of the 248 seniors willing and able to work after graduation, 212 (85.5%) are currently working. Of these, 63.7% hold a full-time job, 33.0% hold a part-time job (i.e., fewer than 30 hours per week), and the remaining 3.3% do not answer. Moreover, 45.2% of seniors who work full-time indicate that they intend to keep their job after graduation. Since these percentages are high, one would anticipate relatively accurate earnings expectations.

7 89.5% of college seniors (89.0% of men, 90.3% of women) expect to work at least 40 hours per week, compared to 93.2% of recent graduates (92.7% of men, 93.6% of women) who report working at least 40 hours per week.
Nearly half (47.2%) of seniors expect that their first job after graduation will be with a large firm. Working in small and medium-sized firms also is a common expectation, followed by government and self-employment. The overall percentage distribution of type-of-employer expectations is similar to the distribution found in the market by recent graduates. Unlike the distribution of recent graduates, however, students’ expectations show significant differences by gender. In relation to their male counterparts, female students anticipate working in large firms and in the public sector more often, while relatively more male than female students expect to pursue jobs with small and medium-sized firms, as well as being self-employed; that is, riskier alternatives.

Students’ type-of-job expectations do not conform to market realities. Over two-fifths (41.9%) expect to hold managerial positions, far more than what is available according to recent graduates. Significant inter-gender differences are limited to the less important type-of-job categories.

About one out of every three (32.7%) students surveyed expects to leave the Miami Metropolitan Area for his/her first job. This is a greater percentage than reported by graduates, and the difference may reflect a downward bias, alluded earlier, in locating persons moving out of state after graduation. As with recent graduates, there are no significant inter-gender differences in expectation to migrate.

5. General earnings functions

The first empirical equation estimated in this study, within the limitations of available data, interprets recent graduates’ earnings as an approximately linear function\(^8\) of number of hours worked, college grades, age, type of employer, type of job, location, gender, and ethnicity. That is,

\[
Y_{i1} = \beta_1 N_{i1} + \beta_2 G_{i1} + \beta_3 A_{i1} + \beta_4 E_{i1} + \beta_5 J_{i1} + \beta_6 L_{i1} + \beta_7 S_{i1} + \beta_8 B_{i1} + \beta_9 H_{i1} + u_i,
\]

where

- \(Y_{i1}\) is annual earnings reported by the \(i\)th recent graduate;
- \(N_{i1}\) is average number of hours per week worked by the \(i\)th recent graduate;
- \(G_{i1}\) is the final, cumulative grade point average of the \(i\)th recent graduate;
- \(A_{i1}\) is the age of the \(i\)th recent graduate at the time of the survey;
- \(E_{i1}\) is a dummy variable for type of employer, receiving a value of one if the \(i\)th recent graduate is employed by a large firm at the time of the survey, a value of zero otherwise;
- \(J_{i1}\) is a dummy variable for type of job, receiving a value of one if the \(i\)th recent graduate holds a managerial position at the time of the survey, a value of zero otherwise;
- \(L_{i1}\) is a dummy variable for location, receiving a value of one if the \(i\)th recent graduate resides outside the Miami Metropolitan Area at the time of the survey, a value of zero otherwise;
- \(S_{i1}\) is a dummy variable for gender, receiving a value of one if the \(i\)th recent graduate is a woman, a value of zero otherwise;
- \(B_{i1}\) is a dummy variable for ethnicity, receiving a value of one if the \(i\)th recent graduate is Hispanic, a value of zero otherwise;
- \(H_{i1}\) is another dummy variable for ethnicity, receiving a value of one if the \(i\)th recent graduate is Hispanic Black, a value of zero otherwise;
- \(u_i\) is a normally, independently distributed stochastic disturbance for recent graduates, with mean zero and variance \(\sigma^2_u\);
- \(\beta_1, \ldots, \beta_9\) are the least-squares coefficients of recent graduates being estimated; and where \(i=1, \ldots, 219\).

