

Divided by Ambition

*The Gender Politics of Labor Market Regulation*¹

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Abstract

Women shoulder a heavier burden of family work than men, preventing them from matching male success in the labor market. Limiting working hours is therefore a plausible way to level the playing field. But why then are heavily regulated European labor markets associated with a smaller share of women in management compared to liberal market economies such as the US? We explain this puzzle by showing regulation hinders ambitious women from signaling their willingness to relinquish family responsibilities by working extraordinarily long hours. The conjecture is strongly supported in labor force survey data, even as hours restrictions produce more gender-equal employment lower on the occupational ladder. The political implication that women seeking high-powered careers are more likely to vote for center-right parties and against hours regulation emerges clearly in survey data. Divided by ambition, women do not share common purpose on government measures to support women's work across the board.

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1. The Puzzle

Despite a large influx of women into mainly service sector jobs during the past four decades, women continue to be under-represented in the labor market, and they earn less on average than men. These gender differences are almost certainly linked to greater de facto responsibilities of women in child rearing and household work, but there are major and intriguing differences across rich democracies.

In low- and mid-level jobs the differences are fairly well understood. In Europe, union bargaining and wage compression put a higher floor under the lowest paid jobs where women disproportionately find themselves in every country. Consequently, the gender gap in wages is smaller in Europe, although low productivity jobs may be scarcer. Scandinavia is in a class of its own because a large public sector creates the possibility of high levels of female employment in well-paying government jobs. The effects of regulating working hours are less well understood, but there are theoretical reasons and some evidence to suggest that gender equality is promoted by making it easier for women to balance work and family. Hours restrictions, then, could complement other family-friendly policies such as public subsidization of childcare.

Yet, if this broadly accepted story is accurate, we should also expect the number of female managers of large firms and university-educated professionals in the upper echelons of education, health, and law to be rising as we travel from unregulated markets in the US and the UK to more managed ones in continental Europe and further north to Scandinavia. The exact reverse is true. Although the number is small everywhere, the share for women in high-powered careers in the US significantly exceeds that in Germany or Denmark. The direct cause for this cannot be labor market rigidities, since even in Europe governments and unions play no or little direct role in setting hours and wages for top-end occupations. European women may be

discouraged from taking managerial and professional jobs because of long hours and inflexible schedules, but this is equally true in the US. Also of no help are theories of occupational performance that predict greater female success in jobs requiring relationship management and multitasking, since managerial jobs in the US and Europe do not differ, and generally score high, by these criteria (Fisher 1999).

Our explanation instead focuses on how regulations of working time at non-managerial levels affect employers' promotion decisions at higher levels, given that they have incomplete information about candidates. To employers who can measure productivity only imperfectly, long working hours are a signal—though a noisy one—of expected productivity and therefore of suitability for many kinds of higher-level managerial jobs. Labor market regulations at lower levels tend to equalize both wages and employment opportunities for men and women when productivity is linked to hours worked, but it has the unintended consequence of intensifying statistical discrimination against women in high-end jobs, even when these jobs are themselves unregulated. Our argument thus explains the opposite effects of working hours regulation at the low and high ends of the occupational hierarchy. All good things do not go together in labor markets; labor market regulations produce distributional tradeoffs that divide workers across both class and gender.

The logic we propose implies an important cleavage between more and less ambitious women. Ambition is a major focus in the literature on political elites and is assumed to drive the creation of political parties and the formation of electoral strategies (Downs 1957; Schlesinger 1966; Aldrich 1995; Fox and Lawless 2004). Yet it plays virtually no role in the analysis in public opinion. The implicit assumption is that career ambition among voters is not politically salient, unlike income, education, and so on. We show, instead, that ambition does indeed have bearing

on political views where men and women have been assigned different roles in the division of household labor, and where ambitious women need to be able to work long hours in order to signal their commitment to high-powered careers. This signaling creates a political cleavage over labor market institutions that would be welfare enhancing in the absence of societal gender roles.

Taking as given an asymmetric and gendered baseline in ambition, we explore our argument about ambition and regulatory preferences using European Union Labor Force Surveys (EULFS) from 1992 to 2008 at the occupational level, combined with public opinion data for 18 advanced capitalist democracies. We find a strong relationship between regulation of working hours and women's share of different occupations, which we argue cannot be explained by differences in culture. We also show that career ambition divides otherwise similar women on issues of labor market regulation, and that it drives ambitious women to the political right while other women are shifting to the left.

2. The Argument

We begin by distinguishing jobs along three dimensions: 1. Whether or not hours worked are positively associated with (hourly) productivity, 2. Whether there are ample opportunities for promotions based on competition rather than seniority, and 3. Whether working hours are regulated (restricted) or not below the management level.

We assume that low- and middle-level jobs may or may not be regulated in terms of working hours and wages, whereas top-end jobs are always unregulated. The distribution of preferences for working hours is right-skewed for both men and women, but the mean preference is assumed to be lower for women (where "preference" include acquiescence in social expectations) because

family responsibilities are borne disproportionately by women. The distributions are illustrated in Figure 1.

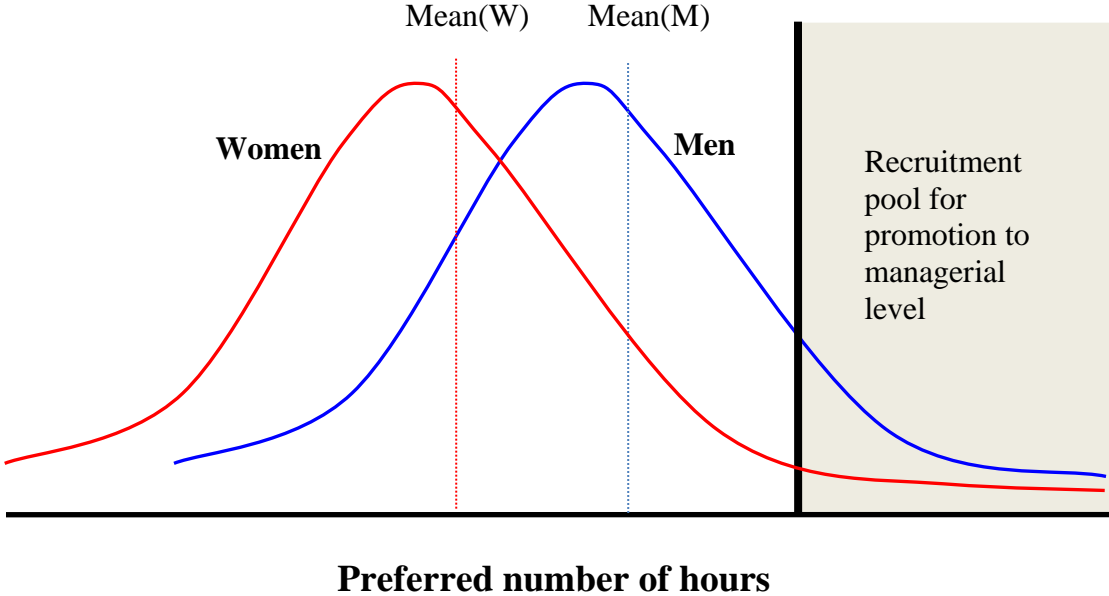


Figure 1. The distribution of preferences for working hours by gender.

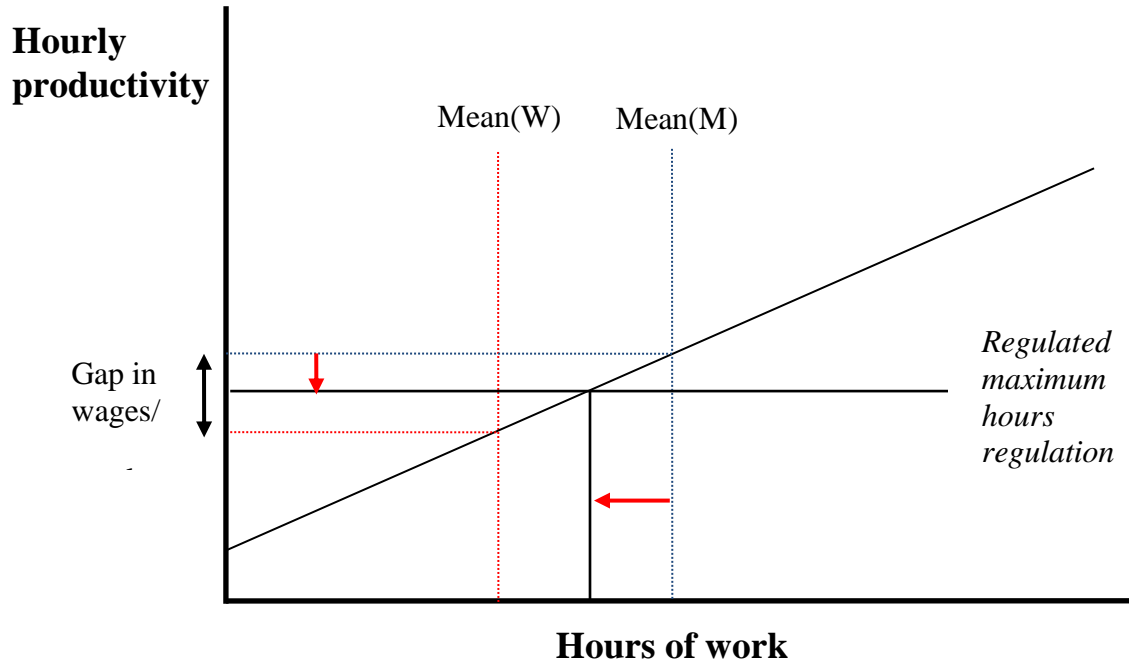


Figure 2. Productivity and the gender gap.

Ignoring the possibility of promotions for the moment, it is not difficult to see that with these assumptions, if productivity is rising in hours worked, women are at a disadvantage in terms of wages and employment (see Figure 2). Men will be paid more on average, and they will outnumber women in employment. Regulation of hours addresses both types of inequalities—wages and employment—simultaneously. If men and women must work the same number of hours—in Figure 2 the regulation sets the maximum hours somewhere between the mean preferences of men and women—the gender gap in employment will become smaller and so will the wage gap (see red arrows). In addition, women will become competitive for some quality jobs that otherwise would be held by men able to work longer hours (not captured by Figure 2). Hours regulation can thus be a powerful tool for gender equality as argued by a number of prominent gender scholars (Mutari and Figart 2001; Pascall and Lewis 2004; Burgoon and Baxandall 2006; Gornick and Heron 2006).

But there is an important and largely overlooked countervailing effect if competitive promotions, our second dimension, are important. Assume that promotions are into top-level positions where hours are always unregulated and longer hours are strongly tied to productivity. When employers recruit workers for these jobs, they cue principally off of the formal education of candidates and their willingness to work long hours without career interruptions. Because the employer has to make a large specific investment in those who are promoted through the organization (“grooming”), and because productivity is rising in individual hours worked, willingness to work long hours and forgo career interruptions are important considerations. We expect the same logic to hold, though perhaps less stringently, if we look only at managers hired from the outside rather than those promoted from the inside.²

If working hours are unregulated, employers can both observe past career interruptions and hours logged and they will disproportionately draw from the recruitment pool at the high end of the preference distributions in Figure 1. Within the recruitment pool, employers promote without regard to gender, so we assume no prejudice, but because there are significantly more men in the recruitment pool, more men than women will end up in managerial positions.

There are two important qualifications to this analysis. The first is about the noise in the “hours” signal used to proxy future productivity. Since employers cannot know in advance the commitment of those who are promoted to working long hours, they use past and current hours as proxy. Workers therefore have an incentive to increase hours beyond the point where the

² Individual information will be lower, but at each organizational level there will be a lower share of women in the application pool since they have faced barriers to promotion elsewhere.

marginal cost in terms of leisure and alternative use is equal to the marginal benefit in terms of higher income. This means that in order for the most ambitious workers to stand out—in order to produce a “separating equilibrium” in game-theoretic parlance—they work longer hours than they otherwise would (Akerlof 1976; Rebitzer and Taylor 1995; Landers, Rebitzer, and Taylor 1996; Alesina, Glaeser, and Sacerdote 2005; Glover 2011). Empirical evidence suggests that a substantial fraction of workers do in fact clock longer hours than they would like. According to the 1995 Swiss Labor Force Survey, for example, approximately 70% of both male and female full-time workers said they would prefer working less than they actually do (Sousa Posa and Ziegler 2003). People hang around the office at late hours just to show their commitment to the boss despite the costs in terms of forgone leisure and lost time with the family.

