

*Forthcoming in Kyklos*

## Occupational Prestige and the Gender Wage Gap

Kristin J. Kleinjans, Karl Fritjof Krassel, and Anthony Dukes \*

February 2017

### SUMMARY

Occupational segregation by gender remains widespread and explains a significant part of the gender wage gap. We shed light on the reasons why occupational segregation persists despite the increases in women's education and labor force participation, and why it results in a gender wage gap. Women express a stronger relative preference than men for occupations that are valuable to society, which we argue is captured by their occupational prestige. If women prefer occupations with higher occupational prestige, they will earn lower wages because of compensating wage differentials. Using conditional logit models of occupational choice, we find statistically significant support for this hypothesis. The effect is economically significant: the gender differences in the weights placed on prestige and wages can explain up to one half of the gender wage gap resulting from occupational segregation, or about one fourth of the overall gender wage gap. Our results are strongest for individuals with low ability, which suggests that social norms may be an important factor in generating these gender differences.

**JEL codes:** D13, J16, J24

**Keywords:** occupational choice, occupational prestige, gender wage gap, social norms, gender identity

\* Kleinjans: Associate Professor of Economics, Steven G. Mihaylo College of Business and Economics, California State University, Fullerton, Fullerton, CA 92834-6848, USA, kkleinjans@fullerton.edu; Krassel: Researcher, KORA, Danish Institute for Local and Regional Government Research, Kobmagergade 22, 1150 Copenhagen K, Denmark, kakr@kora.dk; Dukes: Associate Professor, Marshall School of Business, Department of Marketing, University of Southern California, 701 Exposition Boulevard, HOH 331, Los Angeles, CA 90089-1424, dukes@marshall.usc.edu.

## I. INTRODUCTION

Women still earn less than men in most if not all countries (Anker 1997; Blau 2012). Traditionally, this gender wage gap has been explained by gender differences in education, skills, and expected labor force attachment (Polachek 1981; see England 1982 for an opposing argument). But this explanation is insufficient: nowadays, in most Western countries, young women obtain as much if not more education than men and expect to work throughout their lives, with only intermittent absences for child bearing and rearing (Blau 2012; Blau and Kahn 2000; Goldin 2006; Goldin et al. 2006). Thus, the question remains: Why do even young women still earn less than men? One reason is that women and men often work in different occupations even if they have the same level of education, a phenomenon commonly referred to as occupational segregation. This segregation explains a significant part of the gender wage gap, because on average women work in occupations that pay lower wages than men (Shauman 2006).<sup>1</sup>

In this paper, we present research that explores a reason for occupational segregation that has been previously overlooked: gender differences in preferences for occupational prestige. Such differences lead to occupational segregation that results in a gender wage gap. This addresses an important gap in the literature because it can not only explain part of occupational segregation but also the transmission mechanism by which occupational segregation leads to a gender wage gap (see, for example, Shauman 2006). The novel element in our analysis is the notion of *occupational prestige*. Occupational prestige (sometimes also referred to as occupational standing), defined as “the general level of social standing enjoyed by the incumbents of an occupation” (Hauser and Warren 1997), is stable across countries, time, and population subgroups (Hauser and Warren 1997), and reflects an occupation’s perceived contribution to society (see also Treiman 1977). Occupational prestige is distinct from other occupational classifications, such as social status, that capture relative social standing or ranking (see, e.g., Dolton, Makepeace, and van der Klaauw 1989), and which - for example - capture the fact that people assign higher status to those who are rich compared to others.<sup>2</sup> In contrast, occupational prestige reflects an occupation’s contribution

---

<sup>1</sup> Occupational segregation accounts for up to one half of the gender wage gap (Bayard et al. 2003; Blau and Kahn 2007).

<sup>2</sup> Social status is a composite measure derived from occupational prestige, salary, and sometimes the educational level of those holding the occupation (see Warren, Sheridan, and Hauser 1998; Hauser and Warren 1997). Few economic researchers emphasize occupational prestige - an exception is Zhang (2015) who uses prestige as a proxy for respect to examine the effect of cultural attitudes on occupational choice.

to society resulting from positive externalities of occupations or their contributions to public goods (e.g., teachers and artists). Since individuals receive altruistic rewards from contributing to society (Fortin 2008), they prefer occupations with higher occupational prestige.<sup>3</sup>

Why would there be gender differences in the importance of prestige for occupational choice? Women typically express a stronger preference than men for occupations that are deemed useful to society (Eccles 1994). For example, Grove, Hussey, and Jetter (2011) find this for a sample of MBAs, and show that it results in a wage penalty for women.<sup>4</sup> Marini et al. (1996) report that high school seniors were 66% and 44% more likely than men to indicate as very important that a job is “helpful to others” and “worthwhile to society”. This survey evidence is also supported by experimental evidence that, for example, shows that women are donating more money in double-anonymous dictator games than men (Eckel and Grossman 2008). Thus, we hypothesize that women place more importance on the prestige of their occupation than men.<sup>5</sup>

Gender differences in preferences for occupational attributes imply that women and men tend to choose different occupations, which results in occupational segregation. The market mechanism that generates the resulting gender wage gap can be explained by the *theory of equalizing differences* (Rosen 1986), or *compensating wage differentials*. This theory predicts that systematic differences in preferences over an occupation’s non-wage attributes affect that occupation’s market wage. For example, certain workers may feel that a particular occupation (e.g., teacher) provides more personal satisfaction (or intrinsic work benefits, see Spencer 2014) than another (e.g., stock broker) because it is perceived as providing a greater contribution to society – a notion that we argue is reflected in its occupational prestige. If women gain more personal benefit from occupational prestige than men, then occupations with more occupational prestige can be filled at a lower wage than most men will accept. Hence, holding everything else equal women sort into higher-prestige and lower-wage occupations and men into lower-prestige and higher-wage occupations, leading to a gender wage gap.<sup>6</sup>

---

<sup>3</sup> Our measure of occupational prestige may incorporate aspects beyond the occupation’s contribution to society, such as social status. This aspect is associated with income, which in our estimation is captured by hourly wage.

<sup>4</sup> Grove et al. (2011) find that self-reported noncognitive skills and labor market tastes account for about one quarter of the explained gender wage gap.

<sup>5</sup> This could also explain why women are more likely to work in the non-profit sector (Benz 2005) if such work contributes relatively more to society than work in the for-profit sector.

<sup>6</sup> Such sorting could also explain why daughters income is less correlated with their parent’s income than that of sons (Bowles and Gintis 2002), and why parental income affects men’s but not women’s

Our findings have important implications for workplace policies aimed at addressing wage disparities and the lack of gender diversity in certain occupations, which has been linked to gender bias, harassment, and discrimination (Blau, Ferber, and Winkler 2014). Prior research indicates that gender bias exists among managers of organizations, reinforcing discrimination in hiring, promotion, and retention (see, for example, Goldin and Rouse 2000; Martell, Lane, and Emrich 2006). Our research suggests that occupational segregation, driven by gender differences in occupational preferences, implies persistent gender inequality in earnings, even in absence of gender biases or discrimination in hiring. Specifically, the gender wage gap resulting from differences in preferences for occupational prestige perpetuates gender differences through labor market forces alone and, in particular, the determination of market wages and occupational segregation.

In what follows, we test our hypothesis that occupational prestige is a stronger factor in women's expected choice of an occupation than in men's. Since both women and men prefer higher wages and higher occupational prestige, it is the *relative* preference for occupational prestige compared to wages that we seek to measure. For this, we specify an empirical model of occupational choice in which the probability of expecting to work in an occupation depends on its perceived occupational prestige and its expected wages, controlling for other variables that might affect this trade-off between wages and prestige. The estimates indicate that women expect to work in occupations with higher occupational prestige and lower wages than men, a result that we show is strongest for individuals with lower ability. This is consistent with the theory of equalizing differences: women derive greater benefits than men from occupations with higher occupational prestige and are willing to accept lower wages.<sup>7</sup> To measure the significance of this result for explaining the gender wage gap, we calculate the counterfactual of how the gender wage gap resulting from occupational segregation would change if women had men's preferences for occupational prestige and wages. It can explain about half of the gender wage gap resulting from the observed occupational segregation.<sup>8</sup>

---

expectations of educational achievement when parental education is controlled for (Kleijnans 2010). If women opt for higher prestige and lower pay than men, their wages have a lower correlation with parental income than men's.

<sup>7</sup> This is also in line with the finding by Andreoni and Vesterlund (2001) that women are more altruistic than men when altruism is expensive.

<sup>8</sup> We cannot address gender wage differences resulting from differential sorting into firms within occupations (Blau 2012).

Previous literature has closely examined other reasons for occupational segregation, including gender differences in preferences for work hours and workplace amenities (such as flexibility of hours), discrimination (see Anker 1997 and, more recently, Grove, Hussey, and Jetter 2011 for an overview), as well as the above-mentioned differences in expected labor force attachment, education, and skills (see, e.g., Polachek 1981). Recent work has also considered gender differences in noncognitive skills (Antecol and Cobb-Clark 2013; Grove, Hussey, and Jetter 2011) and preferences for competition (Kleinjans 2009), but the effects found are generally small (see also Bertrand 2010). We empirically evaluate some of these additional explanations and find that the inclusion of relevant variables in our estimation does not change our conclusion that gender differences in the importance of occupational prestige for occupational choice can explain a significant part of occupational segregation and the resulting gender wage gap.

