

Overtime work, (in)flexible schedules and women's career progressions

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Abstract

We answer the question of whether the value placed by employers on overwork and (in)flexible working schedules contributes to explain the gender gap in career progression. We look at employees of firms that change ownership due to an acquisition by a multinational company, and distinguish between same vs. different time zones acquisitions. The idea is that differences in time zones between the headquarter and the newly acquired firm increase the demand and value of temporal flexibility in order to make communication possible. Since women have more stringent constraints to provide the employer with this flexibility, they are at a disadvantage in terms of career progression compared to men. Our empirical results based on Zephyr-LinkedIn matched data show that women are 2% less likely than men to be promoted when the target firm is acquired by a multinational enterprise located in a different time zone, and that this disadvantage applies only to women working in the business sector. This difference increases up to 6.6% for meaningful time zones. These results have implications for the management, evaluation and retention of human capital and, more generally, for gender equality in the workplace.

"[...] her physical structure and a proper discharge of her maternal functions — having in view not merely her own health, but the well-being of the race — justify legislation to protect her from the greed as well as the passion of man." "The limitations which this statute places upon her contractual powers, upon her right to agree with her employer as to the time she shall labor, are not imposed solely for her benefit, but also largely for the benefit of all." Muller vs Oregon, 208 US, 422

Introduction

Researchers have long speculated on the causes of gender imbalances in labor market access, persistence and success. The debate has reached its pinnacle in more recent decades, when convergence in gender gap has stalled. A plateau in female participation has emerged for US women, even for college graduate women, since around the 1990s (Goldin, 2014). Similarly, the gender gap in pay has remained stable throughout the 2000s after decades of rapid decline (e.g. Blau, 2012; Blau and Khan, 2006). This evidence is puzzling considering the variety of social, demographic and economic changes that have contributed to promote gender equality in job market opportunities. Among others, women are nowadays at least as educated as men, women's fertility has declined and being delayed, deindustrialization and technological change have reduced the number of traditionally male dominated sectors and occupations (The New York Times, 2019; DiPrete and Buchmann, 2013; Goldin, Katz and Kuziemko, 2006).

In the meanwhile, an incontrovertible trend has emerged powerfully, that is, the demand by firms for employees to over-work and be available in (in)flexible hours. Recent contributions have documented how changes in the organization of work have led to consider working long, (in)flexible hours a common practice, highly embedded in workplace cultures (e.g. Roth, 2006) and routines (e.g. Sharone, 2004). Companies encourage this tendency by treating long and (in)flexible hours worked as a signal of commitment (Cha and Weeden, 2014; Jacobs and Gerson, 2004; Blair-Loy, 2003) and by rewarding disproportionately the availability to overwork and work overtime in terms of wage and career progression (e.g. Goldin, 2014; Gicheva, 2013; Kalleberg, 2011). This is especially true for greedy occupations, such as business jobs in finance, law or consulting (e.g. The New York Times, 2019; Cha and Weeden, 2014).

Women, however, are underrepresented in these occupations, and less likely than men to enter jobs that require working longer or (in)flexible hours, and also less likely to remain and progress in such jobs (Goldin, 2014; Cha, 2013; Stone, 2007). The reason for the limited supply of female work in these occupations resides in the dominant belief, also in modern economies, regarding the predominant role of women as caregivers, such that women maintain greater responsibilities of family activities, childrearing and elder care (Bianchi et al, 2012; Fernandez-Mateo and King 2011; Wolff and Kasper, 2006; Anderson et al. 2003). In the US, this cultural belief was institutionalized into a labor law in Oregon, abolished only in the 70s, that prevented women in many occupations from working overtime due to the priority of their role in the family. Even nowadays, these biased expectations on the role of women contribute to explain the gender gap in overwork, their sorting into jobs that offer predictable working hours or that allow short or flexible working schedules (e.g., Barbulescu and

Bidwell 2013). This explanation of the gender gap in labor market outcomes has proved to be so powerful to almost cancel out the effect of women's educational gains (Goldin, 2014; Cha and Weeden, 2014).

We contribute to this line of research and answer the question of whether the value placed by employers on overwork and (in)flexible working schedules contributes to explain the gender gap in career progression. To this end, we look at employees of firms that change ownership due to an acquisition by a multinational company. This is in line with Goldin and Katz (2011) mentioning changes in corporate ownership as one of the explanation for increasing requirements in overwork or work in (in)flexible hours.

We distinguish between firms that are targeted by an acquirer located in a different time zone than the target and firms targeted by multinational located in their same time zone. The idea is that acquisitions that involve a target and an acquirer located in different time zones are events that increase the employers' demand for employees' flexibility to work according to non-standard schedules, i.e., earlier in the morning or later in the evening. This is because, in cross time-zones acquisitions compared to same time-zones acquisitions, interactions between the acquired company employees and the new headquarter employees involve people located in a different part of the world with work schedules that overlap only partially.

