Politics and the Firm

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February 18, 2026

Abstract

Workers who express their political views may enjoy increased utility if fellow workers share their views, but may suffer if most fellow workers find those views distasteful. In response firms may find it profitable to separate workers with different political views, by allowing remote work, and by having facilities in locations where the predominant political preferences differ. We model such behavior, showing the conditions under which workers of a particular type will express their views. We first study the profit-maximizing wage policy set by a profit-maximizing monopsonist, taking into account how the choices of workers about expressing their views affects the willingness of different types of workers to work at the firm. We then examine the organizational implications of political expression by workers on the firm, such as the choices between in-office and remote work and whether to operate in multiple locations, thereby segregating workers who differ in their political views. Lastly, we examine the implications of suppressing political discourse at the workplace.

1 Introduction

Workers often spend much time at work discussing politics, though they may not enjoy the political climate. A survey found that

> Whether they agree or disagree with their company's politics, fear about ideological conflicts with colleagues runs across all political groups: very liberal, liberal, moderate, conservative, very conservative, and libertarian... Nearly half of employees at companies with political agendas said their ideological views impacted their ability to work. At companies seen as having a political agenda, 63% of workers said that ridicule in the workplace is commonplace if you disagree with a colleague."[1]

and

> A recent survey by the American Psychological Association found that a significantly higher percentage of workers are feeling burdened or strained because of political discussions in the workplace than during the political campaign. More than a quarter, or 26 percent, said political debates at work had left them feeling tense or stressed, a significant increase from the 17 percent who said the same when the APA last ran the survey, in August 2016, three months before the election of President Trump.[2]

Important empirical work by Chinoy and Koenen (2024) uses LinkedIn and voter file data to find that Democrats choose different employers than Republicans: a coworker is 10% more likely to share an individual's party affiliation than expected locally. This segregation is mostly caused by workers actively seeking politically compatible workplaces. The median worker is willing to trade off 3% in wages for an ideologically congruent job. Frake, Hurst, and Kagan (2024) similary find that in the U.S. the average Democrat's coworkers are 11.7 percentage points more Democratic than the average Republican's. This segregation is largest among the politically active. Relatedly, the political views of a firm (as indicated by opposition to state legislation on a transgender issue) is associated with lower turnover by workers who favor that stance (White, Hurst, and Kagan 2025).

Such political segregation may arise from the behavior of workers. But it can also arise, as we claim below, from the behavior of firms. If workers dislike working with people with opposing political views, the firm may encourage work from home, or establish facilities in different locations, attracting different types of workers in the different locations. This approach thus extends work in urban economics on the locations of work. Acosta and Lyngemark (2025) show that cross-location wage differentials and communication costs drive firms

[1] https://www.fastcompany.com/90313045/politics-are-tearing-tech-companies-apart-says-new-survey

[2] https://www.washingtonpost.com/news/on-leadership/wp/2017/05/03/all-the-talk-about-politics-at-work-is-stressing-out-a-lot-more-workers/

to reorganize across sites. Brueckner (2025) presents a spatial model of work-from-home that is induced by a shrinking central business district (CBD), rising suburban housing demand, and altered wage-land tradeoffs. Our analysis adds a new dimension to this spatial theory of the firm: rather than wages or commuting costs, it is coworker interactional externalities.Specifically, the amenity or disamenity of political expression at work influences the organizational form of the firm.

This paper explores how such political preferences and the employees' choices to share them with their colleagues would affect the firm. Political discussion at work differs from discussing politics with friends at dinner: a person can choose his friends, but cannot directly choose his co-workers. Consider a worker with liberal political views. He may enjoy hearing liberal views from co-workers, and may then be willing to accept a job at a firm with many fellow liberals at a lower wage than at a firm with few liberals. A conservative worker may be uncomfortable at a firm where co-workers espouse their liberal views, and a conservative person may be willing to work at that firm only if offered a higher wage at that firm., compesnating for the disamenity suffered. That reduced supply in turn means that liberal workers at a firm may increase the wage they earn by expressing their liberal views to fellow workers, or to potential fellow workers. The analysis below explores such effects.

Some of the results are not surprising: if some workers dislike the views of other workers, then they will take the job only if paid more. And under these conditions, a firm may prefer to segregate workers with different political views. The paper offers more. Workers may differ in political preferences, but if they do not express their views, it may matter little. The paper therefore examines the incentives of workers, both minority and majority, to express their views, and the conditions under which they will. The paper also examines how increased diversity of political views of workers affects a firm's profits; we shall see that the effect is not monotonic. And we examine the conditions under which a firm benefits from restricting expression of political views by its workers.

2 Literature

We build on Becker's influential work (1957). In his model employers hold a "taste for discrimination," meaning that there is a disamenity value to employing a particular type of workers (say, of a certain gender or ethnicity). In extensions of his model, the firm owner has no personal distaste, say, for women employees, but male employees do. The firm must then pay men more for working with women, compensating them for the disamenity. Every woman hired by such a firm thus increases the firm's costs. In his model, and much of the subsequent literature, the taste for discrimination is taken as given, and the consequences on wages are examined. In our model, workers do not discriminate against anyone. But they do make employment at the firm more attractive to some and less attractive to others. That in turn can affect wages. Evidence that firms care about the political views of their workers is given, for Brazil, by Colonnelli, Neto, and Teso (2022): business owners are more likely to hire workers who share their political affiliation. Such bias is consistent with our view that a firm can profit from having a politically homogeneous work force, though the authors give evidence that the bias they find is taste-based rather than driven by profit-maximization.

Related issues are studied in the theory of clubs. In particular, Board (2009) considers a firm that posts a range of anonymous group-entry prices. Agents vary in their willingness to pay for group quality and, after observing these prices, sort themselves into different groups. In that model, however, some group is viewed by all as better than others. We, in contrast, consider people who prefer to be among their own group. And we allow for a wider range of strategies, such as remote work which generates no peer group effect.

Relatedly, Social Identity Theory (Tajfel 1981), and the self-categorization theory that elaborates it (Hogg and Terry 2000; Turner, et al. 1987), consider stereotyped perception of out-group members and favorable perception of in-group members. The general idea that people prefer to associate with people like themselves, or to hear opinions they share, is common. Thus, partisan voters tend to seek political news from media sources that match their predispositions (Fowler and Kim 2022).

Much evidence documents the prevalence of substantial monopsony power in the labor market. Falch (2010), for example, estimates a labor-supply elasticity of 1.4 to individual schools in the Norwegian teacher labor market. Similarly, Staiger, Spetz, and Phibbs (2010) rely on an exogenous wage change in Veteran Affairs hospitals and find a labor-supply elasticity of 0.1 (for individual hospitals) in the labor market for nurses. Looking instead at online labor markets, Dube, Jacobs, Naidu, and Suri (2020) build on previous experimental studies for the Amazon MTurk platform and calculate a labor supply elasticity for task requesters of about 0.1.

Manning (2003) uses U.S. and U.K. data and estimates labor-supply elasticities to individual firms in the range between 0.75 and 1.5. Webber (2015) provides the most comprehensive and disaggregated analysis using Manning's approach. Using the U.S. Census's Longitudinal Employer-Household survey, Webber (2015) estimates a different labor-supply elasticity for each individual firm in his sample, obtaining a mean of 1.08 and a median of 0.75 (with 90 percent of firms having elasticities below 1.73). By sector, Webber finds that manufacturing has the highest mean labor-supply elasticity, at 1.82, and "administrative support" the lowest at 0.72. Dube and Naidu (2024) summarize recent literature on monopsony power, its measurement and potential policy and institutional implications.

In line with the large body of evidence on monopsony power in the labor market, we assume that the individual firm is faced with an upward-sloping labor supply.

3 Outcomes when all workers are at same location

We begin the analysis by considering a single firm with all workers at the same location, able to express their political views. We shall then extend the baseline framework by considering policies a firm can adopt, such as having multiple locations, which enable the firm to segragate amongst workers with different political views (workers with different views work at different locations).

3.1 Assumptions

Consider a labor market with a single employer (a monopsony) and many (potential) employees. Workers are equally skilled; each produces $q > 0$ units of the good (whose price is normalized to unity). We assume that q is sufficiently large to ensure that profits are strictly positive. Workers differ in their political preferences. Formally, let $L_D > 0$ denote the number of Democrats (called D-workers) in the population; L_R denotes the number of Republicans (or R-workers). With no loss in generality let $L_D > L_R$.

The game has the following structure:

(i) In the first stage the profit-maximizing monopsonist posts a single take-it-or-leave-it wage offer, $w > 0$. To simplify, the firm commits to its posted wage, which cannot be renegotiated ex-post. The firm therefore hires all applicants who accept the job. We rule out the possibility of discrimination between the two types of workers based on their (possibly observable) political dispositions.

(ii) In the second stage each utility-maximizing worker chooses whether to work at the firm. In addition, each worker chooses whether to express his political preferences with his fellow workers.

Define $n_i \geq 0$ as the number of type-i workers at the firm who express their political views to co-workers.

A D-worker who expresses his political view has utility $w + e \cdot (n_D - n_R)$; a silent worker has utility $w + s \cdot (n_D - n_R)$, where $e > s > 0$. That is, a silent D-worker has higher utility when the number of D-workers who express their political views exceeds the number of R-workers who do so. His utility is even higher under this condition if he expresses his view. Similarly, an R-worker's utility when he expresses his political view is $w - e \cdot (n_D - n_R)$; a silent worker has utility $w - s \cdot (n_D - n_R)$. A worker who rejects the job offer obtains his (type-independent) utility, $\overline{u}$, where $0 < \overline{u} < q$. We call this the no-work utility. It can also be interpreted as the utility any person gets by working at some other firm (where political preferences are irrelevant) than the one under consideration. A person will accept a job offered by the monopsonist only if offered utility at least as large as this no-work (reservation) utility.