Our result stands somewhat in contrast to the related research by Fortin (2008), who finds only small effects of women's greater expressed importance of "money versus people" on the gender wage gap. In her analysis, preferences are defined as for "people" if at least one of the following is considered as "very important": working with people, living near family, and the usefulness of a job to others and to society. Our analysis focuses on the latter - we only consider prestige as a (continuous) measure of the usefulness of a job to society and contrast this with 'money', that is, wage. Hence, our results are not comparable.<sup>9</sup>

While it is beyond the scope of this paper to identify the origin of the gender differences in preferences for occupational prestige, we present results suggesting the potential importance of social norms or gender role socialization as a potential explanation. This could be through its effect on preferences, such as the perceived importance of altruism (Eccles 1994), discrimination by teachers or employers for non-traditional choices (Eliot 2009; Fine 2010),<sup>10</sup> or the ensuing lack of role models in non-traditional occupations (Blau, Ferber, and Winkler 2014). Gender roles tend to be more traditional for individuals with lower ability, which could explain that we find the strongest gender differences among low-ability-individuals. To explore this explanation, we proxy gender role socialization by the parents' socio-economic status (SES). This assumes that more highly educated parents transmit looser social norms on gender expectations for daughters and

---

<sup>9</sup> In our sample, there is no difference in the share of women and men who consider family and spare time as more important than work. We have no measure of the importance of working with people.

<sup>10</sup> Compare, for example, the public perception of female police officers and male receptionists or fathers' negative reaction to boys playing with dolls.

sons, lowering the importance of traditional occupational choices. We find that for low-SES and low-ability individuals our results are the strongest.

While these latter results are only suggestive, the strength of the overall effect of prestige on occupational choice and the resulting gender wage gap that we find clearly establishes the economic significance of prestige for occupational choice and thus for explaining gender differences in labor market outcomes, whatever the origins of the gender differences are. The effect size of half of the gender wage gap resulting from occupational segregation is greater than what many other studies of psychological and socio-psychological factors have found (see Bertrand 2008 for an overview).

## II. DATA AND LABOR MARKET SETTING

### *2.1 Labor Market Setting*

To test our hypothesis, we use data from the Danish labor market, where the gender wage gap and level of occupational segregation are similar to other countries. At the same time, gender differences in labor force participation and part-time employment are relatively small, decreasing the importance of gender differences in expected labor force attachment for occupational choice. The raw gender wage gap in Denmark is 16.3%.<sup>11</sup> Despite women's increase in educational achievement over the past decades (women's average education is now almost one year higher than men's),<sup>12</sup> occupational segregation remains widespread, putting Denmark in the middle among European countries (Bettio and Verashchagina 2009). Denmark differs from other industrialized (non-Scandinavian) countries because its women have a relatively high labor force participation and lower part-time employment. Denmark has strong dual-earner family policies with universal child care and paid parental leave (Lambert 2008), so, not surprisingly, the Danish gender gap in labor force participation of 7.0 percentage points is smaller than in other countries, including Germany (11.8 percentage points) and the U.S. (13.5 percentage points).<sup>13</sup> The gender gap in part-time work is also smaller in Denmark. In 2010, 24.1% of women worked part-time

---

<sup>11</sup> Based on hourly wage in 2011 (Eurostat, Gender pay gap statistics). The gap is about 4%-points smaller for performed work hours, and fluctuates with the business cycle (Larsen and Houlberg 2013).

<sup>12</sup> Own calculations based on Statistics Denmark and ISCED97 for 2011 ([www.statistikbanken.dk](http://www.statistikbanken.dk), <http://eng.uvm.dk/Education/Overview-of-the-Danish-Education-System>).

<sup>13</sup> Own calculations based on OECD Labour Force Statistics for 2010. Individuals in education are counted as being in the labor force.

versus 12.0% of men - in contrast, for example, to Germany, where the shares were 30.8% and 8.4%.<sup>14</sup> Since part time workers have lower hourly wages (OECD 2010), the tradeoff between wages and occupational prestige is different for people expecting to work part time. Using Danish data reduces the effect of potentially lower expected work hours of women on occupational choice.

## 2.2 Data

Our data combines individual characteristics from survey and assessment data, occupational information drawn from population registries and the EU Labour Force Survey, and a survey measure of occupational prestige. The data is combined by linking parental information to youth, and by matching occupation-specific characteristics to the expected occupations of these youth. A key advantage of this data set is that it allows us to distinguish the importance of occupational prestige from other correlated occupational and individual characteristics, such as wages and ability. Specifically, by using an exogenous source of occupational prestige we avoid the potential pitfall of endogeneity of expectations and occupational prestige, that is, the potential that individuals assign higher occupational prestige to occupations in which they expect to work.

The Danish PISA-Longitudinal Database is our source of individual-level data. It combines information from the 2000 OECD *Programme for International Students Assessment* (PISA) survey of nationally representative ninth graders and a follow-up survey entitled *Young people in job or education – values, choices and dreams for the future*, which re-interviewed the by then 19-year old PISA respondents in 2004.<sup>15</sup> To measure ability, we use the 2000 PISA reading literacy score, the only ability measure available in our data for most of our sample. Despite its name, the reading literacy score is a comprehensive measure designed to measure the “capacity to understand, use and reflect on written texts, derived from performance on reading tasks that require general broad understanding, retrieving specific information from texts, interpretation and reflection on contents and forms of texts, in order to achieve one’s goals, to develop one’s knowledge and potential, and to participate in society” (OECD 2002). The various questions require the test taker to retrieve information, have a broad understanding, interpret, and reflect on content in form of texts, tables, figures, and diagrams provided. Sample texts provided by the

---

<sup>14</sup> Own calculations based on OECD Labour Force Statistics. Part time is defined as working fewer than 30 hours in the main job.

<sup>15</sup> See Jensen and Andersen (2006) for more information on this data set.

OECD (OECD 2002) include a flyer about flu prevention, labor market statistics, arguments against and in favor of graffiti, an editorial on technological change, and a short story. Most other individual-level variables used in our analysis are from the follow-up survey with the exception of parental characteristics, which are from matched Statistics Denmark registers for the year 2003.

Occupational choice is derived from the answer to a question about the expected occupation at age 30. Since occupational expectations reflect plans and intentions they are a good measure of the effect of prestige and wages on occupational choice, since in the vast majority of the sample (over  $\frac{3}{4}$ ) they are measured before labor market entry, and thus, for example, do not reflect potentially differing work experience or hiring decisions (Antecol and Cobb-Clark 2013).<sup>16</sup> Teenagers' expectations are also predictive of occupational outcomes (Schoon and Parson 2001; Schoon and Polek 2011). Moreover, in Denmark the choice of occupation is closely related to educational choices, such as college major or type of educational training, mitigating the effect of the time difference between the age at the time of the survey (19 years) and expected occupation.

The source of the occupational prestige variable is a survey conducted in 2006 by *Ugebrevet A4*, a Danish news media owned by *LO, The Danish Confederation of Trade Unions*, which asked a representative sample of 2,155 Danes to score 99 occupations according to their occupational prestige by assigning a number from 0 (lowest) to 10 (highest).<sup>17</sup> This survey is very similar to other national and international surveys aimed at measuring occupational prestige (Nakao and Treas 1994). It was conducted in collaboration with *Analyse Danmark*, a Danish market research institute, from whose multi-purpose web panel the respondents were drawn. Because responses differ very slightly by age, we use the mean scores of the youngest respondent category (ages 18-29).<sup>18</sup> The level of detail of this survey matches the type of expected occupations provided by the youth well.<sup>19</sup> Performed work hours are derived from the EU Labour Force Survey from 2003 and the other occupation-specific measures from registry data from the entire Danish population in 2003. Our working sample consists of 1,796 individuals matched to 74 occupations.

---

<sup>16</sup> We discuss further below the potential of anticipated discrimination.

<sup>17</sup> The question was: "How would you assess the prestige of the following occupations in Denmark? You can answer from 0 (no prestige at all) to 10 (very high prestige)".

<sup>18</sup> Using gender-specific prestige scores of the same age group did not change our results.

<sup>19</sup> This is why we prefer this measure to the more commonly used Ganzeboom and Treiman's scale (Ganzeboom, de Graaf and Treiman 1992). There are also some differences in the prestige awarded to some occupations, including lawyers and skilled trade occupations, which are ranked higher in the Danish survey.



Table A1 in the Appendix shows the variables used in our analysis, data source, definitions, and means and standard deviations of our working sample by gender. Women have lower expected wages and prestige scores than men: Women's average prestige score is 5.16 compared to men's 5.41, and median hourly wages (roughly measured in US-Dollars) are 30.87 and 32.27, respectively. Women have 5.9% lower hourly wages in their expected occupation and 4.6% lower occupational prestige scores than men. While it might at first sight seem surprising that women have on average both lower wages and lower occupational prestige, this can be explained by women's choice of occupations with lower average work hours and unemployment rates than men, which have lower wages and lower occupational prestige.

