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Prices and Preferences in Choice of Career:  
The Switch to Business, 1972-87

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In the early 1970s I voted, along with most of my economics colleagues at the University of Pennsylvania, for moving the economics department from its historic location in the Wharton School of Finance and Commerce to the newly established liberal arts college. How poorly we read our economic future! Then, as now, Penn was on a “revenue center” budget system, in which a school’s financial fate was driven by undergraduate enrollment. Over the next decade, the department watched helplessly as shifting enrollments endowed the business school with large profits, while liberal arts became the University’s loss center. It is not surprising that Penn’s finance department, along with comparable departments in many other business schools, came to be a magnet for many of the most promising newly-minted economists.

This anecdote exemplifies how as academic economists we remain at the whim of forces only dimly perceived. From 1972 to 1987, among American colleges and universities, business enrollments soared as a proportion of total undergraduate enrollment. Except for a brief discussion in Ehrenberg 1991, this remarkable development has been almost wholly neglected in the economics literature, despite its manifest impact on the functioning of institutions of higher education and the economy’s labor supply. This article aims to assemble and evaluate some pertinent evidence on reasons for this growth, in the context more generally of the literature and evidence on occupational choice and choice of major by undergraduates.

Reading the empirical literature on occupational choice, one comes away with the

impression that relative rates of return, or “prices,” are the dominant, if not the sole determinant of choice of career (see the seminal work of Freeman 1971, 1975, 1976 and articles by Freeman and others cited therein; also Boskin 1974, Falaris 1984, Fogel and Mitchell 1973, Siow 1984, Zabalza 1979, and Zarkin 1985). In theory, a wide variety of factors are potentially at work (Freeman 1971, ch. 1 provides a good overview); in practice, all but prices are assumed away.<sup>2</sup> The trend in this literature is toward experimenting with more sophisticated measures of prices, rather than investigating non-price determinants.

This neglect of influences other than prices is much less true of the literature on choice of undergraduate major. Factors such as the abilities and “interests” of individuals are thought to play a part in choice of major (Ehrenberg 1991, Fiorito and Dauffenbach 1982, Gambetta 1987, Gordon 1973, ch. 1, Polachek 1978; see also the psychological literature surveyed in Fumham and Stacey 1991, ch. 4), although in the choice of major literature too there are studies that follow the tradition of that on occupational choice (Berger 1988, Cebula and Lopes 1982, Koch 1972 and ensuing discussion by Bell 1975, Ross 1975, and Koch 1975).

It is hard to understand why there should be a gulf between these two bodies of work. For most college students, choice of major is geared to a career objective, and most students, on entering college, already have a career in mind -- only about 15 percent are undecided or give no response when asked about career plans (Dey et al 1991). Most of those who plan business careers choose a business major; teaching, an education major; law, a history major; architecture, a fine arts major; engineering, an engineering major; medicine, a biology major; and so on. For most students, choice of major and choice of career obviously reflect the same basic determinants. Although rates of

return are relevant, so too are other factors. If society denigrates lawyers and politicians and extols money-making, it seems likely that this will affect the occupational tastes of the young. If “peripheral” studies, such as the creative arts, are the victim of budget cuts in primary and secondary schools, it seems likely that fewer young people will think of themselves as possessing artistic abilities and hence fewer will develop an interest in artistic careers.

This article aims to explore with time series data the role of both preferences and prices in the switch to business careers. The empirical analysis of preferences uses survey data that tend to be disregarded or dismissed in much of the economics literature. The first section documents the rise in business majors and demonstrates that freshmen plans are closely replicated in graduation rates by field four years later. The second section looks at prices, not only for business, but engineering and education graduates as well. The third section considers the role of changing preferences in the switch to business majors. The fourth introduces changes by gender and takes up the dual role of both preferences and relative prices in shaping the observed pattern of choice of business careers. The fifth section suggests the social mechanisms that have shaped the change in preferences. The sixth deals briefly with the recent decline in business enrollments.

The main point of the analysis is that, while prices have influenced the switch to business careers, the dominant force has been shifting preferences, a shift that, in turn, can be traced to plausible economic causes. There is plenty of scope for further work -- for example, abilities are not included here, the price measure is a simple one, and more formal modeling is needed. The primary aims are to suggest that better understanding of the real world calls for a more comprehensive approach to the analysis of career choice, one taking account of influences additional to rates of

return, and to demonstrate that survey data provide a reasonable empirical basis for analyzing preferences.

### I. The Rise of Business Enrollments

Major and career plans of successive classes of college freshmen since 1966 tell a highly consistent story. After a period of stability in the late 'sixties and early 'seventies, the percentage of freshmen opting for a business career rose sharply, from about 11 percent in 1972 to an all-time high of 25 percent in 1987 (Figure 1). Between 1978 and 1983, there was a leveling off, connected, as shall be seen in section IV, to differential developments by gender. After 1987, the proportion wishing to enter business declined abruptly, returning to near its mid-1970s' level. Although the analysis here focuses chiefly on the upsurge in business enrollments, the decline will be looked at more closely later on.

The statements of freshmen on probable major and probable career, gathered in annual surveys administered at the start of their freshman year, predict with high accuracy the proportions graduating four years later. The rise after 1972 in the percentage planning to major in business is matched by a rise after 1976 of similar magnitude in the proportion of business graduates (Figure 2). By and large, switching among majors during college appears largely to balance out, and plans and behavior, on average, usually go hand in hand. Toward the end of the period, however, there is a growing discrepancy between business majors and business graduates, about which more will be said later.

## II. Prices and Choice of Career

Do changing relative returns of different occupations influence choice of career? In investigating this, it is helpful first to add to the analysis engineering and teaching, the two fields that along with business account for the predominant share of undergraduate professional school enrollment. These fields are also of interest because systematic economic analysis of career choices of college students refers almost entirely to professional jobs such as these, not to business occupations.

The proportion of freshmen planning an engineering career rose from 1974 to 1982 and declined to 1987; since then, it has leveled off (Figure 3). Movements in engineering career plans foreshadow closely changes in the share of engineering in bachelor's degree graduates four years later. Moreover, freshmen career plans for engineering appear to track closely relative starting salaries in engineering. When these rise, so too does the share of freshmen planning an engineering career.

An alternative "returns" argument is that if the income of college graduates falls relative to that of high school graduates, then among those entering college the proportion opting for majors with higher payoffs like engineering will rise (Freeman 1976).<sup>3</sup> To judge from the relative earnings of male college and high school graduates aged 25-34, this does not appear to be true for engineers.

Turning to teaching, the percentage planning careers as elementary and secondary school teachers slides downward through 1982, then rises through 1988, after which it levels off (Figure 4). Again, career plans anticipate proportions graduating. And once again the market response

argument appears to hold: relative starting salaries of teachers move together with plans to enter the field. Relative earnings of college versus high school graduates -- in this case, for females -- again looks like a less promising explanatory variable.

In the light of results like these, those for business are disappointing. Starting salaries provide no evidence that the striking rise in plans for business careers is due to markedly better financial opportunities in business (Figure 5; see also Ehrenberg 1992, p. 849). From 1973 to 1987 relative starting salaries in business edged downward, but the proportion planning a business career more than doubled. Nor does the more general argument of the causal role of relative returns to college versus high school education seem to apply: relative returns are essentially unchanged from 1972 to 1982.