Notice that a type-i worker benefits from working in a friendly environment in which type-i workers form the majority of employees, and express their political views. The worker benefits from sincerely expressing his political views in such a friendly environment. Conversely, a type-i worker suffers form working in a hostile environment, in which only a minority of workers who express their political views share his ideology. A worker who expresses his political views in a hostile environment suffers additional disutility.[3]

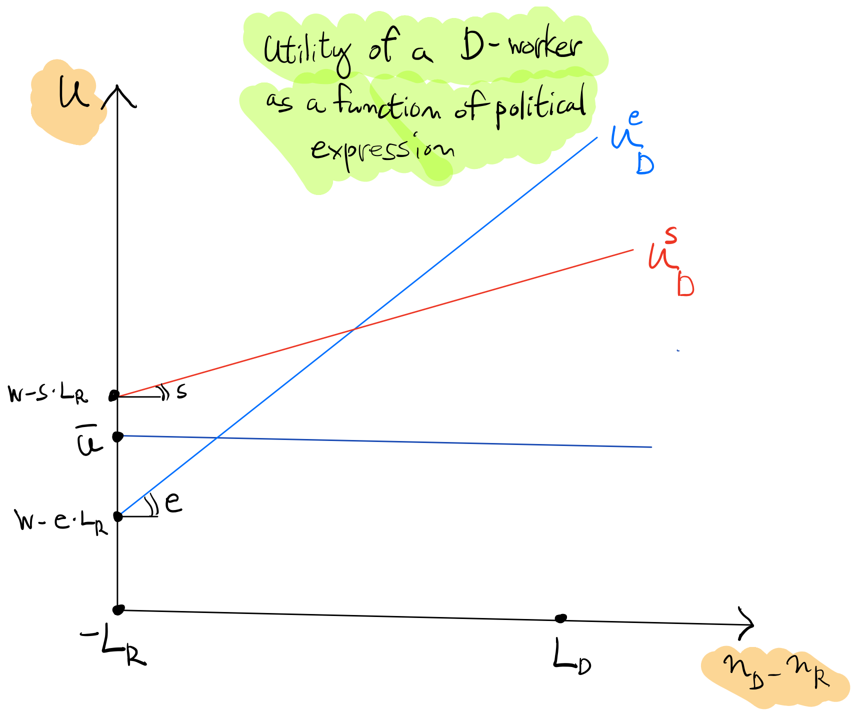
Workers sincerely express their political views. Although workers may benefit to some extent from enhanced socialization at the firm when expressing views in line with the prevailing norms, we assume they still find it too costly to express 'fake' ideology. Notice that the worker ignores his effect on the distribution of expressed political views. Atomistic behavior is plausible when the number of workers is large, so that any single worker has negligible effect on the political discourse at his firm. Lastly, we use a tie-breaking rule when the worker is indifferent between expressing his political views or refraining from doing so (that is, when $n_D = n_R$): the worker shares his political views. These simplifying assumptions are invoked mainly for tractability without affecting the qualitative results.

3.2 Equilibrium expression of political views

We examine next a sub-game perfect Nash equilibrium (SPNE) for the two-stage wage posting game. As is standard, we proceed by backward induction, starting from the second stage in the game in which workers choose whether to work and whether to share their political views, given the wage offer $w > 0$.

Figure 1 illustrates possible configurations. The wage w is assumed to lie in the range $w \in (\overline{u} + s \cdot L_R, \overline{u} + e \cdot L_R)$. The utility of a D-worker who expresses his views is shown by the curve u_D^e. A D-worker's utility when silent is shown by the curve u_D^s. Notice that both curves increase with the difference $n_D - n_R$, which captures the (net) level of favorable political expression at the firm experienced by a D-worker. This difference increases with the number of D-workers expressing their views, and declines with the number of R-workers expressing their views. By our assumptions, $n_D - n_R \in [-L_R, L_D]$. As shown in the figure, if $n_D = 0$ and $n_R = L_R$ then a D-worker would take the job if silent, but not otherwise. The figure also depicts the outcome with a D-worker taking the job and expressing his views if the firm employs all D-workers (and all express their views), whereas none of the R-workers (potentially hired by the firm) follow suit, namely $n_D - n_R = L_D$.

[3]Such behavior resembles that of donors, where making contributions more visible to neighbors increases contributions by members of the local majority party, and reduces contributions by members of the minority party (Perez-Truglia and Cruces 2017).



Utility of a D-worker as a function of political expression
u
u_D^e
u_D^s
W-s·L_R
s
$\bar{u}$
W-e·L_R
e
$-L_R$
L_D
$n_D - n_R$

Several cases of equilibrium must be considered, depending on the wage offered in the first stage of the game. The different cases are presented in Appendix 1.

In the first stage of the game the firm chooses the profit-maximizing wage, taking into account the optimal response of workers (with respect to job-taking and political expression).

3.3 Firm sets wage

Unlike the outcome in a competitive market in which free entry induces full rent dissipation and implies that the wage coincides with a worker's marginal product (q in our case) and all workers are hired, a monopsony faces an upward sloping supply curve of workers. Although workers are equally skilled, they differ in their political views. Wages are endogenously determined in equilibrium, reflecting the extent to which workers express their political views on the job. By assumption, the monopsony cannot discriminate between the workers, and so faces a trade-off between hiring a small homogeneous pool of workers for a low wage (with workers enjoying a friendly environment), and hiring a large heterogeneous pool of workers at a high wage (with the high wage compensating the minority type of workers for an unfriendly environment). The choice between the two options depends on the productivity, q. With higher productivity, the firm would prefer to hire more workers at a higher wage, and vice versa.

The analysis of the second stage (see Appendix 1 for details) shows that the firm can hire both types of workers only when it offers a wage, w, that is sufficiently high, satisfying $w \geq \overline{u} + sL_R$ (Cases I and II in Appendix 1). Notice however, that under Case II, $\overline{u} + sL_D > w \geq \overline{u} + sL_R$, there is an additional equilibrium, with only D-workers at the firm (under Case I, all configurations support employment of both types).

We need to consider then two cases.

Case A

Consider first a SPNE in which there exists a non-empty subset of wages in the interval $[\overline{u} + sL_R, \overline{u} + sL_D)$, for which the equilibrium in the second stage of the game has all types of workers employed. Denote the highest lower bound (infimum) of this subset by w_{min}. In such a case, if the firm hires both types of workers the wage $w = w_{min}$ maximizes profits. Offering any wage in the interval defined by Case I would enable the firm to hire both types of workers but would cost more. With the interval defined in Case II, w_{min} is by definition the lowest wage that would induce both types of workers to take the job.

If the firm instead hires only one type of worker, profit-maximization has the wage equal to $\overline{u} - eL_D$. By doing so the firm will hire D-workers at the smallest wage that induces any level of employment. As $L_D > L_R$, any other higher wage that would induce only one type of worker to accept the job would be less profitable (it would cost more and potentially attract fewer workers).

To conclude, under the scenario of Case A, the firm chooses between two wages:

(i) $w = w_{min}$, where $\overline{u} + sL_D > w_{min} \geq \overline{u} + sL_R$, and profits are $\Pi = (L_D + L_R)(q - w_{min})$;

(ii) $w = \overline{u} - eL_D$, and profits are $\Pi = L_D \cdot (q - \overline{u} + eL_D)$.

The profit-maximizing choice is defined by a cutoff rule. The threshold productivity, $\hat{q}$, is implicitly defined by the level of q for which the profits associated with (i) and (ii) are equal (the linearity would imply single crossing and ensure uniqueness of $\hat{q}$). Formally, $(L_D + L_R)(\hat{q} - w_{min}) = L_D \cdot (\hat{q} - \overline{u} + e \cdot L_D)$. The firm would set the wage according to the following rule:

$$w = \left\{ \begin{array}{cc} w_{min} & q \geq \hat{q} \\ \overline{u} - e \cdot L_D & q < \hat{q} \end{array} \right\}.$$

Case B

Consider an SPNE in which for all wages in the interval $[\overline{u}+s \cdot L_R, \overline{u}+s \cdot L_D)$ the equilibrium in the second stage of the game has only D-workers employed. In such a case, to hire both types the firm must offer a wage in the range defined by Case I, $w \geq \overline{u} + sL_D$. Clearly, maximizing profits requires the firm to offer the wage $w = \overline{u} + sL_D$.

By similar reasoning to that used in the analysis of Case A, if the firm hires only one type of worker it would post a wage $w = \overline{u} - e \cdot L_D$.

To conclude, under the scenario of Case B, the firm chooses between two wages:

(i) $w = \overline{u} + s \cdot L_D$, with profits $\Pi = (L_D + L_R) \cdot (q - \overline{u} - s \cdot L_D)$;

(ii) $w = \overline{u} - e \cdot L_D$, with profits $\Pi = L_D \cdot (q - \overline{u} + e \cdot L_D)$.

The profit-maximizing choice will be defined again by a cutoff rule, $\tilde{q}$, implicitly defined by the solution to $(L_D+L_R) \cdot (\tilde{q} - \overline{u} - s \cdot L_D) = L_D \cdot (\tilde{q} - \overline{u} + e \cdot L_D)$. The firm would set the wage according to the following rule:

$$w = \left\{ \begin{array}{cc} \overline{u} + s \cdot L_D & q \geq \tilde{q} \\ \overline{u} - e \cdot L_D & q < \tilde{q} \end{array} \right\}.$$

To summarize: the qualitative features of a typical SPNE suggest that a low-productivity firm will offer a low wage rate and hire only D-workers who form the majority.

Offering a low wage (below the workers' no-work utility) is feasible due to the amenity (non wage benefit derived by the workers) taking the form of a friendly environment reflected in a homogeneous pool of workers (comprised of D-workers only) who share identical political views and express those views at the workplace.

In contrast, a high-productivity firm will offer a high wage to attract a larger pool of heterogeneous workers (comprised of both D-workers and R-workers), differing in their political views.

The wage will exceed the no-work utility to compensate the minority (R) workers for the disamenity (unfriendly work environment), being exposed to unfavorable political views expressed by their majority (D) counterparts.

3.4 Coordinated expression of political views

We had assumed that each worker acts unilaterally, choosing whether to accept the job offer and whether to share political views with co-workers. However, social networks such as Facebook and LinkedIn facilitate the coordination of political activities at the firm. We capture this feature by extending the model to allow workers of each type to coordinate when choosing whether to express their political views; namely, the members of the group act as a unitary decision maker. That coordination may be formal, as by a labor union, or informal, as by peer pressure. Notice, however, that each individual worker still chooses independently whether to work at the firm. Here political diversity matters. Formally, fixing the labor force at L, where, $L \equiv L_D + L_R$ and $L_D > L_R > 0$, diversity is defined by: $L_D - L_R = 2L_D - L$, where $L/2 < L_D < L$.

High diversity, reflected in L_D close to L/2 has the population of potential workers nearly equally divided between R types and D types. In contrast, when L_D is sufficiently large, political diversity is low, as nearly all workers share the same political affiliation (being D types).

