Globalisation and the Gender Gap in Mental Well-Being*

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March 14, 2026

Abstract

Working with business partners in distant countries often requires operating outside standard working hours, potentially harming workers' mental well-being—especially for women balancing professional and family responsibilities. This hypothesis is investigated using matched employer-employee data from Denmark merged with information on workers' use of prescription antidepressants (AD) and firms' import and export transactions. The analysis exploits variation within job spells and controls for both unobservable firm-year heterogeneity and for the average differential in annual AD use among men and women. The results indicate that a decline in the business hour overlap between a Danish firm and its foreign trading partners leads to an increased AD use among women relative to men. This effect is economically meaningful, largest for college-educated workers under 45 and more pronounced for single mothers. In addition to the gender effect, workers in occupations requiring establishing relationships with others are more strongly affected than those in other occupations.

JEL classifications: F10, F66, F16, J16, I10, I30

Keywords: Globalisation, Mental well-being, Gender gap, O*NET job characteristics

*We thank seminar participants at the University of Copenhagen, the EBRD, the ROCKWOOL Foundation Research Unit, the CEPR-Paris Dauphine Globalisation and Workforce Composition workshop 2024, the DGPE workshop 2022, the Gender Gaps Conference 2023 hosted by GRAPE, the Economics of Working Environment conference (Copenhagen), the CESifo Area Conference on Global Economy (Munich), Mette Gørtz, Laura Alfaro and two anonymous reviewers for helpful comments and suggestions. We gratefully acknowledge funding from the Rockwool Foundation Research Unit.

1 Introduction

Recent decades have seen rapid growth in international trade and foreign direct investment, as firms have created supply chains spanning the globe in order to optimise production costs and reach customers in distant parts of the world. Running these complex production and distribution networks requires interactions with customers and suppliers located in different time zones, and thus may necessitate working outside of standard business hours, thereby disrupting the work-life balance.[1] This can take a particular toll on the mental well-being of women, who need to reconcile work demands with family obligations.

This study aims to shed light on the consequences of working across time zones for the gender gap in mental well-being of workers, proxied by their use of prescription antidepressant medications. We use matched employer-employee data from Denmark for 2008-2017, encompassing the universe of Danish manufacturing firms in the private sector, combined with detailed customs data on exports and imports. Importantly, we observe comprehensive information covering every individual worker's prescription drug purchases, disaggregated by drug type. Our outcome of interest is an indicator variable capturing whether a worker has purchased prescription antidepressants in a given year. We follow Bøler et al. (2018) and proxy working across time zones by using business hour overlap between Denmark and its export and import markets, weighted by the number of products sold or purchased in a given country.[2]

Our identification strategy rests on two pillars. First, we condition on job-spell fixed effects, i.e., we exploit time variation in the firm's business hour overlap with its trading partners within a given worker-firm relationship. This allows us to account for idiosyncratic and time-invariant factors that affect individuals' health, such as pre-natal and early-life environment and genetic differences (e.g. Black et al. (2007)).

[1] For instance, an employee of a global company reported that "[d]epending on what country he is working with, he has to adjust his time for fathering. When he was working with Malaysia he lost time with his children in the mornings, because he had to be online with their [Malaysian] time. When he is working with Austria the time with the kids in the afternoon and evening has to be adjusted to the working hours in Austria." (Kvande, 2009, pp. 68-69). This view is confirmed by Chauvin et al. (2020) who studied internal communications in a large multinational firm and found that an increase in time differential due to the Daylight Saving Time adjustment induced employees in non-routine tasks to shift synchronous communications across the boundary of their workday into leisure time.

[2] Danish health care is free and universal, with every individual having access to health care regardless of income and employment status. This makes Denmark a better setting for our study than, for instance, the U.S., where workers' access to health care is correlated with income and employment status (e.g. Currie and Madrian (1999)) and enables us to separate the direct effect of work characteristics on well-being from an indirect effect operating through access to health care. See section 2 for a more detailed discussion of the healthcare system in Denmark.

Second, we conjecture that working across time zones is particularly difficult for women because of the need to juggle work and family obligations and even more so for young women (i.e., those under 45 years of age) who are likely to have young children.[3] We focus on the gap in antidepressant usage between women and men working for the same firm in a given year, which allows us to control for unobservable firm-year-specific heterogeneity that may, e.g., drive firms' internationalization, corporate culture, or impact the average level of stress among the workforce. To account for differential propensity to use antidepressants among the genders over time, we control for an interaction of a female indicator with year dummies. We also control for education, experience, experience squared, having children and 2-digit occupational fixed effects.

To summarize, our analysis holds the worker-firm match fixed, controls for unobservable firm-year heterogeneity, and asks how a change in the firms' business hour overlap with its foreign buyers and suppliers translates into a differential antidepressant use among its female and male workers.

Our results can be summarized as follows. First, we find a positive and statistically significant relationship between working across time zones and the gender gap in antidepressant usage. In other words, a lower business hour overlap is associated with a higher incidence of antidepressant usage among women relative to men working for the same company in a given year. This relationship is present among college-educated workers, but not in the general population of workers. This is intuitive, as college-educated workers are more likely to hold jobs in management, sales, marketing, customer support, or other occupations that necessitate interactions with foreign business partners. We also find that the relationship is only found among younger workers (under 45), which is in line with younger workers being more likely to have young children and, therefore, more family obligations. As a consequence, the relationship between working across time zones and the gender gap in antidepressant use is particularly strong among young workers with a college education.

The estimated magnitude is economically meaningful. A decline in business hour overlap by 5 hours from an initial level of 8, equivalent to moving all trade from Germany to the eastern part of Canada, is associated with a 1.7% point increase in the likelihood of antidepressant use by women relative to men among college-educated workers under 45. This implies increasing the

[3] As shown by Thielemans et al. (2019), women tend to perform a higher share of household work than men do. This is also in line with the findings of Bøler et al. (2018) who show that working across time zones is associated with a higher gender wage gap in Norway.

prevalence of antidepressant use by 57%, which in this subpopulation is equal to 3%.

Our results are robust to controlling for firms' business exposure to less gender-equal countries, thus eliminating the possibility that gender biases and stereotypes among business partners make the working lives of female employees more stressful. They are robust to using alternative definitions of business hour overlap as well as alternative econometric approaches (linear probability model and logit). They also hold if we drop the period of the Global Financial Crisis (2008-9) to eliminate the possibility of economic downturn affecting our results.

Second, our hypothesis that the need to work outside of standard business hours is especially taxing for employees juggling work and family obligations finds support in an analysis allowing for differential effects for single mothers. This analysis shows that the impact of working across time zones on antidepressant usage is 3-4 times larger for single mothers than for women in general, which suggests that the pressures of maintaining work-life balance are likely to be one of the main factors driving our results. This effect is more than twice as large for college-educated single mothers than for mothers without college education.

Third, we confirm our results using an alternative source of variation stemming from activities of the Danish Trade Council. Caseworkers at Danish embassies and consulates contact Danish firms, often sequentially in alphabetical order, to offer export promotion services in specific foreign markets. Buus et al. (2025) use these calls as a source of plausibly exogenous variation and document that such calls result in new export flows. We show that receiving a call from a country with a lower business hour overlap than the business hour overlap in the current export portfolio leads to an increase in the gender gap in antidepressant usage among college educated workers under 45, but not among the population of all workers.[4]

It is worth reiterating that our results are not driven by self-selection of workers into particular firms or by self-selection of firms with a healthier workforce into greater internationalization, as we hold the work-firm match fixed and control for firm-year fixed effects. Moreover, the inclusion of female-year fixed effects means that our findings cannot be attributed to the changing incidence of antidepressant usage between men and women over time.

Two extensions boost our confidence in the results. We document a similar relationship for business hour overlap with respect to foreign subsidiaries of Danish companies. Again, an

[4]In an extension, we drop firm-year fixed effects and exploit the shocks stemming from the activities of the Danish Trade Council to examine the impact of working across time zones on the antidepressant use by male workers. We do not find a statistically significant effect.

increase in the need to work across time zones necessitated by the need to communicate with the firm's foreign subsidiaries is associated with a greater gender gap in antidepressant use. This relationship holds for younger workers with a college education and is *in addition* to the effect driven by the composition of foreign trade.

Finally, following Goldin (2014), we focus on five occupational characteristics (available from O*NET) that limit the temporal flexibility of workers, as they are linked to working particular hours and long hours. We note, though, that these results may be contaminated by the self-selection of men and women into particular occupations. We find that a lower business hour overlap is associated with a greater antidepressant usage among workers in these occupations (relative to those employed in other occupations). This effect holds *in addition* to our finding that women are affected more than their male colleagues. When we zoom in on individual job characteristics, we find that the results are driven by occupations (i) requiring establishing and maintaining interpersonal relationships, (ii) requiring contact with others, (iii) with fewer substitutes for a given worker. These effects are economically meaningful. For instance, workers in the top quarter of occupations where contact with others is required see a 0.9% point increase in antidepressant use when the business hour overlap declines from 8 to 3 hours.

Taken together, our results are consistent with the need to work across time zones, and thus outside of standard business hours, increasing the gender gap in mental well-being of workers. The contribution of our study lies in documenting this effect as well as pointing out a new channel through which globalisation differentially affects men and women as well as workers in particular occupational groups. Our study also contributes to improving understanding of factors leading to or exacerbating depression. This is interesting in its own right, given that depression alone accounts for 4.3% of the global burden of disease and is among the largest single causes of disability worldwide (accounting for 11% of all years lived with disability globally), particularly for women. This not only impacts the affected individuals and their families but also has large economic consequences in terms of lost days of work and output losses globally (WHO (2021)).

Our paper is related to several strands of the existing literature. The first one encompasses studies on the gender impact of globalisation, most of which focus on the gender wage gap (GWG). Juhn et al. (2014) argue that trade liberalization induces prospective exporters to

adopt new technology that is more modern and requires less physical strength from workers. This improves women's labour market outcomes in the blue-collar tasks, while leaving them unchanged in the white-collar tasks. They find that the introduction of NAFTA was associated with entry of new firms and adoption of more modern technology, at the same time as firms hired relatively more blue-collar females and increased their share of the wage bill. Bøler et al. (2018) argue that there is a systematic difference in the GWG between exporting firms and non-exporters, as the latter requires working particular hours to communicate with partners in different time zones and may therefore disproportionately reward employees' flexibility. If women are less flexible, or perceived as such, exporters will exhibit a higher GWG than non-exporters. This hypothesis is confirmed by an analysis of matched employer-employee data from Norway. Their results suggest a firm's entry into exporting increases the GWG by about 3% points for college-educated workers. A lower overlap in business hours between the Norwegian exporter and its foreign markets and thus a greater need for interactions with foreign buyers outside of standard business hours are associated with a higher GWG. The contribution of our study lies in pointing out another channel through which globalisation may lead to differential outcomes for men and women, namely mental well-being.[5]

Our paper also contributes to the nascent literature on work-induced health outcomes. Hummels et al. (2025) employ the same Danish data to study the effect of rising workload on health. Using both within-job-spell regression analysis and event studies, they show that large increases in firm sales lead workers to log longer hours and experience higher probabilities of stress, depression, heart disease, and strokes, with more pronounced effects for high-risk groups such as older workers, job-strained workers, and those with long initial work hours. We differ from their paper in that we focus on stress caused by working across time zones necessitated by firms' internationalisation rather than demand surges and their differential implications for men and women. In another related study, Belloni et al. (2022) use survey-based assessment of depressive symptoms among UK workers to investigate how EU-wide occupation-level changes in working conditions affect mental health. They consider an index of working time quality which captures working long or atypical hours (i.e., working more than 48 hours a week or 10

[5]Another strand of the literature documents the positive effects of foreign ownership on female employment thanks to multinationals transplanting their meritocratic culture and flexible working arrangements to foreign affiliates (Kodama et al. (2018), Tang and Zhang (2021), Choi and Greaney (2022)). Our study contributes to this body of research by demonstrating that by working across time zones necessitated by the presence of foreign affiliates may increase the gender gap in mental well-being.

hours a day, night or weekend work, shift work), frequently changing work schedule or work schedule changing at a short notice and the lack of control over work schedule. They document that a deterioration in working time quality is associated with worse mental well-being. Our study improves over their analysis by using an objective measure of mental well-being (namely, use of prescription medication) and by analysing changes to working conditions in the workplace of a given individual (rather than in the EU conditions specific to a given occupation).

