

Greed, Altruism, and the Gender Wage Gap ¹

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Abstract

Using two single-cohort longitudinal surveys, the NLS72 and the NELS88, I investigate the impact of greed, ambition, leadership, altruism, gender role attitudes, family values and income expectations on the gender wage gap. Appealing to a hedonic wage function framework, I find that in the NLS72, gender differences in these values and linked behaviors account for a share of the gender wage gap that exceeds (is comparable) in 1979 (in 1986) the share attributable to gender differences in labor market experience and job tenure. In the NELS88, gender differences in work values have closed substantially. Thus in 2000, gender differences in income expectations, which are significantly linked to greed, become the most important soft explanatory factor of the gender gap in pay. Methodologically, this paper proposes a correction to the Oaxaca-Blinder-Ransom decomposition that results in a truly decomposable approach compatible with the simple pooled regression that includes a gender dummy.

Keywords: Altruism, income expectations, gender wage gap, regression-compatible Oaxaca-Blinder decomposition.

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1. INTRODUCTION

After spectacular gains in the 1970s and 1980s, the gender wage gap has shown slower progress during the 1990s (O’Neill (2003); Blau and Kahn (2004)). Given the realized promises of the 1980s that convergence in human capital (O’Neill and Polachek (1993), O’Neill (2003)) would be key to the closing of the gender pay gap, this stagnation was disappointing. In the 1980s and 1990s, dramatic increases in educational attainment among younger cohorts allowed women to enter professions, especially managerial professions, previously dominated by men. These gains were concurrent with increases in labor market experience among older cohorts, which also contributed to the narrowing of gender gap (Blau and Kahn (2000)). Thus perhaps unsurprisingly, Blau and Kahn (2004) attribute the 1990s slowdown in the gender convergence in pay to factors, other than human capital, that contributed to changes in the unexplained gender pay gap. These factors include changes in labor market selectivity, changes in gender differences in unmeasured characteristics and labor market discrimination, as well as less favorable supply and demand shifts. Here, the analysis attempts to move some of these unmeasured characteristics into the measurable dimension.²

This paper explores the impact of “soft factors” such greed, ambition, altruism, gender role attitudes, family values, and income expectations on the gender pay gap in 1979, 1986 and 2000. I utilized two widely used high school-cohort surveys: the National Longitudinal Study of the High School Class of 1972 (NLS72) and the National Education Longitudinal Study of 1988/94 (NELS88). The longitudinal aspect of these surveys allows me to capture pre-market characteristics and circumvents problems associated with ex-post rationalization.

Perhaps implicit in the promise that the gender convergence in pay was dependent on the convergence in human capital, was the idea that as women would become more like men they would reap the same labor market rewards. I thus study the impact of gender differences in work values, some of which have been changing over time, some of which are more stable, on the gender wage gap. Consistent with the traditional roles of men as “breadwinners”, responsible for the financial welfare of the family, and of women as “homemakers” or “caregivers”, entrusted with the care of children and the support of relationships, I pay special attention to gender

²Much recent research on the gender pay gap has also focused on the impact of labor market selectivity, an issue outside of the scope of the present paper.

differentials in valuing money and people: these qualities are more vividly called “greed” and “altruism”. There is ample anecdotal evidence to the effect that women give greater importance in their choice of job to its value to society than men, who tend to value money more, but few studies investigate this path directly.³

I also analyze the impact of non-cognitive traits such as ambition, leadership (Kuhn and Weinberger (2002)) and its antithesis, the external locus of control (Goldsmith, Veum, and Darity (1997)). I include direct opinions on gender role attitudes, which have been shown to have an important impact of women’s labor market outcomes across countries (Fortin (2005), Azmat, Gnell, and Manning (2004)). Finally, following-up on suggestions (Blau and Ferber (1991), Ichino and Filippin (2005)) that expectations about future wages may capture anticipated work commitments and career prospects, I include those in the analysis. Income expectations also speak to another gender difference in “soft skills” that has attracted attention recently: the so-called negotiating divide (Babcock and Laschever (2003), Sæve-Søederbergh (2003)).

I first show that the individual attitudes towards greed, ambition, leadership, altruism, gender roles, and family values have behavioral implications of the expected signs on promotions (or training for career advancement), volunteering in either philanthropic (hospitals, youth organization, etc.) or leadership organizations (sports teams, rotary club, etc.) among men and women, and on the incidence of working part-time or long maternal leave (or the number of dependents) among women. Second, I assess the importance of these traits on wages, within a hedonic wage function framework, and of gender differentials in these attitudes on the mean gender wage gap.

Because of the nature of the “soft factors”, I cannot claim to identify the “causal” effects of these factors on wages, rather I am interested in their impact as omitted variables on potential biases in the gender dummy of a standard wage regression.⁴ I introduce a correction to the Blinder-Oaxaca-Ransom wage gap decomposition that makes it fully compatible with the simple pooled regression that includes a gender dummy, and for which standard errors are

³Chevalier (2004) investigates the impact of this gender difference on the gender wage gap in the United Kingdom. He considers the 1996 cohort of U.K graduates and includes fields of study. Filer (1986) evaluates the impact of various personality traits and job characteristics, including “contribution of job to society”, on occupational structure.

⁴To simplify the exposition, at times the word “effect” or “impact” are used when what is estimated is merely a partial correlation.

easily computed. The correction also solves the problems resulting for the choice of the non-discriminatory wage structure (Oaxaca and Ransom (1994)) and includes recent propositions (Gardeazabal and Ugidos (2004)) to correct the identification problem caused by the left-out reference group, acknowledged in Oaxaca and Ransom (1999).

The main finding of the paper of a substantial role in the NLS72 for gender differences in values and linked behaviors to account for the gender wage gap; that role exceeds (is comparable) in magnitude to that of gender differences in labor market experience and job tenure in 1979 (in 1986). In the NELS88, with gender differences in work values having closed substantially, the “soft factor” that plays the largest role in accounting for the gender wage gap in 2000, is gender differences in income expectations, which are themselves significantly linked to greed. Like others (Blau and Kahn (2004)), I however find little decline in the unexplained part of the gender wage gap which remains sizeable.

The remainder of the paper is organized as follows. The next section reviews the literature on gender differences in values and presents a hedonic wage function framework in which “soft” factors are thought to influence wages. Section 3 addresses detailed data issues and attempts to empirically validate the content of the soft information. Section 4 presents the update on the Oaxaca-Blinder-Ransom methodology, and the wage regression and decomposition results are discussed in section 5. Finally, I conclude with a review of the findings in section 6.

2. THE INFLUENCE OF VALUES ON ECONOMIC BEHAVIOR

Historically gender differences in work values, which were perceived as a rationalization for occupational gender segregation, have been de-emphasized in the sociological literature (Bielby and Bielby (1984); Rowe and Snizek (1995)). More recently, in an effort to account for the unexplained part of the gender pay gap and increasing returns to unobserved skills, there has been a renewed interest in economics for “soft skills” and “fuzzy variables”.

Experimental studies in behavioral economics have noted important differences between men and women in individual attitudes towards altruism and greed (Andreoni and Vesterlund 2001), leadership and competitiveness (Gneezy, Niederle, and Rustichini 2003). Empirical studies have found a substantial impact of these and related traits on wages. Kuhn and Weinberger (2002) find sizeable positive returns, among white males, to leadership skills ranging from 4 to 24

percent and an even larger impact for workers in managerial occupations. Borghans, ter Weel, and Weinberg (2005) focus on the importance of interpersonal interactions, per se, which they model in a reduced form approach using altruism. They find that the growth rate of the importance of interpersonal interactions in the labor market seems consistent with the pattern of changes in the U.S. gender wage gap, including the slowdown in convergence since the mid-1990s.

Here, while controlling for leadership skills, I attempt to evaluate another dimension of altruism that goes beyond interpersonal skills: that is, the importance of a job usefulness to others or society. Folbre and Nelson (2000) have long lamented about the transformation of women's traditional intimate tasks in the care of children and the elderly into "paid child care, nursing homes for the elderly, talk therapy and phone sex," as the marketization of altruistic behavior. Yet, this marketization is incomplete to the extent that many more women than men choose lines of work, such as education and health care, where they perform many tasks for the love of others and reap lower market rewards working for public and non-profit organizations, as seen below.⁵ Women are also more likely than men to use their time to volunteer in organizations with some altruistic purpose, such as schools, religious organizations and hospitals. On the other hand, men are more likely to volunteer as coaches in youth sports teams, in unions, professional organizations, social and political clubs, where they can use and perfect leadership skills. Indeed, Day and Devlin (1998) using Canadian data, found positive labor market returns to volunteering in sports (coaching) and economic interest organizations, but negative labor market returns to volunteering in religious organizations.

Another trait in the leadership spectrum is the "belief in the just world" hypothesis (Alesina and Angeletos (2005)) and its antithesis "external locus of control", that is a belief that one's outcomes are controlled more by external forces than by internal forces (or that chance and luck are more important for success than one's own efforts). Psychologists believe that work effort reflects motivation, which is governed by this feature of personality. Waddell (2006) using the NLS72 and Coleman and DeLeire (2003) using the NELS88, find that negative attitude and an

⁵It is not at all clear that the complete marketization is desirable. Most people would agree that something is lost in the marketization of sexual relations as in the sex industry. At issue is whether men will become more like women on this "usefulness to others" dimension, as found across birth cohorts in the European Value Survey (Fortin 2005).

external locus of control are associated with lower investment in human capital, among other negative indicators of future labor market performance. Here an external locus of control is interpreted as an inability to plan, take control or assume responsibility.