As by assumption D-workers form the majority, they will express their political views. The coordinated choice of the minority group (R-workers in our case) depends on the level of political diversity. To see this, consider behavior when the firm hires both D-workers and R-workers, and all D-workers express their political views. The minority group (consisting of R-workers, who act as a unitary decision maker, by assumption) has two options: remaining (politically) silent and getting utility $w - s \cdot L_D$, or expressing political views and getting utility $w - e \cdot (2L_D - L)$. Expressing political views maximizes utility if-and-only-if $L_D < e \cdot L/(2e - s)$. Taking the limit where $L_D \to L/2$ implies that $L_D < e \cdot L/(2e - s)$. Taking the other limit where $L_D \to L$ implies that $L_D > e \cdot L/(2e - s)$. Continuity and monotonicity hence imply the existence of a unique threshold, $L/2 < \hat{L_D} < L$, where $\hat{L_D} \equiv eL/(2e - s)$, such that the minority group expresses its political views if-and-only-if $L_D < \hat{L_D}$. In words, the minority group expresses its political views when political diversity is sufficiently high, and vice versa.

We can now examine the subgame perfect Nash equilibrium (SPNE) for the two-stage game presented in the previous section. We first consider outcomes when political diversity is low. Formally, $L_D > \hat{L_D}$. We start from the second stage of the game in which workers make their independent employment choices and coordinated political-expression choices, given $w > 0$, the wage posted by the firm. If both types of workers are hired by the firm then, we claim

Claim 1: Let political diversity be low, or $L_D > \hat{L_D}$. The firm employs both types of workers if-and-only-if $w \geq \overline{u} + s \cdot L_D$.

Proof: We first show that when the inequality condition holds, in equilibrium both types of workers are hired. Clearly, the wage exceeds the no-work utility, hence some workers are employed. We first verify that when both types are hired we obtain an equilibrium. By assumption diversity is low, so that only D-workers will express their political views. In an equilibrium in which both types are hired, $n_D = L_D$ and $n_R = 0$. A D-worker's utility is hence $u_D = w + e \cdot L_D$. An R-worker's utility is then $u_R = w - s \cdot L_D$. As $w \geq \overline{u} + s \cdot L_D$, it follows that the utility of each type weakly exceeds the no-work utility. Notably, R-workers are (weakly) compensated for the disamenity associated with the hostile political environment. Thus, both types work at the firm, consistent with the equilibrium assumption. Notice that no other equilibrium has only one type hired. The wage premium (above the no-work utility) suffices to compensate for the disamenity suffered by any type of worker (as $L_D > L_R$), so that both types necessarily accept the job, even under the most hostile scenario (in which none of the other workers belong to the same political group).

If the inequality condition fails to hold, then no equilibrium has both types hired. To see this, suppose by negation that both types are hired. By assumption diversity is low, so that only D-workers express their political views when both types are hired. So an R-worker's utility is $u_R = w - s \cdot L_D$. When $w < \overline{u} + s \cdot L_D$, it follows that $u_R < \overline{u}$,which yields the desired contradiction, as R-workers reject the job. QED

Based on claim 1 and our preceding analysis the firm will hire one type of worker for any wage $\overline{u} + s \cdot L_D > w \geq \overline{u} - e \cdot L_D$.

In the first stage of the game the firm will either set the wage at $w = \overline{u}+s\cdot L_D$ (the smallest wage that induces both types of workers to take the job) or set the wage at $w = \overline{u} - e \cdot L_D$ (the smallest wage that induces D-workers, who form the majority, to take the job). We skip the formal details which are provided in the preceding analysis. The profit-maximizing choice will replicate the cutoff rule formulated in Subsection 3.3, Case B.

When political diversity is high, things become more complicated, but the qualitative results are the same. We sketch the argument. With high diversity ($L_D < \hat{L_D}$) when the firm hires both types, both types of workers will express their political views. Such expression benefits the firm, as the political activity of a minority worker (the majority group will always be active) will mitigate the disamenity suffered by the workers belonging to the minority group, thereby enabling the firm to attract both types of workers at a lower wage. A necessary and sufficient condition to exist for an equilibrium in which both types of workers are hired is that $w \geq \overline{u} + e \cdot (2L_D - L)$.

Notice that the term $e\cdot(2L_D - L)$ measures the disamenity suffered by an R-worker when both types are hired and both types express their political views. Thus, when the above inequality holds, an equilibrium in which both types are hired exists (both types get utility weakly exceeding the no-work utility). However, additional equilibria, in which only one type is hired, can exist. To see this, recall that a necessary condition for an equilibrium in which only one type is hired is that R-workers are not compensated for the disamenity associated with the most hostile environment (one in which all other workers are D-types and express their political views). Formally, $w < \overline{u} + s \cdot L_D$. Otherwise, if this condition fails to hold, both types will always take the job. If diversity is high $e \cdot (2L_D - L) < s \cdot L_D$. Thus, $\overline{u} + e \cdot (2L_D - L) < \overline{u} + s \cdot L_D$, which implies that multiple equilibria exist for $\overline{u} + e \cdot (2L_D - L) < w < \overline{u} + s \cdot L_D$. Clearly, an equilibrium exists in which both types are hired (and express their political views). But there is also an equilibrium in which D-workers are hired (and express their political views) and R-workers reject the job. Following our analysis in Subsection 3.3, Case A, we can similarly define a non-empty subset of the interval $[\overline{u} + e \cdot (2L_D - L), \overline{u} + s \cdot L_D)$ for which the equilibrium in the second stage of the game has all types of workers employed; denote the highest lower bound (infimum) of this susbset by w_{DR}. Thus, the firm must choose between offering a high wage, w_{DR}, and hiring both types of workers, and offering $w_D = \overline{u} - e \cdot L_D$, hiring only D-workers. The profit-maximizing choice in the first stage of the game would be given by a cutoff rule identical to the one characterized in Subsection 3.3, Case A.

The comparative statics with respect to political diversity are not trivial. One may conjecture, as alluded to above, that the firm unambiguously gains from an increase in diversity (which results in a corresponding decrease in the workers' disamenity for which the firm must compensate). Notice, however, that given the optimal cutoff rule, when productivity is sufficiently low, profit maximization would have the firm offer a low wage ($w_D = \overline{u} - eL_D$) that will attract only D-workers and that will be lower than the no-work utility due to the amenity derived from the friendly political environment. An increase in diversity, reflected in a smaller L_D (maintaining L constant), would have two implications: (i) an increase in the wage the firm offers (to hire D-workers), due to the reduction in the amenity; (ii) a corresponding decrease in the wage needed to hire both types of workers [$w_{DR} = \overline{u} + e \cdot (2L_D - L)$], due to the reduced disamenity. The combination of the two implies reduced profits (as long as the optimal choice would still be to hire only D-workers) and a downward shift of the cutoff productivity level, above which hiring both types maximizes profits. Thus, eventually, when the increase in diversity would be sufficiently high, the firm will switch to offering a high wage that will attract both types of workers. Any additional increase in diversity would increase profits (in line with our initial conjecture). Thus the relationship between diversity and profits is not monotonic. When demand for labor is sufficiently large (the firm wants to hire a larger and more diverse pool of workers) increased diversity benefits the firm. When, in contrast, the demand for labor is low, increased diversity hurts the firm.

4 Separating workers

Previous sections considered a monopsonist that determines the profit-maximizing wage when workers derive utility (or suffer disutility) from sharing political views with co-workers. This section extends the tools available to the firm beyond the wage. We allow the firm to separate or segregate workers to mitigate (and potentially eliminate) the disamenity suffered by minority workers (in terms of political affiliation), which would otherwise necessitate offering the minority workers higher pay. We consider two such strategies: remote work, and geographical segregation.

Firms often require employees to come to the office. Interaction with other workers and with clients can increase productivity, because of network effects, cross fertilization, peer spillovers, enhanced customization, etc. (For surveys of evidence for this, see Gill and Goh (2010), Bolter and Robey (2020), and Rosenthal and Strange (2020).) However, the natural experiment of the Covid 19 pandemic, with its lockdowns, has highlighted the potential benefits of working remotely. Remote work may provide workers with flexibility and facilitates combining a demanding professional career with family obligations. We argue that remote work can have an additional benefit: reducing the disamenity associated with political expression at the workplace.

4.1 Remote work

We extend the model to allow for remote work. People working remotely are assumed to little interact with other workers, so that they do not enjoy or suffer from political expression by other remote workers. But workers at the office can enjoy or suffer from political expression by other workers at the office.

We continue to assume that workers with identical political orientation coordinate their (political) acts, and we assume that political diversity is low. Formally, assuming again, with no loss of generality, that D-workers are a majority of workers at the firm, the following condition holds: $L_D > \frac{e \cdot L}{(2e-s)}$, with $e > s > 0$.

When political diversity is low the firm can benefit from having D-workers at the office, and only R-workers work remotely. With low diversity at the office (i.e., R-workers form a small minority at the office), as shown in subsection 3.4, the minority R-workers choose to refrain from expressing their political views. This creates a large disamenity and necessitates a large increase in the wage at the office (which is uniform across employees at the office, as the firm, by assumption, cannot discriminate workers based on their political orientation). Segregation reduces the disamenity. With high diversity (the number of R-workers is close to the number of D-workers), as shown in subsection 3.4, the minority R-workers do express their views and the resulting disamenity is smaller.

Let R-workers differ in the extent of the disamenity suffered from exposure to opposing political views at the office by letting $s_R \sim U[0, s]$; the disamenity suffered by all D-workers is $s_D = s$. In case of indifference between working remotely and working in office, all D-workers would make an identical choice (thus ruling out mixed strategies). We further assume, plausibly, that workers are more productive at the office. Formally, we denote the productivity of a typical remote worker by $q > 0$; the productivity of a worker at the office by $q \cdot (1 + a)$, with $a > 0$.[4]

The firm faces a tradeoff. Having R-workers at the office increases productivity, but necessitates higher pay at the office (as we rule out the possibility of discriminating amongst workers based on their political disposition) so as to compensate the minority workers for the disamenity they suffer.

Simplify the exposition by assuming that the firm can only offer two options (with different wages): (i) a remote option (in which the employee works from

[4] We abstract from explicitly modeling the potential benefits from flexibility associated with working remotely (which may vary across workers, based on family status and other attributes) as our focus is on how remote work moderates the externalities associated with the political discourse at the firm.

home only); (ii) a traditional option requiring daily office attendance.[5] Our assumptions that productivity $q > \overline{u}$ and that the firm can have remote workers (thereby reducing the potential disamenity) imply that the firm profits from employing all workers. Thus, in contrast to the previous sections, the firm must decide only how to allocate the workers between the two modes of employment. By setting the wage, the firm may induce two types of allocations: (i) 'full segregation' (FS) in which all R-workers work remotely, whereas D-workers work in the office; (ii) 'partial segregation' (PS) in which some R-workers are at the office (along with all D-workers), and some R-workers work remotely. For expositional convenience partial segregation includes the scenario of no segregation, in which all workers (of both types) are at the office.