Being forced to signal future productivity by working long hours today poses a particular problem for women, given the time consuming extra home duties that society assigns by gender.³ To the extent that many important hiring and promotion decisions occur at a relatively young age, employers will worry that women will later leave or cut back their hours if they have children.⁴ This may delay promotions for women, and it will likely mean that they have to work even harder than men to signal their long-term commitment. Fewer women are willing or able to

³ In his classic article on “signaling,” Michael Spence (1974: 372) alludes both to the general rat race problem and to the separate differentiation problem for women: “High productivity women may have to spend more on education and have less left over to consume in order to convince the employer that they are in the high productivity group.”

⁴ Konrad and Cannings (1997) find that the number of children correlates positively with earnings for men and negatively for women.

make those trade-offs, and this also means that fewer women will be promoted than in the case of complete information (Edgeworth 1922; Mincer 1968; Arrow 1971; Phelps 1972; Polachek 1975). The right tail in Figure 1 is very thin for women. For these reasons many women avoid investing in careers that require longer or more rigid hours than they want to devote. Goldin and Katz (2010), for example, find that many women interested in medicine become veterinarians because of the smaller up-front investment and the flexible working schedule, despite lower wages. Females have gone from making up 10% of the graduates of veterinary school in the 1980s to nearly 80% in 2007. Many women who do become medical doctors work fewer hours than would be necessary to recoup their financial investment in education and forgone income to get where they are. Chen and Chevalier (2011) find that the median female primary-care physician does not work enough hours to amortize her up-front investment in medical school, leading to the stark conclusion that many female doctors are financially worse off than if they had become physician assistants instead.

On the face of it, then, restricting working hours would seem a good way not only to slow down the rat race for workers in general but also to achieve greater gender equality. Perversely, however, hours regulation can make matters even worse for career women. To see why, imagine that a maximum work week imposed on all, such as that indicated by the dotted line at the center of Figure 3. To the left of this line workers can reveal their true preferences by working fewer hours than the maximum, but to the right employers have no way of identifying types who are willing to work very long hours (the lack of knowledge about the distribution to the right of the maximum working week is indicated by punctuated lines). Employers only know the means of the two distributions to the left of the maximum working week (with many women working part time and most men working full time). To the right of the maximum, the averages are not

directly observable but can be inferred if the two distributions are identical except for their means (indicated by solid vertical lines).

Even if the distributions are not directly observable, one fact is clear: *So long as society remains as currently constituted, with gendered family roles, women on average prefer to and/or are expected to work fewer hours than men.* This is a fact easily confirmed by actual working hours of men and women. Since men and women are otherwise assumed to be identical (most notably in terms of education), the stark implication is that employers will *only* promote men (as long as the number of promotions is smaller than the number of promotable males). There is no way that an employer can promote a woman and be better off *in expectation*, because the expectation is fully captured by the mean, which is lower for women than for men.

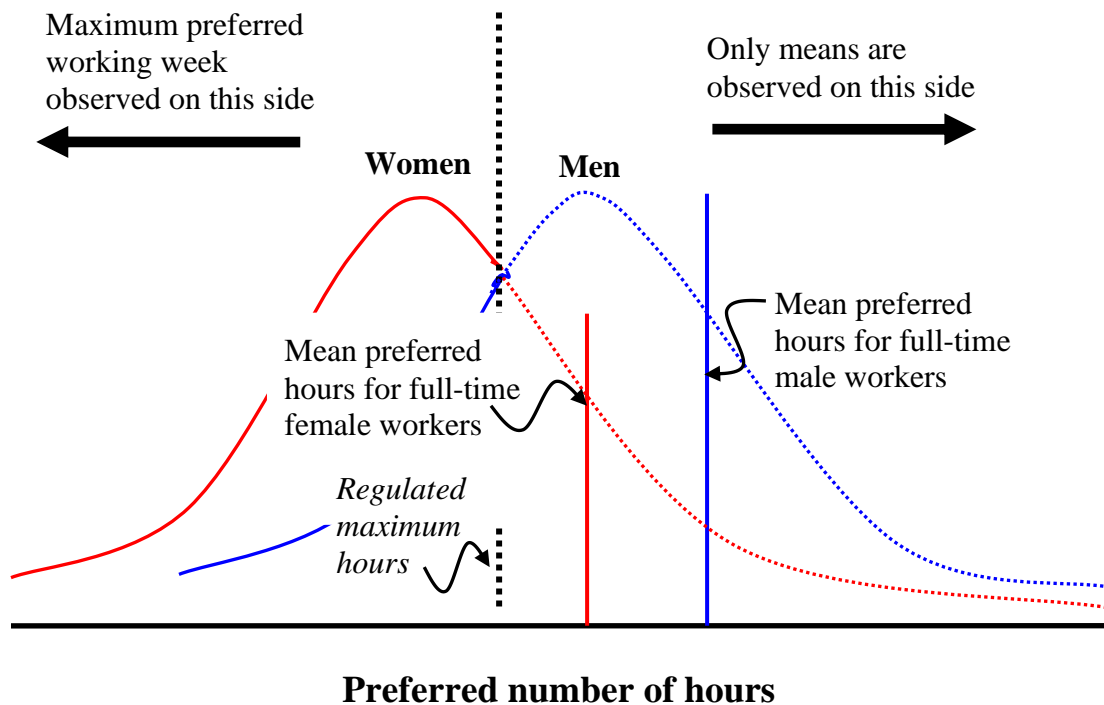


Figure 3. Preferences for working hours with a maximum working week (below managerial level).

In the real world there are of course many other factors that enter in promotion decisions than just formal qualifications and willingness to work long hours. Employers take into account education, school performance, revealed competence and intelligence, social skills, personality, and so on.⁵ Moreover, workers can signal dedication and commitment to hard work in indirect ways by, for example, going to work-related social functions that are not regulated. Many of these activities tend to occur during family unfriendly times so that the signals are costly and therefore carry real information. Still, we believe it is safe to conjecture that strict hour regulations put women at a severe disadvantage in competing for high-powered jobs.

A paradoxical implication of our argument is that men who are promoted in regulated systems will on average be less willing to work long hours than their peers in unregulated systems. This is because they have not all been selected from the extreme right tail of the distribution but only from the portion of the distribution to the right of the maximum allowed hours. These men may well want to work longer hours than allowed for regular jobs, and oppose regulation for that reason, but they are more likely to be promoted into positions for which they would not be competitive in a deregulated market. Even very ambitious men, who are willing to put in the hours, benefit from the reduced competition from women. For ambitious women with preferences above the regulated maximum, on the other hand, the effects of regulation are unambiguously bad.

⁵ The investment of females (and by their parents) in educational attainment may reflect, among other things, an effort to send this other kind of signal to potential employers. We are grateful to Vicky Fouka for this insight.

Application to specific occupations

To draw out more testable empirical implications, we distinguish four occupations that vary in terms of the hours-productivity link and the role of promotions: (i) elementary, low-skilled occupations, whether manual or non-manual; (ii) manual semi-skilled and skilled jobs; (iii) middle-level non-manual jobs, and (iv) top-end managerial positions. We briefly discuss each in turn.

Workers in *elementary occupations* have little education and employers make few investments in their employees' training. As a consequence, except for some supervisory functions filled "from below", promotions are relatively infrequent. There are virtually no promotions into the occupation itself, and regulations at lower levels are therefore not an issue. This means that the effects of hours regulations depend almost entirely on the link between hours worked and productivity. For many, such as domestic cleaners and farm-hands, we would expect this link to be weak or absent; but for others, such as drivers and building caretakers, it may be significant. Whatever the exact magnitude of the link, the effect of hour regulations should always be in the direction of improving the relative representation of women in the occupation since they will be equally efficient to men at the given working hour limit.

Most *manual occupations* do not display a strong link between hours and productivity. While there are large productivity gains from learning by doing and experience, these gains are realized over time and do not necessitate long working hours. Indeed, physical fatigue ensures that marginal productivity will decline above a certain, fairly low threshold. Our argument implies that a weak linkage between work hours and productivity promotes gender equality, and historically women have made up a large portion of physically non-demanding manual jobs (though they have been disadvantaged where physical strength is important). Women who

cannot commit to long hours do better when output is easy to measure and attribute to individual workers, such as piece-work or individual trades and sales (Altonji and Paxson 1988; Goldin 1990; Altonji and Blank 1999; Roth 2006).

Another reason hours regulation may not matter much for who is promoted is that promotions tend to be seniority-based. This has to do with the manner skills are acquired in these occupations. When employers invest in their workers' training, the skills that workers take on tend have a significant firm-specific component, which makes it important that workers can credibly commit to long, continuous careers with the same company. Conversely, for workers to be willing to jeopardize their outside options by acquiring specific skills, they need reassurance that they can remain with the company for a long period of time. Promotions tend to have a strong seniority component for this reason (Koike 1988). This has two consequences. First, since men can more easily commit to continuous careers than women, they are advantaged in getting skilled jobs (Estevez-Abe et al. 2001; Estevez-Abe 2006). But it also means that hours regulations will have little effect on the ability of women to compete for these jobs.

The story is different in many *professional and semi-professional non-manual occupations*. Women have a good starting point in competing for these jobs because they do not require brawn, and because they often (though not always) rely on general education instead of firm-specific skills. The rise of services has been an important driver of female entry into labor marker for these reasons, and in many social and personal services women now outnumber men. Yet, the ability of a woman to compete effectively for higher-end jobs in non-manual labor markets depends substantially on her working hours. On the one hand, regulations tend to equalize opportunities where productivity is increasing in hours. This is because many services depend on networks where the presence of one worker raises the productivity of others. The

issue can in part be addressed by coordinating working time to ensure periods of overlap among group peers. Job sharing arrangements in the Netherlands allow two or more people share a job, and doctors in a group medical practice may share responsibility for their patients. But even in these cases, it is often easy for individuals to establish themselves as more important to the network by being available more of the time than others. Many women choose to be part-time doctors, lawyers, and accountants in the Netherlands, where law requires pro-rated benefits for part time workers. But it is no surprise that relatively few Dutch men choose the slower track to advancement (Cousins and Tang 2004; Gornick and Heron 2006).

In all *top-end managerial jobs* such network effects tend to be strong because managers are complements to most others in the organization, including other managers. With such complementarities marginal productivity will be strongly increasing in hours worked. This is surely one reason that top-end jobs are not regulated, even in otherwise regulated systems. But it puts women at a disadvantage compared to men. *How much* of a disadvantage depends on hours and related regulations at lower levels. If women cannot reveal their types through exceptionally hard work and long hours, promotions will, as we have argued, go even more disproportionately to men than in unregulated systems. So unlike lower levels in the organization, hours regulations unambiguously hurt women in top-end managerial jobs.

When do the positive effects of regulation on gender equality outweigh the negative? It clearly depends on how far down the occupational hierarchy we travel because at lower levels the importance of promotions from below declines, and hours regulations place men and women on an equal footing when promotions are rare. At some point the balance shifts so that regulations will have a positive effect on women's representation in the workforce. It is an empirical question exactly where this point is, and we try to estimate it below.

3. The Politics of Hours Regulation

We have explained why employers use gender as an information shortcut to predict productivity and therefore as a guide to personnel decisions. Because societal expectations to be good mothers, wives, and daughters come with a wage and promotion penalty, women share a collective interest to socialize the costs of family work. Women would benefit as a group if they could i) get the government to reduce the number of working hours for *everyone*, men and women, to a degree that would make it possible to balance family and work, and/or ii) shift more of the burden of family work onto men so as to reduce the mommy tax on wages and opportunities for promotion. But women have failed on both counts.

