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Data from the National Longitudinal Survey of Youth 1979 indicate that between 1996 and 2010 females on average lost some of the promotion momentum they had achieved at the beginning of mid-career, although they outperformed males in this regard. For both genders economic downturn has contributed to reduced promotion probabilities. In the case of women, however, cohort effects rather than the cycle seem to explain the promotion experience during the Great Recession. Promotions translate into higher real wage increases, and typically more so where job responsibilities increase. Crowding effects, if not necessarily a thing of the past, are no longer manifested in reduced female promotion rates or earnings.

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In an informative discussion in this *Review*, Deborah Cobb-Clark and Yvonne Dunlop investigated the role of gender in job promotions using National Longitudinal Survey of Youth 1979 (NLSY79) data for 1989-90 and 1996.[1] The authors concluded that, although the qualitative characteristics of promotions appeared to be much the same for men and women, there was clear evidence of a gender gap in promotion favoring males at the start of the period. Nevertheless, this promotion gap was markedly smaller by 1996.[2] The sample examined by these authors comprised individuals at the start of their careers. We, on the other hand, analyze these workers' promotion prospects first in 1996 and then in following years of the survey, ending in 2010. Our use of subsequent rounds of the NLSY79 permits us to determine whether the same patterns apply in the case of workers in mid- and peak-career.

In a new departure for exercises of this type, Cobb-Clark and Dunlop also considered the role of the business cycle.[3] They found scant evidence to suggest that either employment growth in the industry or local labor market played a role in determining promotion rates. In the present treatment, however, not only can we study the effects of the 2002 economic downturn but also (since our sample period ends in 2010) examine whether more substantive changes were occasioned by the 18-month Great Recession (which according to the NBER began in December 2007 and ended in June 2009).

Finally, in contextualizing their approach, Cobb-Clark and Dunlop note that differential opportunities for promotion might reflect occupational segregation, implicit in notions of "women's work." They do not themselves examine whether gender differences in promotion and other labor market outcomes – most notably wages of course – are influenced by crowding considerations.[4] This article will provide some evidence on this topic as well.

Issues of mid-career, major recession, and occupational segregation notwithstanding, the present treatment follows Cobb-Clark and Dunlop in examining the role of gender in the promotion process. Accordingly, it focuses upon the characteristics of promotion and on who gets promoted.

The data

Our data are taken mainly from the 1996, 2006, and 2010 rounds of the National Longitudinal Survey of Youth, sponsored by the Bureau of Labor Statistics and initiated in 1979.[5] The NLSY79 provides a nationally representative panel of data for the cohort of individuals aged 14 to 22 years in that year. For those rounds of the survey that are of interest to us there are no longer oversamples of the military and poor whites, but in addition to the core cohort there is still an oversample of blacks and Hispanics. We retain each of these cohorts and use sampling weights to adjust our summary statistics throughout the paper. We exclude those individuals who are self-employed or work for no pay. Indeed, our specific focus is upon those individuals who have worked in the previous calendar year and are currently working at least 30 hours a week. The sample that we use to analyze the wage increases resulting from promotions is further restricted to those who have worked more than 35 hours a week. This restriction is imposed so as to avoid including wage increases resulting from transitions between part-time and full-time jobs – in either direction. Moreover, for our wage analysis we only include individuals who did not change employers since the date of last interview. This filter is applied so as to avoid the inclusion of those (displaced) workers who, upon reemployment, are both underemployed in the new job (and receiving lower wages than reported at the date of last interview) and also

overqualified for it (and more likely to be promoted). In short, we seek to eliminate promotions as associated with wage decreases.[6]

The NLSY79 has a number of advantages over other data sets. One is that we can obtain the individual's actual labor market experience from the number of weeks worked since the last interview. This corrects for the potential measurement error in the standard indicator based on age and education since women may work more discontinuously than men. Another advantage of the survey is that it contains detailed information on promotions. The promotion question always concerns *in-house* promotions, namely those with the current employer. In this treatment, therefore, all promotions are internal in nature.[7]

Although labor market activity has been surveyed in great detail in the NLSY79 from the outset, the occupational codes are not recorded consistently across each wave of the survey. Between 1979 and 2000, the occupations are coded in the 1970 Census Occupation Codes. Since 2002, however, jobs are identified using an updated classification to capture the new and emerging occupations.[8] We mapped these occupation codes so as to be able to compare 1996 occupations with those in the 2006 and 2010 rounds of the survey (or indeed for all rounds of the survey for some of our analysis). Specifically, we used the crosswalks provided in the literature to match all occupation codes in the NLSY79 to the 1990 Census Occupation Codes (COCs).[9]

The characteristics of promotions

In 1996, the NLSY79 respondents were aged between 31 and 39 years, when their careers were most likely to be taking off. In 2006 they were at the peak of their careers, respectively aged 41 to 49 years. In Table 1 we seek to capture the differences in the characteristics of promotions at these two points in career development some 10 years apart. Do the returns to promotion

increase as we move up the career ladder? Do later promotions come with more responsibility, if not necessarily more pay? And do the answers to these questions vary by gender? Further, in looking at round 2010, encompassing the Great Recession, as compared with 2006, we attempt to gain some insight as to the effect of (adverse) macroeconomic conditions on males and females. That said, in order to strengthen our discussion of the effects of business cycle on promotions, we will subsequently utilize all rounds of the survey and compare the age-specific experience of the younger cohort (respondents who were aged 31 to 35 years in 1996) with that of the older cohort (aged 36 to 39 years in 1996) over the entire data period, but with specific focus on the economic downturn of 2001-2002 and the Great Recession of 2008-2009.

Promotion probability declined over the 10 years from 1996 to 2006 by about 6 percentage points for both males and females.[10] This is not unexpected: as workers age, they will be higher up on the job ladder with fewer opportunities to be promoted. From 2006 to 2010 there was a further reduction in promotions – in the order of 4 percentage points for females and 6 percentage points for males – which likely reflects the impact of the Great Recession (but see below).

[Table 1 near here]

Compared with 1996, a higher percentage of promotions came with increased responsibilities in later years. For workers recording a change in position but no promotion as such, there were also increased job responsibilities but at a rate very roughly half that of promoted workers. For their part, wages increased as a result of promotions but not in all cases. In 1996, three-quarters or more of promoted workers had a real wage increase as a result of that promotion. By 2006 this ratio had declined by 15 percentage points for females and by 6 percentage points for males. The share of workers receiving real wages actually increased modestly in 2010.