Note that the raw gender wage gap in our data results purely from occupational segregation: It implies that about half of the Danish gender wage gap per performed work hour results from occupational segregation, which is similar in magnitude to previous findings. In addition to the above-mentioned lower average unemployment rates and lower work hours, women are more likely to expect to work in the health and education sectors. Women have higher ability scores than men, and are less likely to say that their decision about what to do after secondary school was influenced by being tired of school or the need to earn money.

As expected, wages and occupational prestige have a high correlation of 0.73, but there are clear differences in the rankings by prestige and by wage. Typical high-prestige occupations have relatively high wages (such as lawyers and physicians), and typical low-prestige ones have low wages (such as cashiers and movers). A typical occupation at the higher wage spectrum with high prestige but relatively low wage would be an architect with a prestige score of 7.39 and median hourly wage of 37.60 (which can be roughly interpreted as US dollars), compared to the low prestige-high relative wage occupation of programmer with a prestige score of 6.79 but a wage of 39.88. At the lower wage spectrum, example occupations include in-home caregiver and sales assistant. Table A2 in the appendix shows the descriptive statistics of the occupational characteristics for all occupations mentioned in the survey asking about occupational prestige sorted by the prestige score, and Figure A1 displays the distribution of wages sorted by occupational prestige.

### III. METHODOLOGY

Our first objective is to assess whether occupational prestige differently affects women's and men's expected occupation, controlling for other occupation-specific and individual-specific characteristics. As mentioned earlier, the prestige assigned to an occupation is stable over time and similar across countries and population subgroups, including gender (Treiman 1977; Warren, Sheridan and Hauser 1997). Although occupational prestige is highly correlated with wages, ability, and educational requirements (Chartrand et al. 1987), it cannot be explained solely by those variables. Therefore, we empirically measure the impact of occupational prestige net of these factors by controlling for variables that correlate with occupational choice. To this end, we estimate conditional logit models where the dependent variable equals one if an occupation is expected to be chosen and zero if not. Note that to estimate this model the data is arranged such that the number of observations per individual is equal to the number of possible occupations. We maximize the conditional likelihood with the following conditional probability:

$$Prob(Y_i = j | z_{i1}, z_{i2}, \dots, z_{ij}) = \frac{e^{\beta' z_{ij}}}{\sum_{j=1}^J e^{\beta' z_{ij}}} ,$$

which is the probability that individual  $i$ 's choice,  $Y_i$ , is occupation  $j$ , and  $z_{ij}$  are the occupation-specific characteristics as well as interaction terms of occupation- and individual-specific characteristics, such as ability. In this model, the outcome is equal to one if an occupation is chosen and zero otherwise, so it is not possible to include non-interacted individual characteristics since they do not vary by occupation. As a result, the number of individual characteristics that can be included given our sample size is limited, so in some cases we use separate regressions to assess their impact. All models are estimated using clustered standard errors. In order to allow for all possible interactions between gender and other effects and to ease the interpretation of the results, we conduct separate regressions by gender and present odds ratios.

In order to identify the gender differences in the effect of occupational prestige and wage on occupational choice we must control for potential confounders. Potential cofounders are factors that affect occupational choice but are also correlated with our variables of interest, namely, prestige and wage. In what follows, we briefly describe these confounders and how we address them in our empirical analysis.

Gender differences in occupational choices have been explained by women's greater desire for work that is compatible with child-bearing and rearing. We therefore control for average work

hours in each occupation. In a robustness check, we also include preferences for short/ convenient work hours, job safety, or a challenging job, to assess whether work hours indeed capture this potential confounder. Because women are in at least some domains on average more risk averse than men (e.g., Croson and Gneezy 2009) and risk might be correlated with occupational prestige (which is possible if, for example, occupations in the public sector have higher prestige and lower risk) and wage (for example, because of compensating wage differentials, see Bertrand 2010) we include the unemployment rate in all estimations. Since successful entry into occupations with higher wages (and potentially those with higher prestige as well) requires higher ability, we control in most regressions for ability, using dummies for the lowest and highest quartile.

Ability can also be seen as an inverse measure of the cost of getting the education required to work in an occupation. There are two main kinds of cost: lost wages during the education, and the pain or pleasure (Oreopoulos and Salvanes 2011) of acquiring the education. While we are not able to derive direct measures of these costs, lost wages are not as much of a concern for our data since there is no tuition in Denmark, and every student receives a stipend unless she earns money (as is the case in most vocational training programs).<sup>20</sup> To proxy the pain or pleasure of additional education, we conduct regressions where we include variables of how individuals felt about school after (compulsory) middle school, and specifically whether they were tired of school or felt the need to earn money.

While illegal in Denmark, it is possible that women anticipate discrimination in hiring or promotion. Our data do not allow us to directly assess whether a woman's choice of occupation is influenced by (anticipated) discrimination, but we are able to assess some implications of discrimination, explained in more detail in the results section. Furthermore, it is possible and maybe even likely that the 19-year olds we study may not anticipate facing much discrimination. According to a recent study commissioned by the European Commission on gender equality in Denmark, the public discourse in Denmark focusses on the role of traditional gender stereotypes

---

<sup>20</sup> Higher education stipends depend on whether the individual lives alone or with parents, while apprenticeship wages depend on age and whether the student has an education agreement with a firm. The stipend for students living alone is around 5,900 DDK/month while initial monthly apprenticeship wages (with typically 37 work hours per week) range between 8,600 and 10,000 DDK if the student has an education agreement; otherwise it is around 6000 DKK if the student is at least 18 years old (2,500 if younger than 18 years). See <https://www.ug.dk/flereomraader/maalgrupper/6til10klasse/elevloen>.

for educational and occupational choices, and generally takes gender equality in opportunities as given (Agustin 2011).

We report the results of further robustness checks with which we explored additional explanations for our results but found no evidence that these altered our conclusions. Finally, we explore potential evidence for gender roles as the source of the gender differences in preferences for prestige and wage by including measures of socioeconomic status and parental occupations.

As identification strategy of the causal effect of gender differences in preferences for occupational prestige on occupational choice, we assume conditional independence. This is justified because we are able to control for important potential confounders, with the possible exception of discrimination which is discussed above and below.<sup>21</sup> The remaining issue that needs to be addressed is the potential for reverse causality: It is possible that the share of women in an occupation decreases its occupational prestige (a hypothesis sometimes put forward in sociology) or that occupational prestige is higher for occupations that are considered “underpaid” compared to their contribution to society. There is no evidence for the former (Addison, Ozturk, and Wang 2015; England 1979; Hauser and Warren 1997; Magnusson 2009). Indeed, according to the survey used in our analysis, mixed occupations have the highest occupational prestige. For example, only three out of the top twenty occupations have workers who are 10% or less of one gender, two of which are overwhelmingly male (*pilots* and *civil engineers*) and one female (*midwives*).

If occupational prestige is higher for “underpaid” occupations we might mistakenly interpret our results as showing that occupational prestige affects women’s choices even though it is women’s choices that affect prestige. Consider the following scenario: Women choose certain occupations because discrimination makes it harder for them to work in others. This reduces wages, which in turn increases occupational prestige. As a result, occupations with more women have higher occupational prestige. This is, however, not the case - in fact, as mentioned above, occupations with relatively similar shares of women and men have the highest prestige. Note that since the occupational prestige measure is drawn from a different survey, justification bias (where individuals give higher occupational prestige to their desired occupations) is of no concern.

---

<sup>21</sup> We cannot address the role of the marriage market. Assortative mating by education (Bruze, Svarer, and Weiss 2015) might affect occupational choice through expectations about a future spouse’s income and prestige, further increasing gender differences if wage and prestige are at least partially shared.

#### IV. THE ROLE OF OCCUPATIONAL PRESTIGE FOR GENDER DIFFERENCES IN WAGES

The results of our baseline estimation are presented in Table 1. Columns (1) and (4) show the odds ratios when only wage, the unemployment rate, and work hours are included.<sup>22</sup> Occupations with higher wages, lower unemployment rates, and – in the case of women – lower average work hours are more likely to be chosen. Men are more influenced by wage than women, and women more by the unemployment rate - consistent with previous findings that women are more risk averse than men. Women's greater response to work hours and unemployment can explain why women in our raw data have both lower wages and lower occupational prestige. Since the results for work hours and unemployment rate remain almost unchanged in all regression results, we only report those here. Throughout, we test whether odds ratios between women and men are statistically different using a Wald test.

INSERT TABLE 1 ABOUT HERE

Including occupational prestige in the regression (shown in columns 2 and 5) reduces the effect of wage (now net of prestige) for women and men. For women the odds ratio of wage is not statistically different from zero. This is in line with previous findings that compared to non-pecuniary factors earnings have only small effects on postsecondary major choice, especially for women (Zafar 2013; Wiswall and Zafar 2011). Women are more influenced by an occupation's prestige than men, supporting our hypothesis. A one unit increase in prestige (about two thirds of a standard deviation, and the equivalent of moving in terms of prestige from a physiotherapist to a police officer) increases women's probability of choosing an occupation 1.3 times and men's 1.1 times.