Under full segregation profits are

$$\Pi^{FS} = [q \cdot (1 + a) - w_{FI}] \cdot L_D + (q - w_{FR}) \cdot (L - L_D), \qquad (1)$$

where $w_{FI} = \overline{u} - e \cdot L_D$ is the wage of an in-office worker, and $w_{FR} = \overline{u}$ is the wage of a remote worker.

Note that by assumption remote workers do not express their political views (or no one hears them). The wage coincides with their no-work utility, which is the minimum necessary to induce them to accept the job (as optimally chosen by the profit-maximizing firm). In contrast, under full segregation in-office workers (who in equilibrium will be D-workers) will be paid strictly less than the no-work utility, due to the amenity derived.

The only equilibrium with such pay would have all D-workers work in-office, whereas all R-workers work remotely. To see this, note first that the induced allocation is stable. R-workers at the office would suffer a disamenity, and hence would be unwilling to work for a wage smaller than the no-work utility. D-workers are indifferent between the two tracks as they gain precisely their no-work utility. The wage offered to in-office workers would only be sustainable when all D-workers are hired (otherwise the amenity would be too small to induce workers to accept the job). Lastly, the trivial equilibrium in which no one is at the office is Pareto dominated by the fully segregated allocation and hence, as in the previous sections, is ruled out.[6]

Substituting for w_{FI} and w_{FR} into the expression in (1) yields after rearrangement profits under full segregation:

$$\Pi^{FS} = (q - \overline{u}) \cdot L + q \cdot a \cdot L_D + e \cdot L_D^2. \qquad (2)$$

Under full segregation, in-office workers contribute to profits (relative to remote workers) in two ways: (i) enhanced productivity (captured by the term

[5]One could allow for hybrid options which would combine remote- and in-office work. However this would complicate the analysis without affecting our qualitative results. Notice further that we maintain our assumption that the firm cannot discriminate amongst workers within each category of employment (remote, in-office).

[6]In principle, the firm could have a fully segregated allocation in which R-workers work in office. But it is clearly suboptimal.

$q \cdot a \cdot L_D$) and (ii) reduced wage (captured by the term $e \cdot L_D^2$) arising from the amenity enjoyed by D-workers in office, which lets the firm pay a reduced wage to in-office employees who share political preferences.

Turning next to the partial segregation configuration, the firm solves the following constrained maximization program:

$$\Pi^{PS} = max_{l,w_{PR},w_{PI},\hat{s}}[q \cdot (1+a) - w_{PI}] \cdot (L_D + l) + (q - w_{PR}) \cdot (L - L_D - l) \quad (3)$$

subject to:
(i) $w_{PR} = \overline{u}$
(ii) $l = \frac{\hat{s}}{s} \cdot (L - L_D)$
(iii) $w_{PI} - \hat{s} \cdot L_D = w_{PR}$,
where $0 < l \leq L - L_D$ denotes the number of R-workers working in office, w_{PI} is the wage of an in-office worker, w_{PR} is the wage of a remote worker and $0 < \hat{s} \leq s$ is the disamenity of an R-worker who is just indifferent between working in office or remotely.

By virtue of our previous assumption (D-workers are confined to pure strategies) the wages induce partial segregation with all D-workers and some R-workers at the office and not the other way around. R-workers who work remotely earn a wage coinciding with their no-work utility. The wage of an in-office workers strictly exceeds the no-work utility, compensating the R-workers who work in office for the disamenity suffered. In equilibrium a cutoff degree of disamenity, $\hat{s}$, exists such that R-workers who suffer from a smaller disamenity work in-office, whereas, R-workers suffering from a disamenity exceeding the cutoff work remotely.

Substituting for w_{PR}, w_{PI} and $\hat{s}$ into the objective function in (3) yields upon re-arrangement the simplified (unconstrained) objective function

$$\Pi^{PS} = max_l \left\{ (q - \overline{u}) \cdot L + q \cdot a \cdot (L_D + l) - \frac{s \cdot l \cdot L_D}{(L - L_D)} \cdot (L_D + l) \right\}. \quad (4)$$

Under partial segregation, in-office workers (now comprised of both D-workers and R-workers) benefit the firm (relative to remote workers) through enhanced productivity (captured by the term $q \cdot a \cdot (L_D + l)$). However, to induce an R-worker to shift from remote to in-office work, the firm must increase the wage (for an in-office worker) above his no-work utility, compensating the R-workers for the disamenity suffered [the cost is captured by the term $\frac{s \cdot l \cdot L_D}{(L-L_D)} \cdot (L_D + l)$].The firm's costs increase with the number (l) of R-workers working in office. In the profit-maximizing solution in (4) the firm trades-off inducing additional R-workers to shift from remote to in-office work and offering a pay increase for all in-office employees.

Differentiating the expression in (4) with respect to l and equating to zero yields the following first-order condition (the second-order condition can be readily verified):

$$q \cdot a - \frac{s \cdot L_D}{(L - L_D)} \cdot (L_D + 2l) = 0, \quad (5)$$

where strict inequalities hold for corner solutions ($\frac{\partial \pi^{ps}}{\partial l} < 0$ for $l = 0$ in which full segregation is optimal; and; $\frac{\partial \pi^{ps}}{\partial l} > 0$ for $l = L - L_D$ in which no segregation is optimal).

Re-arranging the expression in (5) yields

$$l^*(a) = 1/2 \cdot \left[\frac{(L - L_D) \cdot q \cdot a}{s \cdot L_D} - L_D \right], \tag{6}$$

with corner solutions given by $l^* = 0$ (for a sufficiently small) and $l^* = L - L_D$ (for a sufficiently large).

When an interior solution exists it follows that $\frac{\partial l^*}{\partial L_D} < 0$. Thus, the greater the number of (majority) D-workers the larger is the marginal cost of inducing an additional R-worker to shift from remote to in-office work (due to the larger disamenity) and hence the lower is the profit-maximizing number of R-workers who work in office.

We turn to compare full segregation to partial segregation.

Let $\Delta(a) \equiv \Pi^{PS}(a) - \Pi^{FS}(a)$. Substituting the corner solutions for $a = 0$ and $a >> 0$ into the expression in (2) and (4) yields

$\Delta(0) = -e \cdot L_D^2 < 0$ and $\Delta(a) = q \cdot a \cdot (L - L_D) - e \cdot L_D^2 - s \cdot L \cdot L_D > 0$ for $a >> 0$.

Employing the envelope condition (which holds trivially for corner solutions as well) yields

$$\frac{d\Delta(a)}{da} = q \cdot l^*(a) \geq 0, \tag{7}$$

with strict inequality when $l^*(a) > 0$. Thus, by virtue of continuity, a unique value of a, $\hat{a} > 0$, exists such that for all $a > \hat{a}$ the profit-maximizing solution has partial segregation ($l > 0$), whereas for all $a < \hat{a}$ the profit-maximizing solution has full segregation ($l = 0$).

Thus, when the productivity gains associated with switching a worker from remote to in-office work are sufficiently large, full segregation becomes suboptimal. Moreover, the larger such productivity gains are the larger is the optimal fraction of R-workers assigned to in-office mode (as follows by straightforward differentiation of the RHS expression in (6) with respect to a) under the optimal partial segregation configuration.

Let $\hat{a}(L_D)$ denote the implicit solution to $\Delta(a, L_D) = 0$. From the implicit value theorem it follows that

$$\frac{\partial \hat{a}}{\partial L_D} = -\frac{\partial \Delta / \partial L_D}{\partial \Delta / \partial \hat{a}} \mid_{\Delta=0} . \tag{8}$$

As by construction, $l^*(\hat{a}) > 0$, it follows that $\frac{d\Delta(a, L_D)}{da} \mid_{\Delta=0} > 0$. Employing the envelope condition, it follows that

$$\frac{d\Delta(a, L_D)}{dL_D} \mid_{\Delta=0} = -s \cdot l^*(\hat{a}) \cdot \frac{[2L_D + l^*(\hat{a})] \cdot (L - L_D) + L_D \cdot [L_D + l^*(\hat{a})]}{(L - L_D)^2} - 2 \cdot e \cdot L_D < 0. \tag{9}$$

It follows that $\frac{\partial \hat{a}}{\partial L_D} > 0$.

Thus, shifting to partial segregation becomes less attractive as the number of (majority) D-workers increases. The rationale derives from the comparative advantage of full segregation which becomes more manifest as L_D increases: both the amenity of segregated in-office D-workers (under full segregation) increases (resulting in a pay reduction) and the disamenity of non-segregated in-office R-workers (under partial segregation) increases (resulting in a pay rise).

An alternative compartmentalization strategy (which bears some resemblance to segregation via remote work) is geographical segregation, explored next.

4.2 Spatial segregation

Suppose the firm can segregate workers by settig wages that induce them to choose different locations. In particular, let a firm operate in two locations (main office and a second office, hereinafter denoted respectively by $k = 1, 2$). In contrast to the model of remote work, under geographical segregation workers at each location can enjoy and suffer from political expression by co-workers at that location.

We maintain our assumptions from the previous section that workers with identical political views coordinate their (political) acts, and that political diversity is low. Formally, assuming again, with no loss of generality, that D-workers are the majority at the firm, the following condition holds: $L_D > \frac{e \cdot L}{(2e-s)}$, with $e > s > 0$. [7]

Let R-workers differ in the extent of the disamenity suffered from exposure to opposing political views at the workplace. Formally, let $s_R \sim U[0, s]$ and let the disamenity suffered by each D-worker be $s_D = s$. We further assume, as in the previous subsection, that D-workers who are indifferent between the locations make an identical choice, hence are confined to pure strategies.

The productivity of a typical worker at location k, $k = 1, 2$ is

$$q_k = q + a \cdot x_k, \tag{10}$$

where $a > 0$ and $x_k \geq 0$ denotes the number of workers at location k. The parameter a measures the gains from network spillovers at the workplace. When choosing whether to open a second office the firm faces a tradeoff: operating a single location maximizes economies of scale, but it would necessitate offering higher pay to the minority R-workers to compensate them for the disamenity suffered.