The second empirical equation estimated here interprets students’ earnings expected out of their first job as an approximately linear function of the same nine variables. Specifically,

\[
Y_{j2} = \phi_1 N_{j2} + \phi_2 G_{j2} + \phi_3 A_{j2} + \phi_4 E_{j2} + \phi_5 J_{j2} + \phi_6 L_{j2} + \phi_7 S_{j2} + \phi_8 B_{j2} + \phi_9 H_{j2} + v_j
\]

where

- \(Y_{j2}\) is annual earnings expected by the \(j\)th student in his/her first job after graduation;
- \(N_{j2}\) is average number of work hours per week expected by the \(j\)th student in his/her first job after graduation;
- \(G_{j2}\) is the cumulative grade point average reported by the \(j\)th student at the time of the survey;
- \(A_{j2}\) is the age reported by the \(j\)th student at the time of the survey;
- \(E_{j2}\) is a dummy variable for type of employer, receiving a value of one if the \(j\)th student expects that his/her first job after graduation will be in a large firm, a value of zero otherwise;
- \(J_{j2}\) is a dummy variable for type of job, receiving

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\(^8\) The linear function yields the most statistically significant least-squares coefficients. Neither quadratic nor semilog transformations yield more significant estimates or increase adjusted \(R^2\).
6. Discussion

One of the main questions addressed in this paper is whether or not students’ earnings expectations are realistic, given their personal characteristics and anticipated work effort and employment. The answer to this question is crucial in determining the extent to which students place the appropriate emphasis on factors that will influence their earnings when they enter the labor market. This section presents and discusses least-squares estimates of the empirical models developed in the previous section and obtained from samples consisting of 219 recent graduates and 248 seniors from the College of Business. These estimates, along with their standard errors, levels of statistical significance, and elasticities of pertinent variables, are presented in Table 3. The computed $F$ values are significant beyond the 0.01 probability level, and the adjusted $R^2$ values resemble those of similar cross-sectional studies (Daymont & Andrisani, 1984; Kane & Rouse, 1995; Maxim, 1992; Smith & Powell, 1990).

The labor-input variable is highly significant in both equations. Students seem to underestimate the effect of work hours on earnings — an additional hour of work per week increases actual earnings by nearly three times more than what students expect, and the difference is also statistically significant. Elasticities calculated at the

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimated least-squares coefficients and their standard errors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recent graduates</td>
</tr>
<tr>
<td>Labor input</td>
<td>419.465$^{a,e}$</td>
</tr>
<tr>
<td></td>
<td>(59.043)</td>
</tr>
<tr>
<td></td>
<td>[0.01]</td>
</tr>
<tr>
<td>Grade point average</td>
<td>2908.694$^{a}$</td>
</tr>
<tr>
<td></td>
<td>(939.181)</td>
</tr>
<tr>
<td></td>
<td>[0.05]</td>
</tr>
<tr>
<td>Age</td>
<td>149.807$^{a,d,f}$</td>
</tr>
<tr>
<td></td>
<td>(97.542)</td>
</tr>
<tr>
<td></td>
<td>[0.01]</td>
</tr>
<tr>
<td>Works in large firm</td>
<td>−1822.340$^{g}$</td>
</tr>
<tr>
<td></td>
<td>(1033.762)</td>
</tr>
<tr>
<td>Holds managerial position</td>
<td>−1557.123$^{g}$</td>
</tr>
<tr>
<td></td>
<td>(1115.899)</td>
</tr>
<tr>
<td>Location outside Miami</td>
<td>−1031.967</td>
</tr>
<tr>
<td></td>
<td>(1725.932)</td>
</tr>
<tr>
<td>Gender: female</td>
<td>−2147.019$^{a,g}$</td>
</tr>
<tr>
<td></td>
<td>(1033.917)</td>
</tr>
<tr>
<td>Ethnicity: Black</td>
<td>793.232</td>
</tr>
<tr>
<td></td>
<td>(2019.128)</td>
</tr>
<tr>
<td>Ethnicity: Hispanic</td>
<td>2157.359$^{g}$</td>
</tr>
<tr>
<td></td>
<td>(1170.989)</td>
</tr>
<tr>
<td>$F$ statistic</td>
<td>7.440$^{a}$</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.221</td>
</tr>
</tbody>
</table>

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9 In order to avoid unnecessary biases, students were not given instructions regarding how to report their expectations, for their first job after graduation, on income, hours worked, employer, type of job, or location. Since explicit information was requested from them, at the same time, about all of these aspects, it is assumed that their income expectations were reported within the context of other expectations.