True, by Fogel's (2000) reckoning, working hours per day fell by over a third for an average American male head of household, from 65 hours a week in 1890 to around 40 hours a week in 1985. Leisure time more than tripled over that period, from 1.8 to 5.8 hours a day (Whaples 2001). The numbers for Europe are more striking still, with the average working hours falling below 40 hours a week, and vacation time increasing more in Europe than in the US. But no one contends that that men's work week has been reduced either to allow men to help more at home, or to make work available for women. Although advocates of shorter hours have often couched their arguments in equity terms ("work less, work all"), the labor unions that bargain for reduced hours have backed off when their own job security has come into question (Hinrichs, Roche and Wiesenthal 1985). Rather, the worldwide trend in the past one hundred and fifty years towards fewer working hours is the result of increased labor productivity, followed by political fights over how productivity gains or losses should be distributed.

Starting in the 1970s, unions in Germany and other European countries pressed for reductions in standard working hours on an industry-by-industry basis, on grounds that fewer hours per worker

would allow firms to hire more workers, boosting employment (Thelen 1993). Although scholars are careful to point out the complexities affecting productivity and employment, most studies suggest that the hours-cutting arrangements reached between unions and employers put more focus on holding wages steady than on boosting total employment (Hunt and Katz 1988; Hunt 1999; Bosch and Lehndorff 2001; Alesina, Glaeser, and Sacerdote 2005). Almost invariably, hours regulations were designed to cater to “insider interests” of skilled, mostly male, industrial workers. Such reductions were linked to employment protection legislation that complemented the power of unions in collective bargaining. Employers went along, up to a point, by requiring that reduced hours would be organized more flexibly across time.

Yet, there is much variation in the extent to which hours are restricted, both within and between countries, and this variation has increased over time. With substitution of technology for labor and trade competition from low wage countries, the bargaining position of semi-skilled labor in rich industrialized countries has worsened in recent decades. Countries with proportional electoral (PR) systems, where unions form the nationwide constituency for a strong labor-promoting party, have maintained many labor market protections including hours restrictions favored by union membership, but even in those countries workers in import-competing sectors have begun to work somewhat longer hours (Burgoon and Raess 2010). Worker protections are weaker still in single member district (SMD) countries, where majority-seeking parties must forge middle-class coalitions than are not conducive to the representation of union interests. In the US, UK, Canada, and Australia, hours worked per employee have turned more dramatically upwards after decades of secular decline (OECD 2010).

In higher-end occupations, production increasingly relies on tightknit networks of skilled labor, which strengthen the link between working hours and productivity. Professional and managerial

occupations, where we would expect a strong link, have expanded and made high-end careers increasingly dependent on long hours. This is a trend that affects all labor markets, and it adversely affects the career opportunities of women, especially in countries where working hours are strictly capped below the managerial level.

With more women in the labor force the politics of labor market regulation is increasingly incorporating issues of gender equality and family welfare. But as our discussion has revealed, women do not share a common interest. Hours regulations can be a source of equality for women at the lower half of the distribution, yet many highly educated career-oriented women may see such regulations as an impediment, at least as long as social norms attribute a disproportionate responsibility for family welfare to women. The result is that labor market regulations remain a largely left-right issue where countries with strong unions and frequent center-left governments are more likely to sustain regulations that promote gender equality at the middle and low end but undermine equality at the high end. This pushes educated ambitious women to the political right.

The political division of women extend to related policy areas such as parental leave and extended daycare (Hansen 2005). Generous parental leave programs, unless they are mandatory for men and women, magnify the problem of statistical discrimination because women are expected on average to be more likely to take advantage of such programs. This is not a problem in most non-managerial jobs because they do not depend on uninterrupted tenure, but it is often an important consideration in higher-end jobs. Extended daycare options, on the other hand, help women compete for high-end jobs, but they are expensive, and in publicly-financed systems other women have no reason to support them. As in the case of hours regulation, these policies thus divide the interests of women along class lines. This conjecture adds to a new literature that

emphasizes the structure of the welfare state, not the level of spending, as a key division in the electorate (Häusermann et al. 2019).

4. Empirical analysis

In this section, we investigate several key observable implications of our argument. We have suggested that the possibility to work longer hours provides (i) a signal of work-dedication, which is important for promotion, and (ii) shows that an employee has the capacity needed to work long hours, which is needed to a larger extent in leadership positions. Yet, where working hours are capped, employers cannot (fully) observe the commitment and ability signals that employees send through working longer hours than their peers. Employers then have to resort to group stereotypes, in particular gender, to infer whether the employees have the skills and dedication needed for leadership positions and are willing to work the long hours required as a leader. As such, stricter regulations on full-time working hours implies that women have a lower probability than men to reach managerial positions.

An additional implication of our argument is that women are divided by ambition. Whereas those who periodize careers that leave plenty of time for the family (or leisure) will benefit from strict regulations of working hours, the most ambitious women aiming for high-powered careers will likely see such regulations as impediments to their objectives. Ambition is not a common variable in public opinion research, but our theory clearly implies that it is important in accounting for political preferences.

The occupational data: the European Labor Force Surveys 1992-2008

To test the argument, we make use of the annual European Union Labor Force Surveys (EULFS) from 1992 to 2008.⁶ The labor force surveys form a vital source for the calculation of national employment figures and contains responses for typically more than 100,000 respondents per country per year. We use the surveys conducted in the following Western European countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom. Together, our individual-level data set contains 67,089,932 observations.

Crucially, the EULFS includes detailed occupational codes (ISCO-88 on the three-digit level), which allow us to directly identify which individuals are in managerial positions and not, as well as the individuals who are in recruitment positions for leadership positions. The data additionally contains sector codes (NACE rev. 1 on the one-digit level). This means that we can examine the gender differences in access to managerial positions across sectors for each country for each year in our data set. The EULFS also contain detailed information about the respondents working time, in particular their *actual* hours. As such, the EULFS provides a unique data source for testing our argument.

⁶ In many of the countries the data are collected on a quarterly basis. In the EULFS the quarterly data is pooled and several variables are only available on a yearly basis. The data before 1992 and after 2008 unfortunately do not include the relevant variables. In particular, there are breaks in the ISCO codes after 2008 and they are not available before 1992.

More specifically, we are interested in whether sectors in which employees are allowed to work more unrestricted hours have better gender balance in managerial positions than sectors in which employees are restricted in their full-time hours.⁷

In our analysis of the EULFS, we therefore include respondents who are either in an recruitment or a managerial position.⁸ We define *recruitment positions* based on ISCO-88 occupational codes.⁹ We include “professionals” (ISCO Major Group 2)—which for instance includes “business professionals” and “legal professionals”—and “technicians and associate professionals” (ISCO Major Group 3)—which for instance includes “business service agents and brokers” and “administrative associate professionals”. These are thus the occupations that may subsequently lead to managerial positions. We define *managerial positions* as those that fall in the ISCO three-digit categories “directors and chief executives” (121), “production and operations department managers” (122), “other department managers” (123), “general managers” (131), “legislators” (111), senior government officials (112), and senior officials of special interest organizations (114).

⁷ In some countries and sectors there may not be legally binding restrictions but instead strong norms against working long hours. Our argument includes such cases.

⁸ We exclude respondents who are outside the age range 25-59 and who are not in employment.

⁹ The highest-level groups are: (1) legislators, senior officials, and managers; (2) professionals; (3) technicians and associate professionals; (4) clerks; (5) service workers and shop and market sales workers; (6) skilled agricultural and fishery workers; (7) craft and related trade workers; (8) plant and machine operators and assemblers; and (9) elementary occupations.

Verifying theoretical assumptions

Our theoretical argument assumes that the distribution of preferences for working hours is shifted to the left compared to the distribution for men (see Figure 1 above). This is strongly confirmed by the data (see Figure 4). The average preferred working week for women is 33 hours while for men it is 40, and the distribution for men has a notably “thicker” right tail than the distribution for women. 81 percent of those expressing preferences for more than 60 hours are men. If employers are hiring into management positions that require long hours but cannot observe preferences for working hours among workers in the recruitment pool, they will be incentivized to discriminate against female candidates, which in turn undermines the incentives to groom female candidates and the incentives for women to invest in the necessary preparation for higher-level jobs.

The model assumes that managerial working hours are unregulated. While norms for acceptable working hours undoubtedly develop around the typical working week – in part because social and economic activities are affected by such norms – we should observe that average working week is significantly above the modal working week in every country, and that managerial hours are much longer than in the labor markets from which managers are recruited. This is in fact what we observe (see Figure 5). This combination of distinct preference distributions and unregulated managerial labor markets is what produce our theoretical results for managerial labor markets (with the additional assumption that productivity is rising in working hours).

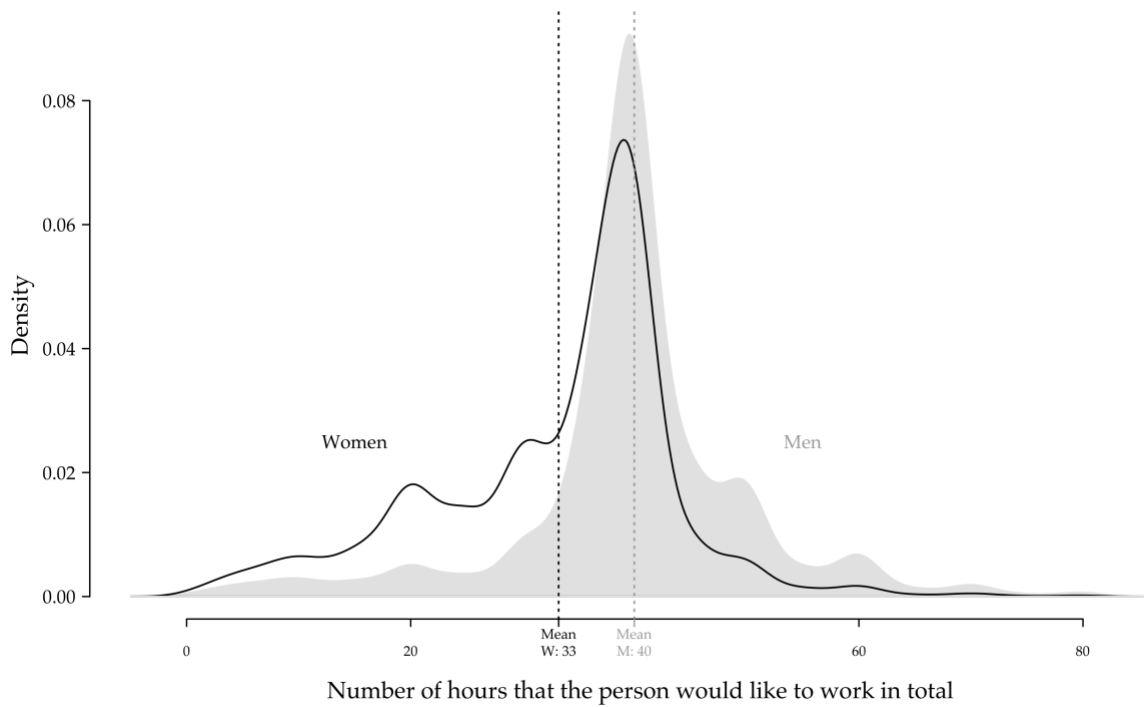


Figure 4. Preferred working hours among women and men in Western Europe (based on EULFS data from 1998-2008).