Our study also speaks to the broader literature on the impact of globalisation on health outcomes. This literature has predominantly focused on the negative effects of import competition, such as greater incidence of suicides and drug overdoses (Pierce and Schott, 2020), more job-related injuries (McManus and Schaur, 2016), and deterioration in physical and mental health of workers (Adda and Fawaz, 2020; Colantone et al., 2019). However, this literature has also documented a decline in workplace accident rates in the aftermath of foreign acquisitions (Javorcik et al., 2023). Our contribution lies in drawing attention to the taxing effects of working across time zones, which is necessitated by globalisation, and their differential effect on men and women.

Finally, our paper is also related to the literature documenting how time zone differential affects the organization of knowledge within multinational firms (Gumpert (2018)), collaboration between inventors (Bircan et al. (2024)) and the gender wage gap (Bøler et al. (2018)). We contribute to this literature by pointing out the negative impact of working across time zones on the gender gap in workers' mental well-being.

The rest of the paper is structured as follows. The next section describes the Danish healthcare system, presents the data sources and the definitions of the main variables. Section 3 discusses the estimating equation. Section 4 presents the empirical results on the gender gap in mental well-being. Section 5 focuses on robustness checks. Section 6 exploits differences in occupational characteristics. Section 7 contains the conclusions.

2 Data and Setting

In this section, we first discuss the main features of the Danish healthcare system, with a focus on mental well-being. Secondly, we describe the datasets used and the construction of the regression sample.

2.1 Healthcare in Denmark

In Denmark, all citizens have free and equal access to a high-quality health care system, independent of employment status. Around 84% of all health care expenditures were publicly financed in 2015 while the remaining 16% were financed (mostly) through patient co-payments (The Ministry of Health (2017)).[6]

To get access to health care services, each resident has an assigned general practitioner (GP). Around 5.1 million Danes (out of the population of almost 6 million) met their GP physician at least once in 2022. This was true of 2.4 million men and 2.7 million women (Statistics Denmark (2024)). Visiting the GP is free of charge, and they act as a gatekeeper between the primary level and specialized healthcare services. GPs can refer individuals further to see a specialist, however, the vast majority of cases are handled without further examination or specialized treatment (The Ministry of Health (2017)).

It is estimated that in any given year, around 20% of the Danish population experiences a problem with their mental health (The Ministry of Health (2017)). As gatekeepers, managing mental well-being is therefore a core task of Danish GPs, and it is estimated that around 25% of all contacts are related to mental well-being (National Board of Health (2010)). GPs can prescribe antidepressive medications to patients and other treatment alternatives. The cost of prescription drugs is subsidized, and the subsidy depends on the individual's prior consumption of medicine within a period of a year. There is an automatic yearly cap on co-payment that is adjusted each year (as an example, in 2023 the maximum co-payment was DKK 4435 or 643 US dollars).

2.2 Data

We draw information from a number of administrative registers maintained by Statistics Denmark and construct a comprehensive matched worker-firm dataset for the period 2008-2017 for the universe of firms in the private sector in Denmark. The data includes information on individuals (e.g., wages, occupation, health outcomes) and firms (sales, foreign ownership, exports, imports etc.).

The sources of the individual level data are: a) the population register (BEF), b) the

[6]For a more in-depth overview of the health care system in Denmark see The Ministry of Health (2017).

integrated database for labour market research (IDA) which holds information about, e.g., labour market status, occupation (4-digit International Classification of Occupations (ISCO) codes) and demographics, c) the family and household register (FAM) where individuals are linked through family ties, and d) the education register (UDDA) from where we draw information about highest completed educational degree. We define measures for health outcomes using the prescription drugs register (LMDB), which includes detailed information on the purchases of prescription drugs for all individuals by drug type (ATC codes). The register is comprehensive and includes all purchases of prescription drugs. This allows us to define our measure for mental health: an indicator variable indicating if the individual has purchased antidepressants in a given year.[7] Individuals are in all registers identified by the same personal ID code, which allows us to straightforwardly merge the individual-level data.

The firm-level data come from: a) the firm statistics register (FIRM) which holds information about sales, employment and industry codes, b) the account statistics register (FIRE) from where we obtain a measure of the capital stock of all firms, c) the foreign trade statistics register (UH), where all import and export transactions are registered by detailed product codes (6-digit harmonized system (HS)) and origin or destination country, and d), outward foreign affiliate statistics (FATO), which has information about employment, sales, and host country for all foreign subsidiaries of Danish firms. The FATO register is only available for 2010-2017. The firms are in all registers identified by the same firm ID code, and we obtain consistent links between individuals and firms from the FIDA database.

As we are interested in the link between globalisation and mental well-being, we restrict the sample to workers aged 20-60. The final regression sample includes Danish manufacturing firms with more than 10 employees that both import and export.[8] The final dataset includes just under 2 million worker-year observations from approximately 3,400 unique firms. The impact of our sample restriction on the coverage rate of our sample can be seen in Table A1 in the Appendix. The sample covers 81% of total Danish manufacturing employment and 98% of Danish manufacturing exports. Simple descriptive statistics at the worker level are shown in Table 1 by gender and education status. For example, women are more likely to use

[7] Antidepressants are identified by the ATC code N06A, more information about the ATC system can be found at the WHO website: `https://www.whocc.no/atc_ddd_index/`

[8] This condition has been implemented such that if a firm in a single year has fewer than 10 employees, but more than 10 in the year before and the year after, it is kept in the sample for that year.

antidepressants: 4.3% of college-educated women use antidepressants, while the corresponding number for college-educated men is 3%. For workers without a college education, 6.5% of women and 4.3% of men use antidepressants. As illustrated in the Appendix, Figure A1, the antidepressant use has remained quite stable for each group during the period under study. Appendix A.2 shows that there is a lot of within-firm across-time variation in both *bho* and antidepressant usage.

2.3 Business hour overlap

Following Bøler et al. (2018), we define the business hour overlap (*bho*) between a Danish firm and a partner country d as the number of working hours (9:00-17:00) that overlap in Denmark and the time zone of the partner country:

$$bho_d = \max\left\{8 - \left|UTC^d_{\text{DK offset}}\right|, 0\right\}, \tag{1}$$

where $\left|UTC^d_{\text{DK offset}}\right|$ is the absolute value of the time zone difference between Denmark and country d according to the coordinated universal time. We then construct an average *bho* measure for firm j weighted by the number of 6-digit HS products from each partner country (both exports and imports) in the following way:

$$bho^{\text{trade}}_{jt} = \sum_{d \in D_{jt}} \frac{\text{Products}^{exp}_{djt} + \text{Products}^{imp}_{djt}}{\sum_{d \in D_{jt}} \text{Products}^{exp}_{djt} + \text{Products}^{imp}_{djt}} \cdot bho_d \tag{2}$$

where $\text{Products}^{exp}_{djt}$ is the number of exported products of firm j to country d in year t, and $\text{Products}^{imp}_{djt}$ is the number of imported products of firm j to country d in year t. D_{jt} is the set of countries firm j traded with in year t. That is, the weight on bho_d is country d's share of firm j's total number of imported or exported country-product combinations.

Figure 1 shows the distribution of bho^{trade}_{jt} for the firms in the sample. It is evident that many firms have close to complete business hour overlap with their trade partners, reflecting that partner firms are located in the same time zone as Denmark. However, a sizable portion of firms have a low *bho* which would tend to put pressure on local employees to work outside normal business hours. In the empirical analysis, we take logs of *bho*, which leads to 0.02% of the sample observations being dropped.

We also construct a *bho* measure based on outward foreign direct investments by Danish firms by utilizing the FATO register. We define this *bho* measure by calculating a simple average of the business hour overlap of each firm's foreign affiliates, accounting for the number of foreign affiliates, Affiliates_{djt}, in each destination d:

$$bho_{jt}^{\text{Affiliates}} = \sum_{d \in D_{jt}} \frac{\text{Affiliates}_{djt}}{\sum_{d \in D_{jt}} \text{Affiliates}_{djt}} \cdot bho_d \tag{3}$$

Figure 2 shows the distribution of the *bho* measure based on foreign affiliates, for firms with at least one affiliate, This measure is more skewed towards full overlap in business hours than the trade-based *bho* measure. Figure A2 in Appendix A shows the evolution of the two *bho* variables over time.

2.4 Gender gap index

Attitudes towards women may differ across destination countries. For robustness, following Bøler et al. (2018) we control for such differences by employing a Gender Gap Index from the World Economic Forum. It pertains to 2007 and covers 128 countries. The index measures relative gaps between men's and women's outcomes. These outcomes are "related to basic rights such as health, education, economic participation or political empowerment" (Hausmann et al., 2007, p. 3).[9] For each firm, the index is an average weighted by product-destination country combinations, similar to the business hour overlap.

2.5 O*NET data

We also explore job characteristics that are likely to be associated with working across time zones. Following Goldin (2014), we add O*NET data by linking them to ISCO occupation codes and focus on five occupational characteristics that in her judgement limit temporal flexibility of workers as they are linked to working particular hours and long hours. The five characteristics are: 1) Time pressure, 2) Contact with others, 3) Establishing and maintaining interpersonal relationships, 4) Structured versus unstructured work, 5) Freedom to make decisions. See Appendix B for more detailed information about the underlying questions in O*NET.

[9]The dataset can be obtained at the World Bank website: `https://tcdata360.worldbank.org/indicators/af52ebe9?indicator=27959`, and more information about its construction can be found in the World Economic Forum's Gender Gap report, Hausmann et al. (2007).

3 Empirical approach

Our estimation equation takes the following form:

$$y_{ijt} = \tau Female_i \cdot \ln bho_{jt}^{\text{trade}} + X_{it}'\beta + \delta_t Female_i + \rho_{ij} + \eta_{jt} + \epsilon_{ijt}, \tag{4}$$

where the dependent variable is an indicator for whether worker i employed at firm j purchased prescription antidepressant medication in year t. The explanatory variable of interest is an interaction term between a female indicator for worker i and firm j's business hour overlap with its trade partners in year t. Controls include: experience and its square, an indicator for having children, indicators for education, and occupational fixed effects. Most importantly, this specification controls for worker-firm (spell) and firm-year fixed effects. Finally, it controls for female-year fixed effects. Standard errors are clustered at the firm level.

Our identification strategy rests on two pillars. First, we condition on job-spell fixed effects, which means that we exploit variation over time in the firm's business hour overlap within a given worker-firm relationship. This allows us to account for idiosyncratic and time-invariant factors that affect individuals' health, such as pre-natal and early-life environment and genetic differences.

Second, we focus on the differential prevalence of antidepressant use between women and men. The underlying hypothesis is that working across time zones is particularly difficult for women because of the need to juggle work and family obligations, and even more so for young women who are likely to have young children. This is in line with the findings of Bøler et al. (2018) who show that working across time zones is associated with a higher gender wage gap for this subpopulation. Focusing on the gender gap allows us to control for unobservable firm-year-specific heterogeneity such as corporate culture, average level of stress among the workforce, etc. In other words, we examine how the differential propensity to take antidepressants of men and women *working for the same firm in the same year* is related to the business hour overlap. The inclusion of firm-year fixed effects controls for factors driving firms' internationalization, and thus eliminates the possibility that firms with healthier populations are more or less likely to internationalise.[10] They also control for demand and productivity shocks to firms. The inclusion

[10]This is a concern to the extent that a healthier workforce makes a firm more productive, and more productive firms tend to serve more distant markets (as shown by Eaton et al. (2011)).

of female-year fixed effects takes into account any differential propensity to use antidepressants between genders and its evolution over time.