10 Preliminary equations were estimated using only non-expectation variables (age, grade point average, gender, and ethnicity) as regressors. The values of their estimated coefficients are similar to the values estimated when expectation variables are included.
means of the variables suggest that a 10% increase in number of expected hours of work increases students’ expected earnings 2.1%, while, in the marketplace, it actually increases alumni’s earnings 6.1%.

Grade point average possesses high levels of significance explaining variations in earnings, which lends support to the hypothesis that employers see in grades an indicator of the capability to generate commitment, effort, and success. Not only do alumni report greater earnings for higher grade point averages, of the order of $29.09 per year for each additional one-hundredth of a point, but students with better grades also expect to earn more. Expectations, however, are inflated by 63.4%. The grade elasticity of earnings is greater for students than it is for graduates.

The positive effect of age on marketplace earnings is weaker than anticipated by college seniors. (The level of significance of this variable also is much lower for alumni, and the least-squares coefficients are significantly different from each other.) While students anticipate an annual earnings increase of $506.98 for each additional year of age, the actual value reported by graduates is $149.81. Students’ age elasticity of earnings is about three times greater than the elasticity of graduates.

On average, students expecting to work in large firms project earning $1678 more than the rest. This expectation does not accord with reality, as graduates hired by large firms earn, on average, $1822 less than other graduates. (Both coefficients are significantly different from zero and from each other.) Thus, the empirical evidence lends credence to the argument that recent graduates may initially accept lower-paying jobs with large firms as an investment in their pursuit of long-term goals (i.e., advancement opportunities, fringe benefits, etc.).

A similar situation occurs with alumni holding managerial positions. In the presence of all other variables, they earn, on average, $1557 less than do alumni holding other types of job, and the coefficient is significant. This finding is befuddling for one would expect managers’ earnings to exceed the earnings of nonmanagers. A possible explanation is that this variable may pick up some of the effect of the self-employed, who earn relatively lower levels of income. The coefficient for students bears a positive sign, as predicted, but lacks statistical significance.

Another interesting finding is that students who expect to leave the Miami Metropolitan Area, for the sake of working, project significantly lower earnings than do students who do not anticipate leaving the area. It seems that students prone to migrate base their income projection on finding any job, rather than a better one; in other words, they may not feel capable of competing successfully in the local market. The coefficient for recent graduates, also negative, is not significant.

The remaining three variables of the alumni and students equations have to do with the impact on earnings of gender and ethnicity. Studies that estimate the size of gender and ethnic gaps in occupational attainment, such as job and income levels, usually identify and/or control for workers’ characteristics and preferences that affect occupational success, interpreting any residual gap as evidence of discrimination (Braddock & McPartland, 1987; Daymont & Andrisani, 1984). In this study many of the conditions commonly held responsible for women’s and/or minorities’ lower earnings relative to Non-Hispanic White men (i.e., divergent career paths, number of hours worked, etc.) are accounted for, so whatever remaining gender- and/or ethnic-related disparities can be reasonably attributed, in large measure, to women and/or minorities lacking the masculine and/or nonminority traits required for, or at least conducive to, performing the job in the eyes of employers.

Discrimination occurs when people believe that women and/or minorities are less suited for key positions than are Non-Hispanic White men, and consequently are treated and paid differently for their work. The differences found in other studies are not limited to performance; deficiencies are presumed to exist because judgments are based on negative stereotypes of the group as a whole (Heilman & Martell, 1986; Noe, 1988). Relatively lower pay to women and minorities for comparable work may respond more to the overall salary allocation process than to specific performance evaluations — salary decisions often are made by people unfamiliar with female and minority managers and workers with degrees in Business Administration rather than by their immediate supervisors, who have better knowledge of their actual performance; thus, bias is more likely to exist. In fact, sometimes stereotypes are so strong that performance is ignored altogether in promotion and salary decisions (Drazin & Auster, 1987; Freedman & Phillips, 1988; Morrison & Von Glinow, 1990).