Survey respondents were asked the reason(s) for their promotion starting in 1996. Seven such reasons are identified: "reorganization of the company," "change in ownership," "company growth," "others are laid off," "my job performance," "it was automatic," and "I requested it," and a composite "other reasons" category. Most promotions are self-attributed to job performance, and slightly more males than females report this to be the primary reason. Company growth, reorganization, and worker requests are the other main reasons cited. Comparing 1996 with 2006, there were a number of significant shifts in the reasons for promotion among females and males. For females, the positive reasons of job performance and company growth declined in importance while the relevance of others being laid off decreased as well. For males, the role of company growth also diminished. Few other significant shifts in reasons for promotion are apparent, and this is especially true after 2006 where the most noticeable change is perhaps the more than a halving of automatic promotions in the case of women.

When asked about the perceived scope for further promotion, a little over 70 percent of the respondents answered in the affirmative in 1996. This percentage declined over the next decade, and significantly so for females if not males. Surprisingly, it *increased* for females over the next four years (i.e. an interval encompassing the Great Recession) but the shift was statistically insignificant. This latter gender phenomenon could reflect the greater displacement of females and their relocation to jobs for which they were under-employed and over-qualified. Against this interpretation is the fact that the recession was marked by higher unemployment for males than females, at least initially.

Finally, individuals who answered the preceding question negatively stated the lack of further promotion potential as the most prevalent reason. But there is no discernible trend in this

category or indeed in any other of the stated reasons for a belief that no more promotions were possible. And it remains the case that clear majorities of each gender expressed positive feelings about the possibility of additional promotions in the future.[11]

The characteristics of the promoted

Table 2 presents promotion rates by ethnic and racial background, calculated over two-years for each of the 1996, 2006, and 2010 rounds. Females as a whole evince marginally higher promotion rates than do males but each series trends downward significantly. By the end of the period, however, all female groups other than Hispanics have distinctly higher promotion rates than males. Among males, Hispanics now have the highest promotion rates followed by non-black, non-Hispanics, and finally by black workers whose promotion rates have fallen fastest. Among females, all racial groups have the same promotion rates in 2010, much as was the case at the start of the period but now halved. More importantly, the gap between males and females both as a group and by racial category diverged most after 2006. In short, the Great Recession would appear to have impacted males more severely.

[Table 2 near here]

Table 3 considers promotion rates by demographic and human capital characteristics of the workers, as well as those of the job and the workplace (such as tenure, occupation, and firm size). Two basic facts stand out. First, at a given point in time male and female workers aged 31 to 35 years have distinctly lower promotion rates than their counterparts aged 36 to 39 years. Second, and relatedly, as each cohort ages promotion probability declines, again for males and females alike. By 2010, gender differences by cohort are statistically significant while trend differences for each gender cohort are statistically significant throughout.

Never-married females are more likely to be promoted than their male counterparts, but the difference is not statistically significant. And apart from 1996, among individuals that are divorced, widowed or separated promotion rates are also higher for females, significantly so in 2010. Women who have no children only record higher promotions than men without children in 2010, as is the case for married women in families with a spouse present. Women with grown children generally have higher promotion rates than corresponding males as do women with preschool children after 1996.

[Table 3 near here]

There are few dramatic occupational-specific differences outside of transportation, construction, mechanics, mining, and agriculture where male promotion rates consistently exceed those of females over the sample period. In other areas such as machine operators, assemblers, and inspectors where males dominated females in promotion in 1996, the position had moved toward equality by 2010. However in two areas – administrative support and retail sales and the low skill service sector – female promotion rates clearly exceeded those of males by 2010.

More highly educated individuals are expected to enjoy greater opportunities for promotion. The data in Table 3 generally confirm this human-capital-theoretic prediction for males, even if the relation is not consistently monotonic. Among females, the pattern is opaque. Moreover, although promotion rates of males in the upper educational echelons dominate the corresponding female rates in 1996, after that year female promotion rates are higher in most educational categories. Over time, but most noticeably between 1996 and 2006, there is some tendency for promotion rates to decline by educational category.

Full-time workers are consistently more likely to be promoted than part-timers among female workers. For males, on the other hand, this is only true in 1996; thereafter, the position is equalized or even reversed. Again, these results are only partly consistent with human capital theory.

We turn in conclusion to the potential roles of firm size, tenure, labor market experience and training. For its part, firm size is positively correlated with promotions, although in 1996 (2010) females (males) did either as well or best in medium-sized firms. If large firms do tend to offer better promotion prospects, there is certainly no longer any indication that men benefit more from the internal promotion opportunities offered by such firms. Tenure with the employer and experience in the labor market also bear interesting relationships with the likelihood of promotion. In all years other than 2010, the highest probability of promotion occurred within the 2-5 year tenure range, falling thereafter for both genders and also trending downward through time albeit in somewhat more differentiated pattern by gender. Turning to experience, since we are following a cohort, work experience prior to the job with the current employer may be capturing the labor market attachment of the individual. By 2006 individuals with less than 5 years of prior experience record the lowest probability of promotion. In 1996 for women as for males, promotion rates reached their highest level for those with 5 to 10 years of experience. By 2006, on the other hand, peak promotion rates were recorded among those of both genders with 10 to 15 years prior experience. This increasing relevance of experience continued in the 2010 round for females whose promotion rates peaked among those in the highest experience categories. The picture was different for males where only the second highest promotion rates attached to the highest experience category. By 2010 promotion rates peaked for those in the longest (female) and shortest (male) tenure categories. Finally, training would appear to play a

crucial role in promotions insofar as promoted individuals are almost twice as likely to have participated in training compared with the non-promoted. Gender differences are muted.

Although promotion questions were included in some but not all earlier rounds of the NLSY79 – specifically, 1984, 1988, 1989, and 1990 – they have been asked continuously in all rounds from 1996 onward. This allows us to assess the effects of the cycle and in particular the Great Recession and also the more moderate economic downturn of 2002. To this end, we further divide our sample into two groups by age: workers aged 31 to 35 years in 1996 (the younger cohort) and workers who were aged 36 to 39 years in that same year (the older cohort). By comparing the younger cohort's experience in 2002 and then later in 2010 with the older cohort's experience some 4 years earlier in each case (viz. 1998 and 2006) we should be able to go some way toward isolating the effect of recession on promotion from that of the aging/career process.