We collect data on 284 acquisitions of US target firms that took place in the period 2010-2013 and match them with employees public information from LinkedIn. For each deal, we gather information on the location of the target firm within the US and the headquarter of the acquirer and the vendor firm. We estimate whether a gender difference exist in the probability to be promoted at the target firm following the acquisition when the acquirer is located in a different time zone as opposed to be located in the same time zone of the target firm.

Our findings show that women are less likely than men to make career progressions when the acquisition takes place in a different time zone, result that is consistent with our priors. We also dig into the heterogeneous effects of the acquisition across sectors that based on previous research we expect to differ in the value attached to overwork and work in (in)flexible hours (e.g. business vs health-science and tech), and according to the number of hours' difference between the target and the acquirer firms (e.g. 2-3h vs 7-8h). These heterogeneous effects do also confirm our expectations.

Our work contributes to deepen the understanding of the sources of gender imbalances in labor market outcomes, which is central to both the policy debate and in the design of managerial practices in private firms and public institutions. The way forward requires shifting away from the dependence of remuneration on particular segments of time, towards greater independence and autonomy. Given the relevance of the debate concerning the labor market participation of women, and the factors that prevent them from having the same opportunities as men, the implications of these findings for public policy are uncontroversial. Yet, our study also implies important implications with reference to the management of human capital at the firm level. The tendency of firms to disproportionately reward overwork and work (in)flexibility implies for females to be discriminated against to pursue investment in their careers and aim at jobs that do not provide predictable working schedules, which in turn represents a missed opportunity in attracting and retaining the most talented individuals.

Literature background

The roots of gender imbalances in labor market participation, performance and returns dig deep into cultural, sociological, demographic and economic factors. For example, preferences and culturally sticky roles lead women to enter less the labor market and to select into specific types of jobs (Tomaskovic-Devey 1993, Kilbourne et al. 1994, Petersen and Morgan 1995), to negotiate less than men for career progressions or salary increases (Tsui 1998, Leibbrandt and List 2014, Babcock et al. 2006, Babcock and Laschever 2003) and to avoid competitive environments more than men would do (Dargnies 2012, Niederle and Vesterlund 2007).

Though differences in entry and exit rates, salaries, promotions are still visible, there is evidence that they have decreased over time. For example, the gap in hourly pay has been shrinking between 1970s and 1990s, to remain stable in the 2000s, when convergence had started to slow down and stalling, despite the fact that economic, social and demographic indicators would have led to a prediction of increasing convergence (Blau 2012, Blau and Kahan 2006, Goldin, Katz, and Kuziemko 2006).

Among the explanations of the slow-down in convergence – such as ineffective firm policies for better work-life balance, (self) selection of women in different, lower pay occupations or cultural biases (see Cha and Weeden 2014 for a review) – recent work has investigated the role of the increasing demand for employees to work overtime or according to non-standard time schedules (Cha and Weeden 2014, Goldin, 2014). Because of the limited supply of employees available to work “at moment notice” or over(before) time, this increased demand for overwork makes the marginal hour supplied more valuable than the standard 9am-5pm hours. Moreover, managers and supervisors often use this temporal inflexibility as a signal of work devotion, which, in turn, affect career progression and performance evaluation of the employees (Boudreau, Ollier-Malaterre and Houlfort 2019).

If men and women would had the same constraints and supply of such extra time, this increased demand would cause higher inequality in the population between those available to work long hours and those unwilling to do so. However, culturally rooted division of housework labor coupled with the typical higher seniority of men at work that makes such division of labor economically justified, make women more constrained in the possibility to supply work according to unconventional hours, typically not compatible with family commitments. Extant literature demonstrates indeed that the arrival of children or elderly care do not only explain differences in labor market outcomes in general (Anderson et al. 2003), but they strongly limit overwork.

Fernandez-Mateo and King (2011) show that women who anticipate breaks in their careers choose jobs that allow re-entry into the job market (Loprest 1992). In addition, roles like motherhood come into conflict with certain work roles, such that women prefer jobs that offer predictable working hours, at the expense of their career potential and wages (Barbulescu and Bidwell 2013, Brett and Stroh 2003, Stone 2008). Eccles (1994) confirms that women prefer jobs that give them flexibility to accommodate their family needs, even if, when they apply for these jobs, they do not have children. This is because, though men, on average, nowadays

collaborate more on family commitments, childcare and elderly care remain mainly a women's job (Cotter et al. 2011; Bianchi et al. 2012, Wolff and Kasper 2006)

This comes as a key constraint when employees are asked to (over)work according to family-unfriendly work schedules. Cha and Weeden (2014) show the effect of family commitments coupled with overwork practices on the slowdown of wage convergence between genders in recent decades, especially in professional and managerial occupations. Goldin (2014) argues that the "last" chapter in order to achieve equality in the labor market must involve changes in the labor market itself, especially in how jobs are structured and remunerated with respect to requirements such as temporal flexibility. She shows that at least part of the gender gap we observe is explained by the tendency to disproportionately reward (male) individuals who work long hours and overtime. Women, who are less prone to accept this flexibility, end up being displaced by their male peers in the workplace. Relatedly, Gicheva (2013) analyses the effect of working long hours on wage growth and promotions, and demonstrates that differences in the disutility to work long hours between male and female employees (due to the fact that women are the principal caregivers within families) lead to an increasing gender wage gap. Boler, Javorcik and Uijtveit-Moe (2018) look at gender wage gaps between employees of exporters and non-exporters firms. Exporters firms, which require working in particular hours, travelling and communicating with people in different parts of the world according to non-standard time schedule, exhibit higher gender wage gap than non-exporter firms, particularly for educated workers.