Lower-income expectations by women and minorities relative to their nonminority counterparts may reflect their perception, accurate or not, of what the market bears. Or they may reflect the importance which women and minorities attach to income in shaping job or overall career satisfaction, their determination to succeed in terms of status attainment, or their willingness to compromise other aspects of their lives for the sake of economic success. Or they may merely reflect alternative patterns of socialization (Smith & Powell, 1990). The gender least-squares coefficients for both equations are negative and significantly different from zero, but not significantly different from each other. Female students expect to earn $1541 less than do male students, while female recent graduates report earning $2147 less than their fellow workers. The actual differential exceeds the anticipated disparity by almost 40%, which suggests that students are only partially aware of the extent of marketplace inter-gender gaps in earnings.
There is no evidence of ethnic discrimination. Neither coefficient for Black ethnicity shows statistical significance, meaning that, in the presence of the other variables in the equations (i.e., hours of work, grade point average, etc.), neither Black graduates report earning, nor Black students expect to earn, higher or lower income levels than do graduates and students, respectively, of other ethnic groups. Both Hispanic coefficients are statistically significant, different from zero as well as from each other. The alumni coefficient is positive — on average, Hispanic alumni earn $2157 more than do non-Hispanics, probably as a result of the opportunities and support provided by South Florida’s Cuban enclave.11 Hispanic seniors, however, view themselves at a disadvantage, expecting to earn, in their first job, an average of $1746 less than their non-Hispanic peers who share similar characteristics and expectations.

7. Gender-specific equations

A comprehensive probe into the nature and magnitude of inter-gender differences between alumni’s marketplace experiences and students’ expectations cannot be limited to the effect of a dummy variable for gender. In this section the influences on earnings of labor input, grade point average, age, type of employer, type of job, and location are estimated separately for men and women in an attempt to ascertain, within each gender, the response of earnings reported by recent graduates and of students’ expected earnings to the stimuli of the explanatory variables.12

Least-squares coefficients by gender, along with their standard errors, levels of significance, and elasticities of pertinent variables, are presented in Table 4 for recent graduates and students. Although most coefficients are significantly different from zero, only in two instances (working in a large firm for recent graduates and holding a managerial position for college seniors) are the male and female coefficients significantly different from each other. All four equations are statistically significant, as indicated by their $F$ ratios. The adjusted $R^2$ values for the male equations are higher than the values reported for the general equations in Table 3; for the female equation they are approximately the same as for the general equation.

Both male and female least-squares coefficients of labor input (i.e., estimates of hourly return to labor) are statistically significant for recent graduates, but for students they are significant only in the equation for men. Within each gender, the coefficients and elasticities of this variable are greater for alumni than for seniors, supporting the contention that students underestimate the effect on earnings of working more hours. In the marketplace, both the hourly return to labor and elasticities are similar for men and women.

Grade point average is statistically significant in all four gender-specific equations, thus reaffirming the importance of this variable explaining earnings differentials. The grade-point-average elasticity of earnings is greater for students than it is for graduates; this is the same relationship established in the general equations. In both sets of equations male and female elasticity estimates are very close.

Three of the four gender-specific coefficients for age are statistically significant, the exception being female graduates. Within each gender, students’ elasticity estimates exceed the elasticity estimates of alumni (but coefficients are not significantly different from one another), in accordance with the results of the general equations; namely, that the actual effect of age on marketplace earnings is weaker than anticipated prior to graduation. Female students’ expected earnings are more age elastic than are the expected earnings of male students, although the coefficients of both genders are not significantly different from each other.

Being a recent graduate working in a large firm is statistically significant for men but not for women. The male coefficient is negative and sizeable, greater than the value reported for the general equation. Conversely, the significant students’ least-squares coefficient for this variable is the female coefficient, and it has a positive sign; women who expect to work in large firms project moderately greater earnings than the other women.