Another possibility, that undergraduate business enrollments are due to the distant allure of high MBA salaries, does not hold up either. MBA enrollments do soar like undergraduate business enrollments, although they are never as much as one-third as large. This increase occurs despite the fact that the ratio of MBA to bachelor starting salaries is virtually constant throughout the period under study.<sup>4</sup>

Those entering business may be attracted by the prospect of exceptionally high executive salaries, despite the low probability of realizing them. To explain changes in career plans by this argument, however, one would have to point to progressively improving prospects of exceptionally high returns from 1972 to 1987. This case might most plausibly be made for the period from 1982 to 1987 when the stock market boomed. But the major part of the switch to business occurred before 1982.<sup>5</sup>

Yet, another possibility is that young people moving into business are responding to improved relative employment opportunities, rather than incomes per se (Freeman 1976, 1980). But one indicator of relative employment opportunities, the business share of college jobs, those occupations in which college graduates account for the predominant share of jobs held, is virtually constant in the period after 1972 (Table 1). Perhaps instead of actual trends in business employment, young people's assessment of employment prospects is based on the expert projections of the Bureau of Labor Statistics (BLS), embodied in its widely-distributed biennial Occupational Outlook Handbook. But the projections too fail to explain the shift to business. In projections published from 1971 through 1985, BLS forecasters have repeatedly foreseen an adverse outlook for business jobs relative to college jobs generally (Table 2).

The analysis here uses salary and employment data to gauge market prospects much like those in Richard Freeman's original work. These are the simplest and most readily available data, those about which college freshmen are most likely to have information. As has been seen, with regard to engineering and teaching, the results are reasonably consistent with a relative returns hypothesis. For business, however, the results are not. No doubt, more could be done to pursue this hypothesis using more sophisticated measures of returns, although annual time series for such measures are not available. Moreover, this course is not without some significant problems (Manski 1992). An alternative is to take a look at readily available data on preferences.

### III. Preferences

The view that the switch to business is preference-driven comes across most clearly in the

writings of the scholars who have been conducting the freshmen surveys used here. Repeatedly they point to the fact that the rise of business majors has been associated with a marked increase in the proportion of undergraduates who, when asked about the importance to them personally of “being very well off financially” respond “essential” or “very important,” the top two out of four categories (see, e.g. Astin 1985 ab). Since the early ‘seventies, this particular life goal out of a list of eighteen has risen in importance more than any other (Easterlin and Crimmins 1991). At any given time those with a strong interest in making money, compared with freshmen generally, disproportionately favor business as career (see Table 3, which gives data for 20 occupations in 1977; tabulations for 1968 and 1985 are similar.)

When the data on importance of making money are put together with business career preferences in a time series graph, they do give a picture roughly consistent with a cause-effect relationship in the period from 1972 to 1987, although preferences do not level off in mid-period as do business career plans (Figure 6). Moreover, after 1987 though the importance of making money turns down, the decline is quite slight compared with the precipitous drop in the business career series. Some possible reasons for these discrepancies are noted in sections IV and VI.

Freeman, in his characteristically wide-ranging fashion, was by no means oblivious to the attitudinal series, presenting data identical to those in Figure 6 for 1970 and 1974. His interpretation of the cause-effect relation, however, was different from that just suggested. In his view, the increase in the importance of making money was a response to the same force causing the shift to business, namely, a decline in the returns of college relative to high school education and a resulting rise in economic insecurity (1976, pp. 42-45). As has been seen, however, changes in

college graduates' relative earnings do not correspond to the switch to business. Nor do they fit with the timing of the rise in the importance of money-making.

Moreover, the increasing importance from the '70s to the '80s of making money was common to youth generally, not just the college population. This is apparent from data that first appeared in the year Freeman's book was published and hence were not available to him. Since 1976 the change in life goals among high school seniors who do not expect to go to college is virtually the same as that for those who do (Table 4, line 1). Indeed, the similarities between the two groups in attitudes relevant to labor market behavior are considerable. Job expectations at age 30 and preferred job characteristics both change similarly for those who do and do not plan to attend college (lines 2 and 3). It seems unlikely that changing returns of college relative to high school education would affect both groups so similarly.<sup>6</sup>

The survey data thus suggest that among the young population generally, whether or not they intended to get a college degree, there was an increasing concern from the early '70s to 1987 with making money. The shift to business by college students may have been one result of this. But the timing of the shift is more irregular than that in the importance of making money. To understand why, it is necessary to look at trends by gender and to bring prices back into the picture.

#### IV. Differentials by Gender

Over the whole period 1972 to 1987, the shift toward business careers among college freshmen was considerably greater for females than males (Figure 7, Turner and Bowen 1990). This

difference, however, reflects the dominance of females before 1982; from 1982 to 1987, the shift was greater for males. The percentage point change in those opting for a business career in each period is shown below:

	<u>1972 - 1982</u>	<u>1982 - 1987</u>	<u>1972 - 1987</u>
Males	+5.5	+6.7	+12.2
Females	+14.5	+2.7	+17.2

The greater overall increase for females is due primarily to a differential change in preferences; the difference between the component periods, to prices. With regard to preferences, although males typically have a stronger interest in making money than females, the difference by gender narrowed dramatically between 1972 and 1987. This is shown in Figure 8, and in the data below that gives the percentage that considers being well off financially essential or very important:

	<u>1972</u>	<u>1987</u>	Change, <u>1972 to 1987</u>
1. Males	50.6	79.5	+28.9
2. Females	30.2	72.1	+41.9

For females the growth in emphasis on making money was almost half again as great as for males; so too were plans for business careers (compare the last column of the tabulation above with that of the preceding tabulation). Thus, the difference by gender in the overall change from 1972 to 1987 in those opting for a business career corresponds closely to that in emphasis on making money.<sup>7</sup>

Although preferences may account for the overall magnitude of the switch to business careers, starting salaries in engineering and education relative to business appear to explain the differences by gender in the two component periods. Compared with starting salaries in business, those in engineering rose from 1972 to 1982, while those in teaching fell. After 1982, the pattern

reversed, as shown below:<sup>8</sup>

	<u>1972</u>	<u>1982</u>	<u>1987</u>
Engineering salaries as percent of business	117.5	139.4	134.2
Education salaries as percent of business	78.6	72.0	84.4

Opportunities in engineering primarily affect males; those in teaching, females. Thus before 1982, the relative improvement in engineering opportunities moderated the shift toward business of males as compared with females; after 1982, the relative improvement of teaching reduced the trend toward business of females relative to males. The data on career plans support this interpretation. The percentage planning a career in engineering (largely males) rose from 1972 to 1982 and declined from 1982 to 1987 (Figures 3 and 9). Teaching career plans (dominated by females) followed the opposite pattern (Figures 4 and 9). Thus for males growing engineering enrollments through 1982 cut into the males' shift toward business; after 1982, growing teaching enrollments cut into the female shift toward business. The difference by gender between 1972-82 and 1982-87 in the shift toward business thus reflects the differential impact of opportunities in these alternative fields, opportunities largely captured in relative prices.<sup>9</sup>

As previously mentioned, for both sexes combined the 1972-87 trend toward business was interrupted in the middle of the period. The present analysis suggests the reason for this. The shift of males toward engineering enrollments through 1982 was about twice as great as the shift of females toward teaching from 1982 to 1987, reflecting a greater upsurge in relative prices in engineering (Figure 9). The result was to depress the up-trend in those planning a business career more strongly in the period prior to 1982 than after.

## V. The Mechanisms of Preference Change

If changing preferences have played a major role in the rise of business enrollments, the question naturally arises, why this shift in preferences? As section III has made clear, to answer this one needs to ask why all young people, not just college students, became increasingly concerned with making money.

To some economists, preference data of the type used here merely mirror current market conditions. But to social scientists outside of economics, the life goals of young people on reaching adulthood reflect in large part a long socialization process in their families of origin and other institutions that shape attitudes, intentionally or unintentionally, although current conditions may play a part too. Consistent with this, over three-fourths of high school seniors say that their ideas of what values are important in life are very or mostly similar to those of their parents (Bachman et al. 1988, p. 176). Hence, if young people come to adulthood more oriented toward making money, one would expect that this is because there has been greater emphasis on the importance of money in their homes, schools, and other institutions of socialization as they grew up -- in short, that the adults with whom they came in contact were increasingly concerned about money.

