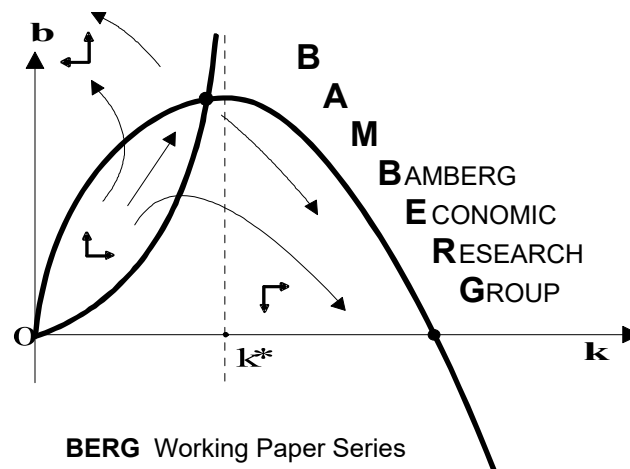# Excessive White Male Privilege Biases the Measurement of Intersectional Wage Discrimination

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Excessive White Male Privilege Biases the Measurement of Intersectional Wage Discrimination*

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Abstract: We study the effects of overlapping identities on wage gaps, focusing on the intersectional effects of gender and race in the US. The extant theoretical and empirical literature argues that this overlap should cause intersectional discrimination, i.e., multiply marginalised groups suffer from a unique penalty in addition to the individual wage gaps they face. By contrast, we find that White men are uniquely privileged compared to all other groups but that Black women do not face a unique intersectional wage penalty compared to all others, challenging previous findings. We dub this phenomenon "excessive White male privilege" and show how it may bias commonly used estimators for intersectional wage discrimination. Recognising and addressing this privilege is essential for dismantling systemic inequality and hence provides a novel tool for the intersectionality studies as well as policy aimed at a more equitable society.

One-Sentence Summary: In US wage data, we find intersectional "excessive White male privilege" compared to all others instead of a unique penalty for Black women.

1. Introduction

Intersectional or multiple discrimination has become a central point of enquiry for understanding the structural disadvantages that individuals encounter owing to multiple dimensions of their identity. The term refers to a "theoretical framework rooted in the premise that human experience is jointly shaped by multiple social positions and cannot be adequately understood by considering these positions independently" (Bauer, et al. (2021)). For instance, a woman of colour might face discrimination that is different in nature from what a White woman or a man of colour might face due to the intersection of gender and race. One aspect of this intersectional discrimination in the labour market is the wage gap: One can quantify this as the amount that the actual cumulative wage gap that women of colour face compared to White men exceeds the additive one defined as the sum of the gender wage gap (comparing White women to white men) and the racial wage gap (comparing men of colour to White men). The quantitative intersectionality literature based on the Oaxaca-Blinder decomposition method as pioneered by Kim (2009) to adjust wage gaps for factors like years of schooling or age does indeed find evidence for intersectional discrimination for the US (cf. Kim 2009, Paul et al. 2022 and George et al. 2022), without sufficient data present for other countries).
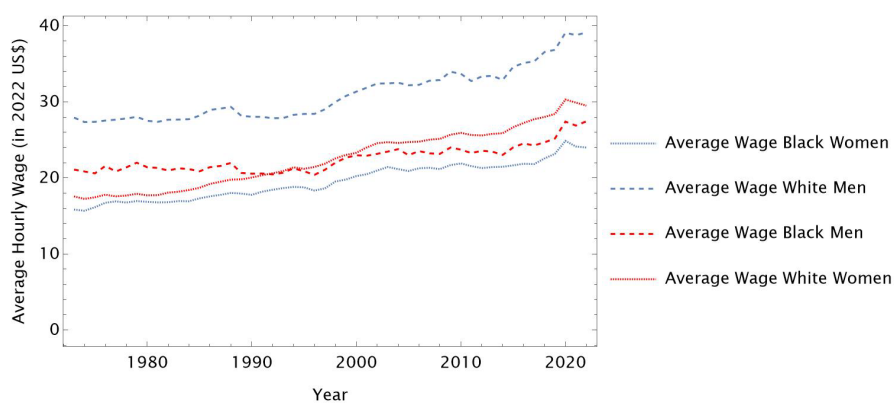

Fig. 1. Time-series of mean (uncorrected) hourly wages of full-time employees in the U.S. by gender/race groups. Data presented is the average wages in the US according from the Economic Policy Institute, State of Working America Data Library, "Median/average hourly wages," 2022.