To reiterate, we hold the worker-firm match fixed, control for unobservable firm-year heterogeneity, and ask how a change in the firms' business hour overlap with its foreign buyers and suppliers translates into a differential antidepressant use among its female and male workers

4 Estimation results: Gender gap in mental well-being

4.1 Hypotheses related to the gender gap

Our hypothesis is that working across time zones requires work outside of standard business hours and disturbs the work-life balance. In turn, this may cause stress, lead to depression, and hence the use of antidepressant medication. However, not all employees are equally exposed to this risk.

Employees with the greatest exposure to this channel are those who directly communicate with business partners abroad. This includes: managers, sales representatives, marketing specialists, logistics and accounting staff, technical product support, supply chain managers, and others. Production workers are unlikely to be affected. Typically, workers in the former group will have a college education. Thus, we posit that the anticipated effects are likely to be seen among employees with college education.[11]

Further, we expect that the need for temporal flexibility is harder to achieve for women (in line with arguments presented by Goldin (2014)), hence our focus on the gender gap in antidepressant usage. Finally, we expect larger effects among younger workers (due to general childcare responsibilities) and in particular among younger college-educated workers.

4.2 Baseline results

The hypotheses outlined above suggest that the largest effects should be found among younger college-educated workers. However, in the interest of transparency, we start by reporting the estimation results for the full sample. We also gradually add various fixed effects to shed light on how much (if at all) they matter. The results for the full sample, reported in the top panel of

[11] This is in line with the findings on business hour overlap and the gender wage gap in the study by Bøler et al. (2018).

Table 2, show no statistically significant relationship between the business hour overlap and the gender gap in antidepressant usage. This is regardless of the set of fixed effects included in a given specification.

The next panel shows the results for the subpopulation of college-educated workers. Here, the anticipated relationship is statistically significant at the 10 percent level in all but the first specification. This pattern suggests the importance of including job spell fixed effects, which capture endogenous mobility and time-invariant characteristics of the worker. Once spell and firm-year fixed effects are included, the inclusion of additional fixed effects hardly changes the magnitude or the significance level.

The magnitude of the estimated effects is economically meaningful. A decline in the business hour overlap by 5 hours from an initial level of 8, equivalent to moving all trade from Germany to the eastern part of Canada, is associated with a one-percentage-point increase in the likelihood of antidepressant use by women relative to men.[12] This effect is sizeable, given the prevalence of antidepressant use in this subpopulation of 3.4%.

The next panel presents the estimation results for the subsample of workers under 45 years of age. The coefficients of interest are statistically significant at the five percent level in all but the first column, which excludes spell fixed effects. The size of the estimated coefficients suggests a 1.2% point increase in the antidepressant gender gap as a result of a five-hour decline in business hour overlap. This is equivalent to a third of the average use for this subsample.

The bottom panel shows the estimates for the final subsample of young (under 45) workers with a college education. The estimated coefficients are statistically significant at the 5% level once spell fixed effects are included and larger than before. In our thought experiment, they imply a 1.7% point increase in the gender gap, which is more than half of the average for this group.

Taken together, our results are consistent with working across time zones causing stress and mental distress among women, relative to men, and manifesting itself in a higher gender gap in the use of antidepressant medication. The effects are present for the subgroups we expect to be more exposed to our proposed mechanism, i.e. younger college educated workers. Appendix Table C2 shows that these effects are not present for the non-college subsample nor for the

[12] A five-hour reduction in business hour overlap from an initial $bho = 8$ to $bho = 3$ implies, $\ln(8) - \ln(3) \approx 0.98$, i.e. approximately one. Hence, coefficients on $\ln(bho)$ can be interpreted approximately as the effect of such a change.

sample of older workers, two groups which we would not expect to be affected.

4.3 Zooming in on single parents

One potential concern is that women may be more likely to seek medical treatment, including for mental health related conditions. To give us confidence that our results are indeed related to working across time zones putting a greater strain on work-life balance we ask whether a group that would be expected *a priori* to find balancing work and family obligations more challenging is affected by working across time zones to a greater extent. Namely, we focus on single mothers.

A substantial share of the Danish population chooses not to formalize their relationships through marriage. Therefore, we define a single parent as an adult living together with their own child under the age of 18, but not living with a non-related adult with a less than 15-year age difference from themselves. As one would expect, single parents constitute a relatively small share of the sample: 7.85% of college-educated women and 9.27% of women without college education are single mothers in the sample. The corresponding figures for single fathers are 1.95% and 2.77%, respectively.

We estimate an extended version of equation (4), which allows us to compare the effect of business hour overlap on single parents of either gender and cohabitating parents of either gender relative to employees without children, all working for a given company in a given year. As before, we hold the worker-firm match fixed which means that our identification comes from the changes to a firm's business hours overlap with its partners and the changes in an individual's personal situation, such as being a parent or a single parent. The results, presented in Table 3, focus on younger workers with and without college education (see columns 1 and 2 versus 3 and 4, respectively). They include all the controls used earlier, including occupational fixed effects and their interaction with the female indicator.

The results are in line with our priors. We confirm our baseline results as the interaction term *female * bho* remains negative and statistically significant in the sample of college-educated workers. Its magnitude is very similar to that found earlier. More importantly, the relationship between working across time zones and the use of antidepressants appears to be particularly strong for single mothers. The coefficient on the interaction terms *female * single parent * bho* is negative and much larger in magnitude than the coefficient on the *female * bho* interaction.

It is statistically significant at the one percent level in the subsample of college-educated workers. Thus, as anticipated, a lower business hour overlap is associated with a much higher antidepressant usage among college-educated single mothers than among other women with college education. In the subsample of workers without a college education, the coefficients point in the same direction, but are much smaller and not statistically significant.

Moving on to other estimates, we find that college-educated single mothers are more likely to use antidepressants, which is consistent with findings from Finland showing that single mothers substantially increase their antidepressant use at the time of separation with only a moderate decline after separation (Kühn et al., 2023). The opposite is true of college-educated single fathers, for whom business hour overlap also has the opposite sign. This is in line with the observation that men are less likely to seek medical help, particularly if they are not in a relationship.[13] Interactions terms with parent indicator variables do not appear to be statistically significant.

In summary, our finding of the impact of working across time zones on antidepressant usage being three times larger for college-educated single mothers than for college-educated women in general suggests that the pressures of maintaining work-life balance are likely to be one of the factors driving our results. The finding that the effect on single mothers is only robust in the subsample of college-educated workers and not for those without a college education is also consistent with our priors that skilled workers are more likely to hold positions requiring contacts with business partners abroad and thus are more likely to be affected the pressures of working across time zones. Finally, our confidence in the findings is further boosted by the fact that they confirm the results from another Nordic country on separation increasing antidepressant use among single mothers.[14]

[13]The positive coefficient on *Single parent * bho* is somewhat puzzling. However, this result is not robust to an alternative estimation method discussed in Section 5.5. Recent research has also highlighted the health vulnerabilities of single fathers. For instance, Chiu et al. (2018) report that single fathers face a three-times higher risk of mortality compared with either single mothers or partnered fathers. Similarly, Chiu et al. (2017) find that although single fathers and single mothers are equally likely to report poor overall health, single fathers are only half as likely to seek professional help.

[14]Recall that the inclusion of spell effects means that our results are identified from changes over time.

5 Robustness checks

We subject our findings to a battery of robustness checks, ranging from exploiting exogenous variation that affects the firm's export portfolio, through gender attitudes in partner countries, to searching for similar effects among Danish multinationals.

5.1 Exogenous shocks to business hour overlap

Although the inclusion of firm-year fixed effects controls for any firm-year-specific unobservables driving the changes in the firm's trade portfolio and hence the business hour overlap with its foreign partners, one might be concerned about the potential correlation between the firm's decisions and its gender gap in mental well-being. Thus ideally our analysis would rely on an exogenous shock shifting the business hours overlap. This section uses the activities of the Trade Council in Denmark as a source of such a shock.

The Trade Council is part of the Ministry of Foreign Affairs and employs caseworkers based at Danish consulates and embassies around the world. Their main task is to sell export promotion services (partner searches, market analyses, commercial assistance, etc.) to Danish firms with the aim of boosting Danish exports to the country where the caseworker is located. Firms may self-select into buying export promotion services, but roughly half of the services sold are initiated by caseworkers reaching out to Danish firms and offering assistance. Caseworkers reach out to firms if they believe there are unexplored export potentials for Danish firms in the destination market, motivated by their annual sales targets that are unlikely to be met by firms pro-actively demanding export promotion services.

Buus et al. (2025) argue that these caseworker calls are quasi-random in nature since caseworkers tend to approach firms sequentially in the alphabetical order. That is, firms with names starting with letters early in the alphabet are overrepresented among the approached firms. They show that at the firm-level, being called by a caseworker strongly predicts export status and volume to the country where the caseworker is located.

We follow Buus et al. (2025) and use data on the caseworker calls to Danish firms, obtained from the Trade Council. For each call, we observe the firm ID, the host country of the caseworker and the year of the call. We create an indicator variable taking on the value of one if a firm is approached by a caseworker located in a country with a lower business overlap than the business

hour overlap specific to the firm's export portfolio in the previous year ($\mathbb{I}\left\{bho_{jt}^{\text{call}} < bho_{j,t-1}^{\text{exp}}\right\}$). The underlying logic is that if the call generates an additional export opportunity, it will lower the firm's overall business hour overlap with its export markets. More specifically, we estimate the following equation:

$$\begin{aligned} y_{ijt} = \nu_1 Female_i \cdot Call_{jt} + \nu_2 Female_i \cdot Call_{jt} \cdot \mathbb{I}\left\{bho_{jt}^{\text{call}} < bho_{j,t-1}^{\text{exp}}\right\} \\ + \nu_3 Female_i \cdot \ln bho_{j,t-1}^{\text{exp}} + X_{it}'\beta + \delta_t Female_i + \rho_{ij} + \eta_{jt} + \epsilon_{ijt}, \end{aligned} \tag{5}$$

where $Call_{jt}$, is a dummy variable indicating if firm j was approached by any Trade Council caseworker at time t, bho_{jt}^{call} is the business hour overlap to the caller country, and $bho_{j,t-1}^{\text{exp}}$ is the lagged average export business hour overlap weighted by product variety. The estimate of interest is ν_2, which captures the differential impact on women in firms being approached by a caseworker located in a country that potentially reduces the firms' business hour overlap. We expect that such calls should lead to an increase in the gender gap in antidepressant use.

Table 4 presents the estimation results for all workers and for the subsample of college educated workers below 45 years. The $Female * Call$ interaction never appears to be statistically significant, which is consistent with our belief that that calls are quasi-random. As for the estimate of interest, it is not statistically significant in the full worker population (Panel A) as one would expect. By contrast, for younger college educated workers (Panel B), women increase the antidepressant usage relative to men, if the firm is approached by Trade Council workers from countries that would reduce its business hour overlap. We take this as evidence that an arguably exogenous shift to the firm-level business hour overlap has a qualitatively similar effect as in our baseline results of Section 4.2.

5.2 What is the impact of business hour overlap on men?

Our baseline specification does not lend itself to examining the impact of the business hour overlap on male workers because of the inclusion of firm-year fixed effects. These fixed effects are needed to address the potential reverse causality: firms, whose workforce enjoys better mental well-being, may be more productive, and in turn more productive firms tend to serve more distant markets in both spatial and temporal sense (Eaton et al., 2011). This concern makes any results omitting firm-year fixed effects unreliable.