The coefficient for holding a managerial position is not statistically significant for either male or female graduates, but it is significant for both male and female students. This finding is interesting because, in the general equations, holding a managerial position is significant for alumni but not for seniors. Even more interesting is the finding that while male students who anticipate working as managers expect to earn almost $4000 more than the other male students, female students who expect to hold managerial jobs project earning $2700 less than

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11 Large concentrations of ethnic communities sometimes foster a protective market in which minority entrepreneurs are favored because they can provide goods and services that meet certain cultural needs, including transacting in another language (Boyd, 1991b; Maxim, 1992; Reitz, 1990). Cubans and, recently, other Hispanics in South Florida offer an excellent example of an economically successful and politically influential enclave (Borjas, 1986; Carvajal, forthcoming; Grenier & Perez, 1996; Portes, 1987; Portes & Jensen, 1989; Stepick & Grenier, 1993), at least in some aspects which counteract the income disparities and overall discrimination often experienced by minorities.

12 Ideally, the same approach could be pursued within each ethnic group. However, the sample sizes of Non-Hispanic Whites and Blacks do not lend themselves to drawing statistical inferences of this nature.
Table 4
Estimates of gender-specific least-squares coefficients, their standard errors (in parentheses), and levels of significance for recent graduates and college seniors, and earnings elasticities (in square brackets), for selected variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimated least-squares coefficients and their standard errors</th>
<th>Recent graduates</th>
<th>College seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Labor input</td>
<td></td>
<td>407.344&lt;sup&gt;a&lt;/sup&gt;</td>
<td>386.602&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(98.946)</td>
<td>(70.293)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[0.58]</td>
<td>[0.59]</td>
</tr>
<tr>
<td>Grade point average</td>
<td></td>
<td>3032.952&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2837.935&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1394.058)</td>
<td>(1215.342)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[0.29]</td>
<td>[0.30]</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>203.650&lt;sup&gt;d&lt;/sup&gt;</td>
<td>64.684</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(145.622)</td>
<td>(131.147)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[0.19]</td>
<td>[0.06]</td>
</tr>
<tr>
<td>Works in large firm</td>
<td></td>
<td>-4500.757&lt;sup&gt;a&lt;/sup&gt;,&lt;sup&gt;f&lt;/sup&gt;</td>
<td>1179.055&lt;sup&gt;f&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1568.949)</td>
<td>(1361.163)</td>
</tr>
<tr>
<td>Holds managerial position</td>
<td></td>
<td>-438.433</td>
<td>-1637.186</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1741.440)</td>
<td>(1481.997)</td>
</tr>
<tr>
<td>Location outside Miami</td>
<td></td>
<td>-5041.373&lt;sup&gt;c&lt;/sup&gt;</td>
<td>-2826.508&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2651.145)</td>
<td>(2021.585)</td>
</tr>
<tr>
<td>Ethnicity: Black</td>
<td></td>
<td>442.026</td>
<td>545.440</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3329.167)</td>
<td>(2512.154)</td>
</tr>
<tr>
<td>Ethnicity: Hispanic</td>
<td></td>
<td>2251.771&lt;sup&gt;d&lt;/sup&gt;</td>
<td>1844.312</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1615.204)</td>
<td>(1755.285)</td>
</tr>
<tr>
<td>F statistic</td>
<td></td>
<td>5.980&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.944&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Adjusted R&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
<td>0.293</td>
<td>0.213</td>
</tr>
</tbody>
</table>

<sup>a</sup> Coefficient significantly different from zero (α<0.01).
<sup>b</sup> Coefficient significantly different from zero (α<0.05).
<sup>c</sup> Coefficient significantly different from zero (α<0.10).
<sup>d</sup> Coefficient significantly different from zero (α<0.20).
<sup>e</sup> Male and female coefficients significantly different from each other (α<0.05).
<sup>f</sup> Male and female coefficients significantly different from each other (α<0.10).

the rest of the women; this is equivalent to a $6709 inter-gender gap after controlling for all other variables.