[Table 4 near here]

Table 4 charts promotion rates for each biennial survey beginning in 1996. As before, promotion rates are provided separately by gender. The new wrinkle is the provision of separate cohort promotion rates for each gender for each survey year. Familiarly, they show broadly declining promotion rates over time and latterly mostly higher promotion rates for females than for males. Also shown in the table are the relevant cohort comparisons in respect of the recession of 2002 and the Great Recession of 2008-2009. For the 2002 recession, the yellow color coded entries indicate in the case of females that the promotion rate in 2002 for the younger cohort should have been 3.5 percentage points higher had there not been a recession. In other words, the recorded promotion rate of 14.6 percent should have been 18.1 percent on the basis of aging alone. The 3.5 percentage point reduction in the promotion rate is therefore our *indicative*

estimate of the effect of recession. In the case of males, the yellow color coded values point to a doubling of the recession effect, namely a 7.3 percentage point fall in promotion.

No less interesting are the green color coded entries relevant to the computation of the promotion cost of the Great Recession. The upshot is that for females there was no retardation in promotion caused by the recession. The expected promotion rate was 11.3 percent while actual promotion rates were a statistically equal 11.4 percent. For males, however, the expected promotion rate on the basis of aging was 11 percent. The actual promotion rate was 8.4 percent, so that our indicative estimate of the effect of this recession was a further retardation of the promotion rate by 2.6 percentage points.

The improvement in the position of women during the Great Recession confirms the interpretation of the latter as a "mancession," even though our promotion-based analysis necessarily provides only a partial view of that experience. Moreover, since the NLSY data end in 2010 we are unable to trace the aftermath of the Great Recession, although we should note that the existing data hint at cohort and gender catch-up in the wake of the downturn of 2002.[12]

'Crowding' and promotion

We next consider the relationship between the promotion probabilities of each gender in so-called women's and men's occupations for each of our selected sample years. Table 5 groups occupations as alternatively *traditional male jobs*, *traditional female jobs*, or *traditional mixed* jobs for occupations that were consistently less than 34 percent female, more than 66 percent female, or 34 to 66 percent female, respectively, over the two decades between 1990 and 2010.[13] [14]

It can be seen that although males initially enjoyed higher promotion rates in traditional female jobs in 1996 and 2006, gender promotion rates were to all intents and purposes identical in 2010. In traditional male jobs, even though female rates exceeded those of males throughout only in 2010 was the difference marginally significant. In traditional mixed jobs, too, even though rates were higher for females throughout, the difference is statistically significant only in 2010. Promotions in this jobs category occur at significantly higher for both genders when compared with traditional male jobs but for females alone when compared with traditional female jobs.

[Table 5 near here]

The consequences of promotion

Table 6 investigates the wage returns to promotion. Here, and subsequently, wage growth is defined as the percentage change in real earnings (in 2008 dollars) from full-time employment over the two-year period since the date of the last interview for employees who have not changed their employer. For this particular group of workers, the backdrop is a higher probability of promotion among females that is statistically significant in 2006 and 2010.

Not surprisingly, promoted workers receive higher wage increases than do the non-promoted. This difference was in the order of 9.6 (6.9) percentage points for females (males) in 1996, 7.3 (13.4) percentage points in 2006, and 3.1 (5.4) percentage points in 2010. Female wage growth from promotion exceeded that of males at the start of the period but was virtually identical at the end of the period.

[Table 6 near here]

The wage increases resulting from promotion may also be expected to reflect changes in the tasks and responsibilities associated with that promotion. Table 6 indicates that increased responsibility implied higher returns to promotion throughout. More surprising perhaps was the seeming failure of recession to bring about more strongly differentiated rewards from the assumption of increased responsibilities.

The wage returns to promotion might also differ by reason for promotion. Although we do not have sufficient observations to construct a full picture for each of the eight reasons that were identified earlier, some interesting patterns are present in the data. Consider promotions attributed to reorganization, self-request, or performance. For females who stated reorganization as the main reason for their promotion, wage returns declined between 1996 and 2006 while they increased for males. Recession failed to materially reduce the returns to reorganization-generated promotions for females. A broadly similar pattern holds for promotions that are requested by the worker. Recession seemed to have played more of a role in promotions that are attributed to job performance, but the decline was only statistically significant for males.

[Tables 7.A and 7.B near here]

In Table 5 we saw that females were more likely to be promoted at male jobs, while the opposite was true for males in female jobs, at least initially. Table 7.A explores the implications of crowding for wages in general, while Table 7.B concentrates on the wage returns to promotions by gender composition of the occupation. The general result is that any suggestion of lower wage growth among females in traditional female jobs did not persist beyond 1996. That said, despite the tendency toward a higher probability of promotion among females in traditional male and traditional mixed jobs, there is little to suggest this was reflected in higher wage growth other than in traditional mixed jobs at the start of the period. Equally, the higher promotion rates

among males in female dominated jobs did not translate into higher wage growth where comparisons can be effected.

THIS ARTICLE HAS USED DATA from the 1996, 2006, and 2010 NLSY79, supplemented with information from the Census Bureau, and crosswalks that link various occupational classifications from these datasets, to explore the role of gender in the promotion process. It seeks to complement an earlier study published in this *Review* looking at early career advancement by focusing on promotions in mid- and peak-career. It also draws on all rounds of the NLSY79 since 1996 to offer some indicative results on the impact of economic downturn and the Great Recession on promotions. Finally, having examined the promotion-earnings nexus, the article considers occupational crowding and its consequences for promotion and wages.

For both genders it was found that promotion probabilities declined over the decade 1996-2006, which result is to be expected as individuals progress up the job ladder. And there duly followed a further reduction in promotions in the period leading up to the Great Recession and its aftermath. In addition, and also not unexpected, an increasing proportion of promotions came with increased job responsibilities. Real wages increases accompanied promotions, albeit decreasingly so up to 2006 if not thereafter. In the majority of cases, promotions appeared to be awarded on the basis of job performance, with some shrinkage in this justification for both genders. While there is some suggestion that perceptions of the scope for further promotion also declined over the first decade of the sample period, any such trend did not persist for women, although this result might yet prove to be an artifact of the data caused by female displacement and over-qualification on new jobs.

Consistent with earlier findings of a reduction in the gender gap in promotions over time, all female racial groups enjoyed higher (or in one case equal) and more uniform promotion rates than their male counterparts in 2010. A narrower focus on the characteristics of workers – such as their demographic, human capital, and job attributes – reveals some generally expected if not always consistent relationships between characteristics and promotion probabilities, as well as the declining promotion rates for both genders over mid-career (and recession) observed earlier. Change is, however, perhaps the more obvious regularity. Thus, for example, while more highly educated individuals are more likely to be promoted, there is a steady narrowing of the gender promotion gap among, say, college-educated manpower over the period. And while large firms continue to offer more potential for promotion, any advantage once held by men in this respect seems to have disappeared. Similarly, while training would appear to play an important part in promotion, gender differences in this regard are muted.