While this standard method is carefully motivated econometrically, it hinges on one crucial assumption that is seldom discussed or elaborated: By its definition, the cumulative wage gap includes the high wage premium that White men receive compared to any other studied group, as evident in Fig. 1. At the same time, the two components of the additive wage gap are calculated without any reference to White men, i.e., they are calculated based on the wage gap between Black men and women (for the gender gap) and between White and Black women (for the racial gap). Due to this, the additive wage gap does not capture the wage premium exclusive to White men. Deviating from this unstated convention of reference groups and either calculating the gender gap between White men and women or calculating the racial gap between White and Black men for the additive gap would reverse the results in the US sample used here and prominently in the literature (cf. Kim 2009, Paul et al. 2022 and George, et al. 2022). This indeterminacy was acknowledged in early works on the topic (cf. Almquist 1975) and occasional works (cf. McGuire and Reskin 1993 and King 1988) point to the sensitivity of results towards reference groups, but

they neither explore the effects of the calculation method conceptually nor present a structural approach that does not rely on ad-hoc assumptions about which reference groups to use.

This paper proposes such a structural approach to analysing intersectional effects on wages dissects the wage gaps and defines which component applies to which group. It identifies components attributed to gender, race and intersecting features. For these intersecting features, we contrast two perspectives that can be studied within an intersectionality framework: multiple discrimination and excess privilege. The former explores the supplementary wage penalty that multiply marginalised individuals experience; the latter examines the undue advantages that White men, as a multiple privileged group, accrue beyond what individual dimensions such as race or gender alone can explain.

2. Contrasting concepts of intersectionality and privilege

Intersectional discrimination theory attempts to formalise the intersectionality concept first theorised by Crenshaw and argues that (multiply) marginalised people suffer from an additional wage penalty compared to all other groups of people adding to the other wage gaps they suffer due to the individual aspects of their identity taken separately (cf. Crenshaw 1989). We call this wage penalty term g_i. The excess privilege concept put forward here also argues that the interplay of various dimensions of discrimination causes effects that are not reducible to the constituent dimensions of people's identity; but it focuses on the (multiply) privileged. Excessive privilege would imply that the multiply privileged group, white men in our application, are advantaged compared to all other groups beyond what the gender and racial wage gaps imply. We call this wage privilege term g_p. Only the first concept is true to the verbal definition by Crenshaw, though, and looks at the specific disadvantages multiply marginalised people face or "the particular manner in which Black women are *subordinated*" (Crenshaw 1989, p. 315, emphasis by the authors).

Even though both terms are conceptually similar and are indeed arguably often conflated in the literature, it turns out that they imply radically different conclusions about the existence of intersectionality. To see this, consider Fig. 2.
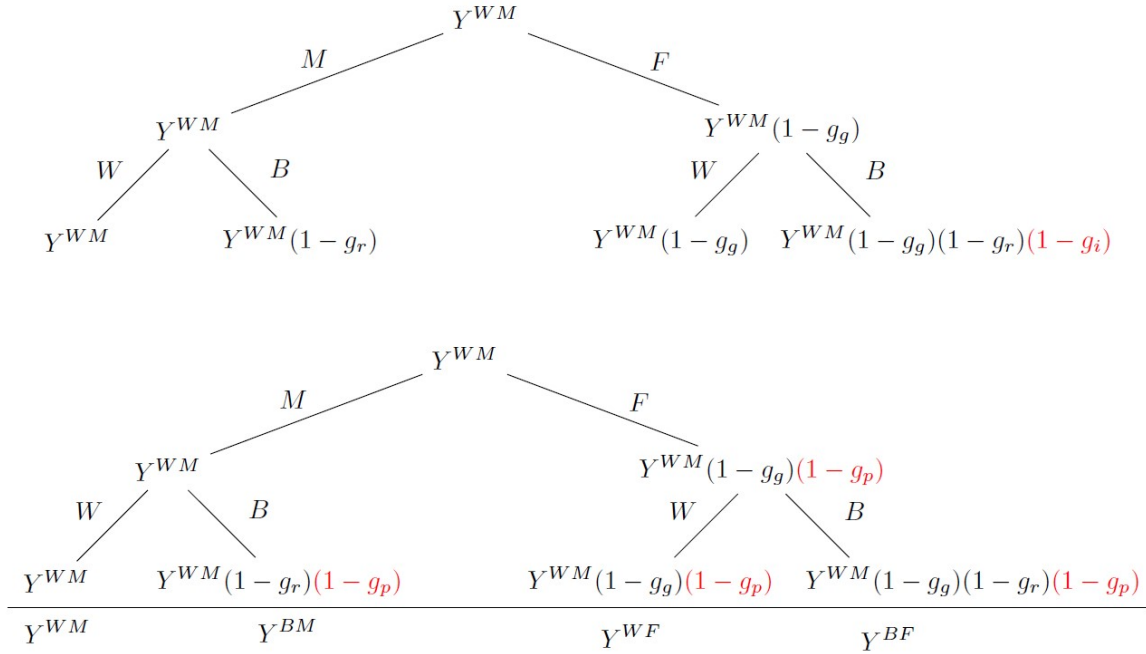
$$Y^{WM}$$