Another channel through which women's greater involvement in homemaking and child rearing might result in relatively lower wages for them is through women's expectations about future wages. Realized wages are affected by investments in human capital and costly signals concerning productivity, which workers undertake on the basis of expectations about future job prospects (Breen and Garcia-Penalosa (2000)). Blau and Ferber (1991) using a sample of U.S. college business school seniors, found that women expected much lower earnings growth than their anticipated labor market intermittency would have predicted. On the other hand, Ichino and Filippin (2005) using data collected from students and graduates of Bocconi University in Italy identify a misperception about the gender pay gap ten years after graduation: students expect a roughly constant gender pay gap, whereas in reality it increases with experience. Furthermore, according to the negotiating divide hypothesis (Babcock and Laschever (2003)), women may have less of a sense of entitlement to higher wages and are less likely to initiate negotiation or bargain. Sæve-Söderbergh (2003) indeed finds that not only were Swedish female university graduates asking for lower wages, but they were also receiving lower counter-offers.⁶ Here, expectations at age 18 of earned income at age 30 are used to account for workers anticipated work effort and subsequent wage demands.

Finally, the sociological literature has long given heed to the sources and evolution of gender role attitudes and their consequences not only for family formation and fertility, but also for labor market outcomes (Thornton, Alwin, and Camburn (1983)). In the economics literature, Vella (1994) finds an important impact of women's traditional attitudes on human capital investment and labor supply of women in Australia. Here, traditional attitudes are used to capture taste for homemaking while equalitarian views capture tastes for market competitiveness.

Work values and attitudes are thought to impact wages through an hedonic wage function resulting from a matching equilibrium between the employers' wage and amenity offers, and the workers' utility maximizing choices of job characteristics, as in Rosen (1974). The

⁶Sæve-Söderbergh (2003) studies the wage bids and wage offers of university graduates in the fields of law, business administration and economics, computer and systems science, personnel management or social science.

worker/consumer i maximizes utility over wages, effort and responsibility, and altruistic rewards

$$U_i = U_i(W_i, R_i, A_i), \quad (1)$$

where W_i is the wage rate, R_i is the level of effort and responsibility exerted by the worker/consumer, and A_i is the level of altruistic rewards (usefulness to others and society), which is derived from both market and non-market activities: $A_i = A_i^M + A_i^H$. The marginal utility of wages and altruistic rewards is positive, but its sign with respect to effort and responsibility is ambiguous. To the extent that leadership and competitiveness denote different flavors of effort, one can see those as positively linked to utility, but when effort and responsibility exceed some threshold they entail a disutility.

Following Becker (1985) who argues that there is a limited amount of time and energy to be split between market work and homemaking, I assume that there is a total amount of effort and responsibility that an individual can devote to either market or non-market activities, $R_i = R_i^M + R_i^H \leq \bar{R}_i^T$, where \bar{R}_i^T denotes to the total amount available, fixed for each individual, and R_i^H denotes the amount of effort and responsibility allocated to non-market activities, like household work and volunteering activities. To the extent that women carry the double-shift of housework and market work more than men do, this imply that the marginal utility (disutility) of market effort and responsibility is greater(less) for men than for women, $\partial U_{im}/\partial R_{im}^M > \partial U_{if}/\partial R_{if}^M$, and more generally for individuals who value homemaking and volunteering more than others. Working women with a greater taste for homemaking and childrearing, R_i^H , would be more likely to work part-time, for example.

The utility function of individuals for whom feelings of “usefulness of a job to others and society” are more important relative to financial rewards (greediness) will be characterized by a greater marginal rate of substitution between the altruistic rewards and wages than other workers. To the extent this trait characterizes women more than men:

$$\frac{\partial U_{if}}{\partial W_{if}} / \frac{\partial U_{if}}{\partial A_{if}} > \frac{\partial U_{im}}{\partial W_{im}} / \frac{\partial U_{im}}{\partial A_{im}}. \quad (2)$$

For these individuals, working for philanthropic non-profit organizations can take place at a

wage cost.⁷ Alternatively, individuals could accept a job with lower altruistic rewards and lower effort, but volunteer in altruistic organizations or become a part-time caregiver at home.⁸ Because of the quantity constraint on effort and responsibility, when the worker/consumer chooses a job vector (W_i^*, R_i^M, A_i^M) to maximize his/her utility, he/she simultaneously chooses a level of non-market effort and responsibility, $R_i^H = \bar{R}_i^T - R_i^M$. These potential utility maximizing choices generate a job demand locus $\theta_i(W, R^M, A^M)$.

As elements of the utility function, greed, ambition, altruism and related values may have direct implications for many types of behaviors, such as seeking promotions, volunteering in altruistic organizations or in leadership organizations. I investigate these effects below to ascertain whether the responses to the survey questions carry any weight in terms of actual behaviors. Among women, I study the impact of these values on part-time work, length of maternal leave or number of dependents.

The employers' wage and altruistic amenities offers are not necessarily provided in a competitive environment. "Usefulness to others and society" in fact, often characterizes the offering of services with a public good component, such as education and health care, which are generally either publicly provided or provided by non-profit organizations (such as hospitals). Yet these employers are thought to be cost minimizers, so that optimizing behavior generates an offer function, $\phi(W, R^M, A^M)$, indicating unit prices that employers are willing to pay on various combinations of wage, effort and altruistic amenities.⁹ Because it is time-consuming, the altruistic amenity is by definition costly to provide.¹⁰ It is assumed that employers pay higher wages for higher levels of effort and responsibility.

Subsumed in the worker/consumer job demand functions and the employers' offer functions are the human capital variables which are thought to help eliminate multiple equilibria.¹¹ I circumvent the identification problems (Ekeland, Heckman, and Nesheim (2004)) associated

⁷As found below, in the NELS88, 11.7 percent of women work for non-profit organizations by contrast with 4.4 percent of men.

⁸In the NLS72, information about wage and volunteering is available contemporaneously. In the NELS88, information about the volunteering information is anterior to the wage information.

⁹To the extent that some employers (e.g. hospitals) are exert monopsony power in some markets for altruistic jobs (e.g. nursing), the offer functions cannot be seen as perfectly competitive outcomes.

¹⁰For example, smaller classes are more rewarding to teach.

¹¹I could have more explicitly conditioned the utility function on the human capital variables $U_i(W_i, R_i, A_i|S_i, E_i)$.

with hedonic wage functions by including information on usually unobserved tastes for job characteristics. I simply assume that one equilibrium is realized in the data and seek to broadly identify preferences from value statements and reported behaviors in a reduced-form approach.¹² In the equilibrium assignment, we thus find a wage equation,

$$W_i = g(S_i, E_i) + h(R_i^M) + t(A_i^M). \quad (3)$$

where in addition the usual human capital component, $g(S_i, E_i)$, with S_i denoting schooling and E_i labor market experience, there is a component that rewards effort and responsibility $h(R_i^M)$ and another one that taxes altruistic amenities $t(A_i^M)$.

My aim is first to evaluate the extent to which work values and gender role attitudes as preference parameters exert an important impact on economic behavior, and then to assess their impact of wages, as well as the impact of gender differentials in these values on the gender pay gap.

3. DATA AND DESCRIPTIVE STATISTICS

To avoid potential endogeneity problems or problems of ex post rationalization, I appeal to two single-cohort longitudinal surveys conducted by the National Center for Education Statistics (NCES) to study education issues. The National Longitudinal Study of the High School Class of 1972 (NLS72) known as the grandmother of educational longitudinal surveys, is widely used (Adelman (1994)) outside of the education field. For example Brown and Corcoran (1997) use it, in conjunction with the SIPP, to study the impact of gender differences in the field of the highest degree on the gender wage gap.¹³ The NLS72 interviewed students in their senior year of high school in the spring of 1972, with follow-up surveys conducted in 1973, 1974, 1976, 1979, and finally in 1986. While the sample is not fully nationally representative because it ignores students who dropped out before grade 12, Krueger and Dale (2002) argue that it is representative for college graduates.

¹²I use multiple “direct” measures on an attribute such as altruism, along with indirect (revealed behavior) measures.

¹³Here I omit field of study because it is missing for a sizeable portion (more than a quarter) of the sample.

The NLS72 contains answers to many questions on what is important in life and in selecting a career, in particular on the importance of “making lots of money” and “helping others”, as well as locus of control questions. Many of these questions are asked repeatedly in each follow-up, which enhances their reliability. In the fourth follow-up, there are also questions about gender role attitudes. Because of the longitudinal aspect of the survey, it is possible to use values expressed in a time period that precedes the behavior of interest. For example, I can investigate whether stating at age 18 that “*Opportunities to be helpful to others or useful to society*” is very important in selecting a career has any influence on volunteering in altruistic organizations at age 32. Wage information was recorded in the fourth follow-up in 1979, when most respondents were age 25, and in the fifth follow-up in 1986, when most respondents were age 32.¹⁴ Note that in 1986 more respondents were likely to have completed their studies and there was more time for labor market experience to have an effect.

The National Education Longitudinal Study of 1988/94 (NELS88) interviewed students in eight grade in the spring of 1988. A sample of these respondents was then resurveyed through four follow-ups in 1990, 1992, 1994, and 2000, and a refreshed sample was added in the 1990 and 1992 waves to ensure a representative sample of high school sophomores and seniors in those years. The wage data was recorded in 2000 when most respondents were age 24, which leaves little time for labor market intermittency to have an effect. I also use data on expected income at age 30 which was asked in the third follow-up, when most respondents were age 18. To enhance the comparability between the two samples, I select only respondents from the NELS88 who reached the 12th grade. The NELS88 was explicitly administered with the intent of maintaining comparability with the NLS72, so the major components of the two studies are very similar, but the questions on gender role attitudes are absent in the NELS88.

Being very detailed and complex also means that these longitudinal surveys are at times difficult to code. In particular, there is detailed information about employment and unemployment spells, which are used to construct an actual work experience variable, but it is not straightforward to code.¹⁵ I retain individuals from the NLS72 (NELS88) who were working in

¹⁴Industry was not recorded for the 1979 wage data.