Data and empirical approach

To study whether the value of overwork and temporal flexibility contributes to explain differences in career paths across gender, we focus on employees in firms that have been acquired between 2010 and 2013. We exploit information available from Zephyr – Bureau Van Dijk on acquisitions by Multinational Enterprises (MNEs) of US target firms', further distinguishing between those acquired by an MNE with headquarter in the same time zone of the target firm and those where the acquirer is instead located in a different time zone.

When a target firm is acquired in a different time zone, employees may be asked to exert a greater commitment to work and a greater flexibility in working hours. Doing business with partners at a different longitude may require, for instance, working in uncomfortable hours to take up late night phone calls, or waking up much earlier to participate in skype meetings. If women are less flexible in their working schedule, or are perceived as such, an increase in the value of overtime work following the acquisition may come at the expenses of their career progression with respect to their male peers, simply because firms now reward much more (in)flexibility in working schedules. This pattern should not apply, instead, when the acquisition takes place in the same time zone.

We therefore classify the acquisition according to the location of the global ultimate owner headquarter (GUO) and calculate the difference in time zones (in number of hours) between the acquirer and the target firm. We

restrict the analysis to target firms that were already part of a multinational group with headquarter in the same time zone as the target itself. This condition implies by default no difference in time zone between the target and the vendor, thus making sure that there is no heterogeneity in previous experience to work with geographically distant partners. In addition, being the target already part of a multination group, we avoid that a change in time zone also coincides with the shift in the ownership status of the target firm from domestic to multinational. We focus on 284 completed majority acquisitions in the Business, Health, Science and Tech sectors and retain information on both the completion and the announcement deal date.

Then, from LinkedIn data we recover information on individuals employed in the target firms over the period 2010-2015. Using machine learning techniques we extract and code information concerning education, age, tenure at the focal firm, experience in terms of number of years from the first job reported and career steps. As a final sample, we end up with 71,982 individuals in working age, almost equally balanced between males ($N_m=37263$) and females ($N_f=34719$), with more than 2 years of tenure at the target firm and at least 5 years of experience in the job market. Table 1 reports the correlation between all variables employed, while table 2 shows standard descriptive statistics. A detailed description of the different stages undertaken to build up this database is reported in Appendix A.

[Insert Table 1 and 2 about here]

We estimate the following equation:

$$Promotion_{i,f} = \beta_0 + \beta_1 Female_i + \beta_2 Acquirer \cdot Target: Different\ time\ zone_f + \beta_3 Female_i \times Acquirer \cdot Target: Different\ time\ zone_f + \beta X + \varepsilon_{i,f} \quad (1)$$

The dependent variable is a dummy that takes value 1 if the individual reports any change in employment status within the target firm¹, *Female* is a dummy that takes value 1 for female employees while *Acquirer · Target: Different time zone* is a dummy that takes value 1 if the acquisition takes place in a different time zone.² We are interested in the coefficient β_3 linked to the interaction term between these latter two variables. In fact, β_3 captures the effect on female employees working for a target firm that is acquired in a different time zone. The unbiased estimation of the β_3 coefficient relies on the assumption that the decision to acquire a firm in a different time zone, with respect to an acquisition taking place in the same time zone, is independent of employees' individual characteristics that correlate with gender.³ We expect this coefficient to be negative and statistically significant, which would point towards a negative effect of rising demand for overtime on the career progression of female employees with respect to their male peers. In our preferred specification, we also

¹ In LinkedIn data this coincides with individuals reporting a change in their job title in their LinkedIn history. We assume that any change reported in the focal firm coincides with a career progression. By using word processing techniques on job descriptions reported on LinkedIn we double check the credibility of this assumption against cases of horizontal moves and demotion.

² In our baseline specification, changes in times zones are operationalized via a dummy variable. However, we retain the information on the difference in number of hours to test our expectation for specific time-zone differences.