As in the case with remote versus in-office allocation, analyzed in the previous section, the firm, by setting wages can induce two types of allocations: (i) 'full segregation' (FS) in which D-workers and R-workers work at separate locations; (ii) 'partial segregation' (PS) in which a fraction of the R-workers work in the main office ($k = 1$) along with the entire pool of D-workers; the

[7] We further assume, for technical reasons, that $e < 2s$.

remainder work at the second office ($k = 2$).[8] Partial segregation accommodates the possibility of a corner solution in which the firm operates in a single location (at which all workers work). We simplify by assuming that the costs entailed by the firm in setting up facilities in both locations are sunk, so that the firm would always prefer to assign all workers. The only problem, hence, is about the allocation of workers between the two locations. The profit-maximizing solution would be given by the profit-maximizing configuration of the two possibilities.

Under full segregation profits are

$$\Pi^{FS} = [q + a \cdot L_D - w_1] \cdot L_D + [q + a \cdot (L - L_D) - w_2] \cdot (L - L_D), \qquad (11)$$

where $w_1 = \overline{u} - e \cdot L_D$ is the wage at location 1, and $w_2 = \overline{u} - e \cdot (L - L_D)$ is the wage at location 2.

Under full segregation, all D-workers are at the main office ($k = 1$), whereas, R-workers are at the second office ($k = 2$). The wage at each location is strictly lower than the no-work utility (but one which just guarantees the no-work utility—which would maximize the profits of a monopsonist).

The only equilibrium under the above wages would have all D-workers opt for $k = 1$, whereas all R-workers opt for $k = 2$. To see this, notice first that the induced allocation is stable. R-workers joining the main office (and, likewise, D-workers joining the second office) would suffer a disamenity, and hence will not be willing to work for a wage lower than the no-work utility. Further, notice that pay offered in both locations will only be sustainable when the entire pool of workers (D and R, correspondingly, in locations $k = 1, 2$) is hired. Otherwise, the amenity would be too small to induce workers to accept the job. Lastly, notice that equilibria in which D-workers, R-workers, or both types of workers choose not to work are Pareto dominated by the fully segregated allocation specified in (11) and hence, as in previous sections, are ruled out.

Substituting for w_1 and w_2 into the expression in (11) yields upon rearrangement

$$\Pi^{FS} = (q - \overline{u}) \cdot L + (a + e) \cdot L_D^2 + (a + e) \cdot (L - L_D)^2. \qquad (12)$$

Under full segregation, profits increase with the number of (majority) D-workers (recalling that $L_D > L - L_D$), due both to the productivity gains associated with the economies of scale and the enhanced (overall) amenity associated with working with colleagues sharing identical political views (which are both location specific).[9] Ideally, the firm would prefer, as observed earlier, a homogeneous pool of workers at a single location. Faced with a heterogeneous pool of workers the firm may induce some segregation (full or partial).

Turning next to partial segregation, the firm's constrained maximization program is given by

$$\Pi^{PS} = max_{l,w_1,w_2,\hat{s}}[q+a\cdot(L_D+l)-w_1]\cdot(L_D+l)+[q+a\cdot(L-L_D-l)-w_2]\cdot(L-L_D-l) \qquad (13)$$

[8]We focus on equilibria in pure strategies and hence rule out the possibility of splitting the (homogeneous) D-workers between both locations, by making them indifferent between the two options.

[9]See our discussion below.

subject to
(i) $w_2 + e \cdot (L - L_D - l) = \overline{u}$
(ii) $l = \frac{\hat{s}}{s} \cdot (L - L_D)$
(iii) $w_1 - \hat{s} \cdot L_D = w_2 + e \cdot (L - L_D - l)$,
where $0 < l \leq L - L_D$ denotes the number of R-workers working in location $k = 1$, w_1 and w_2 denote the wages in locations $k = 1, 2$, and $0 < \hat{s} \leq s$ denotes the disamenity of an R-worker who is just indifferent between working at either one of the locations.

Several comments are in order. The wages induce partial segregation in which all D-workers and some R-workers are at location 1. R-workers at location 2 are offered a lower wage than the no-work utility, due to the amenity derived by working with colleagues sharing identical political views. Workers at location 1 (assuming firms cannot discriminate between workers at a given location) are paid strictly more than the no-work utility: the firm must compensate the R-workers at location 1 for the disamenity they suffer. In equilibrium, there exists a cutoff level of disamenity, $\hat{s}$, such that R-workers who suffer from a smaller disamenity choose to work in location 1, whereas, R-workers suffering from a disamenity exceeding the cutoff choose to work in location 2. Partial segregation given by conditions (13) (i)-(iii) is incentive compatible. D-workers strictly prefer location 1 over location 2, whereas the cutoff level of disamenity separates between R-workers who prefer either one of the two possible locations.

Confining attention to equilibria in pure strategies which induce full employment, one can verify that under the wages specified in (13) an equilibrium has to be either one of the two following allocations (see Appendix 2 for the formal argument). One allocation generates full segregation (FS), with all D-workers at location 1 and all R-workers at location 2. The other allocation generates no segregation (NS), namely all workers are at the same location (location 1, with no loss of generality).

Under full segregation, the wages specified in (13) are sub-optimal, as the firm need not pay a wage premium to workers in location 1 (pay them above their no-work utility) because no workers in this location suffer from disamenity. With full segregation the profit-maximizing wages would be to offer in each location a wage below the no-work utility that fully internalizes the local amenity. Profits for an FS configuration would hence be given by the condition in (12).

Under the NS configuration profits are given by the condition in (13) substituting for $l = L - L_D$.

We turn next to characterize the profit maximizing solution of the firm by comparing the full segregation and no segregation configurations.

Re-formulating the payoff functions associated with the two candidates for the profit-maximizing solution yields

$$\Pi^{FS} = (q - \overline{u}) \cdot L + (a + e) \cdot [L_D^2 + (L - L_D)^2] \tag{14}$$

$$\Pi^{NS} \equiv \pi^{PS}_{l=L-L_D} = (q - \overline{u}) \cdot L + a \cdot L^2 - s \cdot L \cdot L_D \tag{15}$$

Let

$$\Delta\Pi(a) \equiv \pi^{NS}(a) - \pi^{FS}(a) = a\cdot[2L_D\cdot(L-L_D)] - \left\{s\cdot L\cdot L_D + e\cdot[L_D^2 + (L-L_D)^2]\right\} \tag{16}$$

We can verify that $\Delta\Pi(0) < 0$,$\Delta\Pi(a) > 0$ for $a >> 0$ and that $\frac{\partial\Delta\Pi(a)}{\partial a} > 0$. Thus, by virtue of continuity, there exists a unique value of a, $\hat{a} > 0$, satisfying $\Delta\pi(\hat{a}) = 0$, such that for all $a > \hat{a}$ profit maximization has no segregation; for all $a < \hat{a}$ profit maximizaion has full segregation. In words, a single location maximizes profits when the economies of scale, captured by the term $a\cdot[2L_D\cdot(L-L_D)]$, due to the concentration of production in one location, outweigh the benefits from segregation, captured by the term, $\left\{s\cdot L\cdot L_D + e\cdot[L_D^2 + (L-L_D)^2]\right\}$, which reflect the gains from wage reduction associated with the location-specific amenities, and the gains from avoiding a wage premium to (minority) R-workers, compensating them for the disamenity suffered.

Fully differentiating the condition $\Delta\pi(\hat{a}) = 0$ with respect to L_D yields $\frac{\partial\hat{a}}{\partial L_D} > 0$. Thus, as with remote versus in-office allocation, a single location (namely no segregation in our case) becomes less attractive as the number of (majority) D-workers increases. The rationale derives from the comparative advantage of full segregation which becomes more manifest as $L_D$increases: both the (overall) amenity amongst segregated D-workers (under the FS configuration) increases (resulting in a pay reduction),[10] and the disamenity amongst non-segregated R-workers (under the PS configuration) increases (resulting in a pay increase).

4.3 Muting political discourse

An employer can also limit exposure to political expression by restricting political discourse at the workplace. Our discussion of remote work effectively generated muting for remote workers. Here we consider muting of all workers. That approach can become attractive when firms restrict work from home, perhaps to benefit from agglomeration economies. The Hatch Act in the United States, which prohibits on-duty political activity, can restrict speech of federal employees at work.[11] In 2024, ahead of the U.S. presidential election, Google warned employees to keep political opinions and statements away from its internal discussion forum Memegen.[12] In 2019 Google barred employees from making statements that "insult, demean, or humiliate other employees, and discouraged employees from engaging in a raging debate over politics or the latest news story."[13] A firm may sanction employees who engage in political discourse on

[10]Notice that the amenity amongst D-workers increases in response to an increase in L_D,whereas the corresponding amenity amongst R-workers decreases. However, as D-workers form the majority, the overall effect is an increase in the magnitude of the amenity, and hence a decrease in the total level of compensation under the FS configuration.

[11]https://osc.gov/Documents/Hatch\%20Act/Advisory\%20Opinions/Federal/Hatch\%20Act\%20Advice\%20on\%20Workplace\%20Discussions.pdf

[12]https://www.cnbc.com/2024/11/05/google-curbs-politics-discussion-among-employees-on-us-election-day.html

[13]https://www.cnbc.com/2019/08/23/google-bans-political-discussion-on-internal-mailing-lists.html

the job. That resembles policies used to enforce pay secrecy (see the literature review in Blumkin et al. (2023)).

Muting political expression may be challenging and costly to enforce. It may also affect the organizational culture of the firm, limiting the free exchange of ideas, the workers' sense of collegiality and esprit de corps, and the cross fertilization amongst the employees. Such strict policy may hurt hiring, if workers value free expression beyond the political context. Ultimately, muting can hurt the firm; it does, however, reduce the disamenity suffered by minority workers. To set focus on the latter effect we henceforth assume that the direct cost of muting is zero.

4.4 Universal muting versus remote work

We start by comparing universal muting at the firm to separation of workers with different political views by having (some or all) of the minority employees work remotely. Recall that remote workers are effectively muted, but that under remote work people at the office are not muted. In contrast, universal muting mutes all workers.

Under universal muting alll workers come to the office and the wage coincides with the non-work utility, $\overline{u}$. Profits are

$$\Pi^{MU}(a) = (q \cdot (1+a) - \overline{u}) \cdot L. \tag{17}$$

By virtue of our earlier derivations (see subsection 4.1), profits under partial segregation (PS) with remote work are

$$\Pi^{PS}(a) = \left\{ (q - \overline{u}) \cdot L + q \cdot a \cdot (L_D + l^*(a)) - \frac{s \cdot l^*(a) \cdot L_D}{(L - L_D)} \cdot (L_D + l^*(a)) \right\}, \tag{18}$$

where $l^*(a)$ denotes the number of minority workers (in the optimal solution) working in the office. Profits are expressed as a function of a, which measures the productivity spillover from working in office (relative to working remotely).