M — Y^{WM} — F — $Y^{WM}(1-g_g)$

W: Y^{WM} B: $Y^{WM}(1-g_r)$

W: $Y^{WM}(1-g_g)$ B: $Y^{WM}(1-g_g)(1-g_r)(1-g_i)$

$$Y^{WM}$$

M — Y^{WM} — F — $Y^{WM}(1-g_g)(1-g_p)$

W: Y^{WM} B: $Y^{WM}(1-g_r)(1-g_p)$

W: $Y^{WM}(1-g_g)(1-g_p)$ B: $Y^{WM}(1-g_g)(1-g_r)(1-g_p)$

Y^{WM} Y^{BM} Y^{WF} Y^{BF}

Fig. 2. Two tree diagrams formalising the intersectionality (upper panel) and privilege (lower panel) views. The reference group is in both cases White males (WM).

In both cases, the reference average income is the one of White men (Y^{WM}). The upper two leaves of the tree refer to the gender dimension.[1] For the male group, there is no penalty and the income stays as it is ($\cdot\,1$), while for the female group, the gender wage gap kicks in ($\cdot\,(1-g_g)$). The second dimension is race. Again, for the White group, the conditional income stays the same ($\cdot\,1$), while the Black group is affected by the racial wage gap ($\cdot\,(1-g_r)$). So far, we described a situation for which there is no interaction between gender and race. However, of course, both the theoretical and empirical literature give us reason to believe that this is not the case. Thus, we need to specify the specific type of interaction. On the left panel of Fig. 2, we formalise the intersectionality view: Black women face an additional wage penalty vis-à-vis all other groups which implies that only they are affected by the term $\cdot\,(1-g_i)$. The right panel formalises the privilege view. In this case, White men are uniquely privileged compared to all other groups. Since they are the reference group in Fig. 2, this implies that all other groups face an additional wage penalty factor of $(1-g_p)$. As shown in Fig. 3, the same logic can be applied by starting from Black women as a reference group, with the only difference being that wage gaps are now added

---

[1] Both regarding gender and race, we stick to the overly simplistic binary categorisation that is standard in the literature. While this does not do the complex reality of gender and racial identities justice, it is in this case unfortunately necessary to enable us to analytically derive the expressions for the intersectional penalty and privilege terms.