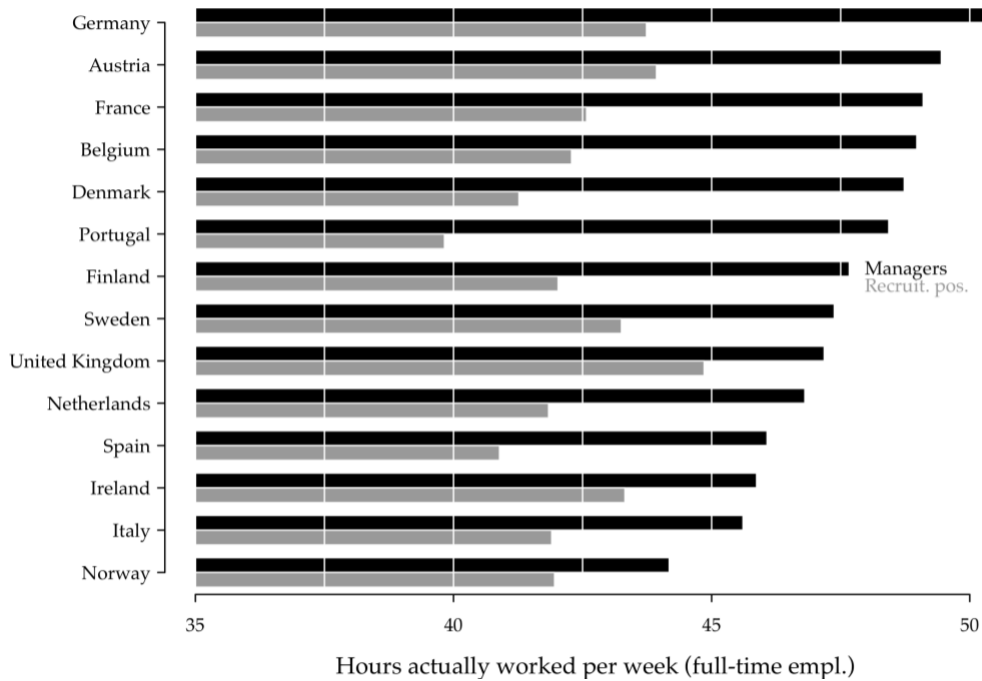


Figure 5. Mean actual hours among in managerial and recruitment positions by country (measured over the 1992-2008 period)

Measuring the strictness of full-time hours regulations

To test our theoretical predictions, we need a measure of whether a sector allows for working long hours beyond the standard full-time weekly hours in each sector in each country in each year (hereafter referred to simply as “sector”). The EULFS contains information on the sector in which the respondents are employed (one-digit NACE codes).¹⁰ In our analysis, we examine the following sectors in services and industry: manufacturing; energy supply; construction; wholesale and retail; transport; finance; real estate; public admin.; education; and other social services.¹¹

We use two different operationalizations of our key explanatory variable. In both operationalizations we look at respondents who work 35 hours or more per week, as this is the shortest regulated full-time work week (France). In the first operationalization, we calculate the

¹⁰ The one-digit sectors are: ; and (A) agriculture, hunting and forestry; (B) fishing; (C) mining and quarrying; (D) manufacturing; (E) electricity, gas and water supply; (F) construction; (G) wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; (H) hotels and restaurants; (I) transport, storage and communication; (J) financial intermediation; (K) real estate, renting and business activities; (L) public administration and defence; compulsory social security; (M) education; (N) health and social work; (O) other community, social and personal service activities; (P) private households with employed persons; and (Q) extra-territorial organizations and bodies.

¹¹ As the primary industries and the hospitality and health sectors have very different hours regulations from industry and service sectors, we do not include these sectors.

Gini coefficient in actual weekly hours for each sector. Theoretically, the Gini coefficient varies between 0 and 1, where 0 means that all employees in a sector work the same hours and 1 that one employee has all the hours. In our sample, where full-time usual hours vary between 35 and 80,¹² the hours Gini coefficient ranges from 0.01 to 0.16. Less variation in full-time hours (and thus a smaller Gini) can, of course, be due to both hours regulation and strict social norms surrounding working hours, and these are likely to reinforce each other. In any case, both hours regulations and social norms bind and put women at a disadvantage in reaching managerial positions.

In the second operationalization, we compute the *standard deviation in long hours*, measured relative to the *modal* usual hours worked among respondents who work 35 hours or more per week by sector: $h_{sct}^{mode} = mode(h_{isct}^{usual})$, where i , s , c , and t denote individuals, sectors, countries, and years, respectively. The idea is that the modal hours worked represents the norm in a sector, while positive deviations from that norm is a measure of working hours flexibility in the sector. Specifically, for each sector, we calculate the standard deviation in the difference between the regulated full-time hours and the respondents' usual hours: $SD(h_i^{diff})_{sct}$, where:

$$h_i^{diff} = \begin{cases} (h_i^{usual} - h_{sct}^{mode}), & \text{if } (h_i^{usual} - h_{sct}^{mode}) \geq 0 \\ 0, & \text{otherwise.} \end{cases}$$

The logic is that only working-hours that exceed the norm imply that workers have flexibility to reveal their type by working long hours; working to the norm or working fewer hours do not.

¹² In the EULFS, respondents who have usual hours beyond 80 are coded as 80.

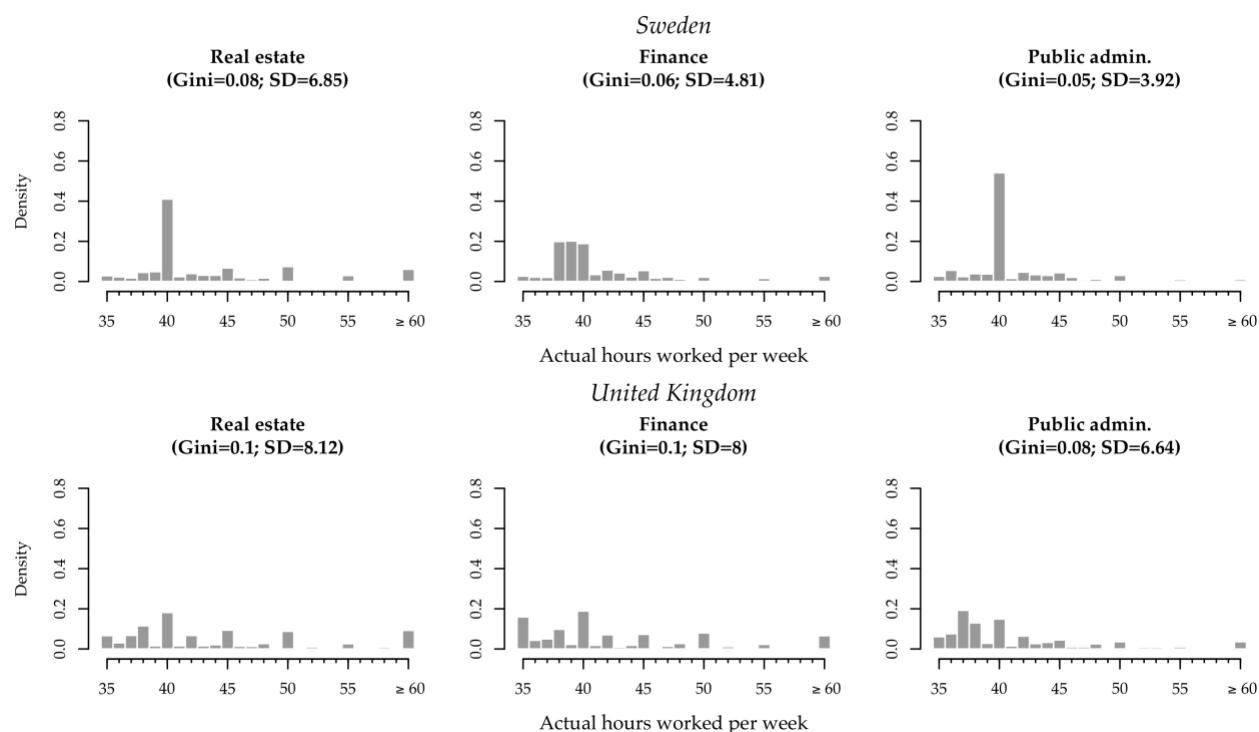


Figure 6. The individual-level distribution of hours worked exemplified for three sectors in Sweden and the United Kingdom in 2005.

To illustrate both the data and our measurement approach, Figure 6 plots the distribution of usual working hours in our sample in three different sectors in Sweden and the United Kingdom in 2005. It also provides the estimates for the standard deviation and Gini coefficient measures of unrestricted hours. The figure shows that there is considerable variation, not only between sectors but also between countries. Unsurprisingly, regulations of full-time hours are stricter in Sweden—where few respondents have actual weekly hours above the regulated 40 hours—than in the UK—where actual hours vary much more. We also see that the Gini and standard deviation measures capture these differences in the distribution of weekly hours. The distribution of the Gini and the standard deviation measures at the sector-country-year level are plotted for all our observations in Figure 7.

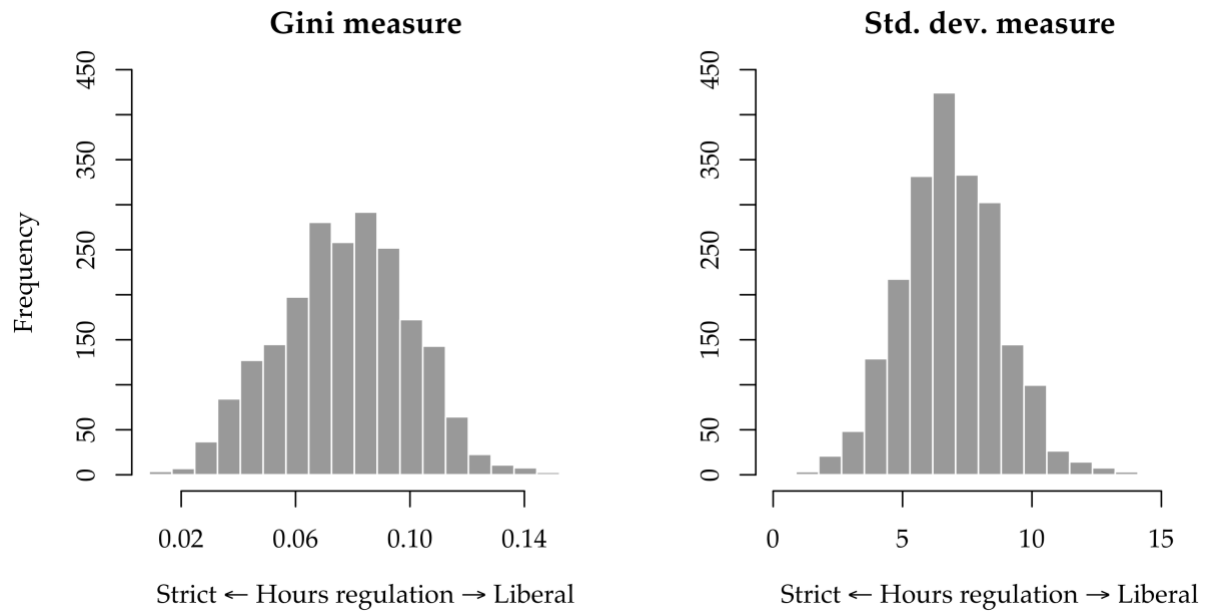


Figure 7. The distribution of the Gini coefficient and standard deviation measures of liberal hours regulations, respectively, across sector-country-years in the sample.

Women and men’s chances of obtaining managerial positions

To test whether women are more likely, compared to men, to hold managerial responsibilities in sectors where hours in recruitment positions are less strictly regulated, we use the share of women to the share of men in managerial positions, *the managerial gender ratio*, as our dependent variable. For each sector-country-year unit, it measures the share of female employees who hold a managerial position divided by the share of male employees who hold such a position. As such, the variable measures how unequal the chance of reaching a leadership

position is between women and men in recruitment positions. As an alternative specification of the dependent variable, we simply use the *female share of managers* in a sector.¹³

Figure 8 plots the distribution of both the female share of managers (upper panel) and the share of women/share of men ratio (lower panel), across time and countries.¹⁴ The upper panel shows that whereas every fifth manager was a woman in 1992, this had increased to almost one in three by 2008. Yet, during the same period, more women also entered employment. Thus, as we can see from the lower panel in the figure, the share of working women who are managers compared to the same share for men has not budged much; men in recruitment positions are still much more likely to become managers than women.