Adding ability reveals differences across the ability distribution (columns 3 and 6). Individuals in the lowest ability quartile choose occupations with lower wages, consistent with the interpretation that it is more difficult or costly for them to acquire the necessary education and to be successful in occupations with higher wages. This effect is stronger for women. The odds ratio of prestige, on the other hand, does not differ for women in the lowest ability range compared to those in the middle of the ability distribution, but is lower for men. Prestige is more important for

---

<sup>22</sup> We also include a flag for occupations with few observations as flagged by the EU Labour Force Survey. Our results are robust to omitting the flag and to excluding those occupations.

high ability individuals of both genders. This suggests that it is more difficult to get into occupations with higher wages or higher prestige, and that women substitute prestige for wages to a higher degree than men at low ability levels. To ease interpretation, it is helpful to compare the overall effects of a one-unit change in prestige and wage for women and men with differing ability. For low-ability women, a one unit increase in wage makes women only 0.89 times as likely to expect to work in an occupation ( $1.001 \times 0.893$ , statistically significant at the 1%-level), while for low-ability men the odds ratio is 0.98 (statistically significant at the 10%-level). For a one-unit increase in prestige, the odds ratios are 1.22 for women (statistically significant at the 1%-level) and 0.95 for men (not statistically significant at a conventional level). The gender differences of both of these are statistically significant at the 1%- and 5%-level, respectively. For medium-ability women and men, the odds ratios can be found in the table: For wage, they are statistically significantly different by gender, and not statistically different from 1 for women, and 1.024 for men; for prestige, there is no statistical difference between women and men, and they are about 1.2. For high-ability women and men, the respective odds ratios for wage and for prestige are not statistically different. So we find the greatest gender differences among those with low ability, followed by those with medium ability, and no gender differences among high-ability individuals.

Using this third specification, we compare women's predicted wages with the counterfactual prediction in which women have men's preferences for occupational prestige and wages but retain their own ability levels and aversion to unemployment and longer work hours. Predicted wages (women's and women's counterfactual) are statistically significantly different at the 1% level. Comparing them shows that about half (48%) of the 5.9% wage gap in our data can be explained by the gender differences in the effects of wages and occupational prestige on occupational choice. Figure A2 in the Appendix shows the resulting changes in predicted probabilities with occupations sorted by occupational prestige. As expected given the gender differences in our findings, women's expected occupations change significantly.

INSERT TABLE 2 ABOUT HERE

## V. EXPLORING ALTERNATIVE EXPLANATIONS

To rule out the possibility that our results are driven by determinants of occupational choice that differ between women and men that are correlated with wage and occupation but are omitted

from our estimation, we conducted variety of robustness checks to rule out alternative explanations for our findings: gender differences in the cost of working in an occupation or in preferences for work amenities, and anticipated discrimination.

In case gender differences in the cost of working in an occupation are correlated with wage or prestige and are not sufficiently captured by our ability measure, we repeated our regressions with two additional variables: Youth reporting in 2004 that their choice of what to do after (compulsory) middle school was influenced by the need to earn some money and by being tired of school. We also added a measure of effort and perseverance (Antecol and Cobb-Clark 2013). The results of interest, odds ratios for prestige and wage, do not change in a significant manner (see Table 2). There is also no effect of the inclusion of a measure of self-confidence (Niederle and Vesterlund 2007; results not shown). Similarly, including a dummy for math and science occupations, and a measure of how physically demanding an occupation is (Bertrand 2010) do not affect our results (see Table 2). While this at first might seem surprising given previous findings (see, e.g., Joensen and Nielsen 2016), it is possible that this is the result of our wage measure (the median hourly wage), which does not take into account differences within occupations or returns to different types of skills or advanced degrees.

In case work hours do not sufficiently account for potential gender differences in preferences for flexible work hours and related workplace amenities, we added an additional measure of preferences of short/ convenient work hours, job safety, or a job that is challenging. At the same time, we added a measure of preference for competition in case prestige is negatively correlated with perceived competitiveness of an occupation (Croson and Gneezy 2009). None of this affected our results (see Table 3).

It has been hypothesized that there might be a wage penalty for work in the so-called “caring” professions, which are traditionally held by women (e.g., England et al. 2002). Though recent research (Hirsch and Manzella 2015) has shown that this wage penalty is small, we repeated our analysis with added dummies for occupations in education and health. The results (not shown) change only slightly.

INSERT TABLE 3 ABOUT HERE

Lastly, we turn to discrimination as another potential explanation. Given the set-up of our analysis, only anticipated discrimination could affect our findings, which - as mentioned earlier - is not something young women in Denmark expect to face (Agustin 2011). Nevertheless, while we are not able to directly test whether expected discrimination can explain the differential effects of prestige and wage for women and men, it seems worthwhile to explore two consequences of discrimination. First, suppose employers are biased against women but nevertheless feel the need to hire some women for public image or liability reasons. If this is the case, it is likely that women are evaluated separately, and compared only to other potential female employees. To evaluate this implication of discrimination, we employed gender-specific ability quartiles (results not shown). Second, discrimination (or anticipated discrimination) in hiring is more likely if the percentage of one's own gender in an occupation is low. While this is endogenous to our parameters of interest (because it is the result of sorting by prestige and wage) it is worthwhile to investigate whether accounting for this affects our results. Hence, we include a dummy variable of whether the percentage of one's own gender in an occupation is less than 10% (this includes occupations such as midwives, civil engineers, carpenters, and farmers). These results are shown in Table 3. Neither of these explorations changes the odds ratios of interest in a statistically significant way. Both specifications decrease the percentage of the explained wage gap resulting from different odds ratios for prestige and wage to (a statistically significant) 23% and 39%. These results point to a potential additional role of discrimination in explaining occupational segregation. Given our data, we are not able to explore this further.

To ensure that our results are not driven by the assumption that women and men have the same wage, we also estimated our model assuming that women's wages are 6% lower than the median wage (roughly corresponding to the gender wage gap unrelated to occupational segregation). The results (not shown) do not change.

## VI. THE ORIGINS OF GENDER DIFFERENCES IN PREFERENCES FOR PRESTIGE AND WAGE: THE IMPORTANCE OF GENDER ROLES

One of the explanations for occupational segregation put forward is the influence of gender role socialization on occupational choices, leading an individual to make choices congruent with



traditional views of what is appropriate and important for one's gender (see, e.g., Eccles 1994).<sup>23</sup> In that sense, the interpretation of our results does not hinge on women inherently being more altruistic than men as long as they place more importance on appearing altruistic.

Gender roles are more traditional in lower SES families (Dryler 1998; Vella 1994) and for lower-ability individuals who may be less likely to challenge gender roles (Ahrens and O'Brien 1996; Fassinger 1990),<sup>24</sup> also because parents' approval is an important determinant for children's occupational and college-major choice (Jacobs, Chhin, and Blecker 2006; Zafar 2013).<sup>25</sup> This implies greater occupational segregation among low-ability individuals, which is the case in our data: The majority of occupations (79%) in which individuals with low ability expect to work require vocational training or less, and these occupations are highly segregated with 74% of occupations having three quarter or more workers of one gender compared to 21% of occupations requiring a master degree. This is also apparent in our results presented earlier. Counterfactual predictions by ability show that 76% of the gender wage gap disappears for the lowest ability quartile once we assume that women have men's coefficients for wages and occupational prestige, while it is 32% for the two middle quartiles and only 17% for the highest ability quartile. To test whether this relationship also holds for low SES individuals, we conducted further regressions where we included additional interaction terms between low and high parental SES with wage and prestige (see Table 3). Here, we find some support for this hypothesis with gender differences for both interaction terms with low ability, with low-ability men putting more weight on wage and less on prestige than low-ability women. However, total effects are only statistically significantly different for wage. When we instead defined someone as 'low' and 'high' types by conditioning on being both low SES and low ability, and high SES and high ability, the results (not shown) are stronger, with statistically significant gender differences for the low types at the 1% level for wage and 10% level for prestige, with low-type women's odds of choosing an occupation with higher wages being 0.896 (and not different from zero for men), and of those with higher prestige 1.14 for women and 0.869 for men (statistically significant at the 10% and 5% level, respectively). We

---

<sup>23</sup> This can also be thought of as differing identity payoffs (Humlum et al. 2012) from occupations.

<sup>24</sup> This could also explain why girls' and boys' educational expectations are affected differently by parental income and parental education (Kleijnans 2010).

<sup>25</sup> In a related finding, Zhan (2015) shows that cultural background affects the importance of occupational prestige and pecuniary rewards for occupational choices of men in the U.S.

cautiously take these results as suggesting that social norms and gender roles might be one of the reasons we find these differences in the role that wage and prestige play in occupational choice.

As another way to investigate the role of parental attitudes, we added interactions of wage and prestige with dummies for a low, medium, or high share of women in the mother's and the father's occupation to the baseline regression (results not shown). While this makes the number of variables rather high given the sample size, we find that if there are less than one third of women in the father's occupation then men (but not women) put less weight on occupational prestige. This could be a reflection of more rigid gender roles for men (Valian 1999). None of the other odds ratios are statistically significantly different for women and men.