With the simultaneous aging of NLSY respondents and the onset of recession it is difficult to attribute changes in promotion rates to macroeconomic conditions. To gain greater insight into the effect of the cycle, we divided the cohorts into the same two age groups used earlier in the analysis and showed one going through the recessions – captured by the survey years 2002 and 2010 – at a particular age and one going through that age in a period before the recession, with differences in promotion rates at a particular age then being due to adverse economic conditions. The results of this exercise suggested that although both genders were affected by the downturn in 2002, albeit males more severely than females, in the case of the Great Recession females suffered no decline in (expected) promotion rates while males experienced an additional retardation in promotion rates on top of aging effects.

Historically some of the biggest differences between the genders in promotion have been occupation specific. This phenomenon was explored by examining occupational crowding. The results were largely statistically insignificant. In particular, although males enjoyed higher promotion rates than females in traditional female jobs, gender promotion rates were virtually identical in 2010; and while females enjoyed higher promotion rates in male dominated and traditional mixed jobs this advantage was only significant in 2010.

For those full-time employees who had not changed their employer since the date of the last interview, promoted workers earned considerably more than did the non-promoted. On this measure, females enjoyed higher promotion rates than males, but much the same wage growth from promotion by the end of the period. Increased job responsibilities were associated with higher returns to promotion throughout.

Finally, how have female earnings been influenced by occupational crowding? Abstracting from promotions, occupational crowding has not been associated with lower wage growth among females other than at the beginning of our sample period. And as far as the promotion-earnings nexus is concerned, neither has it brought about any change in that relationship.

Notes

[1] Deborah A. Cobb-Clark and Yvonne Dunlop, "The Role of Gender in Job Promotions," *Monthly Labor Review*, December 1999, pp. 22-38.

[2] This decline has been charted in most studies of the phenomenon, even if the implications for earnings are contested. For an extensive review of the empirical literature, see John T. Addison, Orgul Demet Ozturk, and Si Wang, "Promotion and Pay: Gender, Unionism, and Sector," IZA Discussion Paper No. 6873, September 2012, Bonn: Institute for the Study of Labor.

[3] The evidence on the role of macroeconomic conditions in the promotion process is sparse, although see James E. Rosenbaum, "Organizational Career Mobility: Promotion Chances in a Corporation during Periods of Growth and Contraction," *American Journal of Sociology*, July 1979, pp. 21-48. That said, there has recently occurred an explosion of interest in the related theme of wage behavior over the cycle. For a state-of-the-art treatment, see Anabela Carneiro, Paulo Guimarães, and Pedro Portugal, "Real Wages and the Business Cycle: Accounting for Worker, Firm, and Job Title Heterogeneity," *American Economic Journal*: *Macroeconomics*, April 2012, pp. 133-152.

[4] On the crowding hypotheses, see Barbara R. Bergmann, "Occupational Segregation, Wages and Profits When Employers Segregate by Race and Sex," *Eastern Economic Journal*, April/July 1974, pp. 103-110. The key empirical wage analyses are Francine D. Blau and Andrea H. Beller, "Trends in Earnings Differentials by Gender 1971-198," *Industrial and Labor Relations Review*, July 1988, pp. 513-529; Elaine Sorensen, "The Crowding Hypothesis and Comparable Worth," *Journal of Human Resources*, Winter 1990, pp. 55-89; Barry Gerhart and Nabil El Cheikh,"Earnings and Percentage Female: A Longitudinal Study," *Industrial Relations*, Winter 1991, pp. 62-78; Erica L. Groshen, "The Structure of the Female/Male Differential: Is it Who You Are, What You Do, or Where You Work?" *Journal of Human Resources*, Summer 1991, pp. 457-472; and Elizabeth A. Paulin and Jennifer M. Mellor, "Gender, Race, and Promotion within a Private- Sector Firm," *Industrial Relations*, April 1996, pp. 276-295.

[5] Although we shall present information on all rounds in our discussion of effects of economic downturn on promotion**.**

[6] In the 1990 survey, the first year used by Dunlop and Cobb-Clark, the promotion question relates to promotion on the current job for employees that have worked with the current

employer for at least nine weeks. However, this tenure condition no longer attaches to the promotion questions in the 1996 and all subsequent surveys. Accordingly, for these years, we did not apply this additional filter.

[7] The survey asks respondents (who are not self-employed) for information on up to 5 jobs, as follows: "Since [Date from which information about employer will be collected (start date or date of last interview if last interview employer) (jobs 1-5)], have you experienced a promotion, a demotion, or any other type of position change?" If multiple promotions are recorded in a given job, subsequent questions regarding the nature of the promotion are asked for the most recent promotion on any given job. We count only the workers who have experienced a promotion with their current employers (that is Job#1 in NLSY79 in any round) as promoted. Appendix Tables A.1 and A.2 illustrate that these events constitute the vast majority of promotions experienced. In 1994, the NLSY79 became biennial so that one needs to adjust the calculated rates appropriately when comparing these values with those from earlier rounds of the survey.

[8] From NLSY79 Attachment 3: Industrial and Occupational Classification Codes, 3-digit 2000 Census Codes are used in the 2002 survey, while 4-digit 2002 Census Codes are used in the 2004 survey and 4-digit 2003 Census Codes are used in the 2006, 2008, and 2010 surveys. Based on the codes in Attachment 3, dividing the 4-digit codes used in 2004-2010 (either in 2002 or 2003 Census codes) by 10 will give us the same 3-digit codes as in the 2000 Census, except for the unemployed, the military, those not in the labor force, and uncodable items that we do not include in our sample. Instead of using 1-digit occupation groups in our analysis, we will use 3-digit codes to measure the jobs from 2002-2010 and then use the crosswalks to make them

comparable to 1970 census codes. Documentation can be found at https://www.nlsinfo.org/sites /nlsinfo.org/files/attachments/121217/att300.pdf).