Together, our sector-level data contains 2,110 observations across 14 countries and 17 years with 10 sectors in each.¹⁵

¹³ Yet, as this variable is closely positively related to the female share of the employees, we need to control for the latter in our regression analyses.

¹⁴ The sectors within each country-year are weighted according to their relative size.

¹⁵ The country-years included are the following: Austria (1995-2008); Belgium (1993-2008); Denmark (1992-2008); Finland (1997-2008); France (1995-2008); Germany (1992-2008); Ireland (1992-2008); Italy (1992-2003); Netherlands (1992-2008); Norway (1996-2008); Portugal (1992-2008); Spain (1992-2008); Sweden (1997-2007); and United Kingdom (1992-2008)

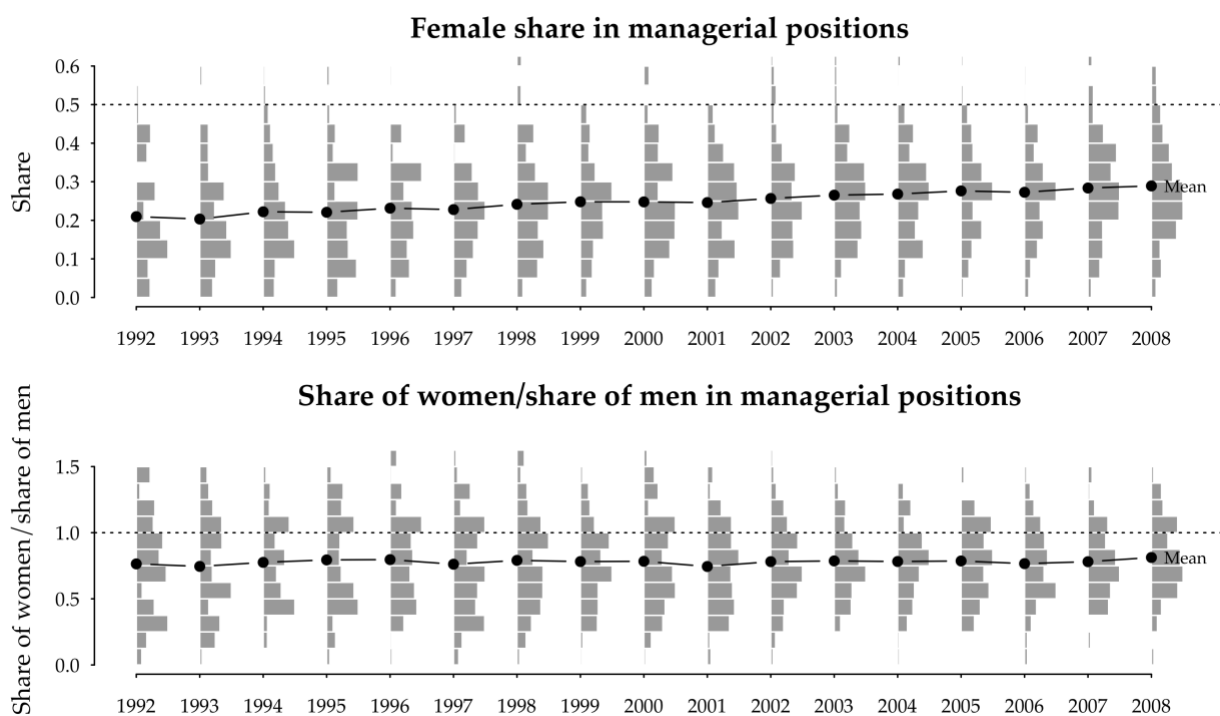


Figure 8. Mean and distribution of the female share of managers and the female-to-male ratio in managerial positions by year.

Strictness of hours regulations and women in management

To gauge the relationship between more unrestricted working hours and the female-to-male managerial ratio, Figure 9 displays simple binned scatter plots with hours regulation on the x -axis and the gender difference in managerial position on the y -axis. The left panel employs the Gini measure of hours restrictions, whereas the right uses the standard deviation measure. Each of the scatter plots bin the data into 20 quantiles based on the x -axis variable and then plots the mean of the x and y variables within each bin.¹⁶ In line with our argument, the figure displays

¹⁶ In all of the analyses below, sectors are weighted according to their size within country-years.

that there is a tight relationship between the possibility of working long hours and women’s chances of being in managerial positions.

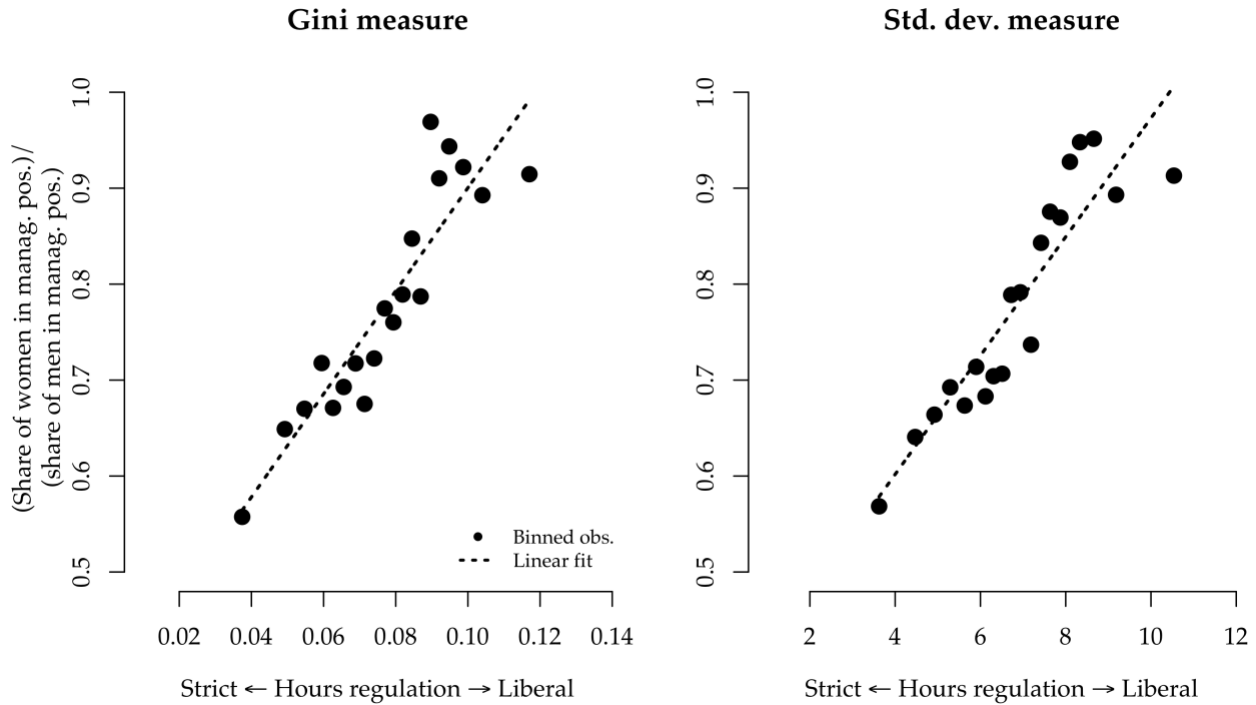


Figure 9. Binned scatterplots of the association between the strictness of hours regulations and the gender difference in managerial positions (residualized on year and country).

If our argument is correct, however, the positive relationship between less restrictions on working hours and women’s access to leadership positions should hold both *between sectors within countries* and *between countries within sectors*. Figure 10 therefore plots the relationship between the hours Gini and the managerial ratio for each sector separately, whereas Figure 11 compares hours regulations and the ratio for each country separately. Visual inspections of both of these figures again lend preliminary support to our contentions.

First, Figure 10 displays strong positive relationships between lower hours regulation and women in management, except for wholesale and retail, where the line is flat. We surmise that

the reason for this exception is that there is a large number of store managers who generally need to be present only during opening hours, and opening hours tend to be more restricted when working hours are also strongly regulated.

Second, the country plots in Figure 11 all show a strong positive relationship between sectoral hours flexibility and the female ratio of managerial positions. Note also that the three countries with less restrictive hours regulations (measured by high hours Ginis) – France, Ireland, and the UK – have relative more women in managerial positions. Indeed, there is a fairly strong relationship between hours flexibility, using either measure, and the country-level average share of women in management, as we can see from Figure 12. Note that especially Denmark and Germany are negative outliers, and this does not appear to be due to measurement issues since the same pattern emerges if we use ILO data. The two cases clearly deserve closer analysis, but much of the cross-national variance can tentatively be attributed to differences in working hours regulations.

Finally, we also examined the relationship between working hours regulations and women's share of non-managerial jobs. As argued above, restricting working hours in labor markets where there is not an expectation of a strong relationship between hours and productivity helps women to balance work and family, compete with men, and pulling more into employment. This is indeed what we find as displayed in Figure 13. This is strongly supportive of our argument that managerial labor markets function differently than non-managerial labor markets, and what promotes gender equality in one hinders it another.

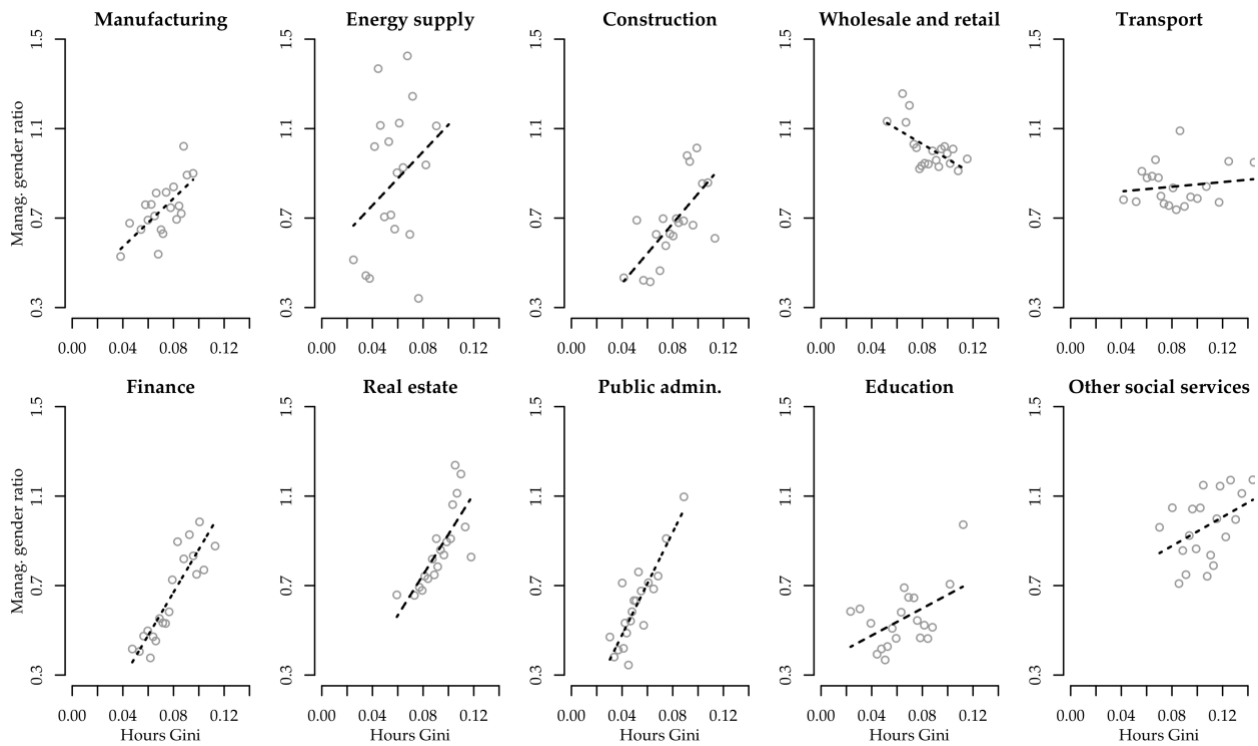


Figure 10. Binned scatterplots of the association between hours regulations and the gender difference in managerial positions by sector (residualized on year)