## VII. CONCLUSIONS AND IMPLICATIONS

Despite women's increased educational achievement, women and men often work in different occupations. This occupational segregation can explain up to one half of the raw gender wage gap, but it is not well understood why such segregation persists. Even as countries seem to be moving towards more gender equality, this suggests that the gender wage gap is likely to persist.

We investigate an explanation for occupational segregation that is based on job attributes, and more precisely, the idea that women place more weight on occupational prestige compared to wages than men. Women have been found to value an occupation's social contribution more than men, which we proxy with the prestige of an occupation. We argue that if occupational prestige gives benefits to holders of occupations and if these benefits vary by gender, then differences in occupational choices result in a gender wage gap because women's stronger preference for prestige implies that employers can fill positions with higher occupational prestige with women at a lower wage. To test this hypothesis, we estimate an occupational choice model using Danish survey data matched to registry data. In the raw data, women have 5.9% lower wages and 4.6% lower prestige scores than men because of occupational segregation. That both are lower is the result of women expecting to work in occupations with lower work hours and lower unemployment rates compared to men. After controlling for individuals' ability, parental background, and characteristics of expected occupations (including unemployment and work hours), we find that women expect to work in occupations with higher occupational prestige and lower wages than men, with the greatest difference for low-ability individuals. Counterfactual predictions show that a significant part (up

to one half) of the gender wage gap caused by occupational segregation – and thus up to one fourth of the overall wage gap - can be explained by these preference differences.

While we are not able to causally identify the origin of the gender differences, we find suggestive evidence in line with the hypothesis that gender identity norms are a potential source. If this is the case then gender differences in preferences for prestige can help us understand why gender roles (through their effect on occupational choices) lead to gender differences in wages. Our data do not permit a causal analysis to identify whether preference differences result from gender roles or from anticipated discrimination. Our results can, however, help explain why the narrowing of the gender wage gap has slowed down and remains significant (Goldin 2006; Blau and Kahn 2007) if gender roles are slow to change.

## REFERENCES

- Addison, John T., Ozturk Orgul D. and Si Wang (2015). The Occupational Feminization of Wages, *IZA Discussion Paper* 9078.
- Agustin, Lise R. (2011). *The Policy on Gender Equality in Denmark. Directorate General for internal Policies. Policy Department C: Citizen's Rights and Constitutional Affairs, Gender Equality, European Parliament.*
- Ahrens, Julia A. and Karen M. O'Brien (1996). Predicting Gender-Role Attitudes in Adolescent Females: Ability, Agency, and Parental Factors, *Psychology of Women Quarterly*. 20: 409-417.
- Andreoni, James and Lise Vesterlund (2001). Which is the Fairer Sex? Gender differences in altruism, *Quarterly Journal of Economics*. 116(1): 293-312.
- Anker, Richard (1997). Theories of Occupational Segregation by Sex: An overview, *International Labor Review*. 136(3): 315-339.
- Antecol, Heather and Debra A. Cobb-Clark (2013). Do Psychosocial Traits Help Explain Gender Segregation in Young People's Occupations?, *Labour Economics*. 21: 59-73.
- Bayard Kimberly, Judith Hellerstein, David Neumark and Kenneth Troske (2003). New Evidence on Sex Segregation and Sex Differences in Wages from Matched Employer-Employee Data, *Journal of Labor Economics*. 21(4): 887-922.
- Benz, Matthias (2005). Not for the Profit, but for the Satisfaction? Evidence on Worker Well-Being in Non-Profit Firms, *Kyklos*. 58(2): 155-176.
- Bertrand, Marianne (2010). New Perspectives on Gender, in: *Handbook of Labor Economics*, Vol. 4b, Elsevier, Chapter 17: 1545-1592.
- Bettio, Francesca and Alina Verashchagina (2009), *Gender segregation in the labour market: Root causes, implications and policy responses in the EU*, Luxemburg: European Commission Directorate-General for Employment, Social Affairs and Equal Opportunities.
- Blau, Francine D. (2012). *Gender, Inequality, and Wages*, Oxford: Oxford University Press.

- Blau, Francine D., Marianne A. Ferber and Anne E. Winkler (2014). *The Economics of Women, Men, and Work*, Upper Saddle River, NJ, Prentice-Hall.
- Blau, Francine D. and Lawrence M. Kahn (2007). The Gender Pay Gap, *The Economists' Voice*, 4(4) article 5.
- Blau, Francine D. and Lawrence Kahn (2000). Gender Differences in Pay, *Journal of Economic Perspectives*. 14(4): 75-99.
- Bruze, Gustaf, Michael Svarer and Yoram Weiss (2015). The Dynamics of Marriage and Divorce, *Journal of Labor Economics*. 33(1): 123-170.
- Chartrand, Judy M., Thomas E. Dohm, Rene V. Dawis and Lloyd H. Lofquist (1978). Estimating Occupational Prestige, *Journal of Vocational Behavior*. 31: 14-25.
- Croson, Rachel and Uri Gneezy (2009). Gender Differences in Preferences, *Journal of Economic Literature*. 47(2): 1-27.
- Dolton, P. J., G. H. Makepiece and W. van der Klaauw (1989). Occupational Choice and Earnings Determination: The role of sample selection and non-pecuniary factors, *Oxford Economic Papers New Series*. 41(3): 537-595.
- Dryler, Helen. (1998). Parental Role Models, Gender, and Educational Choice, *The British Journal of Sociology*. 49(3): 375-398.
- Eccles, Jacquelynne S. (1994). Understanding Women's Educational and Occupational Choices: Applying the Eccles et al. model of achievement-related choices, *Psychology of Women Quarterly*. 18: 585-609.
- Eckel, Catherine and Philip J. Grossman (2008). Differences in the economic decisions of men and women: experimental evidence, in: Plott, C. and V. Smith (eds.), *Handbook of Experimental Economic Results*, vol. 1, Elsevier, New York: 509-519.
- Eliot, Lise (2009). *Pink Brain, Blue Brain: How small differences grow into troublesome gaps - and what we can do about it*, Boston, New York, Mariner Books, Houghton Mifflin Harcourt.
- England, Paula (1979). Women and Occupational Prestige: A case of vacuous sex equality, *Signs*. 5(2): 252-265.
- England, Paula (1982). The Failure of Human Capital Theory to Explain Occupational Sex Segregation, *Journal of Human Capital*. 17(3): 358-370.
- England, Paula, Michelle Budig and Nancy Folbre (2002). Wage of Virtue: The relative pay of care work, *Social Problems*. 49(4): 455-473.
- Fassinger, Ruth. E. (1990). Causal Models of Career Choice in Two Samples of College Women, *Journal of Vocational Behavior*. 36: 225-248.
- Fine, Cordelia (2010). *Delusions of Gender: How our minds, society, and neurosexism create difference*, New York, London, W. W. Norton & Company.
- Fortin, Nicole M. (2008). The Gender Wage Gap among Young Adults in the United States: The importance of money versus people, *Journal of Human Resources*. 43: 885-918.
- Ganzeboom, Harry B. G., Paul M. de Graaf and Donald J. Treiman (1992). A standard international socio-economic index of occupational status, *Social Science Research*. 21: 1-56.

- Goldin, Claudia (2006). The Quiet Revolution that Transformed Women's Employment, Education, and Family (Richard T. Ely Lecture), *American Economic Review Papers and Proceedings*. 96(2): 1-21.
- Goldin, Claudia, Lawrence F. Katz and Ilyana Kuziemko (2006). The Homecoming of American College Women: The Reversal of the College Gender Gap, *Journal of Economic Perspectives*. 20(4): 133-156.
- Goldin, Claudia and Cecilia Rouse (2000). Orchestrating Impartiality: The Impact of 'Blind' Auditions on Female Musicians, *American Economic Review*. 90(4): 715-741.
- Grove, Wayne A., Andrew Hussey and Michael Jetter (2011). The Gender Pay Gap Beyond Human Capital: Heterogeneity in Noncognitive Skills and in Labor Market Tastes, *Journal of Human Resources*. 46(4): 827-874.
- Hirsch, Barry T. and Julia Manzella (2015). Who cares – and does it matter? Measuring wage penalties for caring work, in: *Gender Convergence in the Labor Market, Research in Labor Economics*, eds.: Solomon W. Polachek, Kontantin Tatsiramos, and Klaus F. Zimmermann, 41: 213-275.
- Humlum, Maria K., Kristin J. Kleinjans and Helena S. Nielsen (2012). An Economic Analysis of Identity and Career Choice, *Economic Inquiry*. 50(1): 39-61.
- Jacobs, Janis E., Christina S. Chhin and Martha M. Bleeker (2006). Enduring links: Parents' expectations and their young adult children's gender-typed occupational choices, *Educational Research and Evaluation*. 12(4): 395–407.
- Jensen, Torben P. and Dines Andersen (2006). Participants in PISA 2000 - Four Years Later, in: Jan Mejdning and Astrid Roe (eds). *Northern Lights on PISA 2003 - A Reflection from the Nordic Countries*. Denmark: Nordic Council of Ministers: 223-232.
- Joensen, Juanna S. and Helena S. Nielsen (2016). Mathematics and Gender: Heterogeneity in Causes and Consequences, *Economic Journal*. 126(593): 1129-1163.
- Kleinjans, Kristin J. (2010). Family Background and Gender Differences in Educational Expectations, *Economics Letters*. 107: 125-127.
- Kleinjans, Kristin J. (2009). Do Gender Differences in Preferences for Competition Matter for Occupational Expectations?, *Journal of Economic Psychology*. 30(5): 701-710.
- Lambert, Priscilla A. (2008). The Comparative Political Economy of Parental Leave and Child Care: Evidence from Twenty OECD Countries, *Social Politics*. 15(3): 315-344.
- Larsen, Mona and Helle S. B. Houlberg (2013). *Lønforskelle Mellem Mænd og Kvinder 2007-2010*, Copenhagen, Denmark, SFI-Det Nationale Forskningscenter for Velfærd 13:24.
- Lønkommissionen (2010). *Lønkommissionens Redegørelse: Løn, Køn, Uddannelse og Fleksibilitet*, Copenhagen, Denmark.
- Magnusson, Charlotta (2009). Gender, Occupational Prestige, and Wages: A Test of Devaluation Theory, *European Sociological Review*. 25(1): 87-101.
- Marini, M. M., P. L. Fan, E. Finley and A. M. Beutel (2006). Gender and Job Values, *Sociology of Education*. 69(1): 49-65.