³ A case in which this assumption may be violated is if female employees in the focal firm are systematically different than their male peers, particularly when the acquisition takes place in a different time zone with respect to acquisitions taking place in the same time zone. Although, there is no reason to believe that this is the case we further check the robustness of our estimates on matched samples on observable characteristics.

include dummies for the completion year of the deal and country pair dummies to control for geographical distance and most importantly potential cultural differences in the attitude towards female and male employees across countries.⁴

Estimated results

Baseline results are reported in Table 3. Column 1 includes the three main regressors, the dummy for female employees, the dummy for acquisitions taking place in a different time zone and the interaction between the two, plus time dummies to capture macroeconomic trends. The coefficient associated to this interaction term is negatively correlated with career progression and significant at 1%. Female employees working for a target firm that is acquired in a different time zone are 2.4% less likely than their male peers to make career progression, compared to female employees in target firms acquired in the same time zone. Interestingly, the coefficient for female is positive and statistically significant, suggesting that women tend to be promoted more than men unless they confront with an increasing demand from firms in overwork and work (in)flexibility. Results remain consistent by progressively adding regressors, including individual characteristics such as education, age, tenure, experience and whether employees have been promoted already before the acquisition (Col.2) and controls for sectoral dummies and country pairs dummies.

[Insert Table 3 about here]

In table 4 we exploit the heterogeneity across sectors in the gender gap in career progression. To this scope, we estimate the full specification reported in Table 3 (Col. 3) on the sample of employees working in the business sector (Col.1) versus those working in other industries such as health, science and tech (Col.2). Results confirm our priors regarding the disproportionate value attached to overwork in greedy occupations in the business sector, where the effect of the interaction term remains negative, statistically significant and with an order of magnitude comparable with our main results. No effect is instead found for other sectors (Fig. 1).

In columns 3 and 4 we run a similar specification to that performed in column 1 and 2 on business versus other sectors respectively. Here we just modify the way in which we define industries. Whereas in Column 1 and 2 sectors are qualified based on the information reported at the firm level in Orbis, columns 3 and 4 adopt a mixed classification that account for both the industry code reported in Orbis, and, when this is missing, makes use of word processing techniques on information reported in the LinkedIn individual profile to allocate each employee to a given industry. This additional step allows to increase the number of observations in our sample without evidences of major changes in our results.

[Insert Table 4 and Figure 1 about here]

In table 5, we also exploit the heterogeneity of the effect of increasing demand for overwork and working overtime alongside the full distribution of the measure of differences in time zones in number of hours. That

⁴ We also construct a more detailed measure of geographical distance based on kilometers, though in the majority of cases this is almost collinear with country pairs.

is, we run our full specification on selected subsamples based on the time lag between the target and the acquirer. Columns 1 and 2 consider the sample of internal acquisitions within the US with a time difference of -2 to -3 hours (Col. 1) that is, for instance, the east coast acquired by the west coast and +2 to +3 hours (Col. 2), which correspond to the opposite geographical pattern, compared to acquisitions taking place in the same time zone. These are the cases in which we expect the effect on gender gap in career progression to be most remarkable. In fact, the time lag between the acquirer and the target is close enough for firms to require their employees to cope with some flexibility in working hours (e.g. waking up earlier in the morning or working later in the evening), but large enough to conflict with family commitments of various type. Consistently with this expectation, the effect of the interaction term triples in Column 1 (0.06 vs 0.02) and remain stable in Column 2. Hence, for example, in case of acquisitions that take place in a time zone that is -2 to -3 hours behind, let's say a New Yorker target firms acquired by an MNE with headquarter in California, women are 6.6% less likely to make career progression than their male peers, compared with the case in which the acquisition takes place in the same time zone.

Column 3 and 4 report results for the sample of internal acquisitions with a time lag of -1 (Col. 3) and +1 hours (Col. 4), with acquisitions taking place in the same time zone still retained as baseline category. Although waking up one hour earlier or working one hour more in the evening may generate some discomfort, we expect the effect to be less relevant on these samples. In fact, though statistically significant at 1% the coefficients associated with the interaction terms are much lower than before. For example, if the acquisition takes place in a time zone that is one hour behind, the negative effect on female career progression lowers to 0.015% when compare to the 0.06% of Column 1 and the 0.2% of our baseline estimates reported in Table 3 (Col. 3). Finally, we focus on the sample of acquisitions taking place in a time zone with at least -5 or +5 hours (Col. 5) difference. This is the case, for instance, of US target firms acquired by Asian Multinationals. Here we expect no effect, as the time difference between the target and the acquirer is too wide for firms to expect their employees to be available overtime. Results are consistent with this prior. Figure 2 plots the estimated coefficients across all specifications reported in Table 5 to further point at the relevant heterogeneity in the effect of increasing demand for overwork and working in (in)flexible working hours on the gender gap in career progression.