Is there any evidence that attitudes of adults changed in a way consistent with the shift in values of the young? The answer, again based on survey evidence, is yes. Starting in the latter part of the 'sixties and continuing with only mild deviations into the early eighties, the dissatisfaction of adults with their financial situation grew sharply; through the rest of the 'eighties there was a mild reversal (Figure 10).<sup>10</sup> This suggests that from the late '60s on, as parents became increasingly

concerned with their own financial situation, they passed this concern on to their children, presumably via emphasis on being well-prepared for the job market, seeking jobs that paid well, and so on. It seems plausible that school teachers and those in other value-shaping institutions shared the concerns of parents, with similar consequences for the attitudes of the young. Note that Figure 10 suggests the attitudes of the young lag those in adults by about five years, consistent with the notion that the cause-effect mechanism is via a gradual socialization process.

As has been seen, the importance of making money increased markedly for both sexes, but the increase was considerably greater for females. It seems reasonable to suppose that this differential change is due to the changing perception of female roles during this period. The increased incidence of broken families created greater emphasis on the need for women to be independently prepared to support themselves financially. Among mothers with pre-school children labor force participation rose to new highs, and the idea of continued labor market participation by mothers gained increasing hold. Simple micro-level correlations for females show a significant positive correlation between the importance of money-making and both father-absent households and the extent of one's mother's work. They also show that females with more interest in money-making are more likely to believe that women should receive the same salaries and opportunities for advancement as men in comparable positions. These results are consistent with the idea that changing sex role perceptions enhanced the trend toward making money among females.

There remains the question, why the shift in emphasis on money-making in the adult population generally? The obvious answer is the state of the economy. This is suggested by previous work on determinants of attitudes, particularly that on the most widely studied series, the

index of consumer sentiment, where inflation and unemployment rates invariably stand out as important determinants (for a good recent article, see Throop 1992). There is a fair consistency in the present data between these economic magnitudes and adults' feelings of financial security (Figure 10). In the latter part of the 'sixties, the rate of inflation began to rise. In the 'seventies and on into the early 'eighties unemployment problems added to inflation concerns -- "stagflation" reared its ugly head. Finally from the early 'eighties until the recent recession, both unemployment and inflation rates moderated. This pattern is reasonably consistent with the longer term movements in assessments of financial security. Thus, changing macroeconomic conditions appear to have shaped the attitudes of adults.<sup>11</sup>In turn, the attitudes of adults shaped with a lag those of youth, leading via preference change to a new pattern of career and major field choices that favored business and business schools.

## VI. The Recent Decline in Business Enrollments

Since 1987 there has been a marked decline in business enrollments. Of the two lines of explanation considered for the rise in business enrollments, prices and preferences, the latter comes off better in accounting for the decline, but only modestly so. The decline in business enrollments has occurred despite a mild upswing in the relative starting salaries of business graduates (Figure 5). In contrast, the importance to freshmen of making money declined slightly after 1987, and this decline followed with a lag a decline in adults' dissatisfaction with their financial circumstances (Figure 10).

But the decline in business enrollments is clearly much more than can be explained by attitudes toward the importance of making money. The reason may be an exogenous shock to preferences caused by an upsurge in anti-business sentiment. In commenting on the sharp drop in business enrollments, those responsible for the freshman surveys observe that “continuing revelations about scandals in Wall Street, defense contracting, and the savings and loan industry may be having a negative effect on the field of business” (Astin et al. 1990, p. 6). Although business scandals are hardly unprecedented, the World Almanac refers to 1986 as “the most scandalous year in Wall Street history” (World Almanac 1993, p. 528). The impact of these developments was very likely reinforced by the stock market crash of 1987.

Two pieces of evidence supporting the idea of an upsurge in anti-business sentiment may be noted. The first relates to high school seniors’ concerns about undue emphasis on profit-making. These concerns diminished from the ’70s into the ’80s as one might expect if making money becomes an increasingly acceptable goal (Figure 11 ).<sup>12</sup>After 1986, however, these concerns rise abruptly, a year before the shift in attitudes toward money-making. The timing of this reversal is consistent with the “scandal” hypothesis. The high school surveys are taken in March and April each year; thus the impact of the 1986 scandals first shows up in the survey taken in the spring of 1987. The upsurge in concern with profit-making is much more than would be expected from the change in attitudes toward making money -- the upsurge is so great that it largely wipes out the decline in concerns about profit-making that had previously occurred.

Second, if the succession of scandals from 1986 onward had an increasingly adverse effect on attitudes toward business, then one might expect such an effect to have occurred not only among

high school seniors and college freshmen but among college students at more advanced levels as well. As a result, among those who started as business majors, some might have second thoughts and switch out of business. An indication of such switching is apparent in the recent growing disparity between the share of graduates receiving a bachelor's degree in business and the proportion of freshmen planning to major in business four years earlier. From 1976 through 1987, the business share of graduates was almost identical with the proportion of freshmen planning to major in business four years earlier (Figure 2). In 1988, however, there is a shortfall of 1.9 percentage points; in 1989, 2.5 percentage points; and in 1990, 3.2 percentage points. As a result, the rise in freshmen business majors from 1983 to 1987 fails to translate into an increasing share of business graduates from 1987 through 1990. Moreover, the more recent the graduating class, and thus the more time after the scandals erupted to switch plans, the greater the shortfall has been.

## VII. Summary and Implications

The present analysis suggests that both prices and preferences have played a part in the rise of business enrollments. The overall increase was driven by a marked upsurge in the importance to young adults of financial success as a life goal. This uptrend was modified by shifts in relative starting salaries of business vis a vis both engineering and education. As the attractiveness of engineering rose relative to business and then declined, the uptrend in business careers of males was correspondingly weakened and strengthened. Similarly, the trend toward business among females was modified by the attractiveness of education relative to business.

Worsening macro-economic conditions were the principal force behind the upsurge in the importance to young people of making money. These conditions worked, not directly and concurrently on the preferences of the young, but with a lag via their socialization experience. A progressive worsening of inflation and unemployment created increased concern among adults generally about their financial situation. These concerns were transmitted to the young in their socialization experience at home, in school, and other institutions, and resulted with a lag in greater emphasis on the importance to young people of making money.

In recent years, emphasis on money-making among the young has leveled off and declined slightly. Business enrollments, however, turned down much more than would have been expected from this shift alone. Nor can relative price movements account for the decline in business career plans. Rather, this decline appears to be due to an exogenous shock to preferences caused by a rising distaste for business connected with the succession of widely-publicized Wall Street scandals and the stock market crash of 1987.

Looking to the future, the prospect is that business enrollments will improve modestly in the course of the next five years. This projection assumes that relative prices remain largely unchanged and the adverse effect of the Wall Street scandals will have largely run its course. The improvement would reflect the worsening of the economy since the late 'eighties and its lagged impact on the preferences of the young.

In addition to substantive results, an important feature here is the inclusion of preferences in empirical inquiry, through the use of survey data. The last two decades have seen the emergence of a small, but increasingly rich, economics literature on values and preferences, associated with the

work of scholars such as Elster, Hirschman, Pollak, and Sen, but this work has been almost entirely theoretical and qualitative. One suspects that before preferences are accorded more equal treatment in economics, theory must be linked with data. The present paper is a small start on such an effort. No doubt there will prove to be many pitfalls in such an enterprise. But this has always been the story in the search for empirical counterparts to theoretical concepts.

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2. Typical statements are: "Abstracting for the moment from any differential nonpecuniary costs and benefits among occupations..." (Boskin 1974, p. 390, n. 3); "[n]on-pecuniary preferences are assumed to be equal as far as each occupation is concerned" (Zabalza 1979, 132); and "it is implicitly assumed that these factors [the nonpecuniary returns arising from the choice of a major and training costs in each major] are constant across majors or, alternatively, that the background factors control for these differences..." (Berger 1988, 419).

3. So far as modeling is concerned, Freeman's work focuses on college enrollment, but the text discussion includes major and career choice as a response to the relative market prospects of college versus high school graduates (Freeman 1976, pp. 39-42).