Both male and female graduates show significant, negative coefficients for location, despite the absence of statistical significance for this variable in the general equation. According to the empirical evidence, both men and women working outside the Miami Metropolitan Area earn less than their peers of the same gender who do not move away. Men appear to be penalized to a greater extent — a coefficient difference of $2215 annually — than are women, but this difference lacks statistical significance. For seniors this variable is significant only in the male equation, and the value of the coefficient is similar to the value of the coefficient for male alumni.

Finally, there is an overall absence of significance for the ethnicity variables in the gender-specific equations. Only the Hispanic coefficient for male graduates possesses statistical significance; its value is positive and very similar to the coefficient of the general equation. Therefore, there is no evidence of ethnic discrimination here, either.

### 8. Summary and conclusions

In this paper the earnings reported by recent college graduates and the earnings expected by college seniors from their first job after graduation are successfully estimated as functions of labor input, grade point average, age, type of employer, type of job, location, gender, and ethnicity. First, the least-squares coefficients of two general equations are calculated — one for 219 alumni and another for 248 students. Then each sample is disaggregated and gender-specific functions are estimated.

The empirical evidence reveals that, while students’ expectations generally accord with the prevalent trends of recent graduates’ marketplace experiences, students are only partially aware of what the market bears.
Specifically, they underestimate the earnings outcome of working more hours and overestimate the effect of age. Alumni report lower levels of earnings when they work in large firms, an experience contrary to seniors’ expectations of higher earnings. Alumni also report lower levels of earnings when they hold managerial jobs, a variable which lacks significance for seniors.

Another contradiction is that students anticipating to move away from Miami for the sake of finding their first job expect to earn less than other students; this disparity is not observed in the marketplace when all alumni are taken together, but appears in the gender-specific equations. With regard to ethnicity, Hispanic students expect to earn in their first job less than what non-Hispanics expect to earn, but it turns out that, in the presence of all other variables in the equation, the earnings of Hispanic alumni exceed the earnings of graduates from other ethnic groups.

While the disparities between students’ expectations and labor-market outcomes observed here might be partially influenced by a differential selection process, potentially responsible for samples consisting of different types of people with different earnings prospects, the effect of this bias is reduced by the relatively large size of both samples. Furthermore, earnings expectations and experiences, measured during a three-month period, are designed to reflect various perceptions of the same reality at virtually the same point in time; they are not subject to time-series distortions such as inflation, changes in labor supply, etc., which would arise if one were to control for individual-specific influences on the formation of market expectations and subsequent experience with longitudinal data (i.e., the same observation units responding as college seniors and, two years later, as recent graduates with jobs). Thus, the validity of the conclusions of this paper rests on the premise that the samples of alumni and seniors are homogeneous, which seems to be confirmed by both the selection procedure and the empirical data.

The formulation of gender-specific equations allows a more thorough probe of the forces behind the explanatory variables within each group. For example, the labor-input variable explains variation in actual earnings more successfully than in expected earnings; the coefficient for female students lacks significance. Actual earnings for both genders are more labor-input elastic, but less grade-point-average elastic, than are expected earnings. Actual earnings are more age elastic for men than for women, but expected earnings are more age elastic for women than for men. Ironically, working in a large firm influences the earnings of male (but not female) graduates and the expected earnings of female (but not male) students. Finally, in terms of earnings, men seem to be affected adversely more than women by actual as well as expected migration, although the difference is not statistically significant. Judging by the value of the $F$ ratios, the model specified here describes better the behavior of men than the behavior of women in both the recent graduates and college seniors distributions.

In conclusion, the analysis underscores the importance of expectations in predicting earnings and understanding inter-gender diversity. Both seniors and alumni are viewed as rational individuals making conscious choices, either implicitly or explicitly, among various behavior alternatives that bring about immediate or distant consequences. Obviously these individuals are assumed to choose alternatives whose consequences are perceived as most advantageous.

In further research the focus might be expanded to include inter-ethnic as well as inter-gender disparities. The focus also might be expanded to include students’ and workers’ goals other than income. For example, one might argue that students’ emphasis on grade point average or desire to hold a managerial position in a large firm has more to do with self-esteem, prestige, and values than with earnings; if that were the case, these explanatory variables might be more significant interpreting variations in a more comprehensive, albeit subjective, indicator, such as job satisfaction, than in explaining variations in earnings.