[Insert Table 5 and Figure 2 about here]

Finally, in Table 6 we report some robustness checks on our main specification. Column 1 accounts for the potential selection bias. We exploit information on the date of announcement (month and year), which coincides with the moment in which the news of the acquisition becomes publicly available, typically 1-2 years before the actual completion date. We then construct a measure of out-mobility that takes value 1 if the employee left during this time interval and 0 otherwise. Ideally, we would like the effect of the interaction term to be non-significant, meaning that there is no systematic selection in the mobility of women with respect to men when the acquisition takes place in a different versus the same time zone. Results confirm that no selective mobility takes place before the acquisition deal is completed. Column 2 employs an alternative dependent variable that looks at career progression within 2 years rather than 1 year from the acquisition while

Column 3 focuses on the subsample of employees in the age band 18-45 that for women corresponds with high fertility rates. Results remain in line with our baseline estimates. Column 4 focuses on the alternative sample of entry level employees, meaning those with a tenure at the target firm up to 2 years and less than 5 years of experience in the job market. These are categories of workers that likely behave differently as at that stage of their career males and females tend to be similar in their availability to cope with (in)flexible working hours. As expected, though still negative and statistically significant at 5%, the magnitude of the coefficient for the interaction term is remarkably lower (0.003 vs 0.2 in our baseline estimates). Finally, column 5 reports estimates on the matched samples of female and male employees on the basis of the observable individual characteristics collected from LinkedIn. Put differently, we perform our specification on a sample of women that are similar to men in all their observable characteristics and presumably also in the unobservable ones. Estimates remain in line with our main results.

[Insert Table 6 about here]

Conclusions

Recent years have been characterized by two apparently unrelated trends: the stalling convergence in the gender gap in labor market outcomes, after decades of remarkable improvements, and the changes in the social organization of work towards increasing incentives to overwork or work in (in)flexible hours. Yet, recent research has convincingly suggested that the latter phenomenon should indeed be seen as an important underexplored determinant of differences in the access, persistence and success of female employees in the labor market. Women are significantly less likely than men to accept and progress into jobs that require working in (in)flexible hours, meaning that the progressive increase in the value of overworking or working overtime for firms has put them in a disadvantaged condition with respect to their male peers.

Our study contributes to this debate by showing that women subject to an increase in the demand of work flexibility from firms, operationalized via the acquisition of the focal company in a different time zone, are significantly less likely to progress in their career than their male peers. This effect is mainly concentrated in greedy occupations in the business sectors, for which previous contributions have suggested a disproportionate increase in the value of overtime work. Also, the effect rises sharply when the time lag between target and acquirer firms following the acquisition remains in a range that is narrow enough for firms to expect flexibility from their employees but wide enough to conflict with the type of family commitments that traditional falls on women shoulders.

Our results entail important implications for both public policy and corporate strategies. The last mile towards gender equality in labor market opportunities passes via disincentives for firms to overvalue working in (in)inflexible hours towards greater independence and autonomy. Whereas at a first glance this may come as a bad news for firms, it may ultimately re-equilibrate the gender odds of being in leadership positions on the bases of objective individual characteristics, such as skills, competencies and attitudes that contribute positively to firm performance. Put differently, it may open up opportunities for firms to effectively attract and retain the most talented individuals, independently of their gender and to limit the detrimental consequences

of the well know skill biased glass ceiling effect that implies the permanence in apical positions of men that are significant less qualified than their female peers. Making firms aware of this threat and inefficiency can definitely improve the management of human capital, for example by designing organizational norms, evaluation criteria and evaluators beliefs, together with family friendly policies, for both men and women.

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Data Appendix

Acquisition data from Zephyr – Bureau van Dijk

We extract information on acquisition deals completed between 2010 and 2013 with target firms located in the US. We focus on target firms that were already part of a Multinational group located in the same time zone. This implies that the difference in time zone between the target and the vendor is set equal to zero by default, while avoiding firms changing status from domestic to multinational – and related changes in organizational practices, available resources, etc. - as a result of the acquisition. We start from population of 32232 completed deals, of which 14584 fwith missing information on the vendor country.

We make use of data in ORBIS – Bureau Van Dijk to recover information about the Global Ultimate Owner (GUO) of the acquirer and its exact geographical location as well as the location of the target. Then, we manually recover information on the time zone of target and acquirer firms. For target firms, being the US characterized by different time zone the geographical identifier has been nailed down up to the city level. The same has been down for the acquirer when the GUO is located in a country with different time zones. For 5459 target firms and 8405 acquirer firms no precise information on the location can be recovered. For deals in which we have both information, we calculate the difference in number of hours between the target and the acquirer firm on a scale that goes from -12 to +12. We also looked at alternative data sources that we may potentially use instead of Zephyr, such as SDC Platinum data. The number of deals reported over the same period is slightly higher (39,010) but the database reports no information on the location of the Vendor for 38175 firms, and also missing information on the location of 4690 acquirer and 2816 target firms. From ORBIS we also recover details on the industry of the target firm (Business, Health, Science and Tech).

Based on this procedure, we end up with a final sample of XXX deals, for which we can recover full information on the geographical location of the parties involved, the completion year, the announcement data (when available) and the industry classification of the target firm.