4. MBA salaries are given in the same source as that used in Figures 3 and 5; enrollments, in the source used for Figure 2. (See Appendix on sources of data.)

5. Mohrman (1987) touches on another possible "price" factor, federal student aid policies, especially the shift from grants to loans, and notes that the evidence that this influenced choice of major is ambiguous.

6. The data for both high school seniors and college freshmen show that the increased importance of money-making is common to all groups in the young population -- males and females, blacks and whites, students at elite and non-elite institutions, and so on. Moreover, at a point in time interest in money-making is virtually the same for those who do not plan to go to college as for those who do. This casts doubt on the hypothesis noted by Ehrenberg (1992, p. 853) that the shift toward business is due to an increased proportion of lower "quality" students whose interests are more pragmatic.

7. Although the differential change in preferences corresponds closely to the differential change in career plans, it seems plausible that women's shift toward business careers was also influenced by federal equal employment legislation in the late 'sixties and early 'seventies (Turner and Bowen 1990).

8. The salary data used here are for both sexes combined, for which the sample size is greatest. Separate salary data for males and females were first included in the regular College Placement Council report in 1974. For business, the field in which males and females are most equally represented, the change by gender in starting salaries from 1974 to 1987 was virtually the same -- 110 percent for males

and 114 percent for females.

9. A swing in those planning a career as computer programmers parallels that in engineering between 1972 and 1987. Because the magnitude and timing of the swing is very similar for males and females, this development is disregarded in the present analysis of differential change by gender.

10. A number of attitudinal series like that used here show a marked adverse turn starting in the 'sixties (Converse et al. 1980, chaps. 6,7; Levy 1985). Most of these series are oriented primarily toward tapping short term changes relevant to business cycle behavior. The series in Fig. 7 (SATFIN) shows less business cycle volatility and presumably better reflects longer term swings in attitudes. The specific question asked is as follows: "We are interested in how people are getting along financially these days. So far as you and your family are concerned, would you say that you are pretty well satisfied with your present financial situation, more or less satisfied, or not satisfied at all?" The measure used in Figure 7 is the excess of the percentage not satisfied over the percentage pretty well satisfied.

The most-studied measure of consumer attitudes is probably the University of Michigan index of consumer sentiment (ICS). Like SATFIN, ICS shows an adverse trend from the mid-sixties to early 'eighties. Thereafter, however, ICS bounces back to near its 1960s level; in contrast, the upswing in SATFIN is much smaller. ICS is designed particularly with a view to forecasting short-term changes in spending on consumer durables, and the underlying questions on changes in consumer financial status have a time horizon of only a year. In contrast the question used here assesses one's financial status without such a constraint.

11. The middle and bottom panels of Figure 10 end around 1987. The recent worsening of macroeconomic conditions has been accompanied by a new upturn in dissatisfaction with the financial situation.

12. The question asked is as follows: "How much do you agree or disagree with . . . the following statement . . .? In the United States we put too much emphasis on making profits and not enough on human well-being" (Bachman et al. 1988, p. 95). The data in Figure 11 are the sum of the response categories "agree" and "mostly agree."

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Appendix  
Sources of Data for Figures and Tables

Figure 1. For 1966-1990, Dey et al (1991); for 1991, Astin et al (1991).

Figure 2. Major plans, same as Figure 1. Bachelors degrees conferred by **field** of study from Bureau of the Census, Statistical Abstract of the United States (various dates) and National Center for Education Statistics, Digest of Educational Statistics (various dates).

Figure 3. Career plans, same as Figure 1; bachelors degrees conferred, same as Figure 2 (engineering includes “computer and information sciences” and “engineering technologies”). Starting salaries, from Connell 1991, constant dollar series uses CPI-X as deflator. Average for engineering is average of live fields (chemical, civil, industrial, electrical, and mechanical) with each field weighted according to its average share of engineering graduates in these fields in the two years 1976 and 1986. The average for all fields is an average of seven **fields** (biological sciences, business, engineering, health, humanities and social sciences, mathematics, and physical sciences) with fields weighted as for engineering. Total income of full-time full-year workers is from Bureau of the Census, Current Population Reports, Series P-60, various issues.

Figure 4. Career plans, same as Figure 1; bachelors degrees conferred same as Figure 2 (“parks and recreation” included with education). Teachers’ starting salaries are those for public school teachers reported in Bureau of the Census, Statistical Abstract of the United States, various issues, deflated by CPI-X. The “all fields” average is that described for Figure 3. Total money income is from the same source as for Figure 3.

Figure 5. Career plans, same as Figure 1; average starting salaries in business and all fields same as for Figure 3. Average for all business is average for three fields (accounting, business administration, and marketing) with each field weighted according to its average share of graduates in these fields in the two years 1976 and 1986. Total money income, same as for Figure 3.

Figures 6-9. Same as Figure 1.

Figure 10. Top panel, see Figure 1. Middle panel from National Opinion Research Center 1987, 1991; Smith 1979 (data are those for **SATFIN**). Bottom panel, from Council of Economic Advisors 1993. The average is for the three years ending in the date for which the average is plotted. Because the survey data on **SATFIN** are collected in February through April, data for this series for a given year are matched with the 3 year average of the inflation and unemployment rates ending in the prior year.

Figure 11. From Bachman et al, 1980a-1988; Johnston et al, 1980a-1986.

Table 1. From Current Population Survey public use tapes. Data prior to 1984 were

reclassified to the post-1983 occupational **classification** by Diane Macunovich following Frank Levy. College jobs are those classified under the head “managerial and professional specialty.”

Table 2. Bureau of Labor Statistics, Bulletin 1606, 1737; Monthly Labor Review, Dec. 1973, Nov. 1976, Aug. 1981, Aug. 1983, Nov. 1985, Sept. 1987, Nov. 1989, Nov. 1991. Under the occupational classification through 1983, college jobs are those under the two-digit headings, “professional and technical” and “managers and administrators.” College jobs under the new occupational **classification** are those under the heading “managerial and professional specialty.”

Table 3. CIRP microdata set for 1977.

Table 4. Bachman, Jerald G., Lloyd D. Johnston, and Patrick M. O’Malley, Monitoring the Future. Questionnaire Responses from the Nation’s High School Seniors 1976, Ann Arbor, MI: Survey Research Center, 1980a-1991; Johnston, Lloyd D., Jerald G. Bachman, and Patrick M. O’Malley, Monitoring the Future. Questionnaire Responses from the Nation’s High School Seniors 1987, Ann Arbor, MI: Survey Research Center, 1980a-1991.

Figure 1: Percent of College Freshmen with a Probable Major or Career in Business, 1966-1991

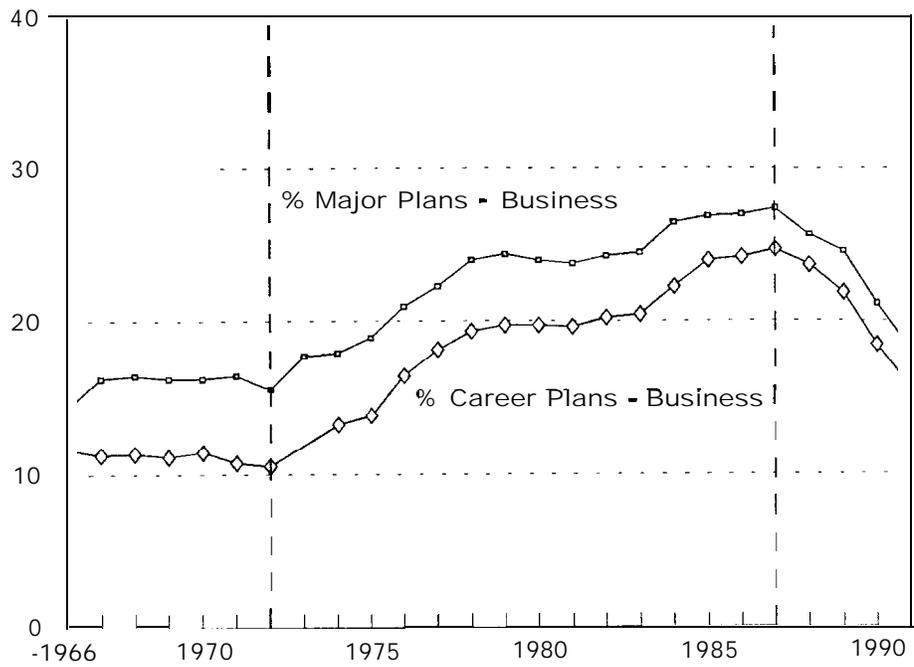


Figure 2: Percent of College Freshmen with a Probable Major in Business 1966-1987 and Business Share of All Bachelor's Degrees Four Years Later