By our earlier derivations it follows that $l^*(0) = 0$, $l^*(a) = L - L_D$ for $a >> 0$ and $\frac{\partial l^*(a)}{\partial a} > 0$, where the sign of the derivative follows from (6).

Substituting $a = 0$ in expressions (17) and (18) and using the fact that $l^*(0) = 0$ implies that

$$\Pi^{MU}(0) = \Pi^{PS}(0). \tag{19}$$

By applying the envelope condition, noting that $l^*(a)$ denotes the profit-maximizing assignment of minority workers to the office, it follows that $\frac{\partial \Pi^{PS}(a)}{\partial a}|_{a=0} = q \cdot L_D < q \cdot L = \frac{\partial \Pi^{MU}(a)}{\partial a}|_{a=0}$. Moreover, $\frac{\partial \Pi^{PS}(a)}{\partial a} = q \cdot (L_D + l^*(a))$ increases with a, as $\frac{\partial l^*(a)}{\partial a} > 0$, and $\frac{\partial \Pi^{PS}(a)}{\partial a} = q \cdot L$ for $a >> 0$. Because $\frac{\partial \Pi^{MU}(a)}{\partial a} = q \cdot L$ for all a

$$\frac{\partial \Pi^{MU}(a)}{\partial a} \geq \frac{\partial \Pi^{PS}(a)}{\partial a}. \tag{20}$$

(A strict inequality holds for sufficiently small values of a.) Combining (19) and (20) shows that, for all positive a, $\Pi^{MU}(a) > \Pi^{PS}(a)$. In words—partial segregation (PS) yields lower profits than does muting (MU).

Under partial segregation, the disamenity requires that the wage of workers at the office strictly exceeds the non-work utility (which is offered to all workers under muting). In addition, productivity of remote workers is smaller than of in-office workers. (Under muting all workers are at the office, generating higher productivity.) Thus, compared to partial segregation, muting increases output and lowers labor costs.

As partial segregation (PS) turns out to be suboptimal, to determine the optimal (profit-maximizing) choice of the firm we next compare profits under muting to profits under full segregation (where all majority workers work in office, whereas all minority workers work remotely).

Profits under full segregation are

$$\Pi^{FS}(a) = (q - \overline{u}) \cdot L + q \cdot a \cdot L_D + e \cdot L_D^2. \tag{21}$$

We can verify that $\frac{\partial \Pi^{FS}(a)}{\partial a} = q \cdot L_D < q \cdot L = \frac{\partial \Pi^{MU}(a)}{\partial a}$, $\Pi^{FS}(0) = (q - \overline{u}) \cdot L + e \cdot L_D^2 > (q - \overline{u}) \cdot L = \Pi^{MU}(0)$ and $\Pi^{MU}(a) > \Pi^{FS}(a)$ for $a >> 0$.

Profits in both configurations are linear in a. When a is small, profits under full segregation are higher than profits under muting. The opposite holds when a is sufficiently large. The linearity implies that the curves depicting profits as a function of a intersect once. Denoting the intersection point by $\hat{a} > 0$, satisfying $\Pi^{MU}(\hat{a}) = \Pi^{FS}(\hat{a})$, it follows that for $a > \hat{a}$ muting (MU) dominates full-segregation (FS) and vice versa for $a < \hat{a}$. The intuition arises from a tradeoff. Muting reduces the cost to the firm of having all workers at the same location. But muting does not allow workers to enjoy the amenity of expressing political views in a location with only one type of worker.

When the increased productivity from centralizing workers is moderate the firm prefers full segregation: it can pay a lower wage. In contrast, when the increased productivity from centralizing workers is large, the firm wants all workers at the same location, but prohibits political expression.

4.5 Muting versus geographic segregation

We turn next to compare profits under muting (with all workers at one location) to profits under geographic segregation (where workers can express political views). Based on our analysis in subsection 4.2, we only need to consider two configurations of geographic segregation: no segregation (NS) and full segregation (FS).

We first show that muting generates higher profits than having all workers at one location (no segregation, indicated by NS). Following our analysis in subsection 4.2 profits with no muting under no-segregation are

$$\Pi^{NS}(a) = (q - \overline{u}) \cdot L + a \cdot L^2 - s \cdot L \cdot L_D. \tag{22}$$

Profits under muting are

$$\Pi^{MU}(a) = (q - \overline{u}) \cdot L + a \cdot L^2. \tag{23}$$

Comparing expressions (22) and (23) shows that for all a, $\Pi^{MU}(a) > \Pi^{NS}(a)$.

The intuition is straightforward. In both configurations all workers are concentrated in a single location, so that the output is identical. The only difference between the two configurations is reflected in the costs of labor. Due to the large disamenity under the no-segregation configuration, the costs of labor are higher under no-segregation than under muting, in which the wage coincides with the non-work utility.

As no segregation (NS) turns out to be suboptimal, to determine the firm's profit-maximizing choice we compare profits under muting, with all workers at one location, to profits under full segregation, where majority- and minority-workers are assigned to different locations, but all workers are allowed to express their political views.

Under full segregation with two locations and no muting profits are

$$\Pi^{FS}(a) = (q - \overline{u}) \cdot L + (a + e) \cdot [L_D^2 + (L - L_D)^2]. \tag{24}$$

We can verify that $\frac{\partial \Pi^{FS}(a)}{\partial a} = [L_D^2 + (L - L_D)^2] < L^2 = \frac{\partial \Pi^{MU}(a)}{\partial a}$. Furthermore, $\Pi^{FS}(0) > \Pi^{MU}(0)$ and $\Pi^{MU}(a) > \Pi^{FS}(a)$ for $a >> 0$.

Applying similar arguments to those used in comparing remote to in-office work, shows that there exists a unique intersection point of the two (linear) curves representing the profits as a function of a, $\hat{a} > 0$, satisfying $\Pi^{MU}(\hat{a}) = \Pi^{FS}(\hat{a})$. For $a > \hat{a}$ muting (MU) dominates full-segregation (FS) and vice versa for $a < \hat{a}$. The intuition hinges on a similar trade-off as in the remote/in-office setup. Muting allows the firm to benefit from having all workers at the same location. Full segregation reduces the firm's labor costs because it allows majority and minority workers, each in a separate location, to enjoy the amenity of political expression.

When the economies of scale are moderate the firm prefers segregating workers with different political views, thereby reducing labor costs. When the economies of scale are sufficiently large, muting of political discourse lets the firm concentrate all workers at the same location without inducing a disamenity.

Summarizing, when muting can be enforced costlessly, a firm would use a bang-bang policy: either maximal segregation (to minimize labor costs) or maximal concentration (to maximize output). With costly muting, partial (and possibly no) segregation may become a second best compromise between the two extreme configurations.

4.6 Muting under various levels of diversity

The analysis above fixed the level of diversity while varying the spillover/scale effect associated with concentration of workers, comparing outcomes under muting and segregation. An alternative is to compare the two regimes varying the level of diversity while fixing the level of the spillover/scale effect. We shall analyze in-office work (with no muting) coupled with remote work, to only in-office work (with muting). We need not consider partial segregation, as it is always less profitable than muting (see subsection 4.4 above). We shall also comment briefly on geographical segregation (see footnote 14 below).

Recall that diversity is measured by L_D, the number of majority workers, where $1/2L < \frac{e \cdot L}{(2e-s)} < L_D < L$. As L_D increases diversity decreases (i.e., the pool of workers becomes more homogeneous).

As partial segregation turns out to be suboptimal we will focus on the case with full segregation in which all minority employees work remotely.[14]

Profits under muting are

$$\Pi^{MU} = `(q \cdot (1+a) - \overline{u}) \cdot L \tag{25}$$

Notice that by definition, profits under muting are invariant to the level of diversity because political expression is suppressed.

Profits under full segregation with two locations (in-office and remote) and no muting are given by:

$$\Pi^{FS}(L_D) = (q - \overline{u}) \cdot L + q \cdot a \cdot L_D + e \cdot L_D^2. \tag{26}$$

Notice that under full segregation, profits depend on the level of diversity measured by L_D.

We can verify that $\frac{\partial \Pi^{FS}(L_D)}{\partial L_D} > 0$. Moreover, $\Pi^{FS}(L_D) \to (q \cdot (1+a) - \overline{u}) \cdot L + e \cdot L^2 > \Pi^{MU}$, as $L_D \to L$.

Lastly, $\Pi^{MU} - \Pi^{FS}(L_D) \to q \cdot a \cdot L \cdot \left[1 - \frac{e}{(2e-s)}\right] - \frac{e^3}{(2e-s)^2} \cdot L^2$, as $L_D \to \frac{e \cdot L}{(2e-s)}$. The sign of the latter expression is in general ambiguous. But because $e > s$, for values of L sufficiently small $\Pi^{MU} > lim_{L_D \to \frac{e \cdot L}{(2e-s)}} \Pi^{FS}(L_D)$.

Combining all the properties derived above we conclude that there exists a threshold $L_D^* \geq \frac{e \cdot L}{(2e-s)}$, such that $\Pi^{FS}(L_D) > \Pi^{MU}$ if and only if $L_D > L_D^*$.

When $\Pi^{MU} > lim_{L_D \to \frac{e \cdot L}{(2e-s)}} \Pi^{FS}(L_D)$, it follows that $L_D^* > \frac{e \cdot L}{(2e-s)}$.

Thus, segregation maximizes profits when diversity is low (L_D is large) as it enables reaping the bulk of the productivity spillover gains from concentration (only a few minority workers are assigned to work remotely) and at the same time benefit from a wage reduction by virtue of the amenity shared by majority workers in the office.

As diversity increases (L_D decreases) more employees (minority workers) work remotely. Consequently, both the productivity spillover gains and the amenity derived by majority workers in the office decrease.

The resulting reduction in ouput, and the corresponding increase in labor costs, make segregation less profitable, and turn muting the preferred choice for sufficiently high values of diversity (for $\frac{e \cdot L}{(2e-s)} < L_D < L_D^*$). In case $L_D^* =$

[14]Similar patterns arise when analyzing the case with geographical segregation, assuming that the scale effect is stronger than the amenity associated with political expression ($a > e$). The analysis is hence skipped for brevity.

$\frac{e \cdot L}{(2e-s)}$ muting is suboptimal for all possible levels of diversity. Segregation then becomes the most profitable option for all levels of diversity.