rather than subtracted here. Since percentage differences are not symmetric, this change of reference groups also implies slightly different analytical expressions for g_i and g_p.
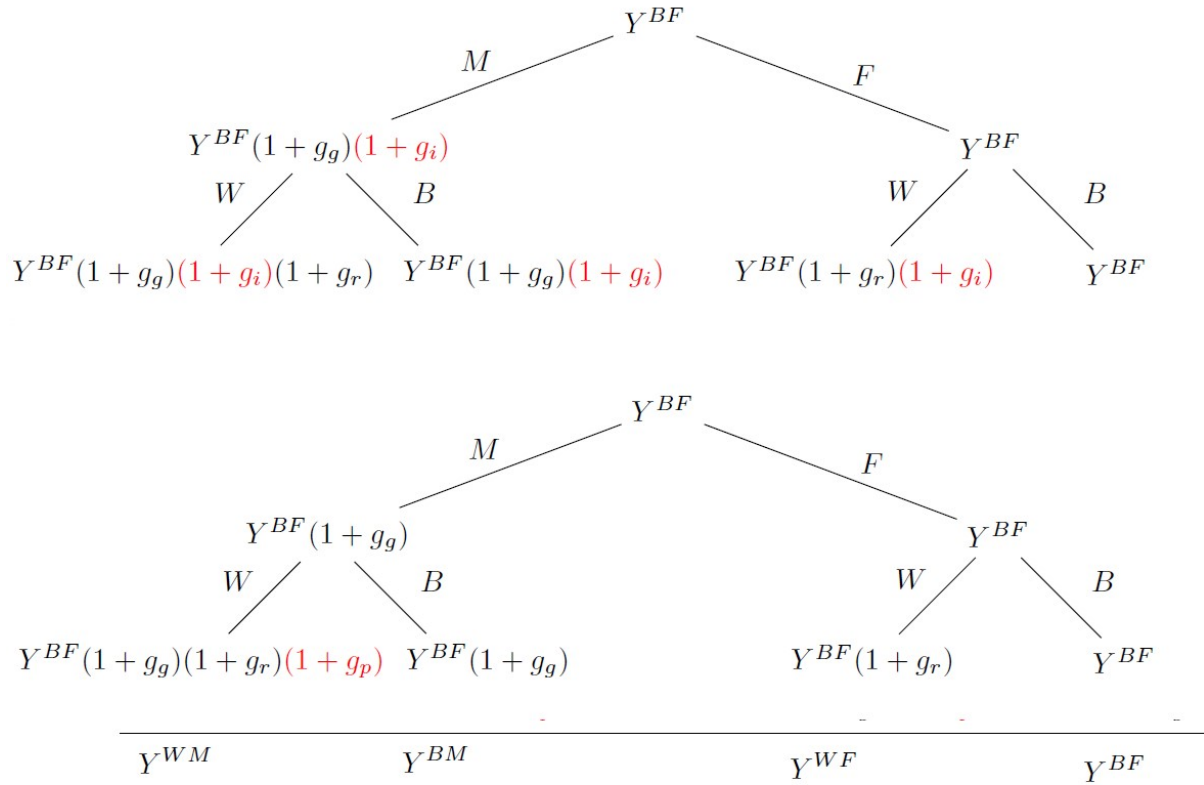

Fig. 3. Two tree diagrams formalising the intersectionality (upper panel) and privilege (lower panel) views. The reference group is in both cases Black females (BF).

The tree diagrams now allow us to express the average income of all groups other than White men (Fig. 2) or Black women (Fig. 3) as functions of the wage gaps and the average income of White men (Y^{WM}) or Black women (Y^{BF}). For this, one needs to trace the path of all groups from the reference group down the tree to the specific subgroup. For example, for Black males, one would choose the "male" branch at the gender dimension and the "Black" branch at the race dimension. This gives rise to a system of equations; see the example of the intersectionality view with a White male reference view below and the other systems in Supplementary Material 1:

$$
\begin{aligned}
Y^{WM} &= 1 \cdot 1 \cdot Y^{WM} \\
Y^{BM} &= 1 \cdot (1 - g_r) \cdot Y^{WM} \\
Y^{WF} &= (1 - g_g) \cdot 1 \cdot Y^{WM} \\
Y^{BF} &= (1 - g_g) \cdot (1 - g_r) \cdot (1 - g_i^{WM}) \cdot Y^{WM}
\end{aligned}
$$

Each system of equations has three equations and three unknowns (apart from the trivial case of the reference group income equalling itself), enabling us to straightforwardly solve for the implied

g_i and g_p purely as a function of the average incomes for all groups. The results for these derivations are visible below. The superscript denotes the reference group, while the subscript denotes the specific view:

$$g_i^{WM} = \frac{Y^{BM} \cdot Y^{WF} - Y^{BF} \cdot Y^{WM}}{Y^{BM} \cdot Y^{WF}}$$

$$g_p^{WM} = \frac{Y^{BF} \cdot Y^{WM} - Y^{BM} \cdot Y^{WF}}{Y^{BF} \cdot Y^{WM}}$$

$$g_i^{BF} = \frac{Y^{BM} \cdot Y^{WF} - Y^{BF} \cdot Y^{WM}}{Y^{BF} \cdot Y^{WM}}$$

$$g_p^{BF} = \frac{Y^{BF} \cdot Y^{WM} - Y^{BM} \cdot Y^{WF}}{Y^{BM} \cdot Y^{WF}}$$