- Martell, Richard F., David M. Lane and Cynthia Emrich (1996). Male-female Differences: a computer simulation, *American Psychologist*. February: 157-158.
- Nakao, Keiko and Judith Treas (1994). Updating Occupational Prestige and Socioeconomic Scores: How the New Measures Measure Up, *Sociological Methodology*. 23: 1-72.
- Niederle, Muriel and Lise Vesterlund (2007). Do women shy away from competition? Do men compete too much?, *Quarterly Journal of Economics*. 122(3): 1067-1101.
- OECD (2002). *Sample Tasks from the PISA 2000 Assessment of Reading, Mathematical and Scientific Literacy*, OECD, Paris.
- OECD (2010). *Employment Outlook 2010: Moving beyond the jobs crisis*, OECD, Paris.
- Oreopoulos, Philip and Kjell G. Salvanes (2011). Priceless: The Nonpecuniary Benefits of Schooling, *Journal of Economic Perspectives*. 25(1): 159–184.
- Polachek, Solomon W. (1981). Occupational Self-Selection: A Human Capital Approach to Sex Differences in Occupational Structure, *Review of Economics and Statistics*. 63(1): 60-69.
- Rosen, Sherwin (1986). The Theory of Equalizing Differences,” in: O. Ashenfelter and R. Layard (eds.), *Handbook of Labor Economics 1*, Elsevier Science Publishers: 641-692.
- Shauman, Kimberlee A. (2006). Occupational Sex Segregation and the Earnings of Occupations: What causes the link among college-educated workers?, *Social Science Research*. 35: 577-619.
- Schoon, Ingrid and Samantha Parsons (2002). Teenage Aspirations for Future Careers and Occupational Outcomes, *Journal of Vocational Behavior*. 60(2): 262-288.
- Schoon, Ingrid and Elzbieta Polek (2011). Teenage career aspirations and adult career attainment: The role of gender, social background and general cognitive ability, *International Journal of Behavioral Development*. 35(3): 210-217.
- Spencer, David A. (2014). Conceptualizing Work in Economics: Negating a Disutility, *Kyklos*. 67(2): 280-294.
- Treiman, Donald J. (1977). *Occupational Prestige in Comparative Perspective*, New York, Academic Publishers.
- Valian, Virginia (1998). *Why so slow? The advancement of women*, Cambridge, Massachusetts, London, England, The MIT Press.
- Vella, Francis D. (1994). Gender roles and human capital investment: the relationship between traditional attitudes and female labour market performance, *Economica*. 61(242): 191-211.
- Warren, John R., Jennifer T. Sheridan and Robert M. Hauser (1998). Choosing a Measure of Occupational Standing: How Useful Are Composite Measures in Analyses of Gender Equality in Occupational Attainment?, *Sociological Methods & Research*. 27(1): 3-76.
- Wiswall, Matthew and Basit Zafar (2011). *Determinants of College Major Choice: Identification Using an Information Experiment*, Federal Reserve Bank of New York Staff Reports, no. 500.
- Zafar, Basit (2013). College Major Choice and the Gender Gap, *Journal of Human Resources*. 48(3): 545-595, 2013.
- Zhan, Crystal (2015). Money vs. Prestige: Cultural Attitudes and Occupational Choices, *Labour Economics*. 32: 44-56.

## ACKNOWLEDGMENTS

We thank Ugebrevet A4 and Henrik Feindor Christensen at Analyse Denmark for access to the occupational prestige survey, and Julie Cullen, Mona Larsen, Helena Skyt Nielsen, Stefanie Schurer, Edward J. Schumacher, Stephan Thomsen, and participants at the ASSA, SOLE, ESPE, and WEA meetings, the IZA/CEPR European Summer Symposium in Labour Economics, as well as seminar participants at KORA, Aarhus University, Binghamton University, University of Hamburg, and University of Potsdam for helpful comments. Kleinjans thanks the Milton A. Gordon Fund for Scholarly & Creative Activities at CSUF for funding.

## TABLES

*Table 1*

Baseline Results: Occupational Choice, Conditional Logit Model (Odds Ratios Shown)

	Women			Men		
	(1)	(2)	(3)	(4)	(5)	(6)
	No Prestige	With Prestige	Baseline	No Prestige	With Prestige	Baseline
Wage	1.019*** † (0.006)	<b>0.992</b> (0.007)	1.001 ‡ (0.009)	1.038*** † (0.004)	<b>1.019***</b> (0.005)	1.024*** ‡ (0.008)
Wage × low ability			<b>0.893***</b> (0.015)			<b>0.959***</b> (0.012)
Wage × high ability			1.016 (0.014)			1.009 (0.012)
Prestige		<b>1.322***</b> (0.050)	1.254*** (0.061)		<b>1.145***</b> (0.034)	1.183*** (0.050)
Prestige × low ability			0.974 ‡ (0.080)			0.803*** ‡ (0.054)
Prestige × high ability			1.350*** (0.117)			1.336*** (0.109)
Unemployment	<b>0.813***</b> (0.025)	0.853*** † (0.026)	0.849*** † (0.027)	<b>0.920***</b> (0.019)	0.923*** † (0.018)	0.918*** † (0.018)
Work hours	<b>0.797***</b> (0.020)	<b>0.756***</b> (0.023)	<b>0.744***</b> (0.023)	<b>1.004</b> (0.013)	<b>0.997</b> (0.014)	<b>0.987</b> (0.014)
Pseudo R <sup>2</sup>	0.048	0.055	0.075	0.030	0.033	0.050
Log Likelihood	-3,806.06	-3,777.57	-3,698.55	-3,618.31	-3,609.82	-3,544.60
# of individuals	929	929	929	867	867	867
Observations	68,746	68,746	68,746	64,158	64,158	64,158

*Notes:* Robust standard errors are shown in parentheses. Statistical significance levels shown are \* p<0.10, \*\* p<0.05, and \*\*\* p<0.01. Bold (†, ‡) in columns (1)-(6) indicates statistically significantly different odds ratios between men and women at the 1% (5%, 10%) percent level. Also included but not shown is a flag for imprecisely measured work hours.

*Table 2*  
Cost Measures (Odds Ratios Shown)

	Women			Men		
	(1)	(2)	(3)	(4)	(5)	(6)
	Added Cost	Effort & Perseverance	Math/ Science & Physical Demand	Added Cost	Effort & Perseverance	Math/ Science & Physical Demand
Wage	1.006 ‡ (0.009)	1.001 ‡ (0.009)	<b>0.988</b> (0.010)	1.027*** ‡ (0.008)	1.022*** ‡ (0.008)	<b>1.037***</b> (0.007)
Wage × low ability	<b>0.902***</b> (0.016)	<b>0.898***</b> (0.015)	<b>0.886***</b> (0.016)	<b>0.963***</b> (0.013)	<b>0.965***</b> (0.013)	<b>0.969***</b> (0.012)
Wage × high ability	1.012 (0.014)	1.009 (0.014)	1.023 (0.015)	1.005 (0.012)	1.003 (0.012)	1.001 (0.012)
Wage × Tired of school	0.980 (0.017)			0.967** (0.015)		
Wage × Needed to earn some money	0.942* ‡ (0.030)			1.013 ‡ (0.021)	1.021*** (0.006)	
Wage × Effort and perseverance		1.019*** (0.007)				
Prestige	1.309*** (0.068)	1.251*** (0.062)	1.218*** (0.061)	1.268*** (0.058)	1.190*** (0.050)	1.332*** (0.064)
Prestige × low ability	1.022 (0.087)	0.961 ‡ (0.079)	0.985 † (0.082)	0.858** (0.060)	0.802*** ‡ (0.055)	0.781*** † (0.054)
Prestige × high ability	1.315*** (0.115)	1.358*** (0.119)	1.333*** (0.114)	1.261*** (0.106)	1.344*** (0.111)	1.361*** (0.115)
Prestige × Tired of school	0.768*** (0.066)			0.851** (0.061)		
Prestige × Needed to earn some money	1.036 † (0.118)			0.746*** † (0.073)		
Prestige × Effort and perseverance		1.011 (0.037)			0.989 (0.033)	
Math/ Science required			0.916 (0.077)			0.787*** (0.070)
Physical Demand			<b>0.888***</b> (0.020)			<b>1.177***</b> (0.031)
Pseudo R <sup>2</sup>	0.079	0.077	0.078	0.056	0.053	0.056
Log Likelihood	-3,681.97	-3,619.45	-3686.610	-3,521.43	-3,443.12	-3520.978
# of individuals	929	911	929	867	845	867
Observations	68,746	67,414	68,746	64,158	62,530	64,158

*Notes:* Robust standard errors are shown in parentheses. Statistical significance levels shown are \* p<0.10, \*\* p<0.05, and \*\*\* p<0.01. Bold (†, ‡) in columns (1)-(6) indicates statistically significantly different odds ratios between men and women at the 1% (5%, 10%) percent level. Occupational characteristics included but not shown: Unemployment, work hours, flag for imprecisely measured work hours.