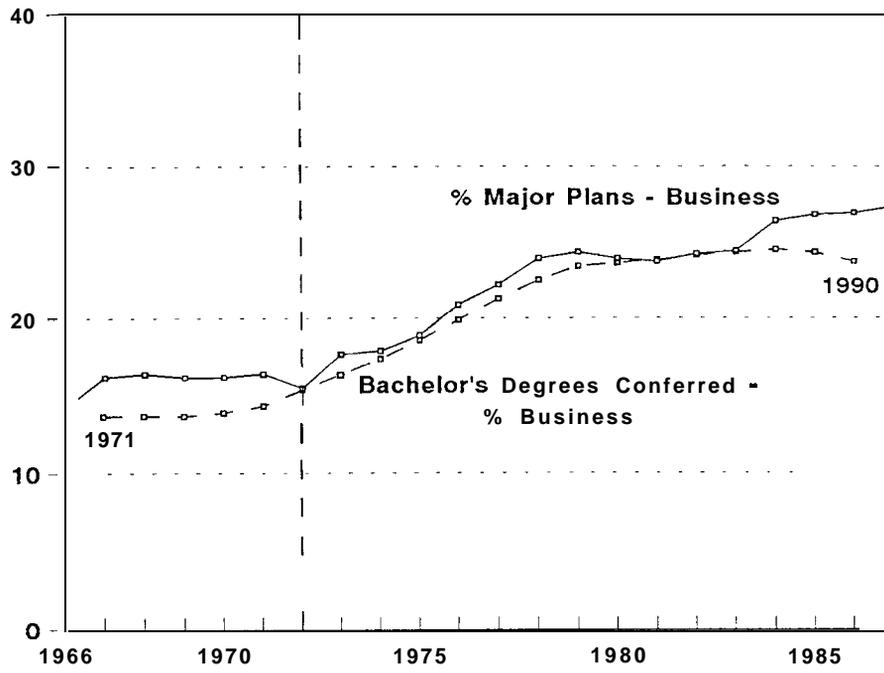


Figure 3: Percent of College Freshmen with a Probable Career in Engineering and Indicators of Returns to Engineering or College Education, 1966-1990

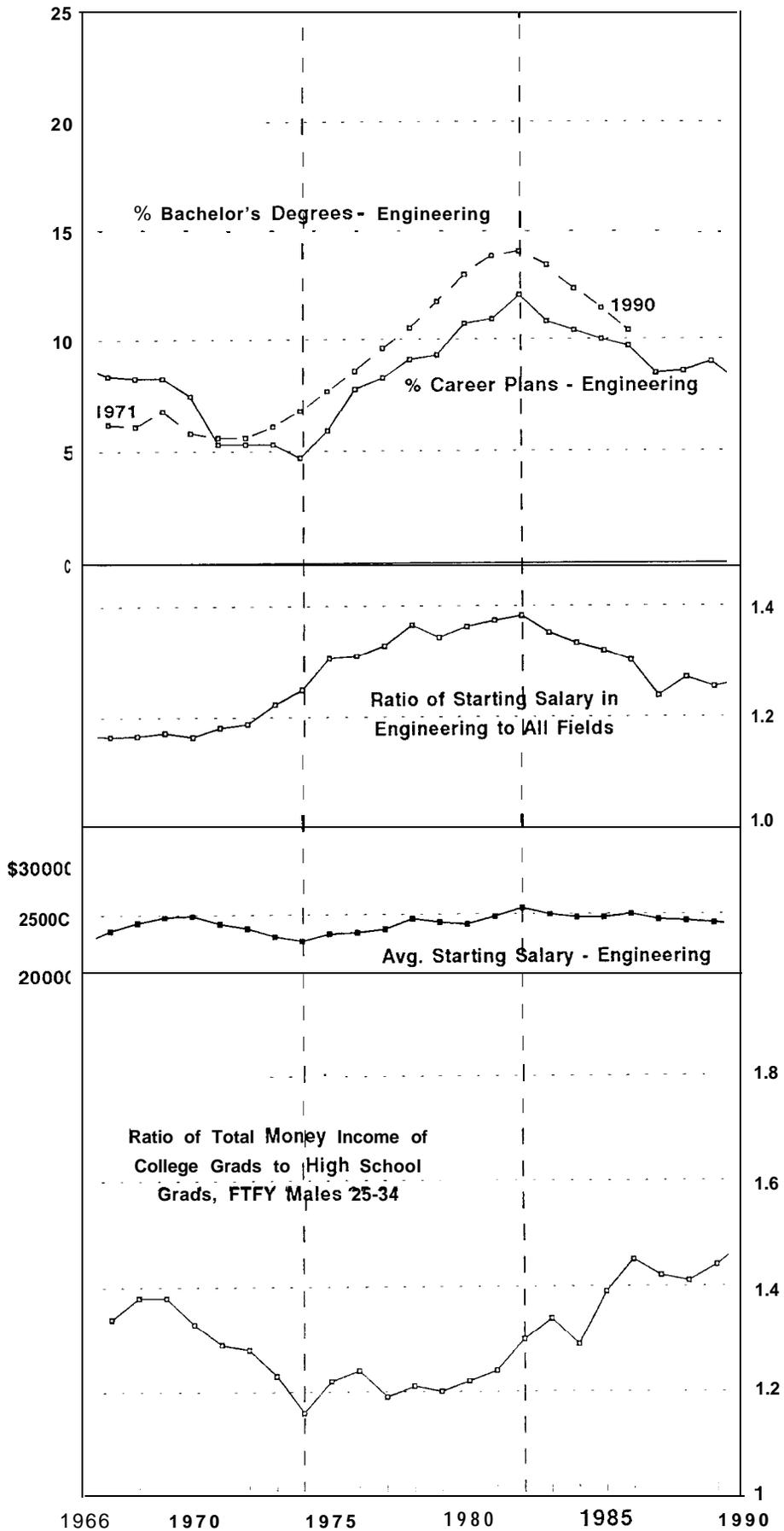


Figure 4: Percent of College Freshmen with a Probable Career in Education and indicators of Returns to Teaching or College Education, 1975-1990