Employment data from LinkedIn

In order to assess the impact of acquisitions on the likelihood of being promoted, we relied upon information contained in the curricula vitae available from LinkedIn profiles. LinkedIn, a well-known professional-oriented social network, represents an unparalleled source of information on the inter-firm mobility of

individuals, as the latter's public profiles include information on names of their employers, along with recruitment years (Ge et al. 2016, Zagheni and Weber 2015). In addition to this, US employees are the most represented group on LinkedIn with more than 160 million members⁵, thereby reassuring about the representativeness of our sample. In the remaining of this section, we illustrate the methodology used to define our sample of employees and to process the biographical information contained in their curricula vitae.

1. Collecting employees of acquired firms

As a first step, we identified all individuals that, at the beginning of the period examined (i.e. in 2010), reported any of the acquired firms as their employer. To this purpose, for each acquired company name, we searched in the entire corpus of LinkedIn public CVs those reporting an employer with a similar name using fuzzy matching techniques. Then, to minimize the incidence of false positives, we applied a supervised machine-learning model and we kept only profiles with a probability of matching above 0.9. Our final sample comprises 773,315 individuals who worked for any of the 998 US firms, which were an acquisition target⁶.

2. Coding biographical information

For each individual in our sample, we coded biographical information contained in the curriculum vitae. In the first place, we identified the gender of employees. To this end, for each employee, we extracted the given name and we used the *World Gender Name Dictionary*⁷, an open access repository including around 6.2 million given names for 182 different countries, to detect his/her gender. Since we focus on firms localized in the US and on their employees, we took into account the most likely gender that is associated to a certain name in the US⁸. Using the above dictionary, we could find the corresponding gender for 702,274 employees (i.e. around 91% of all individuals in the sample). To determine the gender in the remaining cases, we used the IBM Global Name Recognition system, a name-search technology containing names, nationality, and gender for foreign citizens entering the United States, as well as genderize.io, an online API that associates country-specific gender to given names. Overall, we could identify the gender of 756,052, employees (i.e. 98% of the initial sample).

In addition to the gender, we also coded the educational attainments of those employees who reported this information in their profile. More specifically, for each of the following education levels, we created a series of binary variables taking value 1 if the employee attained that education level, and 0 otherwise: Bachelor (Bachelor of Arts or Bachelor of Science), Master (Master of Arts or Master of Science), MBA (Master in Business Administration), and PhD. With the exception of MBA, the classification corresponds to ISCED-

⁵ Official statistics from: <https://news.linkedin.com/about-us#statistics> (last visited: January, 2020).

⁶ A detailed description of the methodology used to identify the employees of firms involved in acquisitions is reported in the Appendix.

⁷ The dictionary has been constructed using country-specific information sources, including national public statistical institutions, Wikipedia lists, and manual labeling: <https://doi.org/10.7910/DVN/YPRQH8>.

⁸ For example, whereas Andrea is a male name in Italy and other Southern Europe countries, it is a female name in the US.

2011 levels from 6 to 8.⁹ Moreover, using the commencement year of each course of study, we estimated the most likely year of birth of employees (e.g. the year of birth of an individual who started a MSc educational programme in year t was estimated as $t-23$)¹⁰.

⁹ ISCED is the acronym of International Standard Classification of Education, a statistical framework for organizing information on education maintained by the United Nations Educational, Scientific and Cultural Organization (UNESCO). See, <http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf>.

¹⁰ A detailed description of the methodology used to code education levels and to estimate the year of birth is reported in the Appendix.

Tables and Figures

Table 1: Correlation table

	1	2	3	4	5	6	7	8	9	10	11	12
1 Promotion	1.00											
2 Female	-0.00	1.00										
3 Target-Acquirer: Different time zone	0.01	0.03	1.00									
4 High skill employees	0.03	-0.01	0.02	1.00								
5 Age	-0.01	-0.11	-0.14	-0.07	1.00							
6 Tenure	0.02	0.01	0.00	-0.01	0.45	1.00						
7 Experience	-0.10	-0.08	-0.11	-0.05	0.51	0.43	1.00					
8 Business occupations	0.01	-0.15	-0.32	-0.03	0.19	0.01	0.17	1.00				
9 Health occupations	-0.02	0.18	0.35	0.04	-0.22	0.04	-0.18	-0.85	1.00			
10 Science occupations	0.02	-0.01	-0.05	-0.02	0.04	-0.05	0.03	-0.14	-0.19	1.00		
11 Tech occupations	0.01	-0.06	-0.03	-0.01	0.04	-0.07	0.01	-0.18	-0.24	-0.04	1.00	
12 Promoted before	0.17	-0.01	-0.01	0.03	0.07	0.24	0.07	0.10	-0.08	-0.01	-0.03	1.00