5 Concluding Remarks

Several insights emerge from the analysis. Unlike pay under perfect competition, with pay invariant to political views within the pool of workers, as every worker is paid his marginal product, under monopsonist pay depends on the distribution of political preferences within the pool of workers. In particular, as we demonstrate in the baseline setup, a sufficiently productive monopsonist (reflecting a high demand for labor) would set the wage above the no-work utility, compensating minority workers for the unfriendly political environment. By doing so, the monopsonist makes those workers who form the majority in the open political discourse at the firm strictly better off. In contrast, a monopsonist with sufficiently low productivity (reflecting a low demand for labor) would employ fewer workers, who have identical political views, and offer them a lower wage, taking advantage of the amenity derived by the workers from the friendly environment at the firm (due to the open discussion of political views among the employees).

Moreover, when considering workers with identical political views who coordinate on expressing their political views at the firm (via professional social networks, labor unions or through other coordination mechanisms), the firm may profit from high political diversity, as it mitigates the disamenity suffered by minority group workers from the unfriendly political environment. Indeed, the firm may gain from facilitating coordination among the minority workers. This constitutes a second-best strategy for the firm, in case it is infeasible or prohibitively costly to forbid political discourse at the firm. Supporting free speech of minority workers, often warranted on lofty moral grounds, may hence be aimed at maximizing profits.

Our analysis also demonstrates that the firm may benefit from segregating workers. We explore two channels of segregation: (i) remote versus in-office work; and, (ii) geographical segregation. We first examine a setup where muting political expression at the workplace is infeasible (or prohibitively costly). We demonstrate that when production spillovers associated with in-office work (relative to remote work) are not substantial, full segregation of workers based on their political orientation may be profitable: a monopsonistic firm can derive rents from mitigating disamenities associated with workplace interaction amongst workers differing in their political views. Partial segregation would maximize profits under the opposite conditions. Ideally the firm would prefer a homogeneous pool of employees (recalling the celebrated segregation theorem in club theory), but this is often difficult or infeasible to attain. A (second-best) alternative would then be to reduce the intensity of interaction among workers who differ in their political views. Such compartmentalization can be realized by inducing a homogeneous subgroup of workers to shift to remote work or to shift to a separate office (geographical segregation).[15] Segregation between office workers and remote workers attains the best of two worlds—mitigating the disamenities suffered by minority workers and at the same time enabling majority workers to derive amenities from office interaction with co-workers with similar views. With geographical full segregation, both majority workers and minority workers would derive amenities from the office interaction with co-workers sharing similar political views.

As an alternative to segregation, the firm may mute or suppress political discourse at the workplace. In case open discussion of political views is forbidden and enforced, the wage for all workers would coincide with their common no-work utility, for any distribution of political views within the available pool of workers. Muting political discourse can serve to reap the maximal benefits from the concentration of the entire pool of workers (in office or in the same location), reflected in production spillovers from in-office work (relative to working remotely) and economies of scale. Muting, however, would not allow the firm to benefit from the amenities workers get from sharing similar political views. We show that when muting is feasible and costless to enforce, partial segregation would always be suboptimal. To maximize profits, the firm would either induce full segregation (when in-office productivity gains or economies of scale are moderate), or would mute political expression (when such productivity spillovers are large).[16] We also examine how variation in the level of diversity would affect the choice between segregation and costless muting. Segregation would be preferred to muting with low levels of diversity. The resulting small loss in the productivity spillover gains when switching from muting to full segregation, induced by a shift of only a few (minority) workers from the office to working remotely, is more than outweighed by the labor cost reduction due the amenity experienced by majority workers in the office.

Lastly, our approach may also illuminate some novel effects of affirmative action policy. We usually think that affirmative action aims to help the minority. It may instead benefit the majority. To see this, assume that minority- and majority-workers differ in their political views and consider an initial situation with no minority workers hired by the firm. Now suppose that the firm is required to hire some minority workers. If these minority workers dislike hearing the political views of the majority, then the firm can attract these minority workers only by increasing their wage. However, if the firm must pay all workers the same wage, due to anti-discrimination legislation, it also increases the wage

[15] Another way to segregate workers at the firm level would be to assign them into homogeneous teams (in terms of their political orientation). Workers may then care presumably more about political expression within the team than at the firm level. This interesting channel is not explored in the current paper. For a related paper that concerns ranking externalities in teams and the role of pay secrecy clauses in mitigating them, see Blumkin et al. (2023). Secrecy clauses may also serve to mute political expression at the firm as an alternative to segregation. We explore this in subsection 4.3.

[16] A firm might still choose to mute political discourse at the firm, even when segregation would be the preferred choice, to avoid 'coloring' itself in red or blue and maintain ambiguity vis-a-vis potential investors and customers, after all, "Republicans buy sneakers too" (Michael Jordan's famous quote during the 1990 US Senate race in North Carolina).

of the majority workers. The minority workers still obtain their no-work utility, but if the majority workers suffer little from the expression of minority political views, the utility of the majority workers increases.Notably, affirmative action can play an hitherto unnoticed anti-trust role, by serving to reduce the monopsony rents via inducing the firm to diversify its pool of workers. To realize this goal, the firm would need to offer a higher wage, compensating minority workers for the disamenity associated with the political discourse at the firm. Diversifying the pool of workers hired by the firm would mitigate the monopsonistic power.

6 Appendix 1: Worker behavior

We examine worker behavior under the different possible cases depending on the wage offer made by the firm.

Case I: $w \geq \overline{u} + s \cdot L_D$

As by assumption here the wage exceeds the no-work utility, in any equilibrium some workers are employed by the firm. Consider first an equilibrium where both types D and R are at the firm. Notice that in equilibrium the number of D-workers expressing their views cannot equal the number of R-workers expressing their views: $n_D \neq n_R$. To see this inequality, suppose by negation that $n_D = n_R$. Then by virtue of the tie-breaking rule, both types of workers express their political preferences. As $w > \overline{u} + (s)(0)$ all workers accept the job, implying that $n_D = L_D > L_R = n_R$, which yields the desired contradiction.

It is not an equilibrium for either D-workers or R-workers (but not both) being employed. The reason is that the wage compensates each type of worker for the disutility suffered from the hostile environment (as seen in the analysis above). Thus, both types of workers would accept the job. That contradicts the assumption that only one type of worker is hired.

Two other possibilities do, however, form a Nash equilibrium. One equilibrium has both types of workers employed, but $n_D > n_R$. In such a case, D-workers reveal their preferences, whereas R-workers do not. The R-workers remain silent because expressing minority views is unpleasant. Therefore in equilibrium, we have $n_D = L_D$ and $n_R = 0$. An R-worker who suffers from the hostile environment has utility $u_R = w - s \cdot L_D \geq \overline{u}$. The weak inequality sign follows from our parametric assumption in Case I. Clearly, D-workers who benefit from the friendly environment have utility exceeding the no-work utility. (Formally, $u_D = w + e \cdot L_D > w - s \cdot L_D \geq \overline{u}$.) The other, symmetric equilibrium again has both types of workers employed, but $n_R = L_R$ and $n_D = 0$. Notice that in this equilibrium D-workers suffer from the hostile environment but are more than compensated by the high wage: the assumption that $L_R < L_D$ implies that $u_D = w - sL_R > w - sL_D \geq \overline{u}$.

To summarize, in two equilibrium configurations all workers are employed; profits are then $\Pi = (L_D + L_R)(q - w)$.

Case II: $\overline{u} + s \cdot L_D > w \geq \overline{u} + s \cdot L_R$

Again notice that as $w > \overline{u}$, in any equilibrium the firm hires some workers.

Consider configurations in which both types D and R are employed. Notice that in equilibrium, n_D necessarily differs from n_R (the argument is identical to the previous case and is omitted). If $n_D > n_R$ then D-workers express their political views, whereas R-workers do not. The equilibrium therefore has $n_D = L_D$ and $n_R = 0$. The utility of an R-worker who suffers from the hostile environment is $u_R = w - s \cdot L_D < \overline{u}$, where the strict inequality sign follows from our parametric assumption in Case II. Thus, we contradict the assumption that in equilibrium $n_D > n_R$ and both types are employed.

By similar reasoning, it is an equilibrium for both types to be hired, with $n_R = L_R$ and $n_D = 0$. In this equilibrium,D-workers suffer from the hostile environment but are compensated by the wage offer posted by the firm, as, by virtue of the parametric assumption in Case II, $u_D = w - s \cdot L_R \geq \overline{u}$.

Consider next possible equilibria in which either D-workers or R-workers (but not both) work at the firm. If only D-workers are at the firm, they will express their political preferences, hence $n_D = L_D$. If an R-worker accepts the job, he will be in the minority, will remain silent, and his utility will be $u_R = w - s \cdot L_D < \overline{u}$, where the inequality follows from our parametric assumption. Thus, indeed, type-R people reject the job, which hence sustains the equilibrium.

If only R-workers are at the firm, $n_R = L_R$. If a D-worker accepts the job, he will be in the minority, will remain silent, and has utility $u_D = w - s \cdot L_R \geq \overline{u}$, by our parametric assumption. Thus, joining the firm would be desirable for a type-D-worker, which yields a contradiction to the presumed equilibrium.

We remain, therefore, with two equilibria (i) an equilibrium in which all workers are employed and (only) R-workers express their preferences, with profits $\Pi = (L_D + L_R) \cdot (q - w)$; (ii) an equilibrium in which only D-workers are employed, with profits $\Pi = L_D \cdot (q - w)$.

Case III: $\overline{u} + s \cdot L_R > w \geq \overline{u}$

As in the previous cases, when $w > \overline{u}$ any equilibrium has the firm hire some workers. One subtle point concerns the case in which $w = \overline{u}$. An equilibrium in which no one accepts the job trivially exists. The resulting allocation, however, is Pareto dominated by any equilibrium in which some workers are at the firm. In the equilibrium with employment, all workers receive at least their no-work utility, and the firm earns strictly positive profits, which renders this allocation superior to an equilibrium with no employment, in which all workers receive their no-work utility and the firm earns zero profits. We will henceforth confine attention to equilibria in which some workers are employed (whenever such equilibria exist).

If both D-workers and R-workers are at the firm, then, as in the previous cases, $n_D \neq n_R$. But no such equilibrium exists. If $n_D > n_R$, then, as shown above, D-workers express their views, whereas R-workers remain silent, or $n_D = L_D$ and $n_R = 0$. An R-worker who suffers from the hostile environment has utility $u_R = w - sL_D < w - sL_R < \overline{u}$. The first inequality follows because $L_R < L_D$. The second inequality follows from our parametric assumption in Case III. Thus, we obtain a contradiction to the assumption that both types of workers are at the firm. By symmetric considerations, an equilibrium cannot have $n_D < n_R$: D-workers who suffer from the hostile environment have $u_D = w - sL_R < \overline{u}$, and hence reject the job, yielding the desired contradiction.