[9] In particular, we followed the crosswalks provided by David Dorn, "Essays on Inequality, Spatial Interaction, and the Demand for Skills," Doctoral Dissertation, University of St. Gallen Dissertation No. 3613, September 2009, and by David H. Autor and David Dorn, "The Growth of Low Skill Service Jobs and the Polarization of the U.S. Labor Market," *American Economic* Review, 2013 (forthcoming). These two papers provide 3-digit occupation codes, or occ1990dd, that are can be used as a link between the occupation codes of the 1970, 1990, and 2000 Censuses. We first use the crosswalk between the 1970 COC and occ1990dd and then the crosswalk between the 2000 COC and occ1990dd to code all occupations in our sample on a consistent occ1990dd basis. We also used the crosswalk between the 1990 COCs and occ1990dd codes to integrate feminization measures from the Integrated Public Use Microdata Series (IPUMS) into our data set (see below). We further utilized Autor and Dorn's aggregation to group all occupations to the 1-digit level as follows: *management/professional/technical/ financial/sales/public security*, *administrative support and retail sales*, *low-skill service*, *precision production and craft*, *machine operators, assemblers and inspectors*, and *transportation/construction/mechanics/mining/agricultural*. These occupational codes were downloaded from David Dorn's website http://www.cemfi.es/~dorn/data.htm on May 4, 2013. In the mapping of occ1970 to occ1990dd, there were 66 occupations not observed in NLSY79, and 13 occupations that could not be directly mapped. For one of these occupations, namely occupation "274" from occ1990dd, we assigned code 280 of occ1970, guided by the occupation definitions contained in Peter B. Meyer and Anastasia Osborne, "Proposed Category System for 1960-1970 Census Occupations," Working Paper Series No. 238, Washington, D.C.: U.S.

Bureau of Labor Statistics, 2005, and the appendix in Dorn (2009). Altogether we lost only 10 observations from unsuccessful mapping. Similar problems were encountered in mapping occ2000 to occ1990dd. Specifically, 20 occupations were not observed in the NLSY79, while 18 occupations could not be mapped. To minimize observation loss after mapping (viz. 10 or fewer observations), again using the above sources, we assigned the approximate occ1990dd codes for 16 occ2000 occupations. Details of the procedure are available upon request.

[10] As noted above, in this table only those individuals who are promoted in their most recent job are recorded as promoted.

[11] This question was asked of all respondents irrespective of their promotion status. Among the non-promoted, 51.4 percent believed a promotion was possible in the next 2 years, and among those who answered in the negative, the principal reasons were "no further promotion potential" (69.04 percent), followed by "waiting for someone to leave" (14.49 percent) and "need additional training" (11.92 percent).

[12] For wider discussions of the Great Recession and its aftermath, see Aysegul Sahin, Joseph Song, and Bart Hobijn, "The Unemployment Gender Gap During the Current Recession," *Current Issues in Economics and Finance*, February 2010, pp. 1-7; Rakesh Kochar, "In Two Years of Economic Recovery, Women Lost Jobs, Men Found Them," *Pew Research Center Social and Demographic Trends*, July 2, 2011, pp. 1-25; and Marianna Kudlyak and David A. Price, "The Increased Role of Flows between Nonparticipation and Unemployment During the Great Recession and Recovery," Federal Reserve Bank of Richmond, June 2012, pp. 1-5.

[13] These measures of occupational feminization are created as the weighted ratio of females in each occupation in the 1990 Census 5% State Sample and the ACS 2010 Sample, using data downloaded from the IPUMS website. The IPUMS website uses an integrated version of the

1990 COCs that we mapped to original 1990 COCs using the crosswalk provided at https://usa.ipums.org/usa/-volii/occ_ind.shtml. Data were downloaded on April 16, 2013 from the IPUMS website; see Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek, *Integrated Public Use Microdata Series: Version 5.0* [Machine-readable database]. Minneapolis: University of Minnesota, 2010. We merged these feminization measures to our dataset using the mapping provided at David Dorn's website so that all occupation codes will be in occ1990dd codes as are our NLSY79 sample occupations.

[14]We originally performed this exercise using 1980 as our starting year to capture the "historical" gender composition of occupations. We switched to 1990 as it more closely reflected the occupational distribution of our respondent females in their early careers. One significant difference between these two groupings is the thinning of an emerging female jobs category – defined as jobs that shifted from being male dominated or mixed to female dominated through time – since most of the influx into traditionally male or mixed jobs by females took place before 1990. As a result, by 1990 most of these jobs are either mixed or female dominated.

TABLES

Table 1. Characteristics of promotions (at the current job)

[Percent]

Characteristic	1996			2006			2010			*|t|-statistics*			
										1996 vs 2006		*2006 vs 2010*	
	Females	Males	*|t|-stats*	Females	Males	*t|-stats*	Females	Males	*|t|-stats*	*Females*	*Males*	*Females*	*Males*
Workers promoted (number)	493	590		290	300		208	150					
Workers promoted	0.20	0.19	*0.24*	0.14	0.13	*0.61*	0.10	0.07	*3.03*	*4.94*	*5.68*	*3.17*	*5.72*
Increase in job responsibilities:													
Promoted workers	0.56	0.61	*1.59*	0.68	0.69	*0.28*	0.68	0.68	*0.08*	*3.09*	*2.09*	*0.12*	*0.25*
Workers who were not promoted (but had a position change)	0.21	0.30	*1.62*	0.33	0.40	*0.88*	0.31	0.23	*1.12*	*1.96*	*1.30*	*0.30*	*2.08*
Increase in real wage[1]	0.82	0.75	*2.06*	0.67	0.69	*0.28*	0.69	0.76	*1.01*	*3.47*	*1.36*	*0.39*	*1.18*
Reason for promotion:[2]													
Reorganization	0.15	0.16	*0.60*	0.15	0.13	*0.56*	0.17	0.14	*0.60*	*0.16*	*0.99*	*0.34*	*0.11*
Automatic	0.08	0.08	*0.08*	0.08	0.07	*0.38*	0.03	0.06	*0.95*	*0.41*	*0.09*	*2.22*	*0.59*
Job performance	0.68	0.69	*0.47*	0.57	0.64	*1.62*	0.58	0.64	*0.97*	*2.69*	*1.28*	*0.30*	*0.03*
Self-requested	0.17	0.14	*1.23*	0.18	0.13	*1.43*	0.20	0.14	*1.30*	*0.25*	*0.28*	*0.60*	*0.35*
Change of ownership	0.01	0.01	*0.90*	0.02	0.02	*0.02*	0.01	0.00	*1.35*	*0.94*	*0.33*	*0.73*	*1.70*
Company growth	0.13	0.16	*1.12*	0.04	0.09	*2.19*	0.06	0.05	*0.45*	*4.07*	*2.44*	*0.83*	*1.56*
Company laid off others	0.04	0.02	*1.36*	0.01	0.01	*0.33*	0.01	0.01	*0.38*	*2.46*	*0.83*	*0.53*	*0.23*
Other	0.10	0.08	*0.99*	0.14	0.09	*1.57*	0.12	0.08	*1.32*	*1.26*	*0.37*	*0.40*	*0.40*
Believe that more promotions are possible	0.71	0.74	*1.12*	0.58	0.73	*3.12*	0.63	0.65	*0.35*	*3.00*	*0.49*	*0.97*	*1.29*
Reason for belief that no more promotions are possible:													
No further promotion potential	0.60	0.56	*0.57*	0.60	0.62	*0.24*	0.57	0.60	*0.27*	*0.06*	*0.79*	*0.35*	*0.24*
Waiting for someone to leave	0.22	0.34	*1.78*	0.23	0.22	*0.06*	0.17	0.21	*0.44*	*0.04*	*1.53*	*0.73*	*0.15*
Need additional training	0.12	0.09	*0.83*	0.10	0.11	*0.13*	0.16	0.10	*0.92*	*0.41*	*0.46*	*0.91*	*0.25*
Company reorganization	0.05	0.01	*1.82*	0.06	0.04	*0.45*	0.07	0.06	*0.16*	*0.45*	*1.17*	*0.12*	*0.36*
Change of ownership	0.01	0.01	*0.22*	0.01	0.00	*0.99*	0.03	0.04	*0.13*	*0.29*	*1.01*	*1.03*	*1.02*