However, exploiting exogenous variation due to activities of the Danish Trade Council gives us an opportunity to examine the impact of the business hour overlap on the firm's overall workforce. We do this by dropping firm-year fixed effects from equation (5) and adding non-interacted business hour overlap and call terms. The results, presented in Table 5 confirm the pattern found earlier. Namely, we find a positive and statistically significant coefficient on the interaction term between an indicator for receiving a call from a location distant in temporal sense and the female dummy. As expected, this term is statistically significant only in the subsample of college educated workers under 45 years of age. The coefficient on the indicator for receiving a call from a distant location, which captures the overall effect on the firm's workforce, bears the expected positive coefficient, one third of the size of the coefficient on its interaction with the female dummy, but it is not statistically significant. When it comes to the lagged *bho* term, its negative sign suggests that more trade with temporarily distant markets is associated with a higher antidepressant usage among the firm's workforce. The interaction between lagged *bho* and the female dummy is (as expected) negative and sizeable, but not statistically significant. Although these signs patterns are intuitive, we urge caution when interpreting the results for lagged *bho* due to the lack of firm-year fixed effects.[15]

5.3 Are our findings driven by gender attitudes in partner countries?

A potential concern is that the business hour overlap may be correlated with societal attitudes, such as the position of women in the society in the partner countries, rather than just purely reflecting the time zone differential. For instance, it may be more difficult, less pleasant, and more stressful for female employees of Danish companies to conduct business in countries where women's rights are restricted or women have a lower social status. Countries, where this is typically known to be the case, tend to be far away from Denmark and will thus have a low business hour overlap. If so, our findings could simply be reflecting the mental toll of doing business under such conditions has on female employees, rather than the need for working outside the standard office hours due to time zone differences.

To address this concern, we control for attitudes towards women and gender equality in the

[15]The results from a baseline specification omitting firm-year fixed effects, presented in Online Appendix Table O.E1, show a positive correlation between *bho* and antidepressant use. As argued, these results cannot be interpreted as causal as they could reflect the fact that better well-being of the workforce allows firms to perform better and access distant markets. When both contemporaneous and lagged *bho* terms enter the specification, neither appears to be statistically significant (see Table O.E2 in the Online Appendix).

trading partner countries. We follow Bøler et al. (2018) and use the Gender Gap Index which is compiled by the World Economic Forum and pertains to the year 2007 (see Section 2.4 for more information about the index). The value of the index relevant to each firm is calculated with an approach that is analogous to the business hour overlap. To save space from now on we only report the results for the most stringent specification (described in equation (4)) and for the subsamples of younger workers and younger workers with college education. These are the subsamples where the baseline exercise produced the largest effects.

Columns 1 and 2 in Table 6 present specifications controlling for the Gender Gap Index. Our results are robust to the additional control and remain significant at the five percent level. The size of the estimated coefficients goes up, now implying an almost 2% point effect on the gender gap in mental well-being for college-educated workers resulting from a five-hour decline in business hour overlap. As for the effect of gender attitudes in partner countries, it is in the opposite direction of what one might expect, though it is statistically significant only for workers without college education. Additional robustness checks, presented in Appendix Table C3, show that if the time-varying GGI is used (instead of its 2007 value), its interaction with the female dummy becomes insignificant, while our baseline effect of *bho* remains robust.[16]

5.4 Are the results robust to excluding the Global Financial Crisis?

Our data include 2008 and 2009, which were the years of the Global Financial Crisis. As a small open economy, Denmark experienced large drops in employment and trade (The Ministry of Industry, Business and Financial Affairs (2013)). To make sure that our results are not affected by the Global Financial Crisis, we re-estimated our baseline specification excluding observations for 2008 and 2009. The results, shown in columns 3 and 4 of Table 6, remain robust for the subsample of college-educated workers.

[16]The surprising result is likely due to multicollinearity between our *bho* measure and the Gender Gap Index measure. In Online Appendix Table O.F1, we also show that there is no effect in specifications without the *bho* interaction but including just the interaction term between the female dummy and a gender gap index. We use here three different gender indices: the World Economic Forum index used in Table 6, the UN Gender Inequality Index (GII), and the World Bank's Women Business and the Law index (WBL). GGI is composite metric of gender inequality along three dimensions: reproductive health, empowerment and the labour market. WBL measures legal gender equality by scoring economies on laws affecting women's economic participation along dimensions such as mobility, workplace, pay, marriage, parenthood, and pension. In none of the cases, the estimates are statistically significant.

5.5 Are similar effects found in Danish multinationals?

The logic of our exercise would imply that similar effects should be found in Danish firms with subsidiaries abroad. This is the question to which we turn next. We include an interaction between a female dummy and the *bho* associated with foreign affiliates as defined in (3). For firms with no foreign affiliates this *bho* measure is set to 8. We also include a female dummy interacted with a dummy for having at least one foreign affiliate in a given year. This allows us to distinguish the gendered effect of being a multinational firm from the effect of changes in the avereage *bho* of a firm's subsidiaries. In other words, we capture both the extensive as well as the intensive margin.

The results, presented in columns 5 and 6 of Table 6, are in line with our hypothesis. As expected, we find that a lower business hour overlap with foreign subsidiaries of Danish multinationals is associated with an increase in the relative use of antidepressants by women in the subsample of college-educated workers. Our main results for the business hour overlap based on firms' international trade flows remain robust for college-educated workers. The coefficients are very similar to those found earlier, though the significance level is lower. The size of the coefficient on the trade-based business hour overall is more than twice as large as the size of the coefficient based on the *bho* with foreign subsidiaries. Finally, the estimates also suggest that a firm being a multinational has no bearing on the gender gap in antidepressant usage.

5.6 Worker exits

One may be concerned about the possibility that changes to business hour overlap induce some workers to leave the firm where they are employed, biasing our estimates. The direction of bias is not *a priori* clear. On the one hand, workers more prone to mental distress may be more likely to leave. On the other hand, they may be more likely to stay as they may find it more difficult to find alternative employment.

To shed some light on this issue, we examine worker exits from the firm. We observe some workers going to another employer, while others exit our sample. Recall that our dataset encompasses manufacturing firms with more than 10 employees engaged in imports and exports, hence the latter option may mean unemployment or employment in a firm outside our sample. We consider three possibilities, all defined as dummies in year t by observing at $t+1$: (i) exit

from the firm regardless of whether we observe the worker in the sample afterwards, (ii) switching to another firm in the sample, or (iii) exit from the sample.

We focus on the differential impact of business hour overlap for exits by female workers. We control for a plethora of fixed effects described earlier. We consider the full sample, the subsample of college-educated workers, the subsample of workers under 45 years of age, and the subsample of workers under 45 with college education. As evident from Appendix Table C4, the coefficient of interest never reaches conventional significance levels, regardless of the subsample and the definition of exit considered. This attenuates our concern about differential exit rates biasing our results.

5.7 Other robustness checks

Source of variation To shed light on the source of variation driving our results, we have augmented our specification with interactions of the female dummy with the number of varieties traded, firm's export intensity and firm's import intensity. While none of these newly introduced interaction terms are statistically significant once spell fixed effects are introduced, our core result remains robust as seen in Table C1. This gives us confidence that what matters for antidepressant usage is the business hour overlap rather than the intensity of engagement in international trade.

Controlling for wages In another robustness check, we add to our baseline specification the worker's wage and its interaction with the female indicator, though noting the potential endogeneity problem. The results are presented in Online Appendix Table O.A1. Among workers under 45, a higher wage is associated with a lower antidepressant usage among men and, to a much lower extent, women. This is consistent with the literature showing that a higher income is associated with better mental health (Thomson et al. (2022), Reed et al. (2025)).

Once we focus on college-educated workers under 45, the wage loses its statistical significance, presumably because there is much less variation in the sample and because college-educated workers enjoy higher salaries. The latter is consistent the the diminishing returns found by Reed et al. (2025): for a given increase in income, benefits on health are smaller at higher income levels. Interestingly, among women in this subgroup, higher wages are associated with a higher antidepressant usage. This may be due to positions of greater responsibility being better

remunerated but also generating more stress due to longer hours. And indeed, this effect loses its statistical significance once female-year and occupational fixed effects (or gender specific occupational fixed effects) are included.

Raw time zone differential Our measure of *bho*, for obvious reasons, does not distinguish between a time zone differential of 9 and 12 hours. Therefore, in a robustness check, we replace *bho* with the raw time difference (i.e., the absolute value of the UTC offset). Our baseline conclusions are robust to this change in the subsample of college educated workers under 45, i.e., the larger the time difference vis-à-vis the foreign markets, the higher the gender gap in antidepressant usage. The results for all college educated workers are much weaker. See Table O.B1 in Online Appendix.

Unlogged bho measure As yet another robustness check, we re-estimated our regressions using an unlogged measure of *bho*. The results, presented in Tables O.C1-O.C3 in the Online Appendix, support our conclusions.

Logit estimation The use of linear probability models might be problematic for rare events because the tails of the distribution are important (see e.g. Horrace and Oaxaca (2006) and Angrist and Pischke (2009)). Therefore, to test the robustness of our results we have estimated our main empirical specifications using a logistic regression model (logit), rather than a linear probability model. Tables O.D1 and O.D3 in the Online Appendix replicate Tables 2 and 3 with a logit model. The direction and significance of our results replicate, although the magnitudes cannot be compared directly. If we consider college educated workers, the implied marginal effect of a decline in the business hour overlap from 8 to 3 hours is associated with an increase in the likelihood of female workers taking antidepressants (relative to their male counterparts doing so) of 7.7% points for a person with the average likelihood of usage for the college sample. This suggests that our linear probability approach understates the magnitude of the effect.

6 Exploiting differences between occupational characteristics

Not all occupations require interactions with foreign business partners and thus working across time zones. For instance, such interactions are crucial for an account manager in charge of

important customers abroad, but not for a production worker. In this subsection, we use variation in occupational characteristics to test our hypothesis that working across time zones is taxing for mental well-being.

Following Goldin (2014), we use O*NET data and focus on five occupational characteristics that in her judgment limit the temporal flexibility of workers, as they are linked to working particular hours and long hours. These are: time pressure, contact with others, establishing and maintaining interpersonal relationships, structured versus unstructured work (which captures how easy it is to find a substitute for a given worker), and freedom to make decisions. We use the average of the characteristics for each 4-digit occupational code or an indicator variable for the top 25% of occupations ranked highest in terms of these characteristics. See Appendix B for more details.

As discussed in the data section, each worker is assigned to their first occupation reported in the data set to avoid possible endogeneity of mental well-being either driving workers to change occupations or preventing them from doing so.[17] As pointed out by Kambourov and Manovskii (2009), the first-reported occupation code in a job spell tends to be more accurate. Using time-invariant occupation codes means there is no need to include *Female * ONET* interaction, as it will be time-invariant and hence subsumed by the spell fixed effect.

Focusing on occupational characteristics is thus an alternative identification strategy that allows us to link working across time zones to mental well-being. We consider occupational variation in isolation, together with the gender effect as well as allowing for an interaction between the two. We restrict our attention to workers under 45 years of age with a college education, as this is the group for whom the tension between professional and family obligations is likely to be the greatest, which was confirmed by our analysis so far.

We start by focusing on the measure encompassing all characteristics before considering them one by one. The results, presented in Table 7, support our hypothesis. We find a higher response of antidepressant usage to business hour overlap among employees in occupations that *a priori* would be expected to be more affected than among other workers. Both the continuous measure and the indicator variable for highly exposed occupations are negative and statistically significant when interacted with the business hour overlap. The estimated effect is economically

[17] We also note the possibility of self-selection of men and women into particular occupations clouding this analysis.

meaningful: a decline in the business hour overlap from 8 to 3 hours is associated with a 0.9% point increase in antidepressant usage among workers in the highly exposed occupations (column 2). This is large, given the sample average of 3%.