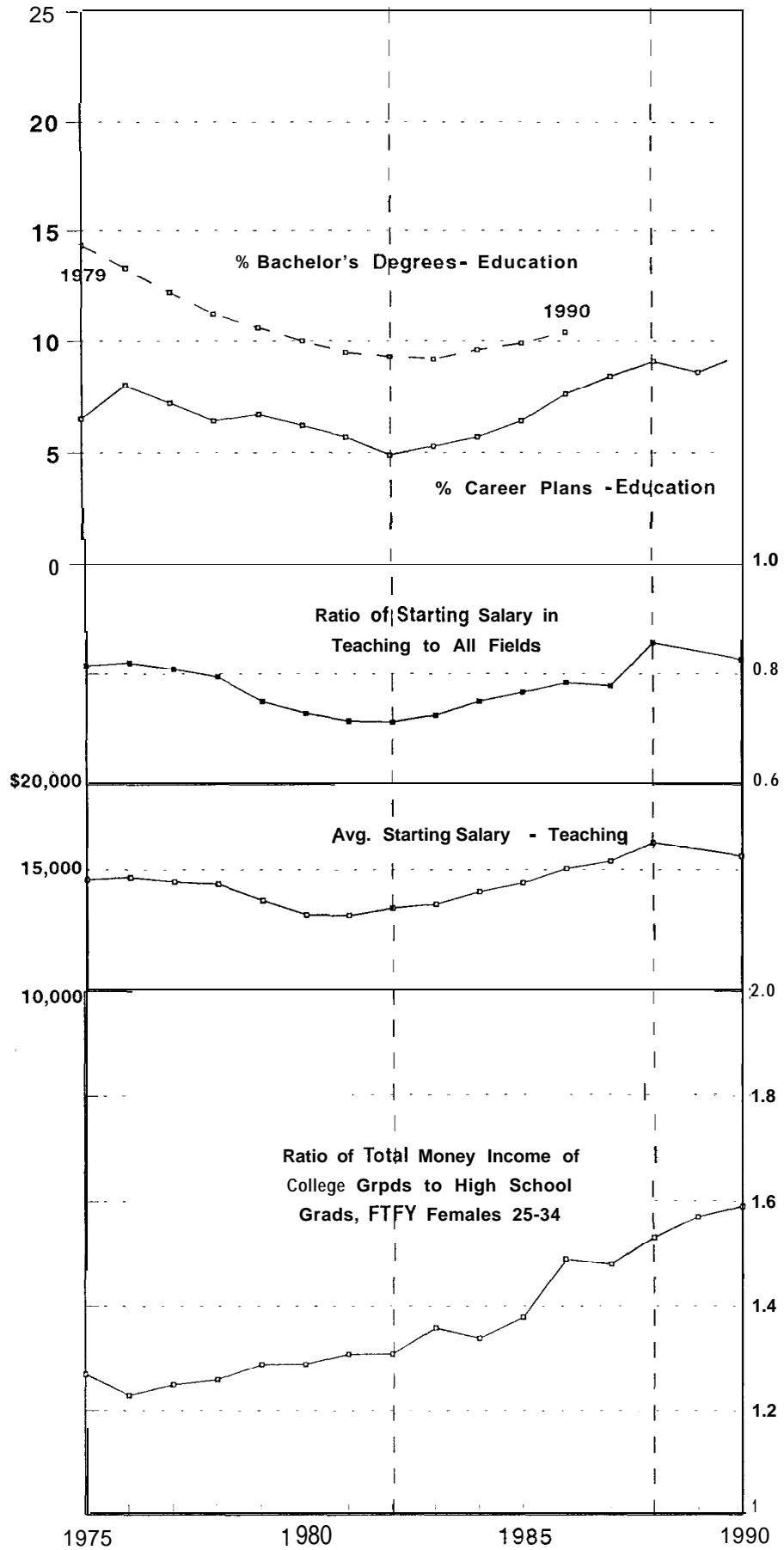


Figure 5: Percent of College Freshmen with a Probable Career in Business and Indicators of Returns to Business or College Education, 1966-1990

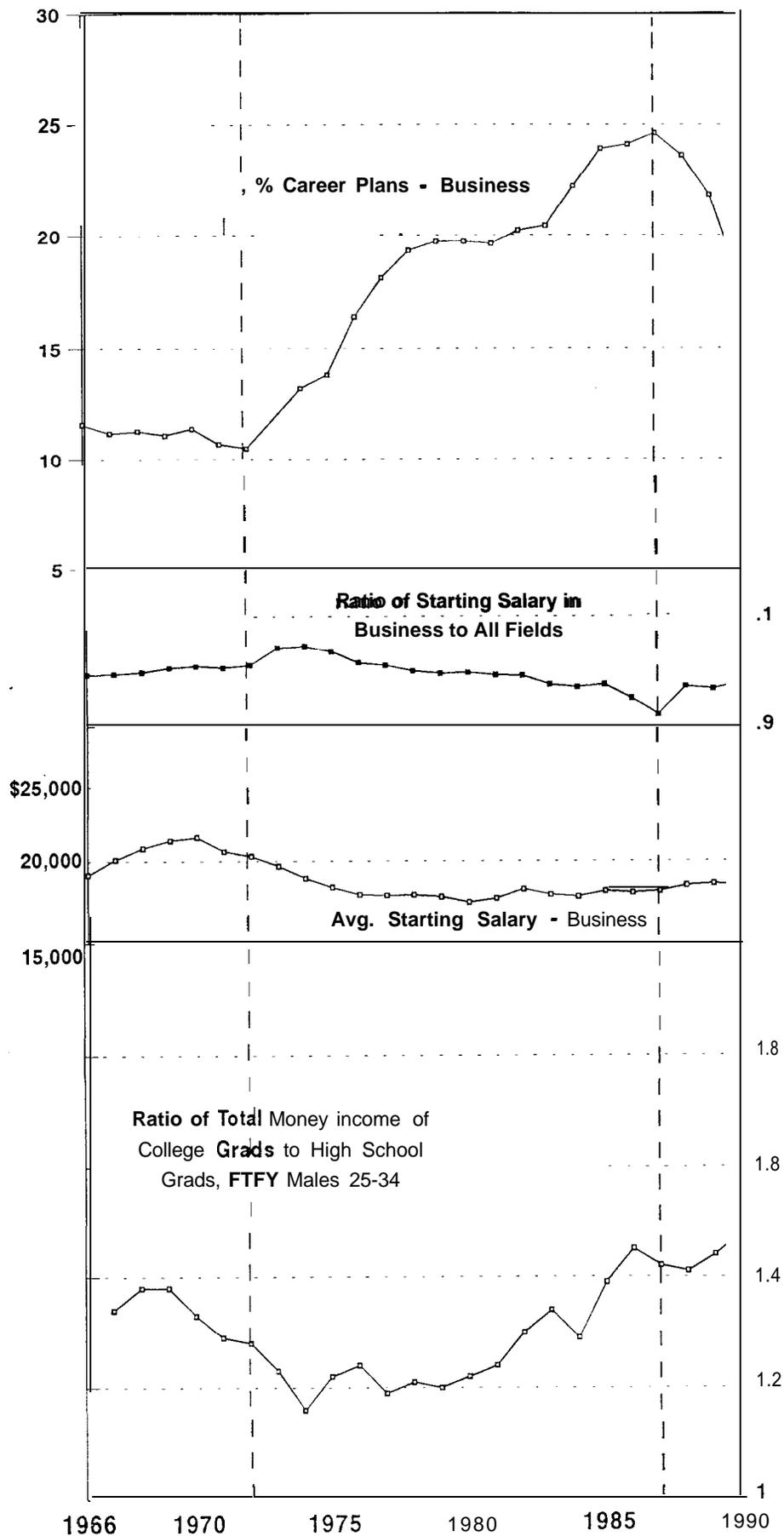


Table 1  
Business Jobs as Share of All College Jobs, 1968-1992

Year	Percent business	Year	Percent business
1968	46.1	1981	43.6
1969	45.4	1982	43.2
1970	45.9	1983	40.2
1971	44.8	1984	40.8
1972	42.0	1985	42.2
1973	43.3	1986	41.9
1974	43.5	1987	42.1
1975	42.5	1988	42.7
1976	42.2	1989	43.5
1977	42.5	1990	42.8
1978	43.8	1991	43.1
1979	42.8	1992	42.6
1980	42.7		

Table 2  
 Projected Change in Business Jobs as Share of All College Jobs, 1969-1991

(1)	(2) Projection period		(4) Percent business		(6)
Publication date of projection	Base year	Projection year	Base year	Projection year	Change (5)-(4) % points
1969	1960	1975	48.6	41.1	-7.5
1971	1970	1980	42.5	38.0	-4.5
1973	1972	1980	41.2	40.1	-1.1
1973	1972	1985	41.2	38.0	-3.2
1976	1974	1985	41.9	40.4	-1.5
1981	1978	1990	36.1	34.5	-1.6
1983	1982	1995	36.6	36.0	-0.6
1985 <sup>a</sup>	1984	1995	46.9	46.9	0
1987 <sup>a</sup>	1986	2000	44.0	44.2	0.2
1989 <sup>a</sup>	1988	2000	45.1	44.8	-0.3
1991 <sup>a</sup>	1990	2005	44.2	43.2	-1.0

a. New occupational classification.