Two findings stand out from this purely analytical derivation: First, expectedly, the reference group matters for the estimation. However, since (average) incomes are empirically always positive, the reference group matters only for the size, not the sign of the estimate, since the numerator is equivalent within both views, while the denominator varies. Put differently, the choice of the reference group is inconsequential for determining if intersectional discrimination or excessive privilege exists but might be relevant to quantify its extent. Second, across reference groups, the two estimates for the two views are additive inverses of each other and will thus always exhibit inverse sign (except for the special case with no interaction and $g_i = g_p = 0$). Thus, the more consequential choice is certainly the choice for a view rather than the one of a reference group.

3. Results

For the sake of clarity in exposition, we apply our methodology to the raw unadjusted data summarised in Fig. 1 as a common benchmark that does not suffer from the ultimately arbitrary choice of appropriate controls.[2] Yet, our results are robust to considering only the adjusted wage gaps as well, as we show for the example of Paul et al. (2022) in Supplementary Material 2. Applying all four measures to (raw) data from the US Current Population Survey prepared by the Economic Policy Institute, we get the results depicted Fig. 4 (cf. Economic Policy Institute 2022). In contrast to much of the empirical literature, we find negative intersectional wage penalties (for both White men and Black women as reference groups) and thus no evidence for intersectional wage discrimination. Instead, we find excessive White male privilege for the whole observation period. This excessive privilege might explain why so many empirical studies report evidence for

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[2] All our results refer to the average wage but are robust also for using the median wages instead. Results available upon request.

intersectionality, as they pick up this privilege in their estimates rather than the original intersectionality concept based on cumulative disadvantage.[3]
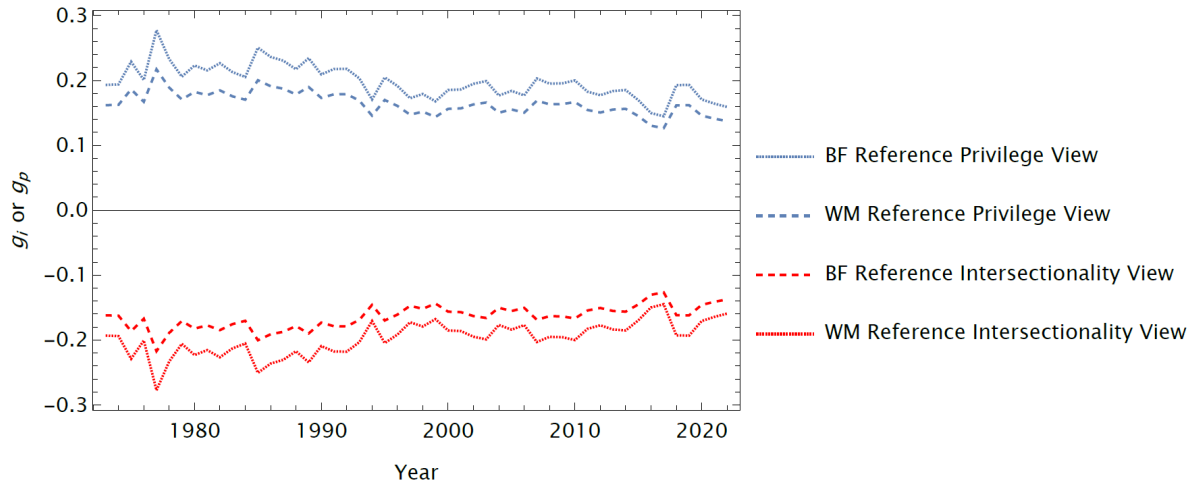

Fig. 4. Results for the privilege and intersectional penalty term for both reference groups. Data uses the average wages in the US according from the Economic Policy Institute, State of Working America Data Library, "Median/average hourly wages," 2022.