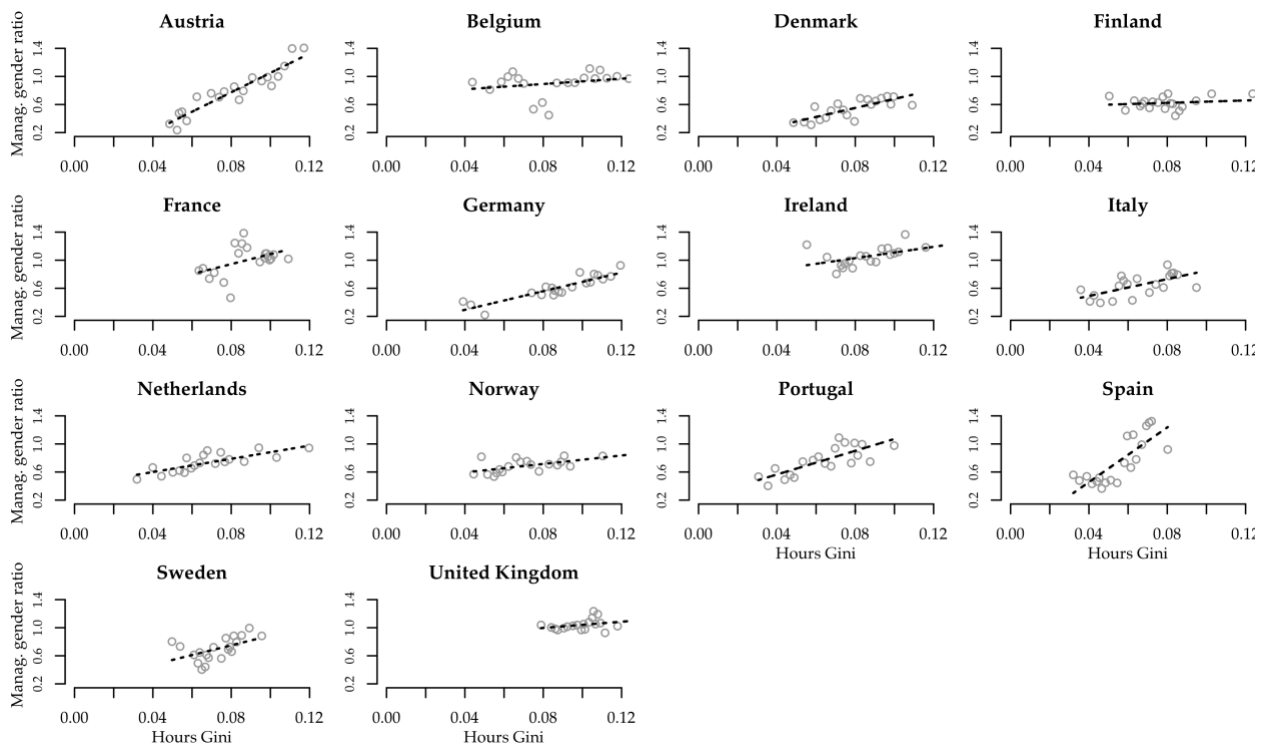


Figure 11. Binned scatterplots of the association between hours regulations and the gender difference in managerial positions by country (residualized on year)

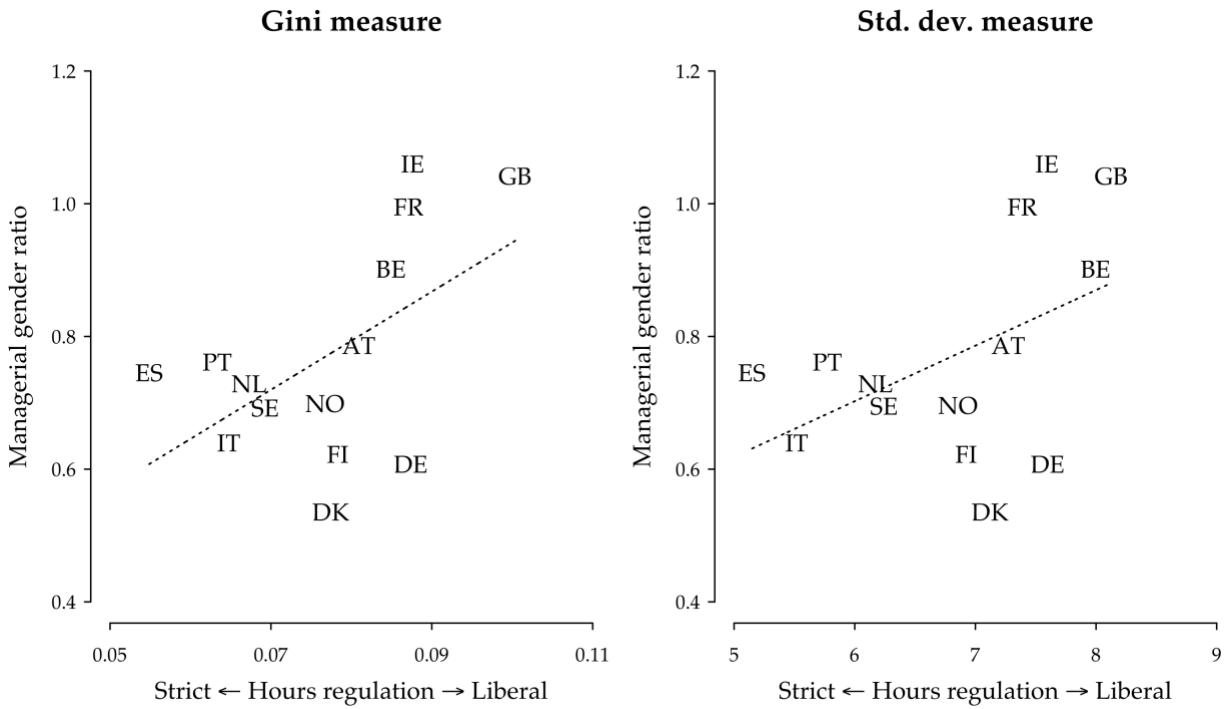


Figure 12. Scatterplots of the association between hours regulations and the gender difference in managerial positions (country-level means).

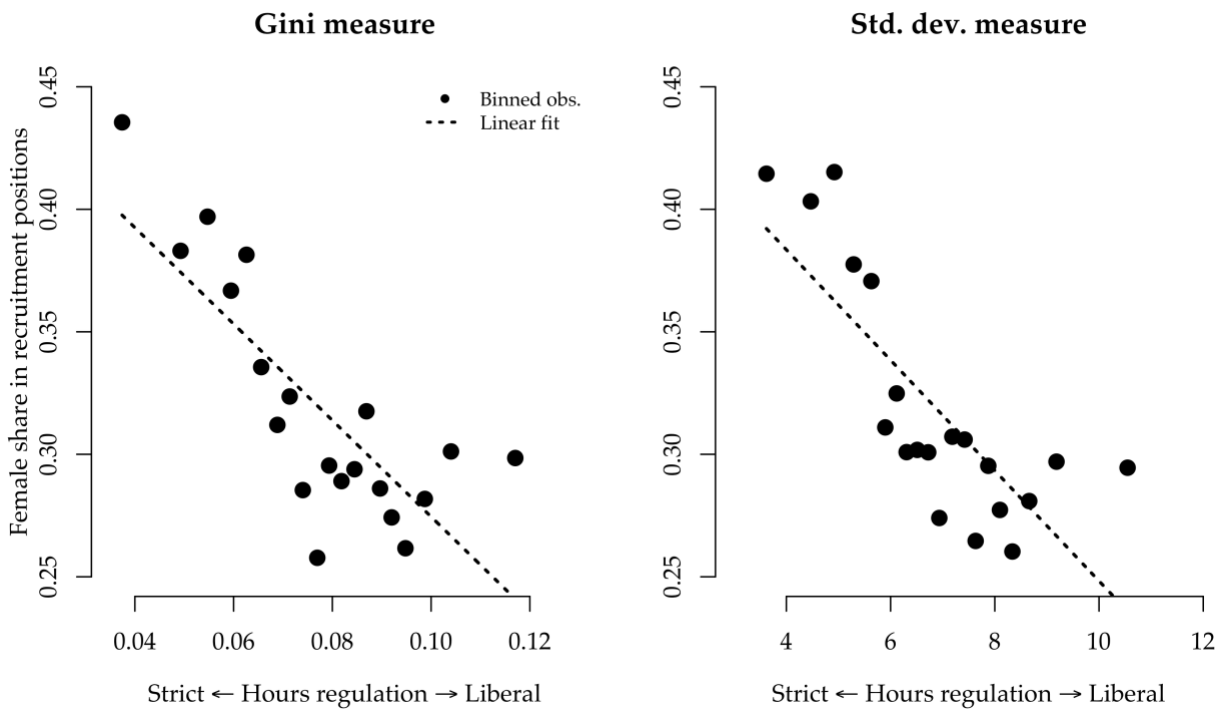


Figure 13. Binned scatterplots of the association between hours regulations and the share of women recruitment positions in a sector (residualized on year and country).

To more formally gauge the association between hours regulation and gender inequality in managerial positions, we specify a series of regression models with the managerial ratio as the dependent variable and either the hours Gini or hours standard deviation as the explanatory variable of interest.¹⁷ The unit of analysis is, as in the previous scatter plots, sector-country-years.

To control for some of the potential confounders, we include a set of covariates: the female share of employees in the sector, the share of the respondents who are in a leadership position, the average age of women and men, the share who are married and the share who are divorced. Of these covariates, the female share of employees in a sector is crucial. Recent research by for instance Wasserman (2018) suggests that stricter hours regulations, or reductions in weekly full-time hours, may lead more women to enter a given sector or firm (see also Figure 13). If this is the case, then a *decrease* in the hours Gini measure could be associated with more women being employed in the sector, which again may attenuate the managerial ratio by reducing the share of women who are in leadership positions. But this is via a different mechanism than ours.

Since the variation (“treatment”) in hours regulation is at the sector level within each country, we cluster the standard errors at the sector-country level. In all models, the estimates are weighted relative to the number of respondents in each sector (within each country-year).

¹⁷ In Appendix Table A.1 we show that all the conclusions hold if we instead use the female share of managers as the dependent variable.

Table 1. Results from OLS regression models of the relationship between unrestricted working hours and the share of women to the share of men in managerial positions.

	DV: Managerial gender ratio (mean: 0.78)					
	Gini			SD		
	(1)	(2)	(3)	(4)	(5)	(6)
Hours reg. (standardized)	0.22 (0.04)	0.19 (0.04)	0.17 (0.03)	0.21 (0.04)	0.17 (0.04)	0.17 (0.03)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Sector FEs	No	Yes	No	No	Yes	No
Country FEs	No	No	Yes	No	No	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Countries	14	14	14	14	14	14
Years	17	17	17	17	17	17
N	2096	2096	2096	2096	2096	2096
Adj. R-sq.	0.29	0.39	0.4	0.27	0.38	0.4

Note:

Standard errors in parentheses clustered by country sectors. The estimated coefficient is standardized to refer to a two standard deviation change in hours regulation. All models are weighted relative to the occupation size in each country year.

The results of the estimated regression models are displayed in Table 1. The hours regulation coefficient in each of the models gives the estimated change in the female-to-male managerial from a two standard deviation change in hours regulations, measured either using the Gini variable (models 1-3) or the standard deviation variable (models 4-6).

The results echo the findings from the scatter plots above. Specifically, in model 1 a two-standard deviation change in the Gini hours variable (about 0.05 points) is associated with about a .22-point increase in the female-to-male managerial ratio. To illustrate the result, if one in four women and one in three men are managers, then the two standard deviation increase in the hours Gini is predicted to also make one in three women managers – parity in other words. Clearly, this is a very sizeable difference.