Future research also might focus on patterns reflecting interaction with broader structural factors which may vary by gender or ethnicity, such as changes in the opportunity and promotion structures, pressures arising from social norms or government regulations, or the need to negotiate multiple barriers. The conclusions from this and similar studies could be useful in designing or adjusting compensation systems that better meet the needs and aspirations of new employees. They could shed some light into employees’ compensation preferences and provide appropriate criteria to evaluate recruiters’ accuracy in estimating the reward preferences of job candidates. And last, but not least, it could provide the basis for the development by campus placement offices and counseling centers of better job-search skills which reduce unrealistic expectations and smooth the transition of college graduates into the labor force.
Appendix A

Questions in the survey instrument administered to recent graduates.

Name ____________________________________ ID# __________
Address ____________________________________ Tel. __________
_________________________________________ Major __________
Grad. Date __________ GPA __________ Age __________
Gender: | ☐ | Male | Ethnicity: | ☐ | Non-Hispanic White
| ☐ | Female | | ☐ | Non-Hispanic Black
| | | | ☐ | Hispanic
| | | | ☐ | Other __________

1. Are you currently working? | ☐ | No | ☐ | Yes
(If no, go to Question 5)
(If yes, please describe)
| ☐ | Full-time | ☐ | Part-time | Hours per week __________

2. How would you best describe your employer?
| ☐ | Self-employed | ☐ | Government
| ☐ | Large corporation | ☐ | Small/medium-size firm
| ☐ | Non-profit institution | ☐ | Other __________

3. How would you best describe your job?
| ☐ | Managerial/supervisory | ☐ | Professional
| ☐ | Technical | ☐ | Unskilled
| | | | ☐ | Other __________

4. Could you please tell us your annual salary? $ __________

5. (ONLY FOR ALUMNI NOT WORKING) Main reason for not working:
| ☐ | Graduate school | ☐ | Homemaker
| ☐ | Looking for a job | ☐ | Health reasons
| ☐ | Other __________

*Name, student number, address, telephone number, and data on graduation date, major, grade point average, age, gender, and ethnic group are provided by the University Registrar.
Appendix B

Questions in the survey instrument administered to college seniors.*

Expected Graduation Date ________________ Major ________________

Current GPA _____ Age _____ Citizenship ________________

Gender: | ☐ | Male       Ethnicity: | ☐ | Non-Hispanic White
         | ☐ | Female     | ☐ | Non-Hispanic Black
U.S. resident: | ☐ | Yes       | ☐ | No       | ☐ | Hispanic
                   | ☐ | Other ________________

1. What will be your main activity after graduation?
   | ☐ | Working          | ☐ | Graduate (Law, etc.) School
   | ☐ | Homemaker        | ☐ | Other ________________

2. Are you currently working? | ☐ | No       | ☐ | Yes
   Hours per week __________

3. (IF YOU ARE CURRENTLY WORKING) | ☐ | Yes       | ☐ | No
   Do you expect to keep the same job after graduation?

4. After graduation, whom do you anticipate as your employer?
   | ☐ | Self-employed    | ☐ | Government
   | ☐ | Large corporation | ☐ | Small/medium-size firm
   | ☐ | Non-profit institution | ☐ | Other ________________

5. How do you expect your first job after graduation to be?
   | ☐ | Managerial/supervisory | ☐ | Professional
   | ☐ | Technical            | ☐ | Unskilled
   | ☐ | Other ________________

6. On average, how many hours per week do you expect to work in your first job after graduation? __________

7. Where do you expect to find your first job after graduation?
   | ☐ | Dade County          | ☐ | Florida outside Dade
   | ☐ | U.S. outside Florida | ☐ | Outside the United States

8. How much do you expect to earn (i.e., annual salary) in your first job after graduation?

*Respondents remain anonymous. All data are provided by students.
References


Shelley, K. J. (1994). More job openings — even more new