N = 71982

Table 2: Descriptive statistics across gender

Variable	Males				Females			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Promotion	0,07	0,25	0	1	0,07	0,25	0	1
Target-Acquirer: Different time zone	0,79	0,41	0	1	0,82	0,39	0	1
High skill employees	0,80	0,40	0	1	0,79	0,41	0	1
Age	35,95	10,39	18	65	33,67	9,81	18	65
Tenure	7,73	5,85	3	46	7,83	5,65	3	46
Experience	17,14	8,85	5	47	15,76	8,25	5	47
Promoted before	0,23	0,69	0	10	0,22	0,67	0	9
Business occupations	0,45	0,50	0	1	0,30	0,46	0	1
Health occupations	0,45	0,50	0	1	0,63	0,48	0	1
Science occupations	0,03	0,18	0	1	0,03	0,17	0	1
Tech occupations	0,06	0,24	0	1	0,03	0,18	0	1

N (males) = 37263; N (females) = 34719

Table 3: Baseline estimates

Dep. Var. Promotion	(1)	(2)	(3)
Female	0.017*** (0.004)	0.009** (0.004)	0.013*** (0.004)
Target-Acquirer: Different time zone	0.031*** (0.003)	0.021*** (0.003)	0.014*** (0.003)
Female x Target-Acquirer: Different time zone	-0.024*** (0.005)	-0.017*** (0.005)	-0.019*** (0.005)
High skill employees		0.012*** (0.002)	0.013*** (0.002)
Age		0.964*** (0.055)	0.899*** (0.056)
Age sq		-0.132*** (0.008)	-0.123*** (0.008)
Tenure		0.028*** (0.002)	0.032*** (0.002)
Experience		-0.077*** (0.002)	-0.076*** (0.002)
Promoted before		0.056*** (0.002)	0.056*** (0.002)
Constant	0.029*** (0.004)	-1.567*** (0.097)	-1.458*** (0.098)
Observations	71,982	71,982	71,982
R-squared	0.002	0.050	0.054
Country pairs FE	NO	NO	YES
Sector FE	NO	NO	YES
Year FE	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4: Heterogeneous effects across macro-sectors

Dep.Var.: Promotion	(1) Business occupations	(2) Health-Science- Tech occupations	(3) Business occupations	(4) Health-Science- Tech occupations
Female	0.017*** (0.005)	-0.003 (0.008)	0.012*** (0.005)	-0.007 (0.006)
Target-Acquirer: Different time zone	0.026*** (0.004)	-0.015** (0.007)	0.039*** (0.004)	-0.001 (0.005)
Female x Target-Acquirer: Different time zone	-0.021*** (0.006)	-0.003 (0.008)	-0.017*** (0.006)	0.004 (0.007)
High skill employees	0.014*** (0.003)	0.012*** (0.003)	0.015*** (0.003)	0.011*** (0.002)
Age	0.684*** (0.098)	0.929*** (0.071)	0.792*** (0.095)	0.866*** (0.066)
Age sq	-0.092*** (0.014)	-0.128*** (0.010)	-0.106*** (0.013)	-0.118*** (0.009)
Tenure	0.038*** (0.003)	0.027*** (0.002)	0.040*** (0.003)	0.028*** (0.002)
Experience	-0.103*** (0.004)	-0.061*** (0.003)	-0.126*** (0.004)	-0.072*** (0.002)
Promoted before	0.045*** (0.003)	0.069*** (0.003)	0.041*** (0.002)	0.058*** (0.003)
Constant	-1.111*** (0.175)	-1.508*** (0.126)	-1.178*** (0.170)	-1.481*** (0.115)
Observations	27,366	44,616	34,028	55,143
R-squared	0.061	0.053	0.069	0.053
Country pairs FE	YES	YES	YES	YES
Sector FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Heterogeneous effects across time zones

Dep. Var. Promotion	(1) -3h; -2h	(2) +3h; +2h	(3) -1h	(4) +1h	(5) >5; <5
Female	0.012*** (0.004)	0.011*** (0.004)	0.011*** (0.004)	0.009** (0.004)	0.012*** (0.004)
Target-Acquirer: Different time zone	-0.011 (0.012)	-0.010 (0.007)	-0.007 (0.005)	0.038*** (0.004)	0.141 (0.101)
Female x Target-Acquirer: Different time zone	-0.066*** (0.014)	-0.021** (0.011)	-0.015*** (0.005)	-0.017*** (0.006)	-0.011 (0.010)
High skill employees	0.015*** (0.004)	0.015*** (0.004)	0.010*** (0.003)	0.018*** (0.003)	0.016*** (0.004)
Age	0.661*** (0.118)	0.609*** (0.116)	0.986*** (0.067)	0.511*** (0.084)	0.715*** (0.117)
Age sq	-0.089*** (0.016)	-0.082*** (0.016)	-0.135*** (0.010)	-0.069*** (0.012)	-0.097*** (0.016)
Tenure	0.026*** (0.003)	0.027*** (0.003)	0.029*** (0.002)	0.031*** (0.002)	0.037*** (0.003)
Experience	-0.081*** (0.005)	-0.080*** (0.005)	-0.068*** (0.003)	-0.094*** (0.003)	-0.075*** (0.004)
Promoted before	0.042*** (0.004)	0.041*** (0.004)	0.064*** (0.003)	0.044*** (0.003)	0.045*** (0.004)
Constant	-1.037*** (0.211)	-1.010*** (0.210)	-1.649*** (0.118)	-0.776*** (0.151)	-1.216*** (0.212)
Observations	15,137	15,393	47,616	31,630	18,198
R-squared	0.054	0.057	0.052	0.062	0.063
Country pairs FE	YES	YES	YES	YES	YES
Sector FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Robustness checks