Moreover, controlling for the impact of business hour overlap on occupations with particular characteristics does not affect our baseline findings that working across time zones leads to a greater gender gap in antidepressant usage. The interaction of interest maintains its sign and magnitude and remains statistically significant. This suggests that our baseline findings are not driven by self-selection of women into occupations that may have been more sensitive to working across time zones. This is also true if we allow the identified occupation to vary within a job spell, as can be seen in Appendix Table C5. Finally, the triple interactions are not statistically significant, which suggest that there is no interplay between the two effects.

In Table 8, we consider each of five occupational characteristics one by one. Not surprisingly, we find that business hour overlap differentially affects workers in occupations requiring establishing and maintaining personal relationships, occupations where contact with others is important, and occupations with few close substitutes. Differences in occupations along the time pressure dimension or freedom to make decisions are not statistically significant. As before, our findings on women being affected more than men by the need to work across time zones remain robust.

In summary, two different identification strategies, one based on gender differences and one on occupational characteristics, point in the same direction, suggesting that working across time zones takes a toll on mental well-being of workers.

7 Conclusions

This paper documents some underappreciated consequences of globalisation, namely its impact on the gender gap in mental well-being of workers. It argues that trading with business partners located in different time zones puts a greater burden on female workers by necessitating working outside the standard business hours, thus potentially interfering with family obligations.

We use matched employer-employee data from Denmark, combined with information on workers' use of prescription antidepressant medication and transaction-level information on firms' import and export activities. Our identification strategy rests on several pillars. First, we

condition on job-spell fixed effects in our estimation, i.e., the source of our variation is the change over time in the firm's business hour overlap within a given worker-firm relationship. Second, we focus on the gap in antidepressant usage between men and women working for the same firm in a given year, which allows us to control for unobservable firm-year-specific heterogeneity that may drive firms' internationalization, corporate culture, the average level of stress among the work-force, etc. Finally, in a robustness check, we exploit plausibly exogenous variation in export flows due to activities of the Danish Trade Council.

Our findings indicate that a decline in the business hour overlap between a Danish firm and its foreign business partners is associated with an increased incidence of antidepressant use among women relative to men. A decline in business hour overlap by 5 hours, equivalent to moving all trade from Germany to the eastern part of Canada, leads to a 1.7% point increase in the likelihood of antidepressant use by women relative to men among college-educated workers under 45 years of age. This implies increasing the prevalence of antidepressant use by 57%, which in this subpopulation is equal to 3%.

Our analysis further shows that the impact of working across time zones on antidepressant usage is three times larger for single mothers than for women in general, which suggests that the pressures of maintaining work-life balance are likely to be one of the key factors driving our findings.

Finally, we show that *in addition* to the gender effect, occupational characteristics matter: a decline in the business hour overlap from 8 to 3 hours is associated with a 0.9% point increase in antidepressant usage among workers in the highly exposed occupations. This is large, given the sample average of 3%. Workers in occupations where contact with others or establishing interpersonal relationships is important are affected to a greater extent.

Goldin (2014) convincingly argued that enhancing the temporal flexibility of jobs is what is needed to achieve greater convergence in labour market outcomes of men and women. Our results suggest that globalisation may make this task more challenging.

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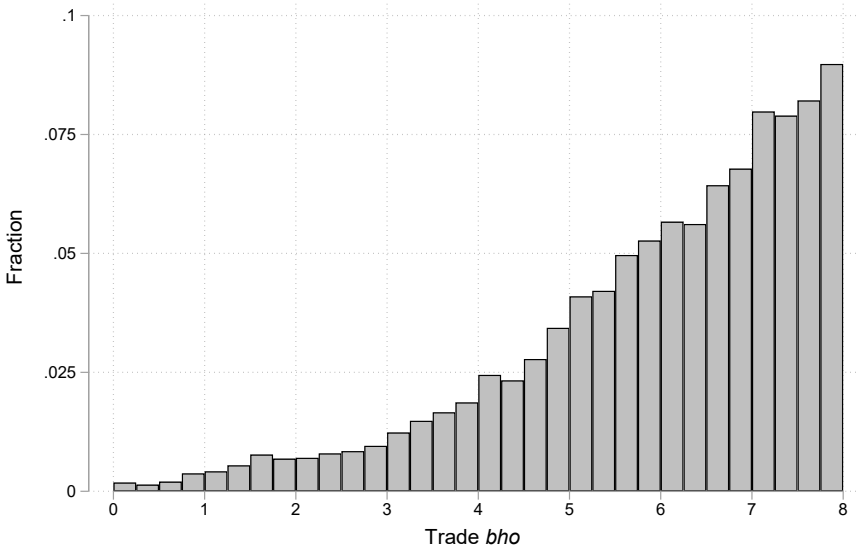
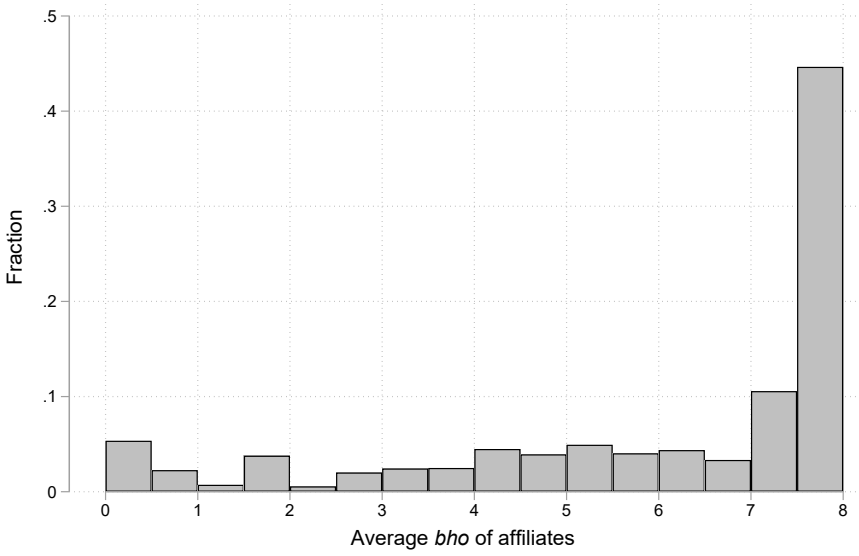
Figure 1: Distribution of *bho*, 2008-2017



Note: This figure shows the distribution of average *bho* weighted by the variety of products imported and exported, for Danish international manufacturing firms, with more than 10 employees in 2008-2017.

Figure 2: Distribution of *bho* for foreign affiliates, 2010-2017



Note: This figure shows the distribution of average *bho* weighted by number of foreign affiliates in each country, for Danish international manufacturing firms, with more than 10 employees in 2010-2017, with at least 1 affiliate.

Table 1: Means for workers in 2008-2017

	Men		Women	
	College	No college	College	No college
ln wage	5.645	5.330	5.462	5.191
Age	42.178	42.965	40.492	43.881
Experience	18.188	22.901	16.218	21.282
Children	1.205	0.900	1.197	0.990
Goldin (2014) O*NET measure	0.530	−0.256	0.583	−0.147
Firm's trade bho	5.570	6.152	5.596	5.888
Parents	58.96%	43.55%	61.17%	49.61%
Single parents	1.61%	1.87%	7.14%	8.05%
Antidepressant users	3.01%	4.29%	4.30%	6.53%
Any AD use in 2008-2017	6.69%	10.15%	9.47%	14.59%
Observations	356,405	1,005,479	220,488	404,694

The sample includes workers aged 20-60, in international manufacturing firms, with more than 10 employees. The years included are 2008-2017. Parental status is defined as having a child younger than 19, living at home, and single status is defined as not living with a partner. Firm's trade *bho* is defined in section 2.3. The O*NET measure of Goldin (2014) is the average of the O*NET variables: Time Pressure, Contact with others, Structured versus Unstructured Work, Freedom to Make Decisions, Establishing and Maintaining Interpersonal Relationships. These variables characterize the typical related to an occupation. Their values are standardized on the full sample. Means of each O*NET characteristic across groups can be seen in Table A3.

Table 2: Effect of business hour overlap on the gender gap in antidepressant use

	(1)	(2)	(3)	(4)	(5)
Panel A: All workers					
Female × ln(bho trade)	-0.0015	-0.0035	-0.0033	-0.0030	-0.0030
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
N	1,897,559	1,834,681	1,827,209	1,827,209	1,827,209
Firms	3,268	2,848	2,847	2,847	2,847
Women	97,569	95,735	95,022	95,022	95,022
Men	218,198	212,266	210,937	210,937	210,937
Average AD usage	0.0441	0.0436	0.0435	0.0435	0.0435
Panel B: Only college workers					
Female × ln(bho trade)	-0.0012	-0.0092*	-0.0098*	-0.0096*	-0.0095*
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
N	552,585	536,609	534,832	534,832	534,831
Firms	2,607	2,370	2,356	2,356	2,356
Women	34,845	34,299	34,137	34,137	34,137
Men	57,004	55,980	55,677	55,677	55,677
Average AD usage	0.0345	0.0342	0.0341	0.0341	0.0341
Panel C: Only workers younger than 45					
Female × ln(bho trade)	-0.0038	-0.0123**	-0.0120**	-0.0116**	-0.0115**
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
N	995,362	954,326	950,138	950,138	950,138
Firms	3,160	2,817	2,812	2,812	2,812
Women	63,189	61,827	61,389	61,389	61,389
Men	134,147	129,639	128,815	128,815	128,815
Average AD usage	0.0410	0.0402	0.0401	0.0401	0.0401
Panel D: Only college workers younger than 45					
Female × ln(bho trade)	-0.0044	-0.0168**	-0.0176**	-0.0170**	-0.0168**
	(0.006)	(0.007)	(0.007)	(0.008)	(0.008)
N	333,191	322,374	321,283	321,283	321,282
Firms	2,230	2,041	2,029	2,029	2,029
Women	26,810	26,339	26,224	26,224	26,224
Men	38,806	38,039	37,852	37,852	37,852
Average AD usage	0.0308	0.0304	0.0304	0.0304	0.0304
Worker FE	✓				
Firm-year FE	✓	✓	✓	✓	✓
Spell FE		✓	✓	✓	✓
Occupational FE			✓	✓	✓
Female-year FE				✓	✓
Occupational-Female FE					✓
Education FE	✓	✓	✓	✓	✓

Further controls are experience, experience squared and having children. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-60, in international manufacturing firms with more than 10 employees, in the years 2008-2017. Standard errors, clustered by firm, in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Focusing on single parents under 45

	(1) No college	(2) No college	(3) College	(4) College
Female × ln(bho trade)	-0.0076	-0.0075	-0.0183*	-0.0179*
	(0.009)	(0.009)	(0.010)	(0.010)
Female × Single parent × ln(bho trade)	-0.0178	-0.0179	-0.0807***	-0.0815***
	(0.017)	(0.017)	(0.026)	(0.026)
Single parent × ln(bho trade)	-0.0028	-0.0029	0.0363**	0.0365**
	(0.015)	(0.015)	(0.017)	(0.017)
Female × Single parent	0.0390	0.0391	0.1446***	0.1461***
	(0.031)	(0.031)	(0.044)	(0.044)
Single parent	-0.0007	-0.0006	-0.0659**	-0.0663**
	(0.028)	(0.028)	(0.027)	(0.027)
Parent × ln(bho trade)	0.0019	0.0019	0.0007	0.0006
	(0.003)	(0.003)	(0.004)	(0.004)
Female × Parent × ln(bho trade)	0.0013	0.0013	0.0068	0.0067
	(0.009)	(0.009)	(0.009)	(0.009)
Female × Parent	-0.0084	-0.0085	-0.0137	-0.0134
	(0.016)	(0.016)	(0.016)	(0.016)
Parent	-0.0003	-0.0002	-0.0005	-0.0004
	(0.006)	(0.006)	(0.007)	(0.007)
Spell FE	✓	✓	✓	✓
Firm-year FE	✓	✓	✓	✓
Female-year FE	✓	✓	✓	✓
Education FE	✓	✓	✓	✓
Occupational FE	✓	✓	✓	✓
Occupational-Female FE		✓		✓
N	622,379	622,378	321,283	321,282
Firms	2,757	2,757	2,029	2,029
Women	35,168	35,168	26,224	26,224
Men	91,116	91,116	37,852	37,852
Average AD usage	0.0453	0.0453	0.0304	0.0304