¹⁵In the NLS-72, the information on these spells from October 1972 to October 1979 is available in the first to the fourth follow-up. The information from October 1979 to July 1986 is available in terms of spells of employment for up to four jobs and unemployment for up to eight spells, thus individuals

1979 or in 1986 (2000) and that have valid information on wage, occupation and industry.¹⁶

The means of the human capital variables and other individual characteristics are reported separately by gender for each time period in appendix Table A1. They show that when women are in their mid-20s, their educational attainment is higher than men (both in the NLS72 and NELS88), but by their early 30's, more men than women have a post-graduate degree. In these single cohorts of young workers, the differences in the labor market experience of women and men are very small. There is thus limited scope for labor market intermittency to account for a large share of the gender wage gap. This contrasts with the recent work of O'Neill and O'Neill (2005) where differences in labor market experience and work interruptions for family reasons are found to account for more than half of the gender wage gap. In both samples, women were more likely to work part-time than men, although in 2000 the differential was much smaller.

The descriptive statistics on the various values and gender role attitudes are reported in Tables 1 and 2, and Tables 3 and 4 show the impact of these variables on various behaviors. First, Table 1 reports the gender differences in values "very important" in selecting a career at age 18 in panel A, and on agreement with gender roles attitudes at age 25 in panel B among 1986 workers from the NLS72. A first striking difference between men and women in the upper panel is an eight percentage points difference in favor of men in the importance of "*Making a lot of money*", a difference that speaks to the issue of greediness. As shown in Table 2 below, these differences are magnified over time in this survey. A second striking gender difference is the 17-18 percentage points difference in favor of women in the importance of "*Opportunities to be helpful to others or useful to society*" or "*Opportunities to work with people rather than things*", a difference that speaks to the higher value women place on the altruistic and/or social aspect of work. Finally, a third difference that will prove even more important in terms of explaining the gender wage gap is the close to 10 percentage points gender difference in favor of men in the importance of "*The chance to be a leader*" in selecting a career.

Interestingly, these early responses in 1972 will prove to have sizeable explanatory power with more than eight spells of unemployment were excluded. In the NELS88, detailed labor force status by month is available from June 1990 to August 1994. In 1997, 1998 and 1999, only information on whether the respondent was unemployed for more than 6 months was available.

¹⁶I retain only individuals whose wage was between \$1.50 and \$150 in 1986, and the equivalent in 1979 and 2000. In NELS88, I also exclude individuals with missing values of expected income at age 30.

on the gender wage gap in 1979 and 1986. Unfortunately, there are no equivalent questions in the NELS88. Given the importance of leadership as a non-cognitive skill in a wage regression, I use as proxy for that skill in the NELS88, the answer “very” to the question “*Do you think other students see you as part of the leading crowd?*” in the first follow-up, when most respondents were age 14, which was echoed by 13 percent of the sample.¹⁷ It is clearly an imperfect proxy since it may capture all forms of leadership rather than leadership in one’s career. I also use a variable that is the antithesis of leadership. This variable is constructed by averaging answers to the questions typically used (Coleman and DeLeire 2003) to construct an “external locus of control variable”: that is, “agreement” or “strong agreement” with “*In my life, good luck is more important than hard work for success*”, “*Every time I try to get ahead, something or somebody stops me*”, “*My plans hardly ever work out, so planning only makes me unhappy*” and “disagreement” or “strong disagreement” with “*When I make plans, I am almost certain I can make them work*”. This Rotter external locus of control variable thus denotes the inability to plan, take control or assume responsibility and applies to 10 percent to 15 percent of respondents.

Panel B of Table 1 displays gender differences in gender role attitudes across men and women from the NLS72 in 1979.¹⁸ The opinions of the respondents on a total of 10 statements pertaining to gender role attitudes were collected in terms of whether they “agreed strongly”, “agreed”, “disagreed” or “disagreed strongly” with the statements. I simply recode the answers with a binary variable reflecting agreement or not.¹⁹ Statements pertaining to traditional gender roles seem to intentionally alternate with equalitarian views towards working women. I thus regroup the statements along these opposite views with two exceptions. In another study (Fortin (2005)), I found that the first statement “*A working mother of pre-school children can be just as good a mother as the woman who doesn’t work*” captures a different issue: the working mother’s guilt. Also I put the last statement “*Men should be given first chance at most jobs because they have the primary responsibility for providing for a family*”, which elicits agreement by almost

¹⁷The recent work of Persico, Postlewaite, and Silverman (2004) supports to the idea of using leadership skills developed in adolescence.

¹⁸These are used only to assess behaviors and wages in the fifth follow-up in 1986.

¹⁹Many of the statements are typical of the ones used to probe gender roles attitudes, as asked in other surveys (e.g. the Australian longitudinal survey Vella (1994), the World Value Surveys (Fortin (2005))).

three quarters of women, in the traditional views category stated in the second part of the sentence. By contrast a related statement “*When jobs are scarce, men should have more right to a job than women*” was agreed to by only 12 percent of American women from the 1952-1957 birth cohorts in the World Value Survey. The last three rows of this lower panel present the average by gender with respect to these synthetic views. While men favor traditional gender roles more than women, the greatest gender differential is found in attitudes towards working mothers. Unsurprisingly, a higher percentage of women than men agree with equalitarian views.

Table 2 reports the percentages of men and women who indicated that various values were “very important” to them in their life in each of the waves where the questions were asked. Following along a row allows one to detect life-cycle effects and consistency of the opinions over time. Comparing the percentages in the top and bottom panels at the same age (1972 and 1994) allows one to detect cohort and time period effects; comparing the percentages in similar time period (1986 and 1990) allows one to detect cohort and age effects. Perhaps the most striking change across cohorts and over time is the reversal in the gender differential with respect to “*Being successful at work*”. In the NLS72, there is a larger percentage of men who state that this work value is very important, in the NELS88, that percentage is larger among women, significantly so in 1994. Given that by then women’s educational attainment has surpassed that of men, it is not too surprising.

Now greed captured by the importance of “*Having lots of money*” displays substantial gender differences ranging from 4.5 to 12 percentage points in the NLS72, and from 16.3 to 6.4 percentage points in the NELS88. Another notable feature is the substantial increase from 21.4 to 30 percentage points in greediness across cohorts for both genders.²⁰ Also revealing are the gender differences in the percentage of workers who never state, over the course of the six interviews from 1974 to 1986 in the NLS72, that “*Having lots of money*” is very important: that percentage is 53.2 percent among men and 70.0 percent among women. Whatever the underlying psychological or sociological factors, there seems to be persistent gender differences in the importance of money, but these differences have decreased across the two cohorts.

The better question to capture the importance of altruism, “*Helping other people in my*

²⁰Data (not shown) from the High School & Beyond (HS&B) surveys indicate that this trend has seen a gradual increase. In 1982, the corresponding percentages (Table 2, row c, columns 5-6) were 27 and 18 among male and female seniors, while in 1984, they were 37 and 22, respectively.

community” as very important in my life, is asked only two times in the NELS88. The gender differentials, around 10 percentage points, are at least as substantial as the greediness differentials. In the NLS72, the corresponding statement “*Being a leader in the community*” mixes leadership and altruistic sentiments and is superseded in terms of explanatory power by the previous questions (Table 1, panel A, rows c and i) on altruism and social aspects of work. However, I use another question linked to family values which asked whether “*Living close to parents and relatives*” is very important in one’s life. There the gender differentials seem to build over the life-cycle with women more likely to prefer living close their parents and relatives than men, when they have young children. The effect of this variable is likely to be less important in the younger NELS88 sample.

A natural channel through which altruism and greed might have an impact on wages is occupational gender segregation. Investigations of these channels have proven not to be as fruitful as hoped for (Filer 1986); there are conflicting ways by which these values impact occupational choice. For example, among women and men of both cohorts, individuals who stated at age 18 that money was very important found themselves in occupations that required shorter schooling time, an impatience effect seemingly superseding the “greediness” effect. Thus for both genders, the importance of money is generally lower among professionals and technicians, than among other occupational groups. The impact of altruism on occupational choice is clearer in the NLS72, but much less in the NELS88. Among women, health care, education and social sciences professionals and technicians report that “*Being helpful to others and society* in selecting a career in the NLS72 and “*Helping others in the community* in the NELS88 is “very important” by almost ten percentage points than workers in the other occupation groups. Among men, the differential is even higher for these professions in the NLS72, but in the NELS88 no clear pattern emerges. Controlling for education may be necessary to tease-out the effect of these attitudes.

In Tables 3 and 4, I investigate whether the above values and attitudes have any predictive power on various behaviors among workers from the NLS72 and the NELS88, respectively. The first two columns of the tables focus on a sample of working women in 1986 using the incidence of part-time work and long maternal leave (NLS72) or number of dependents (NELS88) as dependent variables. Consistent with the hypothesized effects, in both surveys stating that

“Being successful at work” and *“Having lots of money”* is very important in life has a negative and significant effect on the probability of women working part-time.²¹ In the NLS72 (Table 3), holding traditional gender role attitudes has a positive and significant effect on this probability. Again this is consistent with the idea that more traditional and altruistic women allocate less time to market activities. Similarly, I find consistent negative effects of success, money and equalitarian views on long maternal leave. Mother’s guilt is significantly associated with not having taken a long maternal leave. Similarly, in the NELS88 (Table 4), stating that *“Helping other people in my community”* and *“Living close to parents and relatives”* is very important have positive and significant effects on the probability of working part-time.

In the third column, I investigate the impact of values and attitudes among women and men pooled together (including a female dummy) on the incidence of promotions (NLS72) or training for career advancement (NELS88), while controlling for human capital variables. In both surveys, the female dummy is negatively and significantly associated with promotions or career advancement. In the NLS72, the importance of success at work and equalitarian views, which show an acceptance of competition, show a positive association with promotions, while the importance of family has a negative association. In the NELS88, the importance of success at work, helping others and leadership skills are positively associated with the incidence of training for career advancement, while the importance of money and an external locus have a negative association. The results are thus consistent with a positive impact of work motivation on promotions and career advancement.

In the fourth and fifth column, I run the same regressions on the incidence of volunteering in either philanthropic organizations or leadership organizations. As anticipated, the female dummy is positive for philanthropic organizations and negative for leadership organizations. Greediness (the importance of money) and an external locus always have a negative impact on volunteering, while leadership and success at work generally have a positive impact. But perhaps more interesting is the anticipated positive impact of helping others, closeness to family and traditional gender role attitudes and mother’s guilt on volunteering in philanthropic organizations found in the NLS72.