Note: |t|-statistics are generated using *svy* and *lincom* commands in STATA 11.2 with sampling weights.

[1] Only for workers who have not changed employers since the date of last interview.

[2] Respondents could choose all categories that applied.

Table 2. Promotion rates by gender and race

[Percent promoted]

Gender and race	1996	2006	2010	*|t|-statistics* 1996 vs 2006	2006 vs 2010
Sample size (number)	5,616	4,603	4,233		
All workers	0.20	0.13	0.08	*7.51*	*6.27*
Males	0.19	0.13	0.07	*5.68*	*5.72*
Hispanic	0.19	0.14	0.10	*1.85*	*1.82*
Black	0.19	0.11	0.05	*4.30*	*3.32*
Nonblack, non-Hispanic	0.20	0.13	0.07	*4.70*	*4.97*
Females	0.20	0.14	0.10	*4.94*	*3.17*
Hispanic	0.20	0.14	0.10	*2.19*	*1.39*
Black	0.18	0.11	0.10	*3.72*	*0.68*
Nonblack, non-Hispanic	0.20	0.14	0.10	*3.95*	*2.93*

Table 3. Promotion rates by characteristics of workers

[Percent promoted]

	1996			2006			2010			|t|-statistics			
										1996 vs 2006		2006 vs 2010	
	Females	Males	*|t|-stats*	Females	Males	*|t|-stats*	Females	Males	*|t|-stats*	*Females*	*Males*	*Females*	*Males*
Sample size	2,548	3,068		2,239	2,364		2,125	2,108					
Age:													
31 to 35 years in 1996	0.21	0.20	*0.63*	0.16	0.15	*0.65*	0.11	0.08	*2.01*	*3.05*	*3.41*	*2.55*	*4.12*
36 to 39 years in 1996	0.18	0.19	*0.31*	0.11	0.11	*0.20*	0.08	0.05	*2.31*	*3.92*	*4.60*	*1.98*	*4.03*
Marital status:													
Never married	0.22	0.17	*1.55*	0.11	0.10	*0.40*	0.08	0.06	*0.70*	*3.63*	*0.90*	*0.90*	*1.27*
Married with spouse present	0.20	0.21	*0.49*	0.14	0.14	*0.12*	0.10	0.07	*1.96*	*3.52*	*4.57*	*2.65*	*4.86*
Other	0.18	0.18	*0.24*	0.14	0.12	*0.87*	0.11	0.06	*2.63*	*1.88*	*2.24*	*1.57*	*2.89*
Has no children	0.18	0.18	*0.17*	0.12	0.12	*0.21*	0.12	0.06	*3.66*	*2.74*	*3.42*	*0.33*	*3.93*
Has children	0.20	0.21	*0.13*	0.14	0.13	*0.50*	0.09	0.08	*0.77*	*4.00*	*4.58*	*3.86*	*4.03*
Has children who were													
5 years old or younger in 1996	0.19	0.22	*1.39*	0.15	0.14	*0.07*	0.10	0.07	*1.42*	*1.82*	*3.59*	*2.39*	*3.89*
6 to 13 years old in 1996	0.21	0.19	*0.93*	0.14	0.13	*0.33*	0.09	0.07	*0.87*	*3.18*	*2.13*	*2.88*	*2.82*
14 years old or older in 1996	0.23	0.19	*0.79*	0.09	0.09	*0.15*	0.17	0.04	*2.86*	*3.43*	*1.58*	*1.76*	*0.92*
Occupation:													
Management, Professional, Technical, Financial, Sales and Public Security	0.23	0.26	*1.36*	0.17	0.17	*0.31*	0.12	0.10	*1.15*	*2.74*	*4.34*	*2.62*	*3.34*
Administrative Support and Retail Sales	0.20	0.20	*0.15*	0.11	0.16	*1.75*	0.09	0.05	*2.32*	*4.23*	*0.98*	*0.80*	*3.60*
Low-skill Service	0.19	0.18	*0.07*	0.11	0.14	*0.62*	0.07	0.02	*2.25*	*2.29*	*0.92*	*1.31*	*2.85*
Precision Production and Craft	0.27	0.24	*0.23*	0.17	0.08	*1.19*	0.07	0.07	*0.05*	*0.92*	*3.49*	*1.23*	*0.35*
Machine Operators, Assemblers, and Inspectors	0.06	0.14	*2.60*	0.08	0.09	*0.09*	0.03	0.03	*0.02*	*0.50*	*1.56*	*1.14*	*1.92*
Transportation, Construction, Mechanics, Mining, Agricultural	0.10	0.12	*0.37*	0.03	0.08	*2.27*	0.00	0.05	*4.50*	*1.77*	*2.34*	*1.30*	*2.02*