Table 3  
 Percent Distribution of Career Plans of All Freshmen  
 and Those with Strong Aspirations to Make Money, 1977

Career	(1) All freshmen	(2) Being well off financially is essential or very important	(3) (2) - (1)
All occupations	100.0	100.0	0.0
Businessman	15.3	20.8	5.5
Engineer	8.1	10.2	2.1
Programmer	1.6	2.3	0.6
Farmer	1.9	1.5	-0.3
Protective Service	2.6	2.7	0.1
Doctor	6.1	5.6	-0.5
Nurse	2.8	2.9	0.0
Health Prof.	6.1	6.1	0.0
Prim. Educ.	3.7	3.0	-0.7
Sec. Educ.	3.4	2.9	-0.5
Artist	9.7	6.7	-3.1
Architect	1.4	1.5	0.0
College Teacher	0.4	0.3	-0.1
Clergyman	0.6	0.1	-0.4
Lawyer	7.1	6.6	-0.5
Foreign Service	0.8	0.6	-0.2
Social Worker	2.4	1.7	-0.7
Psychologist	1.3	1.0	-0.3
Researcher	2.9	2.2	-0.8
Other Career	5.5	5.3	-0.2
Undecided	9.2	9.2	-0.0
Missing	7.0	6.8	-0.2

Note: Detail does not add exactly, because of rounding.

Figure 6: Percent of College Freshmen Planning a Business Career and Percent that Consider Being Well Off Financially Essential of Very Important, 1966-1991

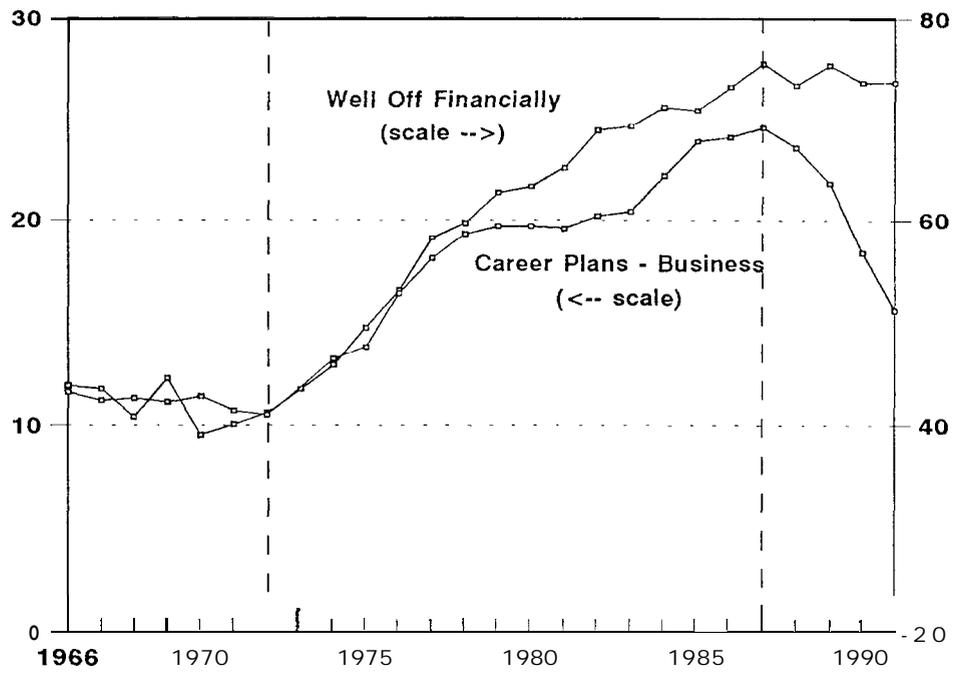


Table 4  
 Life Goals, Job Preferences, and Job Expectations of High School Seniors,  
 by Plans to Attend Four Year College, 1976 and 1987  
 (percent)

	1976		1987		Change, 1976-1987	
	College plans	No college plans	College plans	No college plans	College plans	No college plans
1. Life goals: having lots of money	43.1	45.0	62.6	64.6	19.5	19.4
2. Preferred job characteristics: a job which provides you with a chance to earn a good deal of money	40.8	51.3	55.0	64.3	14.2	13.0
3. Job expectations, age 30: business	10.6	6.4	23.0	14.2	12.4	7.8

Note: The questions read as follows, with the response categories in parentheses (the categories used above are underlined where appropriate).

A. How important is each of the following to you in your life? (Not important, Somewhat important, Quite important, Extremely important)

B. Different people may look for different things in their work. (Below is a list of some of these things. Please read each one of these things.) Then indicate how important this thing is for you: Not important, A little important, Pretty important, Very important.

C. What kind of work do you think you will be doing when you are 30 years old? Response categories include 14 occupational categories and full-time homemaker or housewife. Business jobs are the sum of three response categories: owner of small business, sales representative, and manager or administrator.

Figure 7: Percent of College Freshmen with a Probable Career in Business, by Gender, 1966-1992

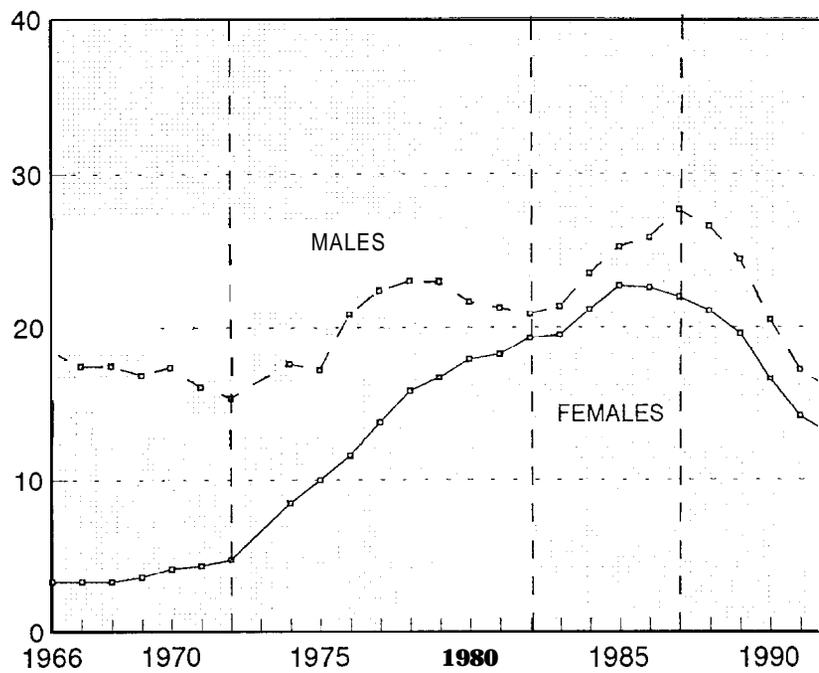


Figure 8: Percent of College Freshmen that Consider Being Well Off Financially Essential or Very Important, by Gender, 1966-1992