²¹When I add up the number of times a respondent has stated that a value is “very important”, I do not include contemporaneous answers. Thus, in the NLS72, the maximum value is five; in the NELS88, the maximum value is 2 or 3 as seen in Table 2.

In summary, although the explanatory power of the regressions on behaviors are generally weak, the impact of the value statements are consistent with the hypothesized linkages. I now turn to the investigation of potential impacts on wages and the gender wage gap.

4. Decomposition of Gender Wage Differentials

In this paper, I implement a modification to the Oaxaca-Blinder decomposition that addresses two non-invariance problems of the methodology; these are also discussed in Oaxaca and Ransom (1994) and Oaxaca and Ransom (1999). The first one is the well-known fact that the portion of the gender wage gap explained by differences between male and female characteristics is not invariant to whether the male or female wage structure is chosen as the reference wage structure. Here, I propose to use as reference wage structure the one under which the advantage of men is equal to the disadvantage of women. The second non-invariance problem occurs in the presence of categorical variables and entails that portions of the gender pay gap attributable to gender differences in specific categorical variables will generally not be invariant to the choice of the omitted category. This problem is easily solved by appealing to a restricted least squares estimator. One attractive feature of this modified decomposition is that it is fully compatible with the usual pooled wage regression that simply includes a dummy for the disadvantaged group.

Let the following denote the log wage equations estimated separately for samples of males (m) and females (f), and for males and females pooled together (p)

$$\ln w_{ig} = \beta_{0g} + \mathbf{X}_{ig}\boldsymbol{\beta}_g + \epsilon_{ig}, \quad g = f, m, p \quad (4)$$

where the \mathbf{X}_i is a $1 \times K$ vector of explanatory variables and $\boldsymbol{\beta}$ is $K \times 1$ vector of coefficients. Here, I am careful to distinguish the intercept from the other explanatory variables. As shown below, this is important in the presence of categorical variables, including the gender dummies.

Under the usual assumption $E(\epsilon_{if}) = E(\epsilon_{im}) = 0$, the difference between the means of male and female log wages will be

$$\overline{\ln w_m} - \overline{\ln w_f} = \overline{\mathbf{X}_m}\widehat{\boldsymbol{\beta}}_m - \overline{\mathbf{X}_f}\widehat{\boldsymbol{\beta}}_f + (\widehat{\beta}_{0m} - \widehat{\beta}_{0f}). \quad (5)$$

In the familiar Oaxaca-Blinder (Oaxaca (1973); Blinder (1973)) decomposition, letting $\Delta \mathbf{X} = \overline{\mathbf{X}}_m - \overline{\mathbf{X}}_f$ and $\Delta \boldsymbol{\beta} = \widehat{\boldsymbol{\beta}}_m - \widehat{\boldsymbol{\beta}}_f$, this expression can be written as either,

$$\overline{\ln w_m} - \overline{\ln w_f} = \Delta \mathbf{X} \widehat{\boldsymbol{\beta}}_m + \overline{\mathbf{X}}_f \Delta \boldsymbol{\beta} + (\widehat{\beta}_{0m} - \widehat{\beta}_{0f}) = \Delta \mathbf{X} \widehat{\boldsymbol{\beta}}_f - \overline{\mathbf{X}}_m \Delta \boldsymbol{\beta} - (\widehat{\beta}_{0m} - \widehat{\beta}_{0f}), \quad (6)$$

depending on whether the male or female wage structure is chosen as the reference or non-discriminatory one, and where the first terms ($\Delta \mathbf{X} \widehat{\boldsymbol{\beta}}_g$) capture differences due to characteristics while the other terms denote differences to the returns to those characteristics.

A first problem with the Oaxaca-Blinder decomposition is that in practice, the choice of the non-discriminatory wage structure (either male or female) will yield different results (Cotton (1988); Oaxaca and Ransom (1994)). One proposition is to use the pooled wage structure as the non-discriminatory one (Neumark (1988); Oaxaca and Ransom (1994)) :

$$\overline{\ln w_m} - \overline{\ln w_f} = \Delta \mathbf{X} \widehat{\boldsymbol{\beta}}_p + [\overline{\mathbf{X}}_m (\widehat{\boldsymbol{\beta}}_m - \widehat{\boldsymbol{\beta}}_p) + (\widehat{\beta}_{0m} - \widehat{\beta}_{0p})] - [\overline{\mathbf{X}}_f (\widehat{\boldsymbol{\beta}}_f - \widehat{\boldsymbol{\beta}}_p) + (\widehat{\beta}_{0f} - \widehat{\beta}_{0p})], \quad (7)$$

where the second term in brackets is interpreted as the advantage of men and the third term in brackets as the disadvantage of women. An important problem with the Neumark method is that the pooled coefficients capture part of the “between” male and female effects, thus overstating the effects of variables with large gender differences. For example, in table 2 of Neumark (1988), the effects of schooling (0.088) and union (0.172) in the pooled sample are larger than the same effects in either the male (0.072 and 0.138) or female (0.062 and 0.134) samples. This occurs because, as shown in table 1 of Neumark (1988), males have higher schooling and unionization rates than women and thus their coefficients capture part of the advantage of males. A similar problem can be seen in the comparison of black males/white males in table A2 of Oaxaca and Ransom (1994). The coefficient for managers and professionals (OC1) in the pooled sample (0.2490) is larger than the coefficients in either the white males sample (0.2442) or the black male sample (0.1562), again this reflects the fact that whites are over-represented in that occupation, so that the coefficient from the pooled sample captures some of the advantage of whites.²² In addition, if the advantage of men and the disadvantage of

²²A similar problem likely occurs in the Oaxaca and Ransom (1994) female/male comparison, but all the pooled male/female coefficients reported in table A2 are identical to those of females, probably as a

women are not equal, the wage structure of reference can hardly be called non-discriminatory.

A better alternative is to include gender intercept shifts, along with an identification restriction, in the regression of males and females pooled together²³

$$\begin{aligned} \ln w_i &= \gamma_0 + \gamma_{0f} \cdot F_i + \gamma_{0m} \cdot M_i + \mathbf{X}_i \boldsymbol{\gamma} + v_i, \\ &\text{subject to } \gamma_{0f} + \gamma_{0m} = 0 \end{aligned} \tag{8}$$

where F_i is a female dummy and $M_i = 1 - F_i$ is a male dummy.²⁴ Then

$$\begin{aligned} \overline{\ln w_m} &= \hat{\gamma}_0 + \hat{\gamma}_{0m} + \overline{\mathbf{X}_m} \hat{\boldsymbol{\gamma}} + E(v_i | F_i = 0), \\ \overline{\ln w_f} &= \hat{\gamma}_0 + \hat{\gamma}_{0f} + \overline{\mathbf{X}_f} \hat{\boldsymbol{\gamma}} + E(v_i | F_i = 1), \end{aligned} \tag{9}$$

The resulting decomposition makes the assumptions on the error terms explicit,

$$\overline{\ln w_m} - \overline{\ln w_f} = \Delta \mathbf{X} \hat{\boldsymbol{\gamma}} + (\hat{\gamma}_{0m} - \hat{\gamma}_{0f}) + [E(v_i | F_i = 0) - E(v_i | F_i = 1)]. \tag{10}$$

The first term is the familiar portion of the pay gap attributable to differences in characteristics and its standard error is computed as $(\Delta \mathbf{X})' \Sigma_{\boldsymbol{\gamma}} (\Delta \mathbf{X})$, where $\Sigma_{\boldsymbol{\gamma}}$ is the variance-covariance matrix of the $\hat{\boldsymbol{\gamma}}$. The second term $(\hat{\gamma}_{0m} - \hat{\gamma}_{0f})$ correspond to the negative of the coefficient of a female dummy in a familiar wage regression on the pooled sample when male if the omitted category and the intercept thus includes the effect of the male dummy ($=\hat{\gamma}_0 + \hat{\gamma}_{0m}$). The last term vanishes,

$$[E(v_i | F_i = 0) - E(v_i | F_i = 1)] = Cov(v_i, F_i) = 0,$$

where the first equality follows from the fact that F is a binary variable (as in Angrist and Imbens (1995)), and the second one is a property of ordinary least squares. This decomposition is thus compatible with the conventional practice of including a dummy denoting the group of

result of a typo.

²³Brown and Corcoran (1997) incorporates a single gender dummy in their pooled regressions and proposes using the term $\Delta = \Delta \mathbf{X} (\widehat{\boldsymbol{\beta}}_m - \widehat{\boldsymbol{\beta}}_f)$ as a measure that is invariant to the choice of omitted category. The interpretation of this term is that the elimination of differences in characteristics would lead to a pay increase Δ if estimated at the male returns instead of the female returns; but it is not straightforward.

²⁴It is always possible to weight the female and male dummies by their percentage in the sample or to express variables as deviations from the pooled means to obtain a non-discriminatory wage structure that would maintain the same average wage where nepotism and discrimination to be eliminated.

interest in a pooled regression to investigate the impact of belonging to a disadvantaged group (as in equation (14)). To the extent that $\hat{\gamma}_{0m}$ is positive and $\hat{\gamma}_{0f}$ is negative, it is appropriate to say that these expressions are representing the “advantage” of men and the “disadvantage” of women.

The decomposition can also be written in terms of the Neumark-Cotton decomposition as:

$$\overline{\ln w_m} - \overline{\ln w_f} = \Delta \mathbf{X} \hat{\gamma} + [\overline{\mathbf{X}}_m(\hat{\beta}_m - \hat{\gamma}) + (\hat{\beta}_{0m} - \hat{\gamma}_0)] - [\overline{\mathbf{X}}_f(\hat{\beta}_f - \hat{\gamma}) + (\hat{\beta}_{0f} - \hat{\gamma}_0)], \quad (11)$$

If the coefficients $\hat{\gamma}$ and $\hat{\gamma}_0$ truly represent a non-discriminatory wage structure, then the advantage of men will be equal the disadvantage of women. Under this proposed modification to the Oaxaca-Blinder decomposition, it can be easily verified that

$$\hat{\gamma}_{0m} = [\overline{\mathbf{X}}_m(\hat{\beta}_m - \hat{\gamma}) + (\hat{\beta}_{0m} - \hat{\gamma}_0)] \quad \text{and} \quad \hat{\gamma}_{0f} = [\overline{\mathbf{X}}_f(\hat{\beta}_f - \hat{\gamma}) + (\hat{\beta}_{0f} - \hat{\gamma}_0)]. \quad (12)$$

and the standard errors on these two terms are obtained from the estimation of equation (8).