The result that wage offers are sufficiently low, such that neither D-workers nor R-workers are compensated for the hostile environment in the firm (when the prevailing norm in the political discourse at the firm is opposite to their ideology) implies that there exist two potential equilibria in which either only D-workers are at the firm (and express their views) or else only R-workers are at the firm (and express their political views).

Profits when the firm has only D-workers are $\Pi = L_D \cdot (q - w)$. Profits with only R-workers are $\Pi = L_R \cdot (q - w)$.

Case IV: $\overline{u} > w \geq \overline{u} - eL_R$.

Here the wage satisfies an R-worker's no-work utility if he expresses his political view. But the wage is smaller than the no-work utility. By reasoning similar to that used in the analysis of Case III (the formal argument is hence omitted), in no equilibrium does the firm hire both types of workers.

We turn next to equilibria with only one type of worker at the firm. If only D-workers are at the firm, they express their views, so that $n_D = L_D$. A D-worker at the firm has utility $u_D = w + eL_D > w + eL_R \geq \overline{u}$, where the first inequality follows as $L_R < L_D$. The second inequality follows by the parametric assumption in Case IV. Thus, D-workers indeed take the job. An R-worker who accepts the job, suffering from the hostile environment, will remain silent and hence will have utility $u_R = w - sL_D < w < \overline{u}$. Thus, R-workers reject the job. We have hence established an equilibrium.

By similar reasoning (formal arguments are omitted) an equilibrium can also have only R-workers at the firm (who express their political views).

Profits in an equilibrium when the firm has only D-workers are $\Pi = L_D(q - w)$; profits with only R-workers are $\Pi = L_R(q - w)$.

Workers are willing to work at the firm (under both equilibrium configuration) although they are paid (in pecuniary terms) less than their no-work utility, $\overline{u}$. The reason they are willing to accept a low wage is the amenity they derive from a friendly political environment. That compensates them for the monetary loss and incentivizes them to accept the job.

Lastly, notice that, as argued before, a trivial equilibrium has no workers at the firm. However, the resulting allocation associated with this equilibrium is Pareto dominated by any equilibrium in which some workers are employed. Consequently, we confine attention to equilibria in which some workers are employed.

Case V: $\overline{u} - eL_R > w \geq \overline{u} - eL_D$.

Here, the wage satisfies a D-worker's no-work utility, but not an R-worker's no-work utility. For similar reasoning as that used in the analysis of Case IV, no equilibrium has both types at the firm. The equilibrium has only D-workers at the firm.

The difference from the previous case is that no equilibrium has only R-workers at the firm. To see this, suppose by negation that such an equilibrium exists. Each R-worker would then express his views, hence $n_R = L_R$. An R-worker's utility when in a friendly environment is $u_R = w + eL_R < \overline{u}$, which follows by the parametric assumption of Case V. We thus obtain the desired contradiction to the assumption that R-workers will accept the offer. The wage is too low, so that the amenity from a friendly environment does not suffice to compensate for the low wage and induce R-workers to accept the job.

Case VI: $w < \overline{u} - eL_D$.

Here the wage does not yield a worker's no-work utility. In this last case, the only equilibrium has no one work at the firm. Unlike Case V, the amenity from a friendly environment enjoyed by D-workers insufficiently compensates for the low wage. Formally, $u_D = w + eL_D < \overline{u}$.

7 Appendix 2: Segregation of workers across locations

We first characterize an equilibrium with partial segregation. Observe first that the wage offered at location 1 strictly exceeds the no-work utility. By focusing on pure strategies, all D-workers choose the same location in equilibrium, so partial segregation implies that some R-workers choose to work along with the entire pool of D-workers which then has to be in location 1 (offering a compensation for the disamenity suffered by R-workers).

Denote by l^* the number of R-workers at location 1 in the profit-maximizing solution for the program in (13). Notice, that given l^*, the wages and the disamenity threshold are uniquely given by the solution to the set of equality conditions in (13) (i)-(iii). Denote the profit-maximizing wages and the corresponding disamenity threshold by $w_1(l^*), w_2(l^*)$ and $\hat{s}(l^*)$.

For any other $l \neq l^*$no partial segregation equilibrium exists. Given the profit-maximizing wages, more R-workers ($l > l^*$) would make the amenity in location 2 too low to induce R-workers to choose this location, by virtue of condition (13) (i). Suppose next that a partial segregation equilibrium exists with $l < l^*$. In particular, let $l = l^* - \epsilon$,with $\epsilon > 0$. By construction, $l^* = \frac{\hat{s}(l^*)}{s} \cdot (L - L_D)$. A partial segregation equilibrium with l R-workers in location 1 implies that $l = \frac{\hat{s}(l)}{s} \cdot (L - L_D)$, hence, $\hat{s}(l^*) - \hat{s}(l) = \epsilon \cdot s/(L - L_D)$. Substituting into (13) (iii) yields

$w_1 - s\hat{(l)} \cdot L_D = w_1 - \hat{s}(l^*) \cdot L_D + \frac{\epsilon \cdot s \cdot L_D}{(L-L_D)} > w_2 + e \cdot (L - L_D - l) = w_2 + e \cdot (L - L_D - l^*) + \epsilon \cdot e$, where the inequality follows from (13) (iii), $w_1 - \hat{s}(l^*) \cdot L_D = w_2 + e \cdot (L - L_D - l^*)$, and as $\frac{s \cdot L_D}{(L-L_D)} > e$, by virtue of our assumptions that $L_D > \frac{e \cdot L}{(2e-s)}$ (low diversity) and $e < 2s$. We therefore obtain a contradiction to the assumption, as the marginal R-worker at location 1 strictly prefers that to working in location 2, thereby contradicting the stability of the equilibrium which requires indifference.

We turn next to examine the full segregation equilibrium. As a corollary to our last argument (letting $\epsilon = l^*$), it follows that there exists no full segregation equilibrium in which D-workers choose location 1. Thus, the only candidate for a full segregation equilibrium has all D-workers choose location 2, whereas all R-workers choose location 1. We turn to verify that such an allocation is incentive compatible.

As by construction $w_1 > w_2$,R-workers strictly prefer location 1 (in which they derive an amenity) over location 2 (in which they suffer a disamenity). Turning next to D-workers, the utility of a D-worker in location 2 is $w_2 + e \cdot L_D = w_2 + e \cdot (L - L_D - l^*) + e \cdot (2L_D - L + l^*) = \overline{u} + e \cdot (2L_D - L + l^*)$, where the second equality follows from (13)(i)

A D-worker's utility at location 1 would be $w_1 - s \cdot (L - L_D) = w_1 - s \cdot L_D + s \cdot (2L_D - L) < w_1 - \hat{s}(l^*) \cdot L_D + s \cdot (2L_D - L) = \overline{u} + s \cdot (2L_D - L)$, where the inequality follows as $\hat{s}(l^*) < s$, and the last equality follows from (13) (i) and (13) (iii).

As $e > s$,$L_D > L/2$ and $l^* > 0$, it follows that D-workers strictly prefer location 2 over location 1.

In the full segregation equilibrium $w_1 > w_2$ and $L_D > L - L_D$. The resulting allocation, hence, suggests that location 1, which offers higher pay, would attract fewer workers. This is a less plausible scenario. It is more natural to assume that (majority) D-workers who would express their political views in any location would choose location 1, which offers higher pay. We henceforth focus on the partial segregation outcome in which a fraction of R-workers choose location 1 along with the entire pool of D-workers, assuming this is the only configuration compatible with the wages defined in (13).

We turn next to solve the constrained maximization program given in (13). Substituting for $w_1$and w_2 from (13) (i)-(iii) yields upon re-arrangement

$$\Pi^{PS} = max_{0<l\leq L-L_D}\left\{(q-\overline{u})\cdot L + a\cdot(L_D+l)^2 - \frac{s\cdot l\cdot L_D\cdot(L_D+l)}{(L-L_D)} + (a+e)\cdot(L-L_D-l)^2\right\}. \tag{27}$$

Formulating the first-order condition with respect to l yields

$$\frac{\partial \Pi^{PS}}{\partial l} = 2a\cdot(L_D+l) - \frac{s\cdot L_D\cdot(L_D+2l)}{(L-L_D)} - 2(a+e)\cdot(L-L_D-l) = 0, \tag{28}$$

where strict inequalities hold for corner solutions ($\frac{\partial \pi^{PS}}{\partial l} < 0$ for $l = 0$ and $\frac{\partial \pi^{PS}}{\partial l} > 0$ for $l = L - L_D$).

The second-order condition is

$$\frac{\partial^2 \Pi^{PS}}{\partial l^2} = 4a + 2\cdot\left\{e - \frac{s\cdot L_D}{(L-L_D)}\right\}. \tag{29}$$

By virtue of our parametric assumptions $\frac{s\cdot L_D}{(L-L_D)} > e$. Thus, for sufficiently small a, the second-order condition is satisfied and the optimum is given by the first-order condition in (17).

For sufficiently large a, the objective becomes strictly convex and the profit-maximizing solution has either $l = 0$ or $l = L - L_D$.

Formally, employing (18) it follows that

$$\frac{\partial^2 \Pi^{PS}}{\partial l^2} < 0 \Leftrightarrow 2a < \frac{s\cdot L_D}{(L-L_D)}\text{-e}. \tag{30}$$

Employing (17) it follows that

$$\left.\frac{\partial \pi^{PS}}{\partial l}\right|_{l=0} < 0 \Leftrightarrow 2a < \frac{2e\cdot(L-L_D) + \frac{s\cdot L_D^2}{(L-L_D)}}{(2L_D-L)}. \tag{31}$$

It is straightforward to verify that

$$\frac{\frac{s\cdot L_D^2}{(L-L_D)}}{(2L_D-L)} > \frac{s\cdot L_D}{(L-L_D)}. \tag{32}$$

Hence,

$$\frac{2e \cdot (L - L_D) + \frac{s \cdot L_D^2}{(L - L_D)}}{(2L_D - L)} > \frac{s \cdot L_D}{(L - L_D)} - e. \tag{33}$$

It follows that for small a (given by condition (19)) for which the second-order condition holds, the optimum for the constrained maximization program in (16) has a corner solution, where $l = 0$.

As for higher values of a, the objective is convex, we conclude that the profit-maximizing solution always has one of the corner solutions.

Clearly however, partial segregation with $l = 0$ is sub-optimal, as there is no justification to pay a wage premium for workers in location 1 who share identical political preferences (they are all D-workers and hence suffer no disamenity). In this case profit-maximization has full segregation.

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