Even though we do not find evidence for intersectionality in wage gaps, this does not necessarily imply that intersectionality does not exist. It might simply just not be visible, as it is superseded by excessive White male privilege.
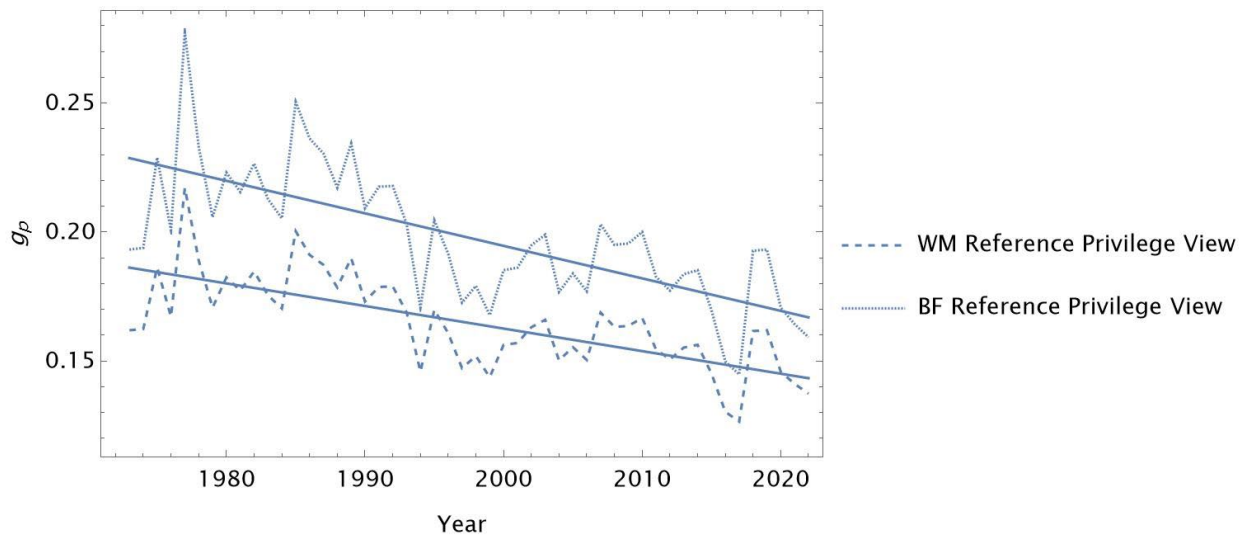

Fig. 5. White Male Privilege over time. Calculated privilege benefits and superimposed best OLS fit for the whole sample.

As is visible in Fig. 4 and more clearly in Fig. 5, there also exists a slight downward trend in White male privilege. Naively extrapolating the linear trend shows that this phenomenon is unlikely to

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[3] However, we also find excessive privilege in the case of East Germany vs. West Germany (cf. Bundesagentur für Arbeit 2022) where there is no intersectionality (cf. Supplementary Material 3). This case also supports the robustness of our findings.

be sufficiently fast for policy: It will take until 2154 (for Black women as the reference group) or even until 2185 (for White men as the reference group) for White male privilege to "naturally" vanish completely.

4. Discussion

Our findings indicate that the excess privilege accruing to White men overshadows any intersectional wage discrimination within the US labour force. Hence, much of the empirical literature purporting to demonstrate such discrimination might actually be capturing this excess privilege. Consequently, explaining the components of the wage gap requires a more general understanding of intersectionality. Econometrically, however, the situation is tricky: Since wage gaps are obviously inherently relational, it is hard to control for excessive privilege without losing the contribution of White males to the intersectional penalty completely which is what motivated this study in the first place. To deal with that issue, both theoretical and empirical studies should carefully elaborate the underlying mechanisms generating interaction effects and, in particular, distinguish between the privilege and discrimination view.

It is important to note that i) our findings do not imply the absence of intersectional wage discrimination altogether. Instead, they merely prompt to a need for more refined metrics that capture them, specifically controlling for the excessive white male privilege that we find: It is plausible that the privilege accorded to white men is so dominant that it obscures the disadvantages that other groups experience. Furthermore, ii) we only work with two forms of privilege/discrimination, and the picture may change if including, for example, able-bodiedness (Cech 2022).