Dep.Var.	(1) Anticipation effects	(2) Promotion (+2y)	(3) Fertility	(4) Entry level employees	(5) Matched sample (1n)
Female	-0.009* (0.005)	0.014*** (0.005)	0.011** (0.005)	0.003* (0.001)	0.012* (0.006)
Target-Acquirer: Different time zone	-0.020*** (0.006)	0.016*** (0.004)	0.014*** (0.004)	0.001 (0.001)	0.016*** (0.006)
Female x Target-Acquirer: Different time zone	0.006 (0.005)	-0.017*** (0.005)	-0.019*** (0.006)	-0.003** (0.002)	-0.014** (0.007)
High skill employees	0.005** (0.002)	0.023*** (0.002)	0.016*** (0.003)	0.002*** (0.001)	0.010*** (0.003)
Age	-0.115*** (0.011)	0.203*** (0.010)	0.330*** (0.042)	0.006* (0.003)	0.161*** (0.014)
Age sq	0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Tenure	-0.025*** (0.002)	0.037*** (0.002)	0.046*** (0.002)	0.008*** (0.001)	0.031*** (0.003)
Experience	0.009*** (0.002)	-0.107*** (0.003)	-0.093*** (0.003)	-0.002*** (0.000)	-0.075*** (0.004)
Promoted before		0.069*** (0.002)	0.061*** (0.003)	0.008 (0.005)	0.062*** (0.003)
Constant	0.611*** (0.135)	-0.413*** (0.036)	-0.807*** (0.126)	-0.016* (0.009)	-0.331*** (0.045)
Observations	78,460	66,972	50,114	74,585	48,760
R-squared	0.029	0.075	0.059	0.004	0.054
Country pairs FE	YES	YES	YES	YES	YES
Sector FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 1: Heterogeneous effects across macro-sectors (plotted coefficients)

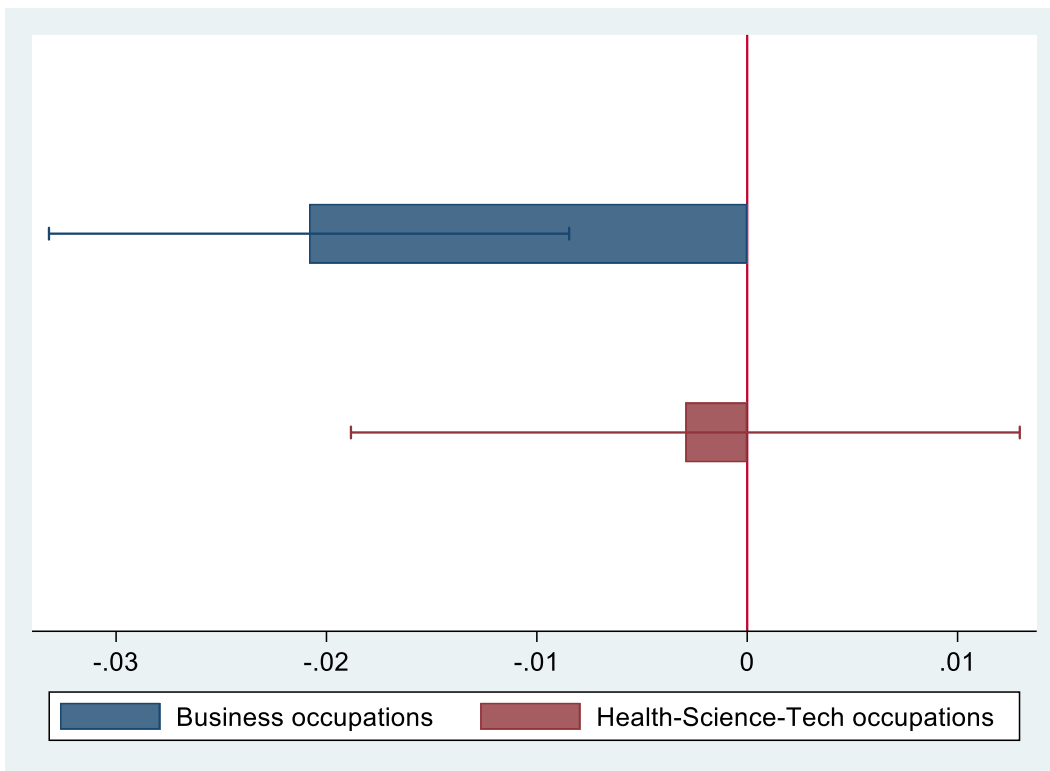


Figure 2: Heterogeneous effects across time zones (plotted coefficients)