Further controls are experience and experience squared. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-44, in international manufacturing firms with more than 10 employees, in the years 2008-2017. Parental status is defined by having a child younger than 19, living at home, and single status is defined by not living with a partner. Standard errors, clustered by firm, in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Effect of export promotion on the gender gap in antidepressant use

	(1)	(2)	(3)	(4)	(5)
Panel A: All workers					
Female × Call	-0.00117	-0.00170	-0.00166	-0.00114	-0.00107
	(0.0013)	(0.0013)	(0.0013)	(0.0014)	(0.0014)
Female × Call × bho(call country) lag diff. < 0	0.00063	0.00117	0.00105	0.00046	0.00044
	(0.0013)	(0.0012)	(0.0012)	(0.0013)	(0.0013)
Female× ln(bho exports) lagged	0.00093	0.00173	0.00195	0.00229	0.00238
	(0.0022)	(0.0024)	(0.0024)	(0.0024)	(0.0024)
N	1,436,595	1,391,734	1,386,890	1,386,890	1,386,888
Firms	2,676	2,365	2,365	2,365	2,365
Women	85,145	83,674	83,168	83,168	83,167
Men	186,530	181,973	181,028	181,028	181,028
Average AD usage	0.0448	0.0443	0.0443	0.0443	0.0443
Panel B: Only college workers younger than 45					
Female × Call	-0.00325	-0.00407	-0.00405	-0.00400	-0.00391
	(0.0027)	(0.0026)	(0.0026)	(0.0026)	(0.0026)
Female × Call × bho(call country) lag diff. < 0	0.00459**	0.00470**	0.00451**	0.00407*	0.00390*
	(0.0022)	(0.0021)	(0.0021)	(0.0022)	(0.0022)
Female× ln(bho exports) lagged	-0.00002	-0.00305	-0.00286	-0.00178	-0.00173
	(0.0050)	(0.0053)	(0.0053)	(0.0056)	(0.0055)
N	256,903	248,694	248,014	248,014	248,012
Firms	1,891	1,758	1,751	1,751	1,751
Women	22,092	21,707	21,640	21,640	21,640
Men	32,381	31,755	31,623	31,623	31,623
Average AD usage	0.0316	0.0312	0.0312	0.0312	0.0312
Firm-year FE	✓	✓	✓	✓	✓
Worker FE	✓				
Spell FE		✓	✓	✓	✓
Occupational FE			✓	✓	✓
Occupational-Female FE					✓
Female-year FE				✓	✓
Education FE	✓	✓	✓	✓	✓

The variable (bho(call country) lag diff. < 0) is a dummy for the difference between the *bho* of the caller country and the lagged export *bho* of the firm being negative. If a country is called by countries in multiple timezones, the average is used. Further controls are experience, experience squared and having children. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-60, in international manufacturing firms with more than 10 employees, in the years 2008-2015. Standard errors, clustered by firm, in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Effect of export promotion on antidepressant usage

	All workers		College, younger than 45	
	(1)	(2)	(3)	(4)
Call	-0.00030	-0.00054	-0.00135	-0.00096
	(0.0007)	(0.0007)	(0.0014)	(0.0013)
Female × Call	-0.00128	-0.00112	-0.00278	-0.00307
	(0.0013)	(0.0013)	(0.0025)	(0.0024)
Call × bho(call country) lag diff. < 0	0.00009	0.00040	0.00049	0.00106
	(0.0008)	(0.0007)	(0.0015)	(0.0013)
Female × Call × bho(call country) lag diff. < 0	0.00084	0.00064	0.00460**	0.00394*
	(0.0013)	(0.0013)	(0.0021)	(0.0020)
ln(bho exports) lagged	0.00081	0.00016	-0.00566**	-0.00505*
	(0.0013)	(0.0013)	(0.0028)	(0.0026)
Female× ln(bho exports) lagged	0.00108	0.00268	-0.00131	-0.00217
	(0.0022)	(0.0024)	(0.0045)	(0.0050)
Spell FE		✓		✓
Occupational FE		✓		✓
Occupational-Female FE		✓		✓
Female-year FE		✓		✓
Industry-year FE	✓	✓	✓	✓
Education FE	✓	✓	✓	✓
Firm FE	✓		✓	
Worker FE	✓		✓	
N	1,436,609	1,386,904	259,016	250,145
Firms	2,676	2,370	2,166	2,062
Women	85,146	83,169	22,211	21,766
Men	186,533	181,030	32,624	31,865
Average AD usage	0.0448	0.0443	0.0316	0.0312

The variable (bho(call country) lag diff. < 0) is a dummy for the difference between the *bho* of the caller country and the lagged export *bho* of the firm being negative. If a country is called by countries in multiple time zones, the average *bho* is used. Further controls are experience, experience squared and having children. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-60, in international manufacturing firms with more than 10 employees, in the years 2008-2015. Standard errors, clustered by firm, in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Robustness checks and extensions: workers under 45

	GGI controls		Drop Financial Crisis		Foreign affiliates	
	(1) All	(2) College	(3) All	(4) College	(5) All	(6) College
Female × ln(bho trade)	-0.0167***	-0.0190**	-0.0081	-0.0183*	-0.0075	-0.0174*
	(0.005)	(0.008)	(0.006)	(0.010)	(0.006)	(0.010)
Female × ln(GGI trade)	0.0976**	0.0494				
	(0.049)	(0.086)				
Female × ln(bho foreign affiliates)					-0.0042	-0.0076**
					(0.003)	(0.003)
Female ×**1** {any foreign affiliates}					-0.0004	-0.0068
					(0.003)	(0.006)
Spell FE	✓	✓	✓	✓	✓	✓
Firm-year FE	✓	✓	✓	✓	✓	✓
Occupational FE	✓	✓	✓	✓	✓	✓
Occupational-Female FE	✓	✓	✓	✓	✓	✓
Female-year FE	✓	✓	✓	✓	✓	✓
Education FE	✓	✓	✓	✓	✓	✓
N	942,297	320,122	724,411	253,008	719,979	251,607
Firms	2,729	1,992	2,552	1,809	2,540	1,797
Women	61,060	26,160	50,814	23,240	50,649	23,172
Men	127,683	37,718	109,278	32,892	108,809	32,734
Average AD usage	0.0401	0.0303	0.0397	0.0300	0.0397	0.0300
Years	2008-2017	2008-2017	2010-2017	2010-2017	2010-2017	2010-2017

GGI trade is World Economic Forum's Gender Gap Index in the year 2007, weighted by the firm's trade variety. Bho foreign affiliates is average bho for a firm weighted by the number of foreign affiliates in each country. Further controls are experience, experience squared and having children. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-44, in international manufacturing firms with more than 10 employees. Std. errors, clustered by firm in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Antidepressant use and job characteristics: college workers under 45

	(1)	(2)	(3)	(4)	(5)	(6)
O*NET × ln(bho trade)	-0.0065**		-0.0063**		-0.0071**	
	(0.003)		(0.003)		(0.003)	
D(O*NET) × ln(bho trade)		-0.0092*		-0.0088*		-0.0085*
		(0.005)		(0.005)		(0.005)
Female × ln(bho trade)			-0.0168**	-0.0167**	-0.0183**	-0.0162*
			(0.008)	(0.008)	(0.008)	(0.009)
Female × O*NET × ln(bho trade)					0.0025	
					(0.008)	
Female × D(O*NET) × ln(bho trade)						-0.0011
						(0.013)
Spell FE	✓	✓	✓	✓	✓	✓
Firm-year FE	✓	✓	✓	✓	✓	✓
Female-year FE	✓	✓	✓	✓	✓	✓
Education FE	✓	✓	✓	✓	✓	✓
N	319,086	319,086	319,086	319,086	319,086	319,086
Firms	2,028	2,028	2,028	2,028	2,028	2,028
Women	26,061	26,061	26,061	26,061	26,061	26,061
Men	37,560	37,560	37,560	37,560	37,560	37,560
Average AD usage	0.0304	0.0304	0.0304	0.0304	0.0304	0.0304

The O*NET variable is defined as the occupation-level avereage of Time Pressure, Contact with others, Structured versus Unstructured Work, Freedom to Make Decisions, Establishing and Maintaining Interpersonal Relationships. It has been standardized on the full sample. D() denotes an indicator for the variable being above the 75th percentile. Further controls are experience, experience squared and having children. Educational FE are based on 12 categories. The sample includes workers aged 20-44 with a college degree in international manufacturing firms with more than 10 employees. D() denotes a dummy for the variable being above the 75th percentile. The first occupation in the job-spell is used for determining the O*NET characteristic The years included are 2008-2017. Std. errors, clustered by firm in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Antidepressant use and specific job characteristics: college workers under 45

	O*NET variable				
	(1) Time Pressure	(2) Contact With Others	(3) Unstructured Work (few close substitutes)	(4) Freedom to Make Decisions	(5) Establishing and Maintaining Interpersonal Relationships
ln(bho trade) × O*NET	-0.0002	-0.0081**	-0.0058*	-0.0048	-0.0058*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Female × ln(bho trade)	-0.0165**	-0.0167**	-0.0189**	-0.0197**	-0.0153*
	(0.008)	(0.008)	(0.009)	(0.008)	(0.009)
Female × ln(bho trade) × O*NET	0.0023	0.0022	0.0024	0.0042	-0.0018
	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)
Spell FE	✓	✓	✓	✓	✓
Firm-year FE	✓	✓	✓	✓	✓
Female-year FE	✓	✓	✓	✓	✓
Education FE	✓	✓	✓	✓	✓
N	319,086	319,086	319,086	319,086	319,086
Firms	2,028	2,028	2,028	2,028	2,028
Women	26,061	26,061	26,061	26,061	26,061
Men	37,560	37,560	37,560	37,560	37,560
Average AD usage	0.0304	0.0304	0.0304	0.0304	0.0304

Further controls are experience, experience squared and having children. Educational FE are based on 12 categories. The sample includes workers aged 20-44 with a college degree in international manufacturing firms with more than 10 employees. The years included are 2008-2017. Std. errors, clustered by firm in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Appendices

A Descriptive statistics

A.1 Sample descriptive statistics

Table A1: Proportion of overall Danish economic activity covered by our sample after restrictions

	Employment	Sales	Imports	Exports
Manufacturing	12.1%	21.2%	31.0%	59.5%
10 employees	11.1%	20.3%	30.4%	58.9%
Share of manufacturing	92.0%	95.5%	98.0%	98.9%
Imports and exports	9.9%	19.0%	30.1%	58.5%
Share of manufacturing	81.4%	89.4%	96.8%	98.2%

The sample conditions are cumulative, such that the 10 employees condition also includes the manufacturing condition, and the imports and exports condition, includes both of the above. The employee condition has been implemented such that if a firm in a single year has fewer employees, but more than 10 in the year before and the year after, it is kept in the sample for that year.