Moreover, iii) even the absence of evidence for intersectional discrimination in wage gaps does not question the existence of intersectionality in other realms of life. In particular, our findings only apply to women in the workforce and do not necessarily preclude that intersectional discrimination exists in the realm of unpaid care work (Koziara et al. 1987, chp. 10). Finally, iv) the time trend analysis reveals that the level of excess privilege is gradually declining, albeit at a pace too slow to be considered sufficient from a policy standpoint. Thus, whilst the study points to the complex interaction between intersectionality and White male privilege in wages, it also raises pressing questions about the persistence of systemic inequality. Discussing concrete policy implications is beyond the scope of the paper. Yet, recent work on gender inequality at the workplace has highlighted the role of policies that reduce temporal inflexibility (Goldin 2014) which might have also contributed to the excessive White male privilege in earnings our study finds. The novel analytical category of White male privilege we introduce can be of academic and political value: Academically, it offers a new tool for intersectionality theory that can complement existing analyses. Politically, excessive privilege might be of interest for social movements mobilising for gender and racial equality: While it is notoriously hard to mobilise across diverse interests in an intersectional context (Fisher et al. 2017), reducing White male privilege provides a common, unified interest for these diverse marginalised groups. Explicating the empirical mechanisms by which this privilege comes as the next step about is thus also consequential for diversity policies.

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Supplementary Material

1. Derivation of g_i and g_p

i) System of equation for White males as the reference group and the intersectionality view:

$$
\begin{aligned}
Y^{WM} &= 1 \cdot 1 \cdot Y^{WM} \\
Y^{BM} &= 1 \cdot (1 - g_r) \cdot Y^{WM} \\
Y^{WF} &= (1 - g_g) \cdot 1 \cdot Y^{WM} \\
Y^{BF} &= (1 - g_g) \cdot (1 - g_r) \cdot (1 - g_i^{WM}) \cdot Y^{WM}
\end{aligned}
$$

$$
g_i^{WM} = \frac{Y^{BM} \cdot Y^{WF} - Y^{BF} \cdot Y^{WM}}{Y^{BM} \cdot Y^{WF}}
$$

ii) System of equation for White males as the reference group and the privilege view:

$$
\begin{aligned}
Y^{WM} &= 1 \cdot 1 \cdot Y^{WM} \\
Y^{BM} &= 1 \cdot (1 - g_r) \cdot \left(1 - g_p^{WM}\right) \cdot Y^{WM} \\
Y^{WF} &= (1 - g_g) \cdot 1 \cdot \left(1 - g_p^{WM}\right) \cdot Y^{WM} \\
Y^{BF} &= (1 - g_g) \cdot (1 - g_r) \cdot \left(1 - g_p^{WM}\right) \cdot Y^{WM}
\end{aligned}
$$

$$
g_p^{WM} = \frac{Y^{BF} \cdot Y^{WM} - Y^{BM} \cdot Y^{WF}}{Y^{BF} \cdot Y^{WM}}
$$

iii) System of equation for Black females as the reference group and the intersectionality view:

$$
\begin{aligned}
Y^{WM} &= (1 + g_g) \cdot (1 + g_r) \cdot (1 + g_i^{BF}) \cdot Y^{BF} \\
Y^{BM} &= (1 + g_g) \cdot 1 \cdot (1 + g_i^{BF}) \cdot Y^{BF} \\
Y^{WF} &= 1 \cdot (1 + g_r) \cdot (1 + g_i^{BF}) \cdot Y^{BF} \\
Y^{BF} &= 1 \cdot 1 \cdot Y^{BF}
\end{aligned}
$$

$$
g_i^{BF} = \frac{Y^{BM} \cdot Y^{WF} - Y^{BF} \cdot Y^{WM}}{Y^{BF} \cdot Y^{WM}}
$$

iv) System of equation for Black females as the reference group and the privilege view:

$$
\begin{aligned}
Y^{WM} &= (1 + g_g) \cdot (1 + g_r) \cdot \left(1 + g_p^{BF}\right) \cdot Y^{BF} \\
Y^{BM} &= (1 + g_g) \cdot 1 \cdot Y^{BF} \\
Y^{WF} &= 1 \cdot (1 + g_r) \cdot Y^{BF} \\
Y^{BF} &= 1 \cdot 1 \cdot Y^{BF}
\end{aligned}
$$

$$
g_p^{BF} = \frac{Y^{BF} \cdot Y^{WM} - Y^{BM} \cdot Y^{WF}}{Y^{BM} \cdot Y^{WF}}
$$