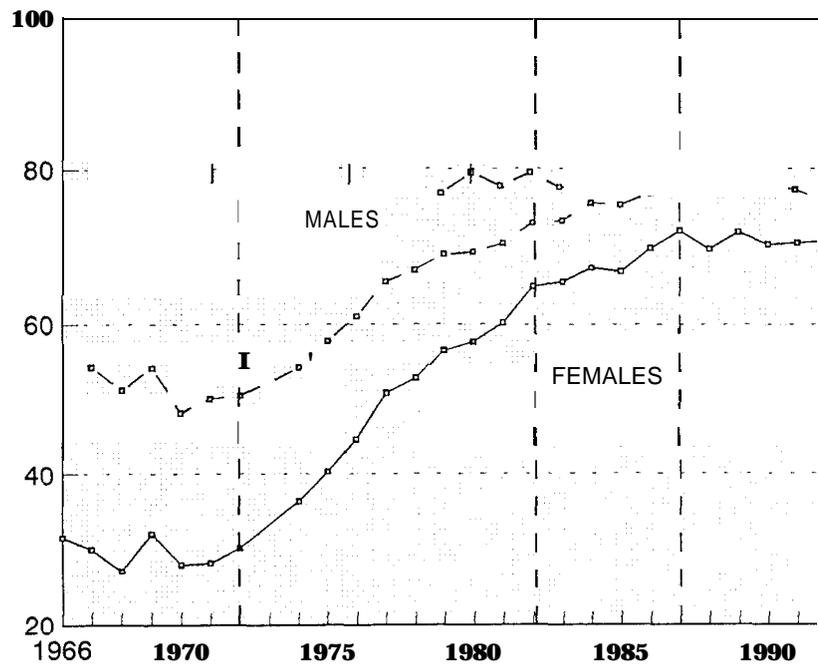


Figure 9: Percent of Males with a Probable Career in Engineering and Percent of Females with a Probable Career in Education, 1966-1992

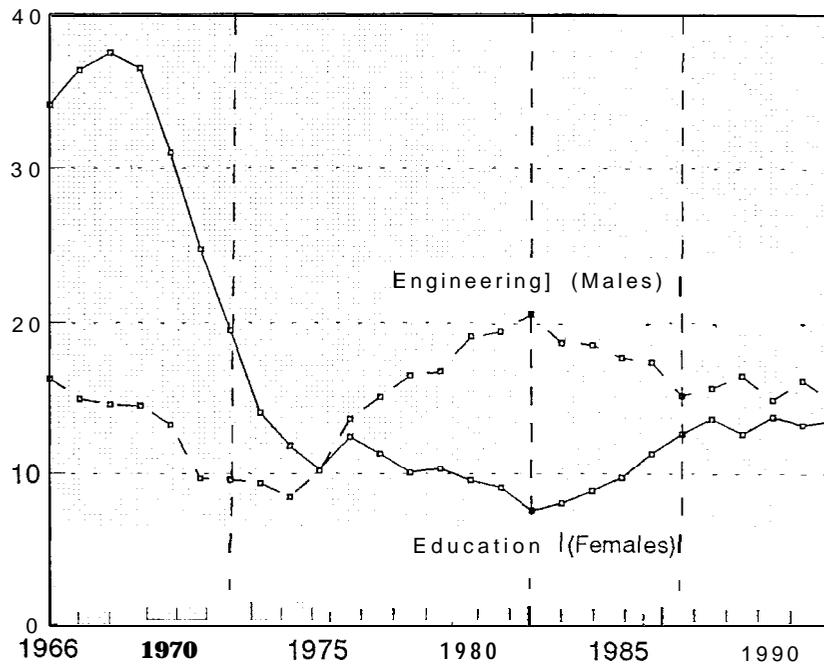


Figure 10: Freshmen Aspirations to Make Money 1966-1991 and Adults' Dissatisfaction with Financial Situation and Economic Condition Five Years Earlier

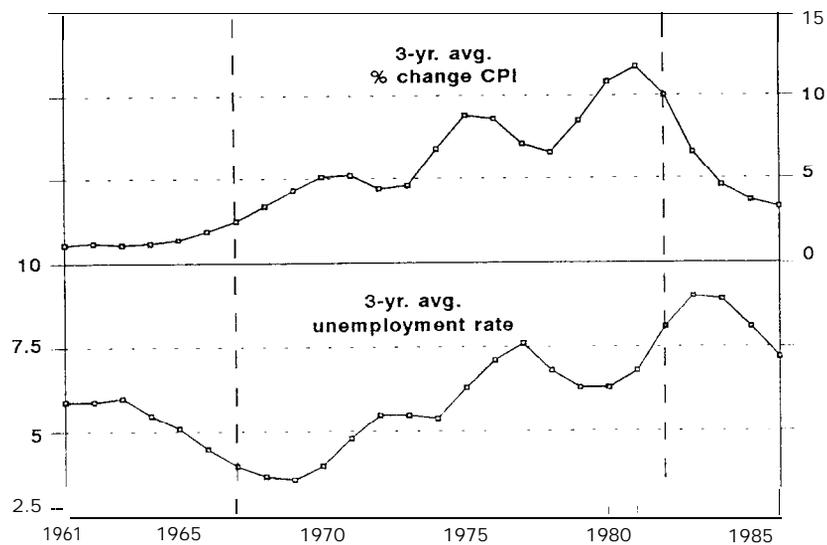
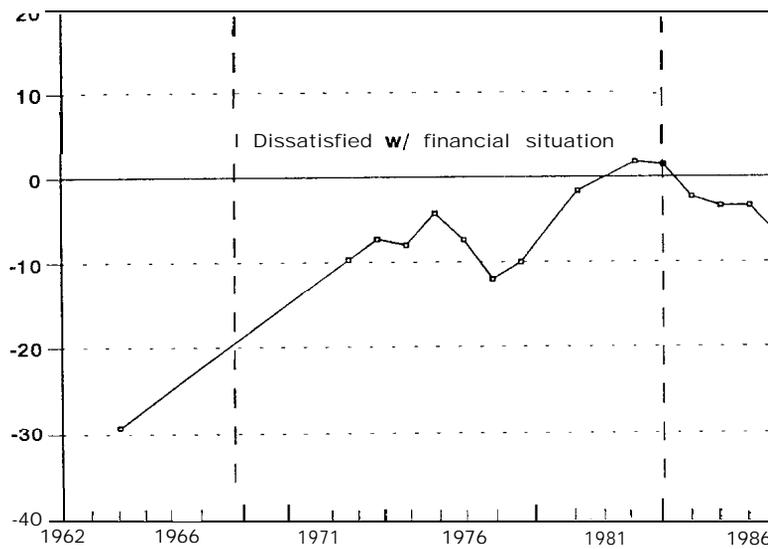
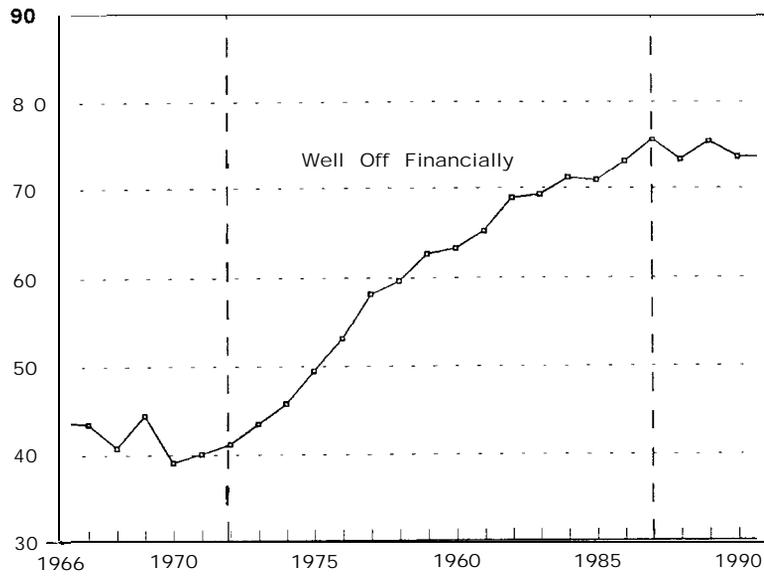


Figure 11: High School Seniors' Concern about  
Emphasis on Profit Making, 1976-1989