A second problem (Oaxaca and Ransom 1999) is that the assignment of the explained part of the gender wage gap to specific variables is not invariant to the choice of the left-out category in the case of categorical variables. One solution suggested in Gardeazabal and Ugidos (2004), who however prefer to use a derived restriction, is to include all categories and impose a zero-sum restriction on the estimated coefficients of each categorical variable. This is easily implemented via restricted least squares.²⁵ Letting \mathcal{C} denote the set of categorical variables, and C_k the number of categories for variable k , equation (8) is simply estimated subject to the restrictions:

$$\gamma_{0f} + \gamma_{0m} = 0 \quad \text{and} \quad \sum_{j=1}^{C_k} \gamma_{jk} = 0, \quad k \in \mathcal{C} \quad (13)$$

The categorical restrictions are also imposed in the estimations of the gender specific log wage equations (4).²⁶ Under these restrictions, the intercepts β_{0m} , β_{0f} and γ_0 will not be contaminated by the effects of any left-out category and it will be possible to assign portions of the

²⁵Software in STATA to implement this “Regression-Compatible Oaxaca-Blinder” decomposition is available on the author’s web site.

²⁶Restrictions need to apply to all categorical variables, including binary variables such as part-time and full-time.

explained part of the gender wage gap to specific variables, as is done below.²⁷

5. Wage Regression and Decomposition Results

Table 5 reports the wage regression results for the standard specification that includes a female dummy, and treat males as the omitted category

$$\ln w_i = \delta_0 + \delta_{0f} \cdot F_i + \mathbf{X}_i \boldsymbol{\gamma} + v_i, \quad (14)$$

where F is a female dummy, thus where $\delta_0 = \gamma_0 + \gamma_{0m}$ and $\delta_{0f} = -(\gamma_{0m} - \gamma_{0f})$. To the extent that a substantial part of the gender wage gap is unexplained by the usual culprits, human capital and occupational gender segregation, the commonly estimated female dummy in this wage equation may suffer from an omitted variable bias. The purpose of adding “soft skills” to the regression is to reduce this bias, but there is no claim that a causal effect of these factors can be identified. The values and attitudes are recorded before, often times several years, the wage realizations and are likely capturing part of an individual fixed effect that may be constant over time. It is however of interest to know whether the “hard” as well as the “soft” skills have the anticipated effects on wages. I discuss the magnitude of the effects of non-cognitive skills simply to point out that they are not trivial in comparison with cognitive skills.

Table 6 presents the results of the regression-compatible Oaxaca decomposition performed by estimating equations (8) and (9) subject to restrictions (13). The raw log wage gaps are presented in the first row; they are of 0.237 in 1979 and 0.311 in 1986 for the NLS72 sample and of 0.179 for the NELS88 sample.²⁸ The decompositions are compatible with the simple wage regression of equation (14) in the sense the sum of the advantage of men and disadvantage of women in the third row of Table 6 corresponds exactly to the coefficients of the female dummy displayed in the first row of Table 5. This unexplained part of the gender pay gap, sometimes

²⁷In an earlier version of the paper, I added the explanatory variables in sequence to show that the contribution of each factor to the gender gap decomposition was stable across various specifications. These are omitted here to preserve space.

²⁸The raw log wage gap of 0.311 in 1986 for the NLS72 sample is larger than usually found in cross-sectional data. It partly reflects the fact that early drop-outs are not sampled in the NLS72; the gender wage gap has been found to be lower for this group of workers likely to earn minimum wages (Fortin and Lemieux 1998).

attributed to discrimination, does not shown much decline over the 20 year period, ranging from 0.144 in 1979 and 0.164 in 1986 for the NLS72 and to 0.125 in 2000 for the NELS88.

Turning to the wage regressions in Table 5, first note that the college and post-graduate estimated premiums are very close to estimates found in the literature for that period and these age-groups (Card and Lemieux (2001)). In the NLS72, the impact of actual work experience for these young workers is smaller than usually estimated. With tenure also capturing a significant part of the on-the-job training and relatively little age variation across the high school cohort, this is not too surprising. In the NELS88, there is actually no experience premium among these 24 year olds.²⁹ To help benchmark the impact of “soft skills” below, let’s note that the impact of tenure on log wages is about 0.02 in both high school cohorts.

Because in their mid-20s women’s educational attainment is higher than men’s in these single cohort samples, educational attainment has negative explanatory power towards the gender pay gap in columns 1 and 3 of Table 6. But among workers in their early thirties (1986 NLS72 sample), more men than women have a post-graduate degree and there is close to a one year gender gap in labor market experience so that the human capital variables explain as much as 5 log points of the gender pay gap. For the younger women, the explanatory power of human capital variables is of 2 log points in 1979 and -2 log points in 2000.

Among the variables capturing “soft skills”, the ones that have the most significant impacts on wages are leadership skills and external locus of control. Leadership skills, measured by the importance of leadership opportunities in the NLS72 and by “part of the leading crowd” in the NELS88, have positive and sizeable effects on log wages or expected income, ranging from 0.038 to 0.092 in the NLS72 and 0.076 in the NELS88. The impact of volunteering in leadership organizations also has a positive and significant impact of log wages of 0.042 in 1986 and 0.045 in 2000. The “external locus of control” on the other hand has a sizeable negative effect, ranging from -0.178 to -0.134 in the NLS72 and -0.063 in the NELS88. Greed and ambition, measured by the importance of money and success in one’s career, have impacts of the expected signs on wages in Table 5, but these are of lower magnitude and not always significant: the impact of valuing money ranges from 0.019 to 0.027 in the NLS72. Interestingly, the impact of these

²⁹The sample of Table 5 exclude respondents from whom expected income at age 30 was missing. A number of men with trade and vocational degrees are thus excluded, when these are re-incorporated in the analysis, a small positive experience premium of 0.007 is found.

variables on expected income in the NELS88 are larger and more significant with a magnitude of 0.067 for the importance of money and 0.024 for the importance of success at work. The log wage regressions in Table 5 also include the impact of promotions in the NLS72, a sizeable and positive effect (0.088) and of training for career advancement in the NELS88, also positive (0.064).

Because there are important gender differences in leadership, greed and ambition in the NLS72, the explanatory power of these traits with regards to the gender wage gap is notable, ranging from 1.2 log points in 1979 to 2.2 log points in 1986, adding the indirect effect of volunteering in leadership organizations and promotions. However across the two cohorts, women have become more ambitious, are more likely to possess leadership skills, and less likely to have an external locus of control, so that in the NELS88 these variables contribute to decrease the explanatory power of gender differences in characteristics on the wage gap. On the other hand, the lower income expectations of women explain 2 log points of 2000 gender wage gap, indicating that women have yet to bridge the bargaining divide.

The impacts of altruism and family values on log wages are smaller but more persistent over time. In the NLS72, the impact of altruistic attitudes in selecting career on log wages (Table 5) is about -0.021 in 1979, but in 1986 it is absorbed by the introduction of volunteering in philanthropic organizations, whose impact on log wages is a sizeable -0.070. In the NELS88, the impact of helping others (-0.019) dominates the volunteering variable. The importance of closeness to family has a negative and robust impact of about -0.019 on log wages in the NLS72; in the NELS88, it is positive in the presence of the better altruistic measure “helping other people in my community”. The impact of these values on expected income (Table 5, column 4) are of the right sign, but they are not significant. Traditional gender role attitudes also have a very significant negative impact of -0.085 on wages at age 30 in the NLS72, when labor market intermittency is more likely to have had an effect. On the other hand in the NLS72, holding equalitarian views and suffering from mother’s guilt (for men thinking that working mothers are not as good for young children as non-working mothers) are associated with positive premia of the same order of magnitude as valuing money, after controlling for occupation and part-time work.

Despite significant gender differences in altruism and family values, because of the small

effects on wages, these values account for only 1 log point of the gender wage gap in 1986 (Table 6), where the effect of volunteering in philanthropic organizations is also included. In the NELS88, the explanatory power of these effects is of 0.3 log points. Because men are more likely than women to hold traditional gender role attitudes and to think that a mother should be a homemaker, and because women are more likely to hold equalitarian views, the explanatory power of these attitudes with respect to the gender wage gap is a wash.

Finally, Table 6 shows that gender segregation in the workplace contributes the most powerful set of explanatory factors to the gender wage gap, explaining 4 to 5 log points. Of that, the larger share (73 percent in 1986, 81 percent in 2000) is due to industrial segregation rather than occupational segregation.³⁰ I display the explanatory power of a few key occupations/industries. In both samples, the greater participation of men in the sciences professions (e.g. engineering) is an important factor, accounting for close 1.5 log points. In the NLS72 sample, the larger participation of men in trades occupation and construction, mining and manufacturing industries is also important, accounting for 2.6 to 3.3 log points. But in the NELS88, the advantage of tradesmen has been reduced following a decline in manufacturing, so that the corresponding explanatory power is reduced to 1.3 log points. Another interesting point to note is that as the proportion of female managers in 2000 is larger the corresponding proportion of male managers (Table A1), the explanatory power of that occupation has gone negative. As with educational attainment, women do not seem to have reaped the rewards of higher occupational status.