2. Robustness checks for the estimates in Paul et al. (2022)

We build on Table 5 of Paul et al. (2022) to recover the implied (relative) average wages for the four groups, adjusted for various controls such as age, education and occupation. Paul et al. (2022) report log-point differences for the average adjusted wages of one group compared to White males. For Black men, the log-point difference is 0.132, for White women, it is 0.176 and for Black women it is 0.224. Denote this log-point difference by d and consider an arbitrary average income Y. Consider the expression for this log-point difference:

$$\log(Y^{WM}) - \log(Y) = d.$$

Assume without loss of generality that $Y^{WM} = 1$ which implies that

$$-\log(Y) = d$$

and thus that

$$\exp(-d) = Y.$$

With this, we can straightforwardly recover the implied average incomes (relative to the White men average income) from the log-point differences. These are $Y^{BM} = 0.876$, $Y^{WF} = 0.839$ and $Y^{BM} = 0.799$, rounded to three decimal digits. Plugging those into our expressions for the intersectionality penalty and privilege term, we get $g_i^{WM} = -0.088$, $g_p^{WM} = 0.081, g_i^{BF} = -0.081$ and $g_p^{BF} = 0.088$. Hence, we get the same qualitative result that there exists excessive White male privilege but do not find evidence for intersectional discrimination. The privilege is expectedly quantitatively much more modest: Current adjustment procedures that focus on single-dimension discrimination still only partially capture White male privilege.

3. Validation for wage data in Germany

To assess the validity of our findings beyond US wage data, we consider Germany (Bundesagentur für Arbeit 2022), where the two privilege dimensions are gender and East Germany (former GDR) vs. West Germany. Employees in West Germany earn more than in East Germany, making West German men the group experiencing excessive privilege. As shown in Fig. S1, we find such "excessive West German male privilege" using the same decomposition approach as for the US.

Notably, there is no intersectionality because, while West German men earn more than West German women, in East Germany women have slightly higher wages than men (Fig. S2). That there still is excessive privilege in wages indicates a) that the approach presented here for the US does not mistake intersectional discrimination for excessive privilege and, and b) that the concepts of privilege and intersectionality can exist independently of each other.
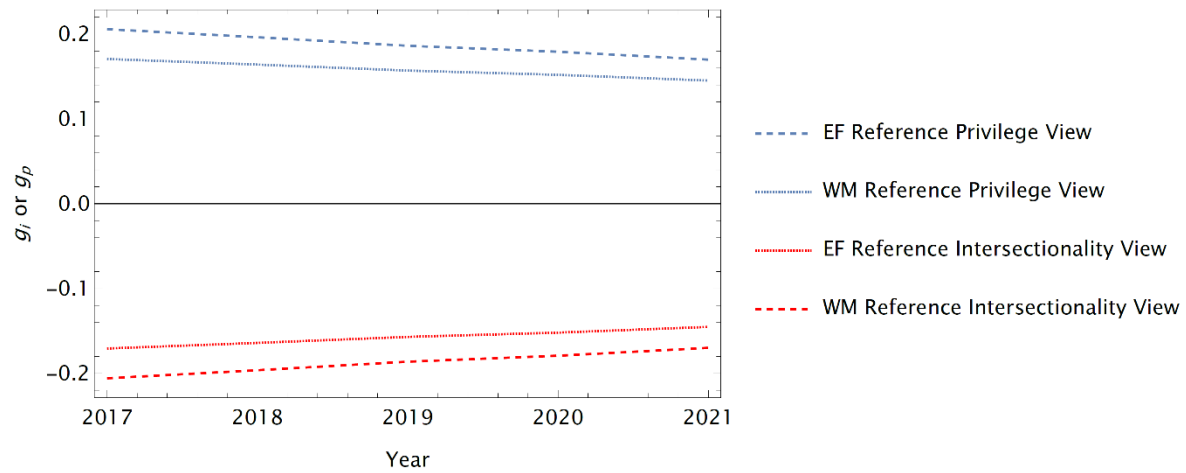
Fig. S1.
Results for the privilege and intersectional penalty term for both reference groups in Germany. Data uses the median wages in Germany from Bundesagentur für Arbeit (2022). W means West Germany, E means East Germany.

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