Table A2: Means for workers with any AD usage 2008-2017

	Men		Women	
	College	No college	College	No college
Years in sample	5.858	5.447	5.702	5.293
Years of AD use	2.631	2.300	2.581	2.372
Consecutive years in sample after first year	4.133	3.716	4.060	3.715
Distinct spells in sample after first year	1.141	1.161	1.105	1.114
Consecutive years of AD use after first year	2.476	2.151	2.436	2.235
Distinct spells of AD use after first year	1.155	1.149	1.145	1.137
Unique persons	4,138	18,666	3,730	11,081

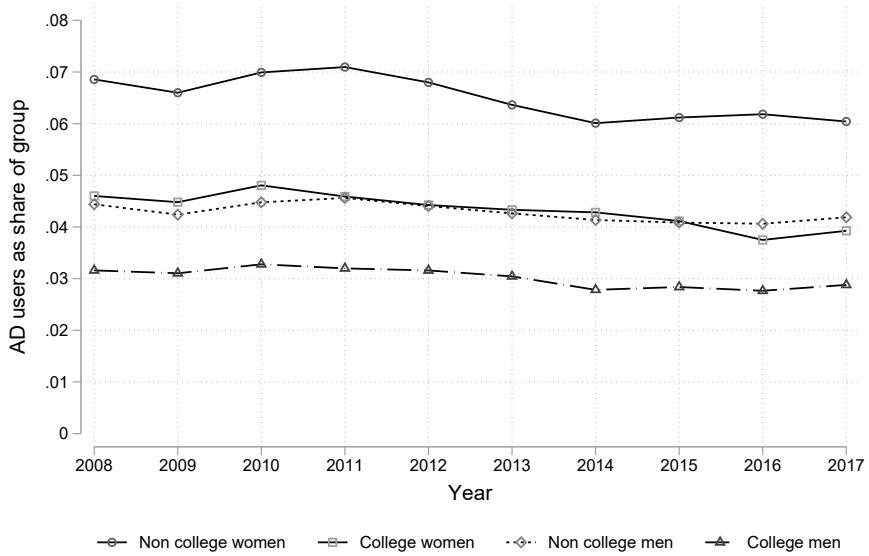
The sample includes workers aged 20-60, in international manufacturing firms with more than 10 employees, that have bought prescription antidepressants at any point in 2008-2017. The years included are 2008-2017.

Table A3: Means of O*NET characteristics for workers in 2008-2017

	Men		Women	
	College	No college	College	No college
Goldin (2014) O*NET measure	0.530	−0.256	0.583	−0.147
Time Pressure	−0.442	0.210	−0.290	0.023
Contact With Others	0.337	−0.222	0.499	−0.016
Structured versus Unstructured Work	0.659	−0.292	0.588	−0.174
Freedom to Make Decisions	0.618	−0.221	0.532	−0.285
Establishing and Maintaining Interpersonal Relationships	0.670	−0.366	0.697	−0.059
Observations	356,405	1,005,479	220,488	404,694

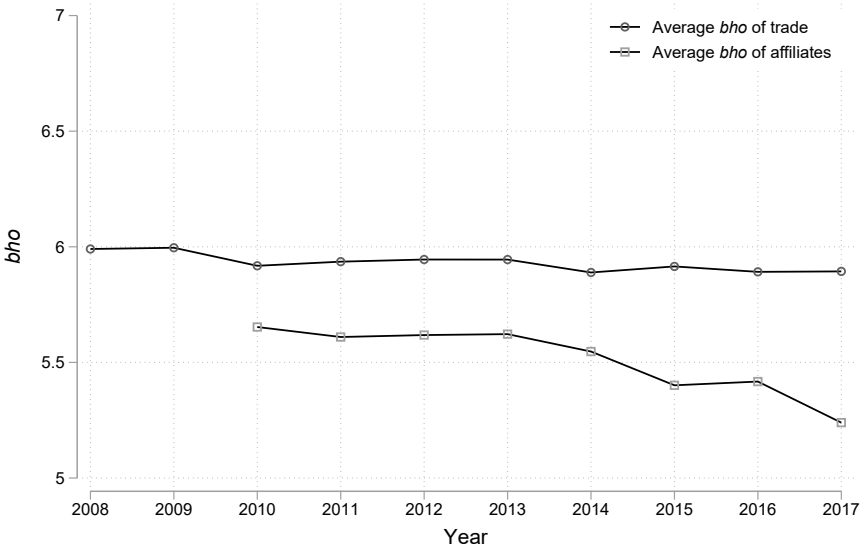
The sample includes workers aged 20-60, in international manufacturing firms, with more than 10 employees. The years included are 2008-2017. The O*NET measure of Goldin (2014) is the average of the O*NET variables: Time Pressure, Contact with others, Structured versus Unstructured Work, Freedom to Make Decisions, Establishing and Maintaining Interpersonal Relationships. These variables characterize the typical related to an occupation. Their values are standardized on the full sample.

Figure A1: Proportion of AD users in subsamples of the population, 2008-2017



Note: This figure shows the evolution in the shares of workers aged 20-60, in international manufacturing firms, that have bought prescription antidepressants in a given year.

Figure A2: Average *bho*, 2008-2017



Note: This figure shows firms' average trade business hour overlap weighted by both exports and imports, and for firms engaged in FDI, their average business hour overlap weighted by the number of foreign affiliates in 2010-2017. The average is weighted by persons in the sample, which are workers aged 20-60, in international manufacturing firms.

A.2 Variation in AD usage and business hour overlap at the firm level

Figure A3: Distribution of within-firm log changes in trade *bho*, 2008-2017

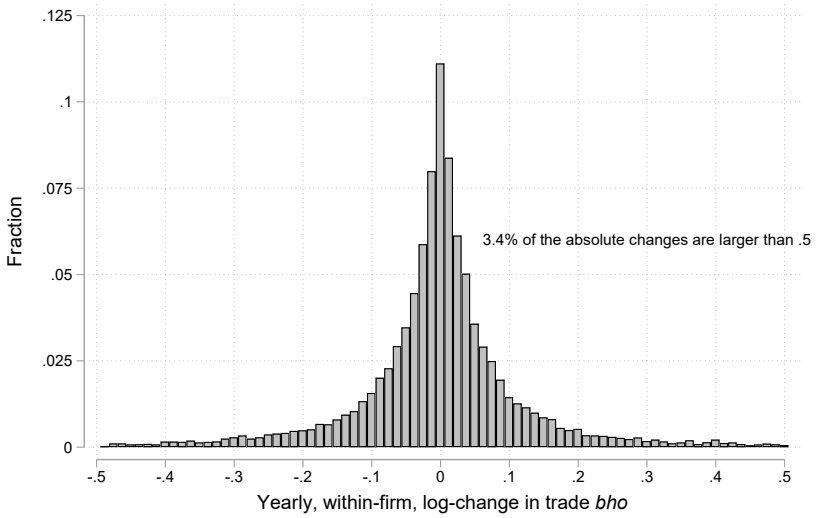
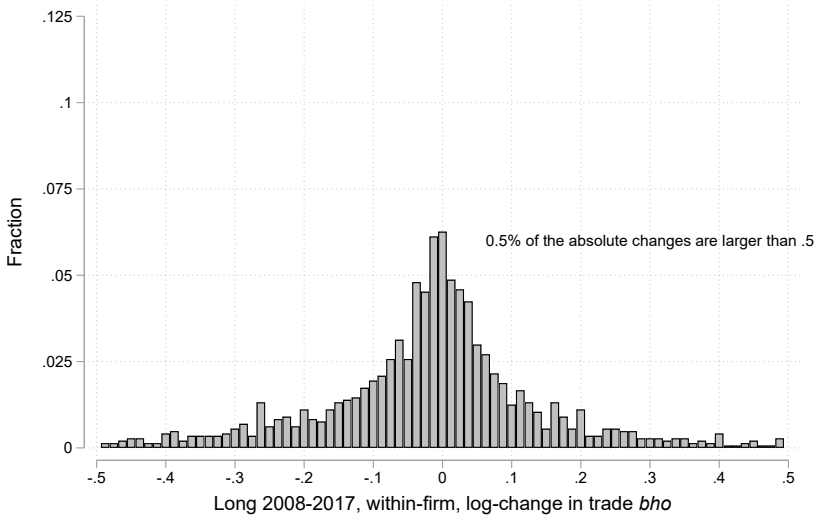


Figure A4: Distribution of within-firm log changes between 2008 and 2017 in trade *bho*



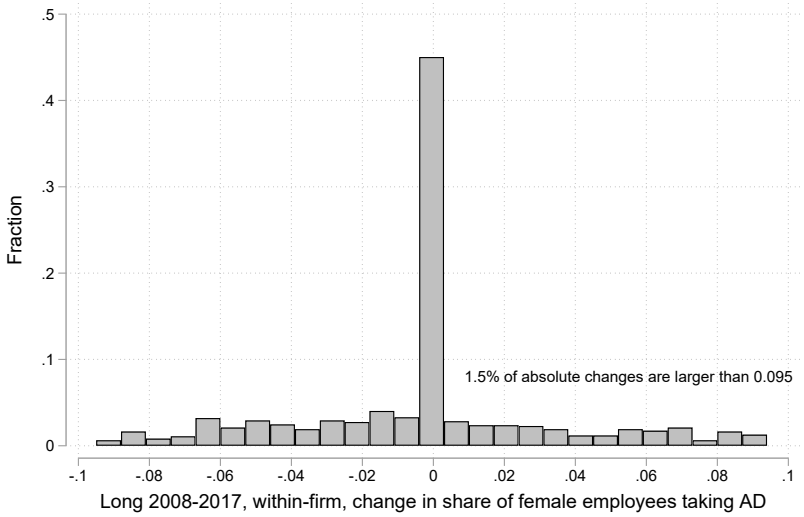
Note: Only firms present in both 2008 and 2017 are included

Table A4: Statistics on the absolute value of within-firm yearly log changes in *bho*

	Affiliate *bho*	Trade *bho*
%-share equal to zero	79.20	1.81
80th percentile	0.00	0.14
90th percentile	0.07	0.26
95th percentile	0.18	0.43
99th percentile	0.69	1.02

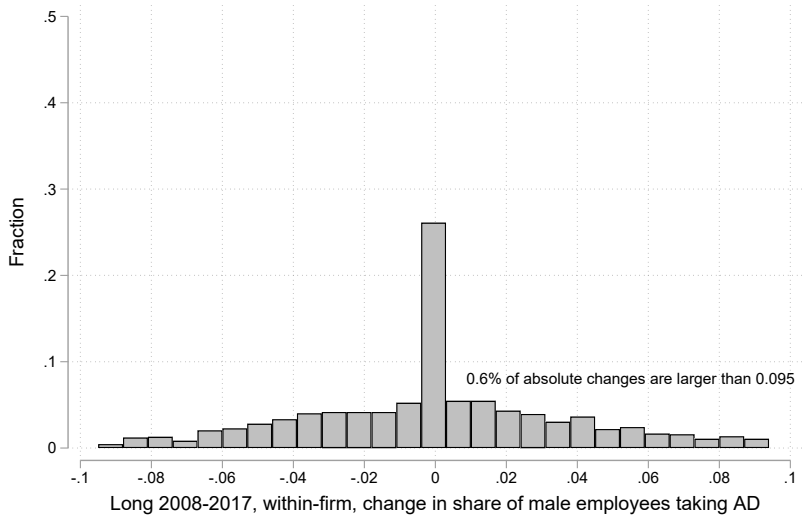
The changes for affiliate *bho*, only include the internal margin, so changes for firms that have foreign affiliates

Figure A5: Distribution of long 2008 to 2017, within-firm, change in share of female workers taking AD