Perhaps women are facing a glass ceiling, perhaps as the negotiating/bargaining divide hypothesis (Babcock and Laschever (2003), Sæve-Søederbergh (2003)) suggests, highly educated working women are selling themselves short. The relatively sizeable impact of expected income (2 log points)—equal to half the impact of occupational/industrial gender segregation—, on the gender wage gap in 2000 gives some support to this hypothesis. To the extent that expected income itself can be explained by the importance of money and success at work as shown in Table 5, women lower greediness may have an indirect effect on wages.³¹ Alternatively, women

³⁰Clearly, the portion attributable to occupational/industrial gender segregation depends on the number of categories used in the analysis. Here, I face data limitation on occupations from the NELS88, in particular. Separating diagnostic (doctors) from other occupations (nurses) in the professions health category would have been helpful.

³¹In the gender wage gap decomposition corresponding to column (4) of Table 5 (not shown), the more important factor explaining the gender gap in expected income is the importance of “having lots

may be willing to pay a price to enjoy altruistic rewards in their work. Comparing columns 2 and 3 of Table 6 shows that this price has stayed relatively constant: in both 1986 and 2000, the contribution of women's higher participation in the education, health care and other professional services sector to the gender wage gap was of about 1.5 log wage points.

In summary, comparing the impact of "soft" factors to that of human capital, I find that in 1979, in the NLS72 sample, "values" accounted for 2.2 log points in the gender log wage gap while human capital variables account for 1.7 log points. In 1986, the explanatory power of "values" and "behaviors" at 3.1 log points was close to that of experience and tenure (3.5 log points). In 2000, women have become more comparable to men not only in terms of educational attainment, but also in terms of valuing success at work and money, differences in work values and their indirect effects have reduced explanatory power at 0.4 log points, but experience and tenure also have reduced explanatory power (0.8 log points). On the other hand, including gender differences in expectations raises the explanatory power of soft factors to 2.4 log points, a magnitude comparable to the effect (negative) of women's higher educational attainment in 2000.

6. CONCLUSION

In this paper, I use two high school-cohort longitudinal surveys, the NLS72 and the NELS88, to study the impact of "soft factors" such greed, ambition, altruism, leadership, locus of control, gender role attitudes, family values, and income expectations on various behaviors, wages, and the gender pay gap in 1979, 1986 and 2000. These "soft factors" are thought to account for wage differentials through the workers' demands for wages, effort and responsibility, and altruistic rewards on the job, which interact with the employers' offers of job combinations of wages, effort and responsibility, and altruistic rewards in the context of an hedonic wage function. Like for hours of work, there is a quantity constraint of the amount of effort and responsibility that an individual can allocate between market and non-market activities. Gender differences in levels of effort and responsibility allocated to market activities follow from the usually higher level

of money", accounting for 2.6 log points. However this gender gap decomposition is largely unsuccessful, I am unable to explain any substantial part of the gender gap in expected income. Note that among respondents who were not labor market participants, the expected gender pay gap is even larger, so that more than feedback from the labor market is at play.

allocated by women to non-market activities. Other gender differences arise from traditional gender roles: men's greater greed may follow from men's greater responsibility in the financial support of the family; women's greater altruism may follow from their responsibilities in the care of children and support of relationships.

I do indeed find that among workers in the NLS72 women, by comparison with men, tend to hold more altruistic values: the percentage of women who state that "*Opportunities to be helpful to others or useful to society*" is very important in selecting a career and that "*Living close to parents and relatives*" is very important to them in their life exceed that of men by more than 10 percentage points. Women are also more likely to volunteer in philanthropic organizations and to work in the education and health care sectors. By contrast, men tend to be more ambitious and value money more: the percentage of men who state that "*The chance to be a leader*" is very important in selecting a career and that "*Having lots of money*" is very important to them in their life exceeds that of women by close to 10 percentage points. Out of 6 opportunities of the course in 14 years, the percentage of men who never state that "*Having lots of money*" is very important is 53.2 percent while the corresponding percentage of women is 70 percent. Men are more likely to obtain promotions and volunteer in leadership organizations such as sports teams, unions, political parties, social clubs, etc.

In 2000, I find that among workers in the NELS88, there has been substantial gender convergence in work values. In particular, more women than men state that "*Being successful in work*" is very important to them in their life. The gender gap in proxies of leadership and its antithesis, external locus of control, no longer favors men. The gender gap in valuing money has closed somewhat, but women continue to state that "*Helping other people in my community*" is very important to them more than men do by close to 10 percentage points. They are also relatively less likely to train for career advancement and when they do, they are less likely to be promoted and receive higher salaries.³² Their expected income at age 30, stated when they were 18 years old, is lower than men and closely reflects the raw gender wage gap that they will face at age 24.

The explanatory power of these "soft factors" with regards to wages in these single-cohort

³²The figures not stated previously are: 76 percent (67.5 percent) of men get a promotion (higher salary) following training, while the corresponding figures for women are 51.1 percent (61 percent).

samples is sizeable: following human capital variables, their introduction increases the adjusted R-squared of the wage regressions by a factor of 2 to 4. Like others (Kuhn and Weinberger (2002)), I find a substantial impact, of the order of 10 percent, of leadership skills or their lack of it. I also find that the impacts of values reflecting greed, altruism and family values are of the expected sign and of a magnitude ranging from 0.01 to 0.03 log wages, well in the range of the impact of one year of tenure which is of 0.02 log wages.

To measure the impact of gender differences in these soft factors on the gender pay gap, I update the Blinder-Oaxaca-Ransom wage gap decomposition introducing a correction to address the non-invariance problems associated with the choice of the non-discriminatory wage structure and with the choice of left-out category for categorical variables. The non-discriminatory wage structure is chosen to be the one where the advantage of men equals the disadvantage of women. In the case of categorical variables, all dummies are included but their coefficients are subjected to a zero-sum condition and estimated via restricted least squares. An attractive feature of the resulting approach is that it is fully compatible with the simple pooled regression that includes a gender dummy and has easily computable standard errors.

The main finding of the paper is of a significant role for “soft factors” in accounting for the gender wage gap. In the NLS72, that role is greater (comparable) to that played by gender differences in labor market experience and job tenure in 1979 (1986), when workers are mostly 25 year old (mostly 32 year olds). In the NELS88, since gender differences in work values have shrunk substantially by 2000, the “soft factor” that plays a larger role for this cohort of mostly 24 year olds is income expectations.³³ The positive explanatory power of income expectations and other soft factors is of the same order of magnitude as the negative explanatory power of educational attainment.³⁴ This gives some support to the negotiating/bargaining divide hypothesis (Babcock and Laschever (2003), Sæve-Søederbergh (2003)) which argues that women ask for lower wages than men. Younger women have reached higher levels of educational attainment than men and have close the gender gap in ambition and leadership, the new step is to heighten their sense of entitlement of higher wages.

³³Note that the presence of children and marriage already acts to decrease income expectations in Table 5. For some, feedback from the labor market may also be at play.

³⁴There are also indications, although of small magnitude, of negative explanatory power of leadership, training for career advancement, and managerial occupations.

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TABLE 1 – IMPORTANT VALUES AND GENDER ROLE ATTITUDES:
PERCENTAGES AMONG THE 1986 WORKERS FROM THE NLS72

	Male	Female
A. Work values “very important” in selecting a career at age 18^a		
a. Making a lot of money	19.1	11.1
b. Opportunities to be original and creative	28.1	28.4
c. Opportunities to be helpful to others or useful to society	31.5	48.2
d. Avoiding a high-pressure job that takes too much out of you	24.1	21.0
e. Living and working in the world of ideas	24.6	27.9
f. Freedom from supervision in my work	20.4	12.3
g. Opportunities for moderate but steady progress rather than the chance of extreme success or failure	24.6	29.3
h. The chance to be a leader	16.1	7.8
i. Opportunities to work with people rather than things	27.4	45.4
j. Having a position that is looked up to by others	21.6	15.5
B. “Agree strongly” or “agree” with gender role attitudes at age 25^b		
a. A working mother of pre-school children can be just as good a mother as the woman who doesn’t work	51.0	68.4
b. It is usually better for everyone involved if the man is the acheiver outside the home and the woman takes care of the home and family	34.0	20.4
c. Young men should be encouraged to take jobs that are usuall filled by women (nursing, secretarial, work. etc.)	27.8	40.3
d. Most women are just not interested in having big and important jobs	15.9	12.9
e. Many qualified women can’t get good jobs; men with the same skills have much less trouble	54.7	62.1
f. Most women are happiest when they are making a home and caring for children	31.4	19.4
g. High schools counselors should urge young women to train for jobs which are now held mainly by men	41.1	51.4
h. It is more important for a wife to help her husband than to have a career herself	27.6	17.6
i. Schools teach women to want the less important jobs	24.0	29.0
j. Men should be given first chance at most jobs because they have the primary responsibility for providing for a family	56.1	72.9
Traditional views (average of (b+d+f+h+i+j))	31.4	28.7
Equalitarian views (average of (c+(1-e)+g))	38.2	43.2
Working mother’s guilt (1-a)	48.8	31.6

Notes:

^a Respondents were asked to circle one of “Not important”, “Somewhat important” and “Very important” as answers to the question “How important is each of the following to you in selecting a career?” (Questions BQ24A-J).

^b Respondents were asked to circle one of “Agree strongly”, “Agree”, “Disagree” and “Disagree strongly” as answers to the question “How do you feel about each of the following statement?” (Questions FT196A-J).