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Education:													
Less than high school	0.18	0.16	*0.54*	0.12	0.08	*1.27*	0.13	0.05	*2.10*	*1.51*	*3.14*	*0.19*	*1.24*
High school graduate	0.21	0.15	*2.83*	0.12	0.10	*1.03*	0.10	0.07	*1.70*	*3.82*	*2.62*	*0.83*	*1.75*
Some college	0.21	0.20	*0.40*	0.15	0.13	*0.79*	0.10	0.04	*2.85*	*2.45*	*2.70*	*2.28*	*3.77*
College graduate	0.17	0.26	*3.32*	0.13	0.16	*1.32*	0.10	0.09	*0.47*	*1.78*	*3.68*	*1.48*	*3.28*
Postgraduate schooling	0.18	0.27	*1.55*	0.19	0.19	*0.06*	0.07	0.06	*0.33*	*0.23*	*1.43*	*3.15*	*2.99*
Hours of work:													
Full time	0.20	0.20	*0.40*	0.14	0.13	*1.02*	0.10	0.07	*3.32*	*4.60*	*5.78*	*3.03*	*5.62*
Part time	0.16	0.13	*0.52*	0.08	0.18	*1.12*	0.05	0.07	*0.41*	*1.97*	*0.53*	*1.05*	*1.24*
Size of firm:													
Fewer than 100 employees	0.20	0.18	*0.95*	0.14	0.11	*1.79*	0.10	0.06	*2.79*	*3.31*	*4.79*	*2.56*	*3.83*
100 to 499 employees	0.22	0.20	*0.71*	0.10	0.15	*2.23*	0.08	0.08	*0.46*	*5.11*	*2.02*	*1.16*	*2.85*
More than 500 employees	0.20	0.26	*1.82*	0.18	0.16	*0.64*	0.13	0.08	*2.25*	*0.75*	*3.24*	*1.43*	*3.22*
Tenure with employer:													
Less than 2 years	0.17	0.17	*0.33*	0.09	0.13	*1.74*	0.09	0.07	*0.79*	*3.62*	*1.90*	*0.04*	*2.55*
2 to 5 years	0.29	0.25	*1.06*	0.20	0.17	*1.06*	0.10	0.09	*0.58*	*2.57*	*2.92*	*3.35*	*2.91*
5 to 10 years	0.19	0.22	*1.29*	0.16	0.12	*1.57*	0.12	0.07	*2.31*	*0.95*	*3.85*	*1.48*	*2.28*
10 to 15 years	0.16	0.15	*0.50*	0.12	0.11	*0.45*	0.09	0.05	*1.86*	*1.25*	*1.37*	*0.98*	*2.31*
More than 15 years	0.19	0.14	*1.17*	0.10	0.11	*0.54*	0.08	0.06	*1.16*	*2.39*	*0.88*	*0.79*	*2.60*
Work experience prior to job with current employer:													
Less than 5 years	0.17	0.18	*0.41*	0.08	0.10	*0.86*	0.07	0.10	*1.03*	*3.43*	*2.75*	*0.29*	*0.03*
5 to 10 years	0.22	0.21	*0.62*	0.11	0.11	*0.02*	0.09	0.04	*1.93*	*4.68*	*3.93*	*0.70*	*2.69*
10 to 15 years	0.21	0.21	*0.04*	0.17	0.15	*0.48*	0.08	0.05	*1.33*	*1.68*	*2.21*	*3.34*	*3.80*
More than 15 years	0.16	0.16	*0.05*	0.15	0.13	*0.77*	0.11	0.07	*3.04*	*0.60*	*1.24*	*1.97*	*4.44*
Participated in training since last interview	0.28	0.30	*0.87*	0.22	0.18	*1.18*	0.15	0.14	*0.26*	*1.65*	*3.72*	*2.26*	*1.20*

Note: Occupations are classified using the occupational codes generated by Dorn (2009)

Table 4. Promotion and macro indicators, by gender and cohort

	All		Females				Males				Macro Indicators[1]	
Year	No.	%	No.	%	Younger Cohort	Older Cohort	No.	%	Younger Cohort	Older Cohort	Unemployment rate	Employment to population ratio
1996	1,083	0.196	493	0.198	0.211	0.184	590	0.195	0.200	0.190	4.2	64.2
1998	1,076	0.203	498	0.197	0.212	0.181	578	0.209	0.217	0.199	3.4	65.1
2000	969	0.184	482	0.197	0.201	0.193	487	0.173	0.179	0.166	3.0	65.3
2002	636	0.132	316	0.138	0.146	0.129	320	0.128	0.126	0.130	4.7	64.1
2004	492	0.109	232	0.103	0.105	0.102	260	0.115	0.135	0.093	4.4	64.0
2006	590	0.131	290	0.135	0.156	0.113	300	0.128	0.145	0.110	3.6	64.8
2008	476	0.108	258	0.117	0.129	0.105	218	0.099	0.117	0.079	4.6	64.3
2010	358	0.083	208	0.099	0.114	0.083	150	0.069	0.084	0.052	8.3	61.0

Note: The $|t|$-*statistics* for the promotion rate differences across cohorts in 2002 and 2010 are 4.57 and 0.01 for females and and 3.69 and 1.72 for males.

[1]Unemployment rates and employment population ratios are downloaded from http://www.bls.gov/cps/data.htm. Quarterly seasonally adjusted data averaged across for annual values for population aged 25 years and over.

Table 5. Crowding and promotion, by gender						*|t|-statistics*		
			Traditional male jobs	Traditional mixed jobs	Traditional female jobs	*traditional female vs traditional male*	*traditional male vs traditional mix*	*traditional female vs traditional mix*
	1996	male	0.178	0.226	0.234	*1.56*	*2.37*	*0.20*
		female	0.181	0.230	0.185	*0.16*	*1.58*	*2.07*
		|t|-stats	*0.08*	*0.14*	*1.34*			
	2006	male	0.099	0.169	0.151	*1.37*	*3.67*	*0.46*
		female	0.101	0.179	0.108	*0.27*	*2.81*	*3.55*
		|t|-stats	*0.07*	*0.41*	*1.14*			
	2010	male	0.054	0.094	0.075	*0.74*	*2.63*	*0.61*
		female	0.098	0.133	0.080	*0.72*	*1.24*	*2.88*
		|t|-stats	*1.83*	*1.93*	*0.18*			
|t|-statistics	*1996 vs 2006*	*male*	*5.40*	*2.42*	*1.66*			
		female	*2.33*	*2.15*	*4.47*			
	2006 vs 2010	*male*	*3.69*	*3.61*	*1.66*			
		female	*0.09*	*2.03*	*1.85*			

Table 6. Promotion and wage growth, by gender and type of and reasons for promotion

[Percent]