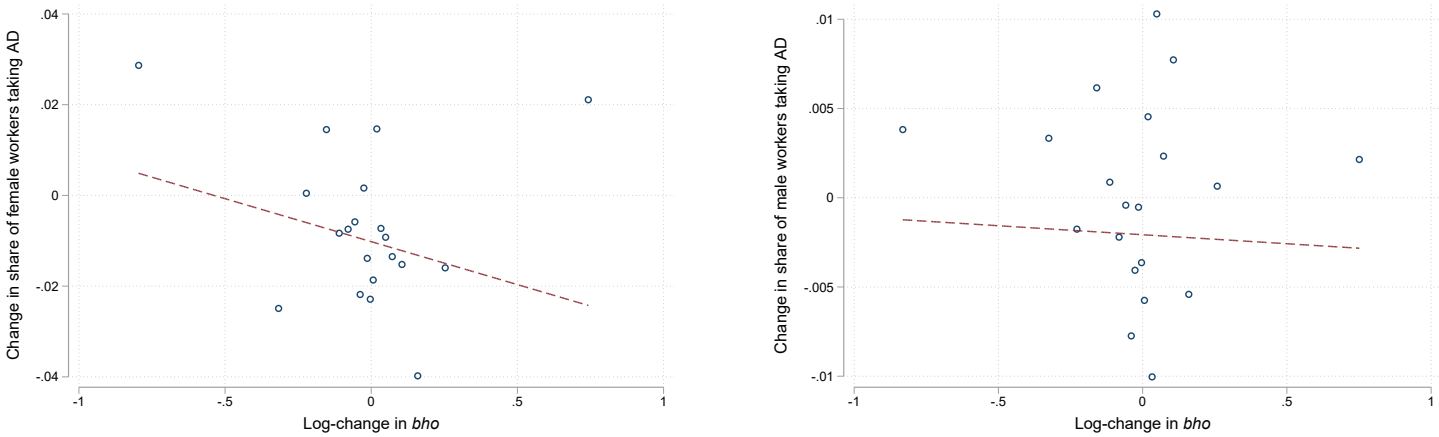
Note: Only firms with female workers in both 2008 and 2017 are included

Figure A6: Distribution of long 2008 to 2017, within-firm, change in share of male workers taking AD



Note: Only firms with male workers in both 2008 and 2017 are included

Figure A7: Within-firm change in parental leave take-up and firm *bho*, 2008–2017



(a) Female workers **(b)** Male workers

Note: Binned scatter plots of the long difference (2008–2017) in within-firm share of workers taking AD against log *bho*. Panel (a) shows female workers and Panel (b) shows male workers. Only firms with workers of the given gender in both 2008 and 2017 are included. The fitted lines are regression lines.

B O*NET survey

Below we reproduce the questions used in the O*NET survey and Goldin's interpretation (see notes to Table 2 in Goldin (2014)). These are:

- Time pressure: *How often does this job require the worker to meet strict deadlines?* Lower pressure means worker does not have to be around at particular times.
- Contact with others: *How much does this job require the worker to be in contact with others (face-to-face, by telephone, or otherwise) in order to perform it?* Less contact means greater flexibility.
- Establishing and maintaining interpersonal relationships: *Developing constructive and cooperative working relationships with others, and maintaining them over time.* The more working relationships, the more workers and clients the employee must be around.
- Structured versus unstructured work: *To what extent is this job structured for the worker, rather than allowing the worker to determine tasks, priorities, and goals?* If the job is highly structured to the worker, there would be a lower chance that the worker would have close substitutes.
- Freedom to make decisions: *How much decision-making freedom, without supervision, does the job offer.* Generally means that the worker determines what each client should receive, rather than being given a specific project, and thus workers are poorer substitutes for each other the greater are these freedoms.

C Extensions and Robustness checks

Table C1: The effect AD usage, controlling for trade shares and varieties

	(1)	(2)	(3)	(4)	(5)
Panel A: Only workers younger than 45					
Female × ln(bho trade)	-0.0041	-0.0128**	-0.0124**	-0.0112**	-0.0111**
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Female × ln(varieties)	0.0017**	0.0016	0.0015	0.0002	0.0002
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Female × $\frac{Exports}{Sales}$	0.0033	0.0032	0.0035	0.0025	0.0026
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Female × $\frac{Imports}{Purchases}$	-0.0055	-0.0079	-0.0080	-0.0073	-0.0074
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)
N	995321	954291	950103	950103	950103
Average AD usage	0.0410	0.0402	0.0401	0.0401	0.0401
Panel B: Only college workers younger than 45					
Female × ln(bho trade)	-0.0047	-0.0183**	-0.0192**	-0.0173**	-0.0171**
	(0.006)	(0.008)	(0.008)	(0.008)	(0.008)
Female × ln(varieties)	0.0027**	0.0021	0.0022	-0.0001	-0.0002
	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)
Female × $\frac{Exports}{Sales}$	0.0044	0.0063	0.0064	0.0074	0.0075
	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Female × $\frac{Imports}{Purchases}$	-0.0118*	-0.0047	-0.0049	-0.0028	-0.0025
	(0.007)	(0.009)	(0.009)	(0.009)	(0.009)
N	333183	322365	321274	321274	321273
Average AD usage	0.0308	0.0304	0.0304	0.0304	0.0304
Firm-year FE	✓	✓	✓	✓	✓
Worker FE	✓				
Spell FE		✓	✓	✓	✓
Occupational FE			✓	✓	✓
Occupational-Female FE					✓
Female-year FE				✓	✓
Education FE	✓	✓	✓	✓	✓

Further controls are experience, experience squared and having children. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-60, in international manufacturing firms with more than 10 employees, in the years 2008-2017. Standard errors, clustered by firm, in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C2: Effect of business hour overlap on gender gap in antidepressant use: alternative subsamples

	(1)	(2)	(3)	(4)	(5)
Panel A: Only non-college workers					
Female × ln(bho trade)	-0.0008	-0.0016	-0.0012	-0.0007	-0.0007
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
N	1338693	1292939	1287290	1287290	1287289
Average AD usage	0.0482	0.0475	0.0475	0.0475	0.0475
Panel B: Only non-college workers younger than 45					
Female × ln(bho trade)	-0.0026	-0.0101	-0.0093	-0.0088	-0.0087
	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)
N	654642	625459	622379	622379	622378
Average AD usage	0.0462	0.0453	0.0453	0.0453	0.0453
Panel C: Only workers older than 45					
Female × ln(bho trade)	-0.0021	0.0009	0.0009	0.0011	0.0011
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
N	876335	854173	851017	851017	851017
Average AD usage	0.0474	0.0471	0.0471	0.0471	0.0471
Panel D: Only college workers older than 45					
Female × ln(bho trade)	0.0027	-0.0010	-0.0001	-0.0005	-0.0015
	(0.009)	(0.012)	(0.012)	(0.012)	(0.012)
N	206903	201382	200748	200748	200748
Average AD usage	0.0400	0.0398	0.0397	0.0397	0.0397
Panel E: Only non-college workers older than 45					
Female × ln(bho trade)	-0.0059	0.0001	0.0001	0.0003	0.0005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
N	664970	648507	645996	645996	645996
Average AD usage	0.0497	0.0495	0.0495	0.0495	0.0495
Worker FE	✓				
Firm-year FE	✓	✓	✓	✓	✓
Spell FE		✓	✓	✓	✓
Occupational FE			✓	✓	✓
Female-year FE				✓	✓
Occupational-Female FE					✓
Education FE	✓	✓	✓	✓	✓

Further controls are experience, experience squared and having children. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers, in international manufacturing firms with more than 10 employees, in the years 2008-2017. Standard errors, clustered by firm, in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C3: Controlling for time-varying GGI

	(1) All	(2) No college	(3) College
Female × ln(bho trade)	-0.0166***	-0.0158**	-0.0202**
	(0.006)	(0.008)	(0.008)
Female × ln(GGI trade)	0.0787	0.1020	0.0661
	(0.050)	(0.065)	(0.087)
Spell FE	✓	✓	✓
Firm-year FE	✓	✓	✓
Occupational FE	✓	✓	✓
Occupational-Female FE	✓	✓	✓
Female-year FE	✓	✓	✓
Education FE	✓	✓	✓
N	942,297	615,847	320,122
Firms	2,729	2,676	1,992
Women	61,060	34,915	26,160
Men	127,683	90,127	37,718
Average AD usage	0.0401	0.0453	0.0303

GGI trade is World Economic Forum's Gender Gap Index, weighted by the firm's trade variety. In each year the GGI for each country is the closest available value. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-44, in international manufacturing firms with more than 10 employees, in the years 2008-2017. Std. errors, clustered by firm in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C4: Effect of business hour overlap on gender gap in exit

	(1) Exit sample	(2) Exit firm	(3) Switch firm
Panel A: All workers			
Female × ln(bho trade)	-0.0048	-0.0022	0.0026
	(0.007)	(0.008)	(0.004)
N	1630865	1630865	1630865
Average outcome	0.1023	0.1267	0.0244
Panel B: Only college workers			
Female × ln(bho trade)	0.0129	0.0081	-0.0048
	(0.014)	(0.017)	(0.008)
N	470480	470480	470480
Average outcome	0.0853	0.1155	0.0302
Panel C: Only workers younger than 45			
Female × ln(bho trade)	-0.0076	-0.0028	0.0048
	(0.009)	(0.010)	(0.005)
N	857030	857030	857030
Average outcome	0.0956	0.1247	0.0291
Panel D: Only college workers younger than 45			
Female × ln(bho trade)	0.0023	0.0097	0.0074
	(0.020)	(0.023)	(0.012)
N	285765	285765	285765
Average outcome	0.0800	0.1137	0.0337
Firm-year FE	✓	✓	✓
Spell FE	✓	✓	✓
Occupational FE	✓	✓	✓
Occupational-Female FE	✓	✓	✓
Female-year FE	✓	✓	✓
Education FE	✓	✓	✓

Exit sample means leaving the dataset either through unemployment or switching to a firm not included in the sample. Exit firm means exiting the firm either by leaving the sample or switching to another firm in our sample Further controls are experience, experience squared and having children. Occupational FE are based on 2-digit ISCO-code. Educational FE have 12 levels. The sample includes workers aged 20-60, in international manufacturing firms with more than 10 employees, in the years are 2008-2016. Standard errors, clustered by firm, in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C5: Antidepressant use and job characteristics: college workers under 45 with within job spell varying occupations

	(1)	(2)	(3)	(4)	(5)	(6)
Female × ln(bho trade)			-0.0168**	-0.0168**	-0.0144*	-0.0155**
			(0.008)	(0.008)	(0.007)	(0.008)
O*NET × ln(bho trade)	-0.0007		0.0004		0.0005	
	(0.000)		(0.001)		(0.001)	
D(O*NET) × ln(bho trade)		-0.0014*		-0.0000		0.0000
		(0.001)		(0.001)		(0.001)
Female × O*NET			-0.0045**		0.0021	
			(0.002)		(0.008)	
Female × D(O*NET)				-0.0056*		-0.0012
				(0.003)		(0.016)
Female × O*NET × ln(bho trade)					-0.0041	
					(0.005)	
Female × D(O*NET) × ln(bho trade)						-0.0026
						(0.009)
Spell FE	✓	✓	✓	✓	✓	✓
Firm-year FE	✓	✓	✓	✓	✓	✓
Occupational FE	✓	✓	✓	✓	✓	✓
Occupational-Female FE	✓	✓	✓	✓	✓	✓
Female-year FE	✓	✓	✓	✓	✓	✓
Education FE	✓	✓	✓	✓	✓	✓
N	318,746	318,746	318,746	318,746	318,746	318,746
Firms	2,028	2,028	2,028	2,028	2,028	2,028
Women	26,056	26,056	26,056	26,056	26,056	26,056
Men	37,564	37,564	37,564	37,564	37,564	37,564
Average AD usage	0.0303	0.0303	0.0303	0.0303	0.0303	0.0303

O*NET variable is Avg. of Time Pressure, Contact with others, Structured versus Unstructured Work, Freedom to Make Decisions, Establishing and Maintaining Interpersonal Relationships. Further controls are experience, experience squared and having children. Educational FE are based on 12 categories. The sample includes workersages 20-44 with a college degree in international manufacturing firms with more than 10 employees. D() denotes a dummy for the variable being above the 75th percentile. The years included are 2008-2017. Std. errors, clustered by firm in parenthesis. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.