TABLE 2 – PERCENTAGE OF WORKERS WHO INDICATED THE FOLLOWING VALUES WERE “VERY IMPORTANT” TO THEM

	1972 (18)		1973 (19)		1974 (20)		1976 (22)		1979 (25)		1986 (32)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
NLS72												
Year (Age)	1972 (18)		1973 (19)		1974 (20)		1976 (22)		1979 (25)		1986 (32)	
a. Being successful in work	65.5	62.7	74.7	71.6	74.3	70.9	71.7	69.0	68.2	63.2	70.8	66.1
b. Marrying and having a happy family	61.0	61.8	78.0	82.3	76.4	80.7	76.7	79.3	74.6	74.3	84.3	81.5
c. Having lots of money	18.0	6.0	13.4	6.6	13.1	8.6	13.7	8.6	15.1	8.9	21.1	11.7
e. Being able to find steady work	63.8	55.9	68.2	55.6	67.8	58.2	72.2	63.1	65.9	58.2	78.9	73.4
f. Being a leader in the community	11.0	6.5	10.1	4.9	8.3	4.1	7.9	4.0	6.4	3.3	5.2	2.5
g. Being able to give children better opportunities	50.0	47.8	52.2	55.2	52.2	58.0	52.6	55.4	47.1	48.2	59.1	60.3
h. Living close to parents and relatives	4.8	5.6	6.1	8.6	7.5	10.9	6.9	10.6	7.1	12.7	10.2	20.8
j. Working to correct social and economic inequalities	9.7	8.8	7.9	6.6	7.1	5.3	5.9	5.0	3.6	4.0	2.9	2.5
NELS88												
Year (Age)	1990 (14)		1992 (16)		1994 (18)							
a. Being successful in work	78.3	80.1	81.6	82.8	83.2	89.1						
b. Marrying and having a happy family	66.8	74.0	71.1	77.6								
c. Having lots of money	48.0	31.7	40.3	28.0	38.1	31.7						
e. Being able to find steady work	71.6	78.7	74.0	76.8	82.3	84.5						
f. Helping other people in my community	24.4	35.7	27.1	36.2								
g. Being able to give children better opportunities	68.3	70.5	69.7	73.2	84.2	88.8						
h. Living close to parents and relatives	22.6	22.9	13.6	17.4								
j. Working to correct social and economic inequalities	17.2	19.4	16.8	21.8								

Notes: Respondents were asked to circle one of “Not important”, “Somewhat important” and “Very important” as answers to the question “How important is each of the following to you in your life?” NLS-72: Questions BQ20A-J, FQ20A-J, SQ148A-J, TQ151A-J, FT197A-J, FII16A-J; NELS-88: Questions FIS46A-M, F1D36A-M, F2S40A-M, F2D36A-M, F3T49A-E

TABLE 3 – IMPACT OF VALUES ON 1986 WORKERS’ BEHAVIOR
 LINEAR PROBABILITY MODEL – NLS72

Dependent Variable :	Works ^a Part Time	Maternal ^a leave greater than 7 wks	Promoted, Changed for for better job	Volunteer ^b philanthropic org.	Volunteer ^c leadership or org.
Mean	0.147	0.384	0.273	0.329	0.391
Female	—	—	-0.022* (0.012)	0.093** (0.012)	-0.087** (0.013)
Values in selecting a career: ^d					
Money very imp.	-0.007 (0.021)	-0.027 (0.029)	-0.015 (0.017)	-0.071** (0.017)	-0.058** (0.018)
Leader very imp.	-0.015 (0.024)	0.035 (0.032)	0.012 (0.017)	0.014 (0.018)	0.086** (0.019)
Helping very imp.	0.041** (0.013)	0.002 (0.017)	0.005 (0.012)	0.040** (0.012)	-0.006 (0.013)
Values important in life: ^e					
Success no. of times very imp.	-0.011** (0.004)	-0.019** (0.006)	0.010** (0.004)	0.015** (0.004)	0.025** (0.004)
Money no. of times very imp.	-0.020** (0.007)	-0.016* (0.009)	0.002 (0.005)	-0.030** (0.005)	-0.013** (0.006)
Family no. of times very imp.	0.005 (0.006)	0.003 (0.008)	-0.010* (0.005)	0.024** (0.006)	0.001 (0.006)
External locus ^f	-0.003 (0.033)	-0.024 (0.045)	-0.036 (0.029)	-0.078** (0.031)	-0.071** (0.032)
Gender Role Attitudes: ^d					
Traditional Views	0.071** (0.031)	-0.006 (0.043)	-0.041 (0.026)	0.225** (0.027)	-0.039 (0.028)
Equalitarian Views	0.014 (0.023)	-0.068** (0.031)	0.037* (0.020)	-0.101** (0.021)	0.008 (0.022)
Working Mother’s Guilt	-0.011 (0.014)	-0.097** (0.018)	0.007 (0.011)	0.029** (0.012)	-0.009 (0.012)
Education: (HS omitted)					
less than HS	-0.191 (0.181)	-0.136 (0.247)	0.058 (0.129)	-0.176 (0.135)	-0.174 (0.141)
Trade	-0.050** (0.020)	0.043 (0.028)	0.033* (0.018)	-0.011 (0.019)	-0.003 (0.002)
Some Coll	-0.028* (0.017)	-0.006 (0.023)	0.098** (0.015)	-0.008 (0.015)	-0.011 (0.016)
College	-0.059** (0.018)	-0.072** (0.025)	0.180** (0.016)	0.031* (0.017)	0.091** (0.018)
Post-CG	-0.069** (0.026)	-0.135** (0.036)	0.188** (0.021)	0.020 (0.022)	0.120** (0.023)
Work Experience:					
Years	-0.020** (0.002)	0.026** (0.003)	-0.001 (0.002)	-0.002 (0.002)	0.003 (0.002)
Adjusted R-2	0.042	0.047	0.033	0.044	0.034
No. of observations	3333	3333	6928	6928	6828

Note: Significance at 5% level denoted by **, significance at 10% level denoted by *.

^a Sample of working women only.

^b Includes youth organizations, church related activities, community and social action groups, hospitals.

^c Includes unions, professional organizations, political clubs, sports teams, educational organization, service organizations such as Rotary, Veterans, etc.

^d See Table 1 for detailed questions.

^e See Table 2 for detailed questions. The number of times respondents answered “very important, up the fourth follow-up thus preceding most of the behaviors, are used as explanatory variables.

^f Average of “Agree strongly”, “Agree” as answers to four questions (C+F+G+(1-K)) in the locus of control groups: FT195A-J (NLS72) and F2D57A-M, F2S66A-M (NELS88). See text.

TABLE 4 – IMPACT OF VALUES ON 2000 WORKERS’ BEHAVIOR
LINEAR PROBABILITY MODEL – NELSS88

Dependent Variable :	Works ^a Part Time	Number of ^a Dependents	Trained for Career Advancement	Volunteer ^b philanthropic org.	Volunteer ^c leadership org.
Mean	0.150	0.696	0.408	0.211	0.104
Female	—	—	-0.036** (0.011)	0.011 (0.009)	-0.058** (0.007)
Values important in life: ^d					
Success no. of times very imp.	-0.022** (0.008)	-0.042** (0.020)	0.038** (0.008)	0.024** (0.006)	0.005 (0.005)
Money no. of times very imp.	-0.015** (0.005)	0.013 (0.014)	-0.020** (0.005)	-0.040** (0.004)	-0.011** (0.003)
Family no. of times very imp.	0.020** (0.009)	0.039* (0.022)	-0.000 (0.009)	-0.008 (0.007)	-0.010* (0.006)
Helping no. of times very imp.	0.015** (0.007)	-0.005 (0.018)	0.031** (0.008)	0.065** (0.006)	0.018** (0.005)
Part of Leading ^e Crowd	0.062** (0.015)	0.069* (0.038)	0.031** (0.015)	0.046** (0.013)	0.041** (0.009)
External locus ^f	-0.002 (0.007)	0.061** (0.018)	-0.018** (0.007)	-0.009 (0.005)	-0.001 (0.004)
Education: (HS omitted)					
less than HS	0.011 (0.047)	0.228* (0.116)	-0.207** (0.040)	-0.025 (0.032)	0.148** (0.025)
Trade	0.001 (0.022)	-0.252** (0.054)	0.034 (0.018)	-0.016 (0.017)	-0.002 (0.013)
Some Coll	0.015 (0.017)	-0.473** (0.041)	0.053** (0.015)	0.037** (0.012)	0.053** (0.009)
College	-0.080** (0.018)	-1.178** (0.045)	0.170** (0.017)	0.166** (0.014)	0.095** (0.011)
Post-CG	-0.153** (0.032)	-1.356** (0.079)	0.156** (0.033)	0.295** (0.027)	0.135** (0.020)
Work Experience:					
Years	-0.012** (0.003)	-0.047** (0.007)	0.004 (0.002)	0.006** (0.002)	0.002 (0.002)
Adjusted R-2	0.021	0.214	0.036	0.076	0.028
No. of observations	4326	4326	8637	8637	8637

Note: Significance at 5% level denoted by **, significance at 10% level denoted by *.

^a Sample of working women only.

^b Asked in third follow-up when respondents were 18 year olds; includes church related activities, community and social action groups, hospitals.

^c Asked in third follow-up when respondents were 18 year olds; includes unions, professional organizations, political clubs, sports teams, organizations such as Rotary, Veterans, etc.

^d See Table 2 for detailed questions. The number of times respondents answered “very important, up the third follow-up thus preceding most of the behaviors, are used as explanatory variables.

^e Answered “very” (13%) to the question “Do you think other students see you as part of the leading crowd?” in the first follow-up at age 14.

^f Average of “Agree strongly”, “Agree” as answers to four questions (C+F+G+(1-K)) in the locus of control groups: FT195A-J (NLS72) and F2D57A-M, F2S66A-M (NELS88). See text.