	1996			2006			2010			|t|-statistics			
										1996 vs 2006		*2006 vs 2010*	
	Females	Males	*|t|-stats*	Females	Males	*|t|-stats*	Females	Males	*|t|-stats*	*Females*	*Males*	*Females*	*Males*
Promotion rate	0.211	0.204	*0.39*	0.148	0.121	*1.79*	0.102	0.069	*2.74*	*3.72*	*5.52*	*3.14*	*4.28*
Wage growth													
Promoted workers	0.164	0.130	*1.57*	0.104	0.157	*1.36*	0.093	0.098	*0.13*	*2.09*	*0.79*	*0.31*	*1.52*
Non-promoted workers	0.068	0.061	*0.52*	0.031	0.023	*0.70*	0.062	0.044	*1.50*	*2.68*	*3.30*	*2.58*	*1.74*
Wage growth by type of promotion													
Increased responsibility	0.172	0.125	*1.61*	0.112	0.120	*0.22*	0.109	0.088	*0.54*	*1.78*	*0.16*	*0.08*	*0.84*
No change in responsibility	0.100	0.091	*0.36*	0.044	0.148	*1.51*	0.061	0.022	*1.10*	*1.59*	*0.88*	*0.44*	*1.87*
Wage growth by reasons of promotion [1]													
Reorganization	0.185	0.087	*1.65*	0.108	0.195	*0.55*	0.181	-	-	*0.96*	*0.73*	*0.77*	-
Change of ownership	-	-	-	-	-	-	-	-	-	-	-	-	-
Company growth	0.223	0.198	*0.47*	-	-	-	-	-	-	-	-	-	-
Company laid off others	-	-	-	-	-	-	-	-	-	-	-	-	-
Job performance	0.163	0.138	*0.97*	0.119	0.186	*1.28*	0.057	0.073	*0.37*	*1.20*	*1.06*	*1.32*	*2.33*
Self-requested	0.185	0.130	*0.97*	0.031	0.201	*1.58*	0.039	0.138	*1.56*	*2.66*	*0.66*	*0.14*	*0.58*
Automatic	0.170	0.155	*0.15*	-	-	-	-	-	-	-	-	-	-
Other	0.178	0.076	*2.03*	0.153	0.062	*1.01*	0.130	-	-	*0.30*	*0.21*	*0.23*	-

Note: This table uses only full-time employees that had only one job since last interview.

[1] Empty cells have fewer than 15 observations.

Table 7.A Crowding and wage growth

						|t|-statistics		
			Traditional male jobs	Traditional mixed jobs	Traditional female jobs	*traditional female vs traditional male*	*traditional male vs traditional mix*	*traditional female vs traditional mix*
	1996	male	0.06	0.09	0.09	*0.85*	*1.65*	*0.16*
		female	0.10	0.10	0.07	*0.84*	*0.04*	*1.84*
		|t|-stats	*0.99*	*0.70*	*0.69*			
	2006	male	0.02	0.07	0.03	*0.33*	*2.07*	*0.75*
		female	0.02	0.05	0.04	*0.74*	*1.29*	*0.75*
		|t|-stats	*0.03*	*0.59*	*0.09*			
	2010	male	0.05	0.04	0.03	*0.74*	*0.18*	*0.59*
		female	0.05	0.07	0.07	*0.83*	*0.72*	*0.12*
		|t|-stats	*0.14*	*1.31*	*1.59*			
|t|-statistics	*1996 vs 2006*	*male*	*3.23*	*0.98*	*1.15*			
		female	*1.83*	*2.60*	*1.71*			
	2006 vs 2010	*male*	*1.80*	*0.91*	*0.19*			
		female	*0.95*	*0.95*	*2.06*			

Table 7.B Crowding and wage growth for the promoted						*|t|-statistics*		
			Traditional male jobs	Traditional mixed jobs	Traditional female jobs	*traditional female vs traditional male*	*traditional male vs traditional mix*	*traditional female vs traditional mix*
	1996	male	0.13	0.13	0.12	*0.24*	*0.10*	*0.28*
		female	0.15	0.21	0.12	*0.88*	*1.61*	*2.61*
		|t|-stats	*0.61*	*2.19*	*0.00*			
	2006	male	0.11	0.16	-	-	*0.95*	-
		female	-	0.12	0.10	-	-	*0.49*
		|t|-stats	-	*0.65*	-			
	2010	male	0.05	0.14	-	-	*1.78*	-
		female	-	0.12	0.06	-	-	*0.89*
		|t|-stats	-	*0.33*	-			
|t|-statistics	*1996 vs 2006*	*male*	*0.77*	*0.50*	-			
		female	-	*2.12*	*0.41*			
	2006 vs 2010	*male*	*1.45*	*0.44*	-			
		female	-	*0.09*	*0.63*			

APPENDIX: A Note on the Promotion Rate

Our promotion variable is based on promotions received in the current job since the date of the last interview. The raw data are given in Table A.1 for all NLSY79 surveys between 1996 and 2010. Taking the year 1996, for example, we see that 1,140 workers received a single promotion since the last interview, while 62 had received promotions in two of the jobs they held since the last interview and a further 6 were promoted in three of the jobs held since that last interview. On the other hand, as can be seen in Table A.2, 4,536 (= 4,411 + 122 + 3) workers received no promotion on the current job, although 125 of them (122 + 3) had received one or more promotions on other jobs since the date of the last interview. By restricting our attention to promotions (or to non-promotions) on the current job since the date of the last interview in calculating promotion rates, we are losing information on these 125 promotions. Table A.2 shows how many for this and all other years. Abstracting from weighting considerations, and it will be recalled that the data used in this paper are weighted throughout, we can get some rough idea of the consequences of this loss of data from focusing on promotions received on the current job. Had we used the data on all promotions, we would have a promotion rate of 21.5 percent (=1,208/5,619 x100) rather than the promotion rate of 19.3 percent (=1,083/5,619 x 100) for the measure based on the current job.

Table A.1 Number of promotions since the date of last interview

Year	0	1	2	3
1996	4,411	1,140	62	6
1998	4,351	1,170	46	2
2000	4,348	1,046	37	1
2002	4,450	683	19	1
2004	4,294	528	7	0
2006	4,097	621	14	0
2008	4,130	519	10	0
2010	3,985	369	7	2

Table A.2 Number of promotions since the date of last interview by current job promotion status

	Not Promoted in the Current Job			Promoted in the Current Job	
Year	0	1	> 1	1	>1
1996	4,411	122	3	1,018	65
1998	4,351	136	6	1,034	42
2000	4,348	111	4	935	34
2002	4,450	66	1	617	19
2004	4,294	43	0	485	7
2006	4,097	45	2	576	12
2008	4,130	51	2	468	8
2010	3,985	21	0	348	9