Table 3

Exploration of Potential Explanations (Odds Ratios Shown)

	Women			Men		
	(1)	(2)	(3)	(4)	(5)	(6)
	Amenities & Competition	Small Share of Women	Parental Background	Amenities & Competition	Small Share of Men	Parental Background
Wage	1.001 ‡ (0.011)	1.007 (0.008)	1.013 (0.015)	1.027*** ‡ (0.009)	1.016** (0.008)	1.007 (0.012)
Wage × low ability	<b>0.897***</b> (0.015)	<b>0.902***</b> (0.014)	<b>0.899***</b> (0.015)	<b>0.960***</b> (0.013)	<b>0.956***</b> (0.013)	<b>0.959***</b> (0.013)
Wage × high ability	1.013 (0.014)	1.015 (0.013)	1.011 (0.014)	1.009 (0.013)	1.010 (0.013)	1.009 (0.013)
Wage × Short/ convenient work hours	1.034 (0.034)			1.002 (0.034)		
Wage × Job safety	0.962** (0.015)			0.983 (0.014)		
Wage × Not competitive	1.015 (0.013)			0.998 (0.011)		
Wage x low SES			<b>0.975*</b> (0.015)			<b>1.015</b> (0.012)
Wage x high SES			1.007 (0.015)			1.021* (0.013)
Prestige	1.247*** (0.074)	1.179*** (0.055)	1.361*** (0.116)	1.150*** (0.059)	1.208*** (0.051)	1.351*** (0.096)
Prestige × low ability	0.968 (0.080)	0.970 ‡ (0.075)	1.006 ‡ (0.084)	0.822*** (0.056)	0.807*** ‡ (0.054)	0.839*** ‡ (0.057)
Prestige × high ability	1.311*** (0.115)	1.355*** (0.112)	1.326*** (0.117)	1.314*** (0.109)	1.333*** (0.109)	1.270*** (0.106)
Prestige × Short/ convenient work hours	0.890 (0.133)			0.779 (0.143)		
Prestige × Job safety	0.882 (0.074)			0.886 (0.067)		
Prestige × Not Competitive	1.132* (0.085)			1.117* (0.068)		
Prestige x low SES			0.852* (0.071)			0.799*** (0.056)
Prestige x high SES			1.115 (0.096)			1.057 (0.079)
Own gender <10%		0.168*** ‡ (0.035)			0.047*** ‡ (0.033)	
Pseudo R <sup>2</sup>	0.080	0.092	0.081	0.052	0.059	0.054
Log Likelihood	-3652.56	-3,631.90	-3,675.89	-3509.431	-3,513.19	-3,531.01
# of individuals	922	929	929	860	867	867
Observations	68,228	68,746	68,746	63,640	64,158	64,158

Notes: Robust standard errors are shown in parentheses. Statistical significance levels shown are \* p<0.10, \*\* p<0.05, and \*\*\* p<0.01. Bold (‡, †) in columns (1)-(6) indicates statistically significantly different odds ratios between men and women at the 1% (5%, 10%) percent level. Occupational characteristics included but not shown: Unemployment, work hours, flag for imprecisely measured work hours, missing flag for short/ convenient work hours.

## APPENDIX

*Table A1*

Variables, Data Source and Summary Statistics of the Working Sample by Gender: Means  
(Standard Deviations in Parentheses)

Variable	Derivation (Data source)	Men (1)	Women (2)
<i>Attributes of expected occupation</i>			
Occ. prestige score	Occupational prestige evaluated from 0-10 by 18-29 years old (Ugebrevet A4).	<b>5.41</b> (1.52)	<b>5.16</b> (1.47)
Wage	Median wage divided by average work hours (see below) and divided by 5 to approximate 1 U.S. dollar (Statistics Denmark's registers).	<b>32.27</b> ( 8.07)	<b>30.37</b> ( 7.46)
Unemployment	Percentage unemployment in occupation (Statistics Denmark's registers).	2.64 ( 1.93)	2.55 ( 1.96)
Work hours	Average work hours in occupation (EU Labour Force Survey).	<b>40.46</b> (3.10)	<b>39.13</b> (2.44)
Work hours imprecise	An indicator variable for imprecise work hours (EU Labour Force Survey).	0.03	0.04
Own gender < 10%	= 1 if own gender is less than 10% in an occupation (Statistics Denmark's registers).	<b>0.002</b>	<b>0.026</b>
Education occupations	= 1 if education related occupations (associate professor, nanny/ child care worker, any type of teacher and teacher assistant), 0 otherwise.	<b>0.09</b>	<b>0.24</b>
Health occupations	= 1 if health related occupations (alternative health therapist, ambulance driver/ paramedic, dental assistant, dentist, doctor, in-home caregiver, midwife, nurse and nurse aides, medical orderly, nursing home assistant, psychologist), 0 otherwise.	<b>0.04</b>	<b>0.23</b>
Math/ Science content	= 1 if the occupation requires an education in which math and science in part of the curriculum, 0 otherwise.	0.28	0.29
Physical demand	Based on the 2012 survey by the Danish Ministry for Employment "Working Environment and Health"	<b>3.34</b> (2.17)	<b>2.99</b> (1.59)
% women in mother's occupation	Percentage women in mother's occupation (Statistics Denmark's registers).	70.25 (22.76)	71.94 (20.32)
% women in father's occupation	Percentage women in father's occupation (Statistics Denmark's registers).	27.92 (26.41)	28.05 (26.71)
<i>Individual characteristics</i>			
Ability	Reading score (WLERead), lowest and highest quartile used (PISA).	<b>489.86</b> (99.95)	<b>510.40</b> (93.67)
Affecting choice after lower secondary school	Answer to "Here are some questions about what influenced your decision about what to do immediately after 9th or 10th grade. (Scale from 1 (none) - 5 ("extremely high"): What influence did the following have" (2004 follow-up survey).		
Tired of school	"You were tired of school", = 1 if "high" or "extremely high".	<b>0.23</b>	<b>0.17</b>

Needed to earn money	“ <i>You needed to earn some money</i> ”, = 1 if “high” or “extremely high”, 0 otherwise.	<b>0.12</b>	<b>0.07</b>
Job characteristics	Answer to “ <i>Which of the following three qualities do you consider most important in a job?</i> ” (2004 follow-up survey).		
Short/convenient work hours	= 1 if “short/convenient work hours”, 0 otherwise.	0.03	0.03
Job safety	= 1 if “job safety”, 0 otherwise.	0.17	0.18
Job is challenging	(omitted category)		
Competition	Answer to “ <i>Outside the world of sports, people should compete as little as possible</i> ” = 1 if “totally disagree” or “partly disagree”, 0 otherwise (2004 follow-up survey).	0.48	0.34
Self-confidence	“To what agree do you have the following feelings when you think of your future?”: “You think easily, you can handle it”, =1 if “high” or “extremely high”, 0 otherwise.	<b>0.82</b>	<b>0.77</b>
Effort and perseverance	Warm estimate of EFFPER (PISA).	-0.00 (0.94)	0.02 (0.94)
<i>Parental Characteristics</i>	(Statistics Denmark’s registers)		
Parental income	Parental income/50.000 to approximate US \$10.000	11.89 (5.37)	11.94 (5.41)
Highest parental education			
Low	= 1 if basic, high school or vocational, 0 otherwise.	0.59	0.61
Medium	= 1 if short or medium, 0 otherwise.	0.31	0.30
High	= 1 if long term, 0 otherwise.	0.11	0.09
Socioeconomic Status (SES)			
Low	= 1 if highest parental education is low or household income is in the lowest quartile	0.64	0.65
High	= 1 if at least one parent has high education or household income is in highest quartile	0.27	0.28

Notes: Bold (†, ‡) in columns (1)-(2) indicates statistically significantly different means between men and women at the 1% (5%, 10%) percent level.