The results hold across various specifications, such as including either sector fixed effects (model 2) or country fixed effects (3), using the standard deviation measure of hours regulation as the independent variable (models 4-6), and using the female share of managers as the dependent variable (see Table A.1 in the appendix). The findings consequently remain both when we compare the same sectors across countries and different sectors within countries.

The extent to which hours are strictly regulated or not clearly makes a sizable difference for women's chances of reaching managerial positions. While it is often argued that strict hours regulations help level the playing field between men and women, and while this seems to hold for low- and middle-level jobs, the opposite is true for high-powered careers where the inability of ambitious women to reveal their type automatically gives men an advantage. Paradoxically, it is precisely when long hours are most valued by businesses that strict regulations will hurt women, even though more men than women are able and willing to supply long hours.

The public opinion data: the ISSP surveys of work and family

Our results strongly suggest that some women are advantaged while others are disadvantaged by regulation of working hours, which implies a cleavage linked to career ambition. If the issue is salient enough, it may even push women to vote for different parties – even when they share the same education, income, occupation, age and so on. For those devoted to their family an overriding daily question is how to balance work and family, and regulation of working hours is an obvious welfare-enhancing solution. For those committed to a top-flight career, it is equally obvious that men are cutting in line at all stages of the career path as long as it is impossible to clearly signal such commitment.

In testing these hypotheses, we face the problem that it is rare for opinion surveys to probe preferences for regulation of working hours, and even rarer to ask questions about career ambitions. No survey to our knowledge asks about both. However, two closely spaced waves of the International Social Survey Programme – ISSP 2015 (“Work Orientations”) and ISSP 2016 (“Role of Government”) – have questions about one or the other. Since they also share a large battery of other variables (including occupation), we can merge the two surveys and use multiple imputation to predict the values on the key missing variables (after harmonizing common variables) (Honaker and King 2010; King et al. 2001). This procedure increases the standard errors compared to having both questions in the same survey, but the estimators are unbiased (Iversen and Soskice 2015). Details about the multiple imputation procedure are provided in Appendix B. There are 14 advanced industrialized democracies that are present in both the 2015 and the 2016 waves of the ISSP.¹⁸

To gauge *support for regulation of working hours* we use the following question in ISSP 2016: “Here are some things the government might do for the economy. Please show which actions you are in favour of and which you are against. ... Q5f: Reducing the working week to create more jobs.” The respondents can choose to respond “strongly in favour of”, “in favour of”, “neither in favour of nor against”, “against”, or “strongly against”. We code this variable so that higher values (on a 1-5 scale) correspond to preferences for *less* regulation.

¹⁸ The countries included are: Australia, Belgium, Denmark, Finland, France, Germany, Japan, New Zealand, Norway, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

For ambition, ISSP 2015 asks: “For each of the following, please tick one box to show how important you personally think it is in a job. How important is ... Q2c: Good opportunities for advancement?”, with the five answer categories ranging from “not important at all” to “very important”. Since this is an individual-level variable we can look specifically at whether higher ambition correlates with support for *less* regulation of working hours, while at the same time holding other factors such as education, age, income, marital status, and the number of children constant. The full set of control variables included are listed in the notes to Table 2, whereas definitions for all variables are provided in the Appendix B.

The results from regression support for less hours regulation on ambition for women in recruitment positions are provided in Table 3. The table gives a clear picture: more ambitious women also prefer less regulation of working hours. Imputing the missing values of ambition for the ISSP 2016 respondents and missing values of preferences for hours regulation for the ISSP 2015 respondents blows up the standard errors. The effect of ambition is nevertheless quite precisely estimated, apart from the most demanding models. In both the baseline specification (model 1) and with controls for birth year, years of education, and urban/rural residence (model 2), the results are statistically significant and even with a large battery of covariates (models 3-6), ambition remains positively correlated with preferences for less working hours regulation. The association is also substantial. In the baseline model, for instance, women stating that opportunities for advancement are “very important” have about a fifth of a standard deviation

higher support for less hour regulation than women expressing that opportunities for advancement is “not important at all.”¹⁹

Table 2. Multiple imputation regression results of the association between ambition and preferences for regulation of working hours among women in recruitment and managerial positions in the ISSP surveys.

	Not reduce working week					
	(1) Baseline	(2) Ctrls	(3) All ctrls	(4) FEs	(5) FEs+ctrls	(6) FEs+all
Ambitious	.06 (.03) <i>.044</i>	.06 (.03) <i>.053</i>	.03 (.03) <i>.273</i>	.03 (.03) <i>.374</i>	.02 (.03) <i>.423</i>	.01 (.03) <i>.725</i>
Basic controls	No	Yes	Yes	No	Yes	Yes
Additional controls	No	No	Yes	No	No	Yes
Country FEs	No	No	No	Yes	Yes	Yes
Observations	3614	3614	3614	3614	3614	3614

Note: Robust standard errors in parentheses and *p*-values in italics. Results based on 20 imputed data sets. Basic controls: birth year, years of education, and urban/rural. Additional controls: income quintile, top-bottom placement, share of household income, tertiary degree, church attendance, marital status, and number of children in the household.

We also analyze the association between ambition and partisanship, measured as the left-right placement (on a 1-5 scale) of the party the respondents report to have voted for in the last general election. Women, and in particularly the rising number of women with strong labor market attachments, today vote more to the left than their male counterparts (Inglehart and Norris 2003;

¹⁹ The standard deviation of the support for hours regulation variable is 1.2 in the unimputed ISSP data.

Iversen and Rosenbluth 2006, 2010). Table 3, however, displays that more ambitious women are more right-leaning than less ambitious women. If we again compare women who see advancement opportunities as “very important” to those who regard it as “not important at all”, the former are about one-third of a standard deviation more right leaning than the latter (model 1).²⁰ The results demonstrate that ambition is driving a wedge between working women that divides them not only in their support for regulation of working hours but also spills over to their party choice. The results are highly statistically significant, even with a full set of controls.²¹

Table 3. Multiple imputation regression results of the association between ambition and left-right party preferences among women in recruitment and managerial positions in the ISSP surveys.

	Party choice (left-right)					
	(1) Baseline	(2) Ctrls	(3) All ctrls	(4) FEs	(5) FEs+ctrls	(6) FEs+all
Ambitious	.08 (.02) <i>.002</i>	.08 (.02) <i>.001</i>	.06 (.02) <i>.009</i>	.06 (.02) <i>.025</i>	.06 (.02) <i>.015</i>	.06 (.02) <i>.026</i>
Basic controls	No	Yes	Yes	No	Yes	Yes
Additional controls	No	No	Yes	No	No	Yes
Country FEs	No	No	No	Yes	Yes	Yes
Observations	3614	3614	3614	3614	3614	3614

Note: Robust standard errors in parentheses and *p*-values in italics. Results based on 20 imputed data sets. Basic controls: birth year, years of education, and urban/rural. Additional controls: income quintile, top-bottom placement, share of household income, tertiary degree, church attendance, marital status, and number of children in the household.

²⁰ The party choice standard deviation is 1.06.

²¹ As the survey question about partisanship is available in both ISSP 2015 and ISSP 2016, it is unsurprising that these results are much more precisely estimated than the ones in Table 2.

A culture against women in power?

An alternative explanation for the difficulty of women to break into positions of economic power is that they face a culture of discrimination rising out of traditional gender stereotypes.

Undoubtedly there is some truth to this, and Jette Knudsen's (2011) comparison of promotion decisions by American and Danish firms operating in Denmark suggests that differences in corporate culture do matter.

Yet, it is implausible that a cultural interpretation could account for the general pattern we have uncovered. As we have shown, the effect of hours regulations is the opposite in managerial and non-managerial labor markets, which is difficult to reconcile with a single gender norm against women's employment.

Still, there may be a norm against women in management, which coincides with more restrictive hours regulations. If this is true, however, it is hard to understand why women do so poorly at the top end of the occupational pyramid in countries with strong left parties and a long-standing commitment to gender equality (notably in Scandinavia). Indeed, this commitment is clearly on display in substantial female representation in the national legislature and in government. In Spain, for example, the socialist government pursued a policy of virtual gender parity in both the parliament and the executive, yet women have made few inroads into corporate boardrooms.

Indeed, representation of women in the political elite is *negatively* related to representation of women in the economic elite, as illustrated in Figure 14. Excluding the obvious outlier, Japan, (which we discuss below) there is a clear negative correlation of -0.42 . This is particularly surprising because over time there is a strong *positive* relationship between female labor force participation and representation in the national legislature in every country, a relationship that

almost certainly also applies to the share of females in management (see Iversen and Rosenbluth 2010, p. 143). One would expect that women who acquire experience and competences in the labor market, and form strong independent political views in the process, expand the pool of candidates for national elected office (Kenworthy and Malami 1999). Why, then, is there a strong negative cross-national relationship between the share of women in management and in the legislature?

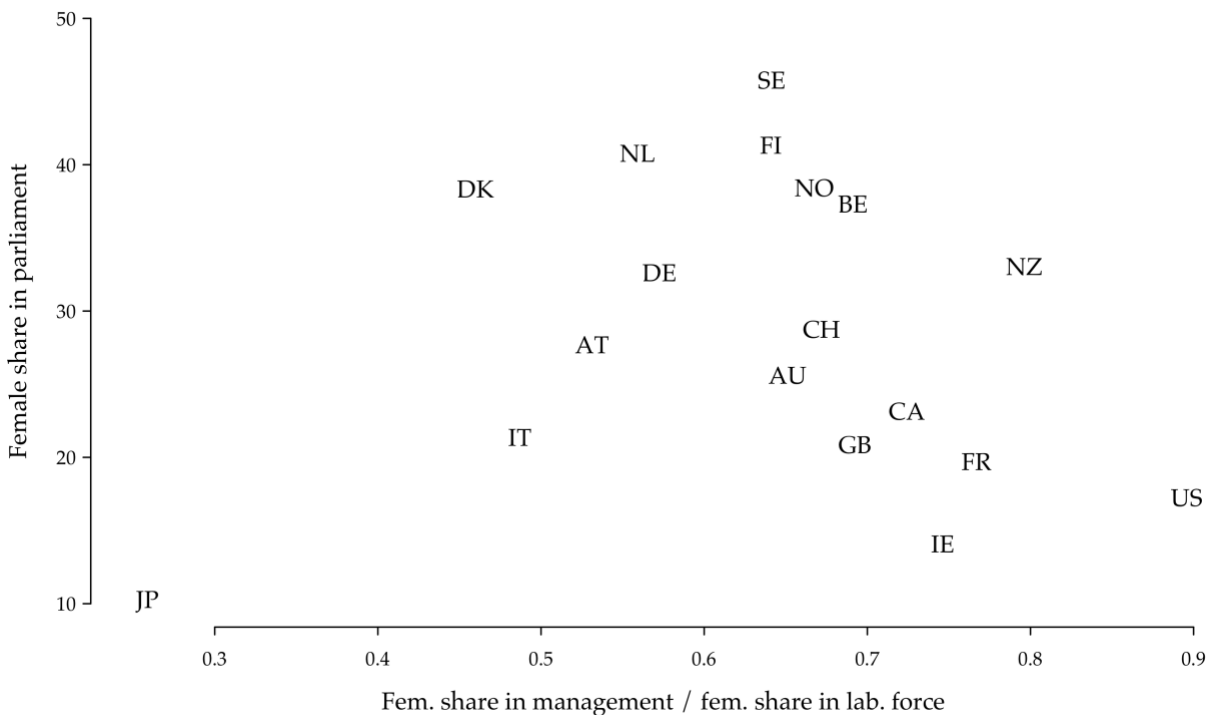


Figure 14. Female representation in the political and economic elite in 16 OECD countries (2008-2012). Sources: ILO (2016) and Armingeon et al. (2018).

Our explanation goes back to the general model outlined in Iversen and Rosenbluth (2010). For reasons spelled out in Cusack et al. (2007 and 2010), regulated markets and Proportional Representation electoral systems co-evolved in the early 20th century. Regulation, associated with both strong insiders and skilled unions, and PR, which produces more center-left

government in favor of such regulation, both help explain why it is hard for women to break into the highest positions in business.