TABLE 5 – IMPACT OF VALUES ON LOG WAGE

Year (Age)	NLS72		NELS88	
	1979 (25)	1986 (32)	2000(24)	Expected (18) Income at Age 30
Explanatory variables:				
Female	-0.143** (0.011)	-0.164** (0.012)	-0.125** (0.012)	-0.196** (0.011)
Education: (HS omitted)				
Less than HS	-0.146** (0.060)	-0.282** (0.111)	-0.180** (0.038)	-0.181** (0.051)
Trade	0.036** (0.016)	0.056** (0.015)	-0.008 (0.020)	0.079** (0.028)
Some Coll	0.081** (0.013)	0.117** (0.013)	0.030** (0.015)	0.191** (0.020)
College	0.182** (0.016)	0.274** (0.016)	0.211** (0.018)	0.244** (0.022)
Post-CG	0.271** (0.026)	0.447** (0.022)	0.405** (0.032)	0.354** (0.040)
Experience:				
Years	0.035** (0.003)	0.016** (0.002)	-0.003 (0.002)	0.024** (0.010)
Tenure	0.019** (0.002)	0.025** (0.002)	0.023** (0.002)	0.067** (0.007)
Values in selecting a career:				
Money very imp	-0.007 (0.014)	-0.013 (0.015)		
Leader very imp.	0.038** (0.014)	0.092** (0.015)		
Helping very imp.	-0.021** (0.009)	0.000 (0.010)		
Values important in life:				
Success no. of times very imp.	0.016** (0.004)	0.010 (0.008)	0.001 (0.007)	0.024** (0.010)
Money no. of times very imp.	0.027** (0.006)	0.019** (0.005)	0.003 (0.005)	0.067** (0.007)
Helping no. of times very imp.			-0.019** (0.007)	-0.013 (0.010)
Family no. of times very imp.	-0.018** (0.007)	-0.019** (0.006)	0.022** (0.008)	-0.005 (0.011)
Part of leading crowd			0.076** (0.014)	0.122** (0.019)
External locus	-0.178** (0.025)	-0.134** (0.026)	-0.063** (0.021)	-0.107** (0.028)
Gender Role Attitudes:				
Traditional Views	0.007 (0.022)	-0.085** (0.023)		
Equalitarian Views	0.014 (0.016)	0.022 (0.017)		
Working Mother's Guilt	0.027*** (0.010)	0.020* (0.010)		

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TABLE 5 – IMPACT OF VALUES ON LOG WAGE (CONTINUED)

Year (Age)	NLS72		NELS88	
	1979 (25)	1986 (32)	2000(24)	Expected (18) Income at Age 30
Explanatory variables:				
Expectations at age 18: ^e				
Expect to be a homemaker at 30			-0.015 (0.048)	-0.060 (0.065)
Expected log income at 30			0.095* (0.008)	
Behaviors:				
Promotion		0.088** (0.012)		
Trained for career adv.			0.064** (0.010)	
Volunteer in altruistic org.		-0.070** (0.010)	0.008 (0.012)	0.071** (0.017)
Volunteer in leadership org.		0.042** (0.010)	0.045** (0.016)	0.037** (0.021)
Personal & Job Characteristics:				
Part-Time	-0.017 (0.018)	0.034 (0.018)	-0.127** (0.016)	-0.004 (0.022)
Black	-0.039** (0.017)	-0.041** (0.016)	-0.053** (0.016)	0.024 (0.021)
Married	0.029** (0.010)	0.047** (0.011)	0.043** (0.011)	-0.047** (0.015)
Child	0.023** (0.011)	0.056** (0.015)	-0.045** (0.015)	-0.070** (0.020)
Parental Experience	-0.003 (0.002)	-0.008** (0.001)	0.003 (0.003)	0.000 (0.004)
Occupation Dummies (10)	Yes	Yes	Yes	No
Industry Dummies (11)	No	Yes	Yes	No
Adjusted R-2	0.181	0.372	0.233	0.099
No. of observations	7341	6928	7585	7584

Note: Standard errors are in parentheses. Significance at 5% level denoted by **, significance at 10% level denoted by *. See Tables 3 and 4 for more details on the explanatory variables.

TABLE 6 – REGRESSION-COMPATIBLE DECOMPOSITION OF THE GENDER WAGE GAP

Year (Age)	NLS72		NELS88
	1979 (25)	1986 (32)	2000 (24)
Raw Log Wage Gap	0.237	0.311	0.179
Advantage of Men (γ_{0m})	0.072	0.082	0.062
	(0.005)	(0.006)	(0.006)
Disadvantage of Women (γ_{0f})	-0.072	-0.082	-0.062
($\gamma_{0m} - \gamma_{0f}$)	0.144	0.164	0.125
Differences in characteristics	0.095	0.147	0.054
($\Delta \bar{X}' \hat{\gamma}$)	(0.007)	(0.007)	(0.006)
as % of the raw gap	39.8	47.4	30.0
Contribution of explanatory variables to differences in characteristics			
Human capital:	0.017	0.048	-0.018
Education	-0.002	0.013	-0.026
Experience, tenure	0.019	0.035	0.008
Values:	0.017	0.018	0.004
Altruism, family	0.005	0.003	0.003
Greed, ambition	0.012	0.015	0.001
Part of leading crowd			-0.001
External locus	0.001	0.000	-0.001
Gender Role Attitudes:	0.004	0.000	
Traditional views	0.000	-0.002	
Equalitarian views	-0.001	-0.001	
Mother's guilt	0.005	0.003	
Expectations at Age 18: ^e			0.020
Expect to be a homemaker			0.000
Expected income at age 30			0.020
Behaviors		0.013	0.000
Promotion		0.002	
Trained for career adv.			-0.001
Volunteer in altruistic org.		0.007	-0.000
Volunteer in leadership org.		0.004	0.002
Personal characteristics:	0.006	0.009	0.009
Part-time	0.001	-0.004	0.009
Race	0.002	0.002	0.000
Marital status	0.001	0.005	-0.002
Children	0.001	0.000	0.003
Parental experience	0.001	0.006	-0.001
Job characteristics:		0.058	0.039
Occupations (11)	0.049	<i>0.016</i>	<i>0.007</i>
Managers	0.003	0.006	-0.003
Professional- Natural Sciences	0.012	0.015	0.014
Professional- Health	-0.010	-0.014	-0.009
Manual -Precision Workers	0.026	0.009	0.004
Industries (12)		<i>0.042</i>	<i>0.032</i>
Const., Mining & Manuf.		0.024	0.009
Education, Health Care		0.014	0.015

Note: Standard errors are in parentheses. As explained in the text, the decompositions are compatible with the regressions of Table 5 and impervious to the left-category problem. The bold face numbers are the sum of the numbers in each category of variables. The italic numbers are the sum of the sub-categories and sum up to the corresponding bold figures.

TABLE A1 – DESCRIPTIVE STATISTICS

Year (Age)	NLS72				NELS88	
	1979 (25)		1986 (32)		2000 (24)	
Variables	Male	Female	Male	Female	Male	Female
Log Wage	1.821	1.583	2.417	2.106	2.634	2.456
Education:						
less then HS	0.008	0.002	0.002	0.001	0.023	0.013
HS	0.211	0.230	0.225	0.252	0.202	0.128
Trade	0.116	0.091	0.149	0.138	0.085	0.091
Some Coll	0.358	0.364	0.296	0.309	0.410	0.384
College	0.264	0.269	0.218	0.224	0.251	0.339
Post-CG	0.042	0.047	0.111	0.075	0.028	0.044
Work Experience:						
Years	5.331	4.882	10.630	9.565	4.515	4.433
Tenure	1.101	0.092	4.974	4.235	2.282	1.925
Values in selecting a career:						
Money VI	0.200	0.111	0.193	0.106		
Leader VI	0.157	0.087	0.159	0.075		
Helping VI	0.316	0.497	0.312	0.479		
Values important in life:						
Success no. VI	2.944	2.887	3.543	3.373	2.506	2.576
Money no. VI	0.643	0.306	0.733	0.388	1.313	0.926
Helping no. VI					0.491	0.728
Family no. VI	0.262	0.352	0.324	0.485	0.345	0.396
Part of leading crowd					0.133	0.145
External locus	0.092	0.096	0.091	0.092	0.151	0.135
Gender Role Attitudes:						
Traditional Views	0.348	0.308	0.314	0.287		
Equalitarian Views	0.379	0.451	0.382	0.432		
Working Mother's Guilt	0.432	0.233	0.488	0.316		
Expectations at age 18:						
Expect to be a homemaker at 30					0.001	0.021
Expected log income					10.74	10.54
Behaviors:						
Promoted			0.286	0.258		
Trained for career adv.					0.419	0.429
Volunter in altruistic org.			0.280	0.386	0.202	0.257
Volunter in leadership org.			0.437	0.343	0.140	0.086
Personal Characteristics						
Part-Time	0.044	0.100	0.017	0.147	0.072	0.140
Black	0.056	0.112	0.072	0.128	0.113	0.121
Married	0.540	0.496	0.750	0.648	0.366	0.424
Parental Exp.	1.031	1.261	4.653	5.513	0.990	1.288
Child	0.656	0.612	0.652	0.644	0.324	0.388

continued next page

TABLE A1 – DESCRIPTIVE STATISTICS

Year (Age)	NLS72				NELS88	
	1979 (25)		1986 (32)		2000 (24)	
Variables	Male	Female	Male	Female	Male	Female
Occupations:						
Managers	0.192	0.123	0.214	0.166	0.213	0.258
Professionals						
Science	0.100	0.030	0.142	0.041	0.140	0.056
Health	0.026	0.143	0.033	0.129	0.027	0.128
Educ	0.029	0.085	0.029	0.079	0.028	0.099
Social Sc.	0.044	0.050	0.047	0.048	0.042	0.049
Clerical	0.072	0.338	0.067	0.323	0.026	0.115
Sales	0.071	0.070	0.068	0.075	0.096	0.146
Services	0.052	0.063	0.060	0.055	0.060	0.080
Precision Man.	0.217	0.023	0.179	0.023	0.155	0.016
Operatives	0.180	0.071	0.155	0.060	0.203	0.050
Farmers	0.014	0.002	0.007	0.000	0.012	0.002
Industries:						
Agri., Fores.			0.014	0.008	0.016	0.006
Mining			0.025	0.005	0.011	0.003
Constr.			0.077	0.007	0.115	0.015
Manufac.			0.267	0.138	0.165	0.074
Transp.			0.092	0.068	0.095	0.064
Trade			0.143	0.151	0.153	0.133
FIRE			0.051	0.107	0.073	0.092
Bus. Serv.			0.066	0.046	0.063	0.046
Pers. Serv.			0.011	0.017	0.057	0.106
Entertain.			0.016	0.007	0.033	0.022
Educ., Health Care			0.119	0.323	0.115	0.302
Pub. Admin.			0.120	0.123	0.104	0.137
No. of observations	4059	3282	3595	3334	3892	3693