Table A2

Occupation-Specific Characteristics (Sorted By Occupational Prestige)

Occupation	Occupational Prestige Score	Wage	Unemployment
Pilot	8.31	59.76	1.91
Lawyer	8.11	41.33	0.94
Doctor (GP) *	7.89	53.91	0.58
Doctor (hospital)	7.76	53.91	0.58
Researcher in private company	7.45	.	.
Architect	7.39	37.60	4.09
Associate professor	7.27	34.75	4.23
Civil engineer	7.22	41.87	1.47
Soccer player *	7.15	28.69	2.60
Dentist	7.01	37.36	0.61
Midwife	6.96	32.36	0.49
Actor	6.95	29.36	16.75
Programmer/System developer	6.79	39.88	1.56
Psychologist	6.70	34.39	3.80
Fashion designer	6.69	26.21	3.62
Auditor	6.63	35.96	0.72
Politician	6.55	.	.
Musician/singer	6.51	30.96	4.41
IT-consultant	6.43	43.04	1.86
Journalist	6.42	36.23	2.79
Ambulance driver/paramedic	6.40	27.89	4.11
Person working in advertising	6.38	31.13	3.59
Camera crew (movie/TV)	6.36	33.27	4.51
Head clerk (public sector)	6.28	35.91	1.02
Police officer	6.23	32.55	0.22
Real estate agent	6.20	40.26	1.09
Author	6.16	36.23	2.79
Army officer	6.03	26.59	2.60
Photographer	5.96	33.27	4.51
Graphic designer	5.72	33.65	1.91
Cook	5.69	20.41	4.46
HR-consultant	5.67	28.56	1.53
Priest	5.60	30.86	2.54
Laboratory technician	5.50	26.82	2.26
Nurse	5.39	28.77	0.66
Communication employee	5.33	36.23	2.79
Physiotherapist	5.20	26.06	2.87
High school teacher	4.98	38.20	2.78

Occupation	Occupational Prestige Score	Wage	Unemployment
Insurance agent	4.87	45.51	1.42
Business high school teacher *	4.86	38.20	2.78
Bank employee	4.85	28.58	1.33
Electrician	4.70	28.15	3.12
Carpenter	4.40	25.28	4.34
Dental assistant	4.35	20.67	3.57
Office clerk	4.32	26.11	3.66
Alternative health therapist	4.30	19.48	2.19
Teacher	4.28	32.74	1.88
Gardener	4.25	23.35	5.22
Joiner/cabinet-maker	4.25	25.28	4.34
Flight attendant	4.19	32.28	2.85
Prison officer	4.10	27.84	1.14
Sales person	4.08	35.09	1.84
Nursing aide in a hospital *	4.06	23.66	2.54
Welder	4.01	27.44	3.30
Mason	4.01	25.64	7.05
Secretary	4.00	26.11	3.66
Auto mechanic	3.99	26.41	1.67
Social worker	3.98	29.10	1.06
Vocational teacher *	3.97	38.20	2.78
Glazier *	3.97	25.91	3.33
Plumber	3.91	28.18	3.77
Hair dresser	3.90	19.43	2.19
Farmer	3.84	19.56	1.12
Preschool teacher	3.83	25.70	3.03
Train conductor *	3.79	35.10	0.79
Librarian	3.78	32.04	2.63
Cosmetologist	3.77	19.43	2.19
Security guard *	3.65	27.19	3.55
Baker	3.40	24.26	3.71
Waiter	3.40	22.09	6.25
Machine operator	3.28	28.51	2.50
Receptionist	3.25	24.35	4.31
Building painter	3.16	25.57	5.65
Medical Orderly*	3.13	23.66	2.54
Mail carrier *	3.07	25.54	2.93
Nanny/Child care worker	3.01	21.27	6.17
In-Home caregiver	2.94	20.45	4.92
Preschool teacher assistant	2.89	23.66	2.54
Fisherman *	2.88	12.96	0.95

Occupation	Occupational Prestige Score	Wage	Unemployment
Kitchen assistant	2.88	20.41	4.46
Sales assistant	2.84	21.14	3.22
Butcher	2.74	21.42	5.91
Farm worker	2.74	19.56	1.12
Scaffolder *	2.74	29.20	8.32
Nursing home assistant *	2.72	23.66	2.54
Road worker *	2.71	25.46	8.84
Window cleaner *	2.58	25.69	2.18
Warehouse clerk	2.58	25.48	5.82
Taxi driver *	2.49	22.49	2.99
Trash collector *	2.46	28.75	4.03
Mover *	2.45	25.48	5.82
Bus/truck driver	2.41	22.49	2.99
Unskilled construction worker	2.29	28.39	8.67
Parking attendant *	2.22	27.19	3.55
Cashier *	1.87	21.14	3.22
Cleaner	1.57	21.96	6.36
Advertising delivery person *	1.31	25.11	2.24
Unemployment benefit recipient *	0.68	.	.
Welfare recipient *	0.43	.	.
Mean	4.55	29.36	3.25

\* denotes occupations in which no one expected to work.

*Notes:* Wage is measured as median hourly wage and divided by five to approximate U.S dollars. The occupational prestige score is that of 18-29 year olds. Wage could not be determined for 'researcher in private company' and 'politicians'.



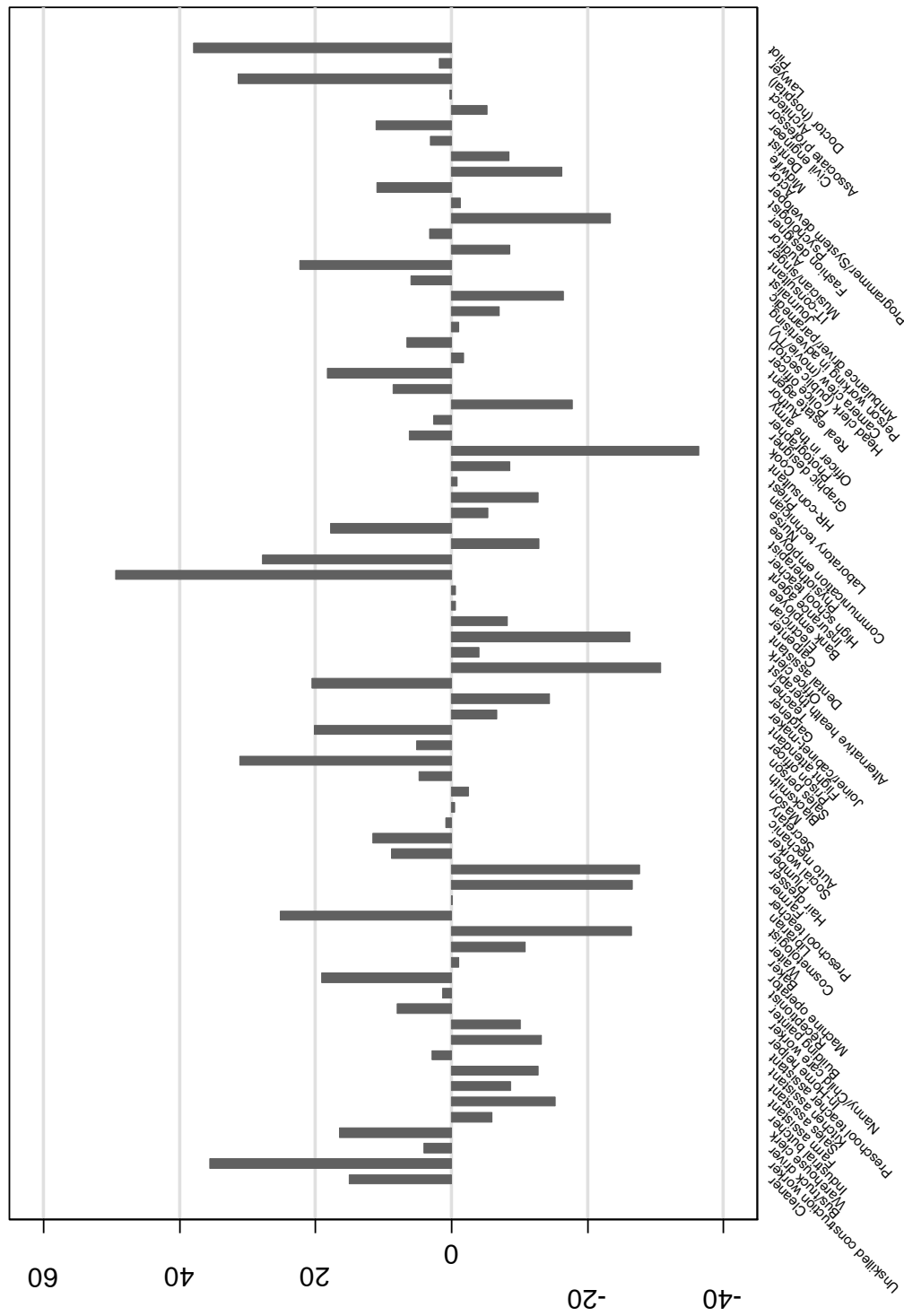


Figure A2. Percentage Change in Predicted Probabilities from the Counterfactual (Table 1, Specification 3) – Occupations Sorted by Occupational Prestige