At the same time, the electoral system powerfully shapes the incentives and opportunities for women to enter politics. Unlike single member district systems, PR electoral systems do not require politicians to commit to uninterrupted careers in order to cultivate close relations with their constituencies and in order to build up bargaining power within the legislature. In closed list systems, PR instead produces strong parties where commitment to the party label is more important than building up personal political capital (which is looked at with suspicion by party leaders). Party-centered systems make it far easier for women to have political careers, compared to candidate-centered ones, and it gives party leaders no (rational) reason to discriminate against women when promoting them through the party organization.

As noted, Japan is a big outlier combining low female shares in both corporate boardrooms and in the legislature. But the reasons in fact highlight the logic of our argument. Unlike in northern Europe where labor regulations tend to reflect the political strength of organized labor, Japan's top firms offer job security to compete for scarce skilled labor—despite weak unions. These firms avoid hiring women into long-term labor contracts because women are expected to quit upon childbearing rather than to take with them the firm's investment in their human capital. For Japanese firms, women are simply a bad financial bet.

An obvious question raised by this analysis is why women do not help institute reforms of the labor market in systems where they are well-represented in politics but not in the corridors of the business elite. Although we leave a thorough explanation for future work, we hinted the likely answer above. Most women are in fact in favor of labor market regulations because it helps them balance family and career. But for those women who put their career ahead of their family, like

the typical male, such regulations are a double-edged sword. Women with low- or mid-level jobs are protected from long hours, but ambitious women are largely shut out of corporate boardrooms. This splits the female vote and hampers efforts to present a unified women-friendly policy agenda.

5. Conclusion

Hours regulation may serve as a coordinating device allowing workers to slow down the rat race, as Alesina, Glaeser, and Sacerdote (2005) suggest. The problem for women is that even the slower European work week stretches conventional expectations of motherhood to their limit, and corporate leadership requires more still. Given the gender wage inequality that results from unequal availability to work, it is hard to dispense with the existing family bargain in which the partner making less money (still, in most cases, the female) shoulders more of the family work in order to free the man to earn more money—the basis for gains from trade within a marriage. Society is caught in a self-reinforcing sexist equilibrium.

Many women, of course, do benefit from the shortened work week. Restrictions on working hours narrow the gender wage gap in lower level occupations. But they do so at the cost of shrinking the percentage of women who make it up the ladder. Although grasping the net welfare benefits of hours regulation would require more information than we have about selection effects and constrained preferences, our analysis demonstrates, at a minimum, that the decision of whether or not to regulate hours entails substantial distributional consequences across different groups of women. Women who are willing to forgo a family life have a substantially greater chance of career success in an unregulated market than in a system that muffles signals of outlier-levels of ambition. However imperfect as a signal of productivity and ability, working

long hours (one could as well write “rat” across one’s forehead) replaces gender as a signal in countries without hours regulation.

Until the average woman is able or willing to spend as much time on her career as the average man, a firm would have to pay a wage premium to get gender equality in its upper management. Imaginative public policy could subsidize the costs of family-related absences by providing tax credits or procurement priority to firms that meet desirable targets, thereby socializing the costs of family time now borne by underpaid or nonworking mothers. But any action involving legislation requires widespread political support and the absence of a blocking coalition—a difficult proposition when women’s own preferences about family and work are so widely distributed.

Alternatively, if the average man were able or willing to spend as much time on his family as the average woman, firms would cease to view female employees as greater flight risks and gendered statistical discrimination would wither away. Scandinavian countries allow only fathers to take some portion of family leave in order to shift gendered family norms, but the rewards of long hours at work in managerial careers are such that few men take more than the minimum fathers’ quota and many forgo their rights to paid leave altogether. This pattern is unlikely to change dramatically until the health, emotional, and social benefits of family engagement are widely touted to outweigh the career benefits of staying in the rat race. And so, the sexist equilibrium persists.

European women not satisfied with a smaller wage gap in the lower rungs are pressing for government-mandated quotas for women on corporate board, and several European countries have mustered the legislative coalitions to pass the requisite laws. European women long to leapfrog the US, where 40% of managers, 15% of high-ranking managers, and a handful of

Fortune 500 CEOs are female compared to Europe's even smaller numbers (Iversen and Rosenbluth 2010; ILO 2016). Early experiments with quotas on boards in Norway generated a backlash in some quarters, by the men who feel unfairly passed over and by women who had to bear the burden of proof that they reached the top on merit. But Iceland, France, Spain, and the Netherlands are forging ahead with quota laws, and Belgium, Germany, and Sweden are considering similar legislation (Clark 2010).

However constructive the quota debate may prove to be in Europe, it has not gained traction in the current American legal environment.²² Perhaps firms themselves will be motivated by the 2007 McKinsey study (Desvaux, Devillard-Hoellinger, and Baumgarten 2007) which shows that European firms with at least three women on their executive committees outperformed their rivals both in average return on equity and operating profits. Although naysayers are quick to argue that only profitable firms could afford the luxury of appointing unqualified females in the first place, the study points out, plausibly enough, that women in leadership positions are likely

²² Hans Bader of the Competitive Enterprise Institute writes, in a letter to the editor of *The Economist*, August 6th 2011, "In America such quotas would be struck down because they disregard the right of male directors to equal treatment. ... American courts have struck down quotas and sex-balance requirements for boards and commissions in cases such as *Back v Carter*. They have allowed companies to challenge quotas on behalf of their male or white employees in cases such as *Lutheran Church Missouri Synod v FCC*. And they overturned government-mandated preferences for female business owners in the *Lamprecht* case." Whatever the merits of the argument, Bader's view appears to be the dominant one on the Roberts Court.

to be important interpreters of female consumption and investment patterns in an era of growing female spending power.

The gender wage gap is smaller in jobs where output is easier to measure than by the short hand of hours, and perhaps technological or organizational advances in productivity measurement will hasten the trend. Some studies find smaller gender wage gaps in more competitive market niches, and we expect to find, in future research, that the premium employers are willing to pay for long hours shrinks in hard economic times, reducing the gender wage gap. But whatever the current situation, it is a sure bet that firms will not draw more deeply from the pool of female talent until it is profitable to do so, or policy interventions make it so.

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Online Appendix

A. Additional regression results

Table A.1. Results from OLS regression models of the relationship between unrestricted working hours and the share of female managers.

	DV: Share female managers (mean: 0.25)					
	Gini			SD		
	(1)	(2)	(3)	(4)	(5)	(6)
Hours reg. (standardized)	0.22 (0.04)	0.19 (0.04)	0.17 (0.03)	0.21 (0.04)	0.17 (0.04)	0.17 (0.03)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Sector FEs	No	Yes	No	No	Yes	No
Country FEs	No	No	Yes	No	No	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Countries	14	14	14	14	14	14
Years	17	17	17	17	17	17
N	2096	2096	2096	2096	2096	2096
Adj. R-sq.	0.29	0.39	0.4	0.27	0.38	0.4

Note:

Standard errors in parentheses clustered by country sectors. The estimated coefficient is standardized to refer to a two standard deviation change in hours regulation. All models are weighted relative to the occupation size in each country year.

B. Multiple imputation procedure

Whereas the 2015 wave of the ISSP contain information about personal ambition, the 2016 wave contain an item about support for hours regulation. We “rowbind” these data sets together to form one large data set. We can then treat the fact that each of these two variables are only present in one of the surveys as a problem of missing values, i.e. that all 2016 respondents have missing values for the ambition item, whereas all the 2015 respondents have missing values for the hours regulation item. We can then use multiple imputation techniques to obtain a complete

data set that we can use for examining the association between ambition and preferences for less regulation of working hours.

The first step is to use multiple imputation to get m imputed values for each of the missing observations of a variable (in this case ambition and support for hours regulation). Larger variation among these m imputations imply higher levels of uncertainty about which value is the true value (King et al. 2001, 53). King et al. (2001), Honaker and King (2010), and Honaker, King, and Blackwell (2011) provide details on the widely used Amelia II multiple imputation algorithm. We employ this algorithm here to create 20 multiple imputed data sets.

As the aim of the the imputation model is to provide predictions for missing values, it is recommended to add more variables than will be present in the regression model if these can improve the predictions.²³ We include a set of variables that are common across ISSP 2015 and ISSP 2016 (we treat all non-binary variables as continuous, unless otherwise noted below, to improve prediction (Honaker, King, and Blackwell 2011)):

- *Years of schooling (EDUYRS)*: “How many years (full-time equivalent) have you been in formal education?”

²³ As Honaker, King, and Blackwell (2011, 8) note: “Since imputation is predictive, any variables that would increase predictive power should be included in the model, even if including them in the analysis model would produce bias in estimating a causal effect ... or collinearity would preclude determining which variable had a relationship with the dependent variable”.

- *Higher education (DEGREE)*: “Highest completed education level: Categories for international comparison.” Recoded into a binary variable with having a tertiary degree as having a value of 1 and 0 otherwise.
- *Working hours (WRKHRS)*: How many hours, on average, do you usually work for pay in a normal week, including overtime?”
- *Spouse’s working hours (SPWRKHRS)*
- *Profit or non-profit work organization (TYPORG1)*: “Do/ did you work for a for-profit organisation or for a non-profit organisation?”. Treated as nominal in the imputations.
- *Public/private (TYPORG2)*: “Do/did you work for a public or a private employer?”
- *Religious attendance (ATTEND)*: “Apart from such special occasions as weddings, funerals, etc., how often do you attend religious services?” We include the square root of this variable in the imputation.
- *Top-bottom self-placement (TOPBOT)*: “In our society, there are groups which tend to be towards the top and groups which tend to be towards the bottom. Below is a scale that runs from the top to the bottom. Where would you put yourself on this scale?”
- *Income quintile*: Household income. Variable combined from country-specific income variables. Household income is first adjusted to take into account the size of the household (by dividing the household income by the square root of the number of people in the household) and then income quintiles are created within each country-year.
- *Share of the household income*: respondent’s income divided by the household income.
- *Number of children in the household (HHCHILDR)*: “How many children in household: children between [school age] and 17 years of age”. We include the square root of this variable in the imputation.
- *Legal partnership status (MARITAL)*: “What is your current legal marital status?”

- *Trade union membership (UNION)*: “Are you or have you ever been a member of a trade union or similar organisation?” Coded as 1 if the respondent is currently member of a trade union and 0 otherwise.
- *Occupation (ISCO08)*: Coded at the 1-digit level (to enable the multiple imputation algorithm to converge). Treated as nominal in the imputations.
- *Urban/rural (URBRURAL)*: Place of living: urban - rural. Coded as binary.
- *Survey weights (WEIGHT)*: Country-specific weights. We include the logs of the weight variable in the imputation.
- *Personally important: opportunities for advancement (V5, 2015)*: “For each of the following, please tick one box to show how important you personally think it is in a job. How important is ... Q2c ... good opportunities for advancement?”
- *Reducing working week for more jobs (V9, 2016)*: “Here are some things the government might do for the economy. Please show which actions you are in favour of and which you are against. Q5f: Reducing the working week to create more jobs.”
- *Left-right partisanship (PARTY_LR)*: “Based on ‘party voted for in last general election’ and derived by expert judgement from the country-specific parties (nat_PRTY) into the leftright scheme: 1. far left (communist etc.); 2. left, center left; 3. center, liberal; 4. right, conservative; 5. far right (fascist etc.); 6. other”. Value 6 coded as missing.

Having created 20 multiple imputed data sets, we then use Stata’s multiple imputation regression module to analyze the association between ambition and support for less hours regulation. In essence, regression on multiple imputation data sets involves running the model on each of the imputed data sets and then average the coefficient across these data sets. What is particularly useful about this method is that it provide standard errors that reflect the increased uncertainty

(compared with having no missing data). As Honaker, King, and Blackwell (2011, 5) note: “the variance of the point estimate is the average of the estimated variances from within each completed data set, plus the sample variance in the point estimates across the data sets.”

References for the Online Appendix

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