

## DISCRIMINATION IN ECONOMICS AND THE LABOR MARKET‡

### Anonymous Attention and Abuse†

By FLORIAN EDERER, PAUL GOLDSMITH-PINKHAM, AND KYLE JENSEN\*

Economics Job Market Rumors (henceforth EJMR) occupies a controversial position within the economics profession. While it began as an anonymous forum primarily focused on the annual job market for economics PhDs, its scope has expanded significantly over the years. Today, EJMR serves as both a clearinghouse for job market information and a breeding ground for discussions that range from professional commentary to abusive rhetoric. The forum is infamous for hosting content that is defamatory, misogynistic, and otherwise toxic (Wu 2018, 2020; Ederer, Goldsmith-Pinkham, and Jensen 2024). Its anonymity fosters candid discussions, but it also enables behaviors that contribute to its notoriety. This duality of EJMR—as both a valuable resource and a harmful platform—raises important questions about its role in the economics community.

The influence of the platform is considerable. In early 2023, SimilarWeb estimated that EJMR received 2.5 million monthly visits, surpassing even prominent academic resources such as the National Bureau of Economic Research (NBER) and the American Economic Association (AEA) websites in terms of page views per visit. Such metrics underscore its popularity, but they also highlight its unique position as a digital forum that blends professional and informal exchanges. Despite its popularity, EJMR has been criticized as a “cesspool of misogyny” (David Romer quoted in Wolfers 2017), “4chan for economists” (Lowrey 2022), and evidence of a toxic culture that marginalizes women and underrepresented groups within the profession (Wolfers 2017).

A significant focus of EJMR is its function as an aggregator of external information. In this article, we analyze EJMR content from January 2012 to May 2023<sup>1</sup> and show that a sizable proportion of EJMR discussion topics begin with links to other websites, ranging from academic papers and news articles to social media posts and blog entries. Over time, the platform’s reliance on external domains has evolved, reflecting broader changes in how economists interact with information. We show that, starting in 2018, EJMR saw an explosion in discussions initiated by references to Twitter posts. This shift mirrors Twitter’s growing importance as a real-time source of information and debate in academic and public policy circles. The analysis of these linked domains offers insight into how the economics profession engages with a diverse array of online platforms and information sources.

EJMR’s transformation also underscores the changing landscape of digital discourse in economics. Initially dominated by academic content, the forum has increasingly incorporated references to social media, highlighting its role as a nexus between professional and public discussions. The platform’s toxicity, however, raises ethical questions about its impact on the profession. The prevalence of abusive content, as documented in prior research, contributes to a hostile environment that discourages

‡*Discussants:* Kate Bahn, Institute for Women’s Policy Research; Trevon Logan, Ohio State University; Martha L. Olney, University of California, Berkeley.

\*Ederer: Boston University, CEPR, ECGI, and NBER (email: [ederer@bu.edu](mailto:ederer@bu.edu)); Goldsmith-Pinkham: Yale University and NBER (email: [paul.goldsmith-pinkham@yale.edu](mailto:paul.goldsmith-pinkham@yale.edu)); Jensen: Yale University (email: [kyle.jensen@yale.edu](mailto:kyle.jensen@yale.edu)). We thank Martin Oehmke and several economists who wish to remain anonymous for helpful comments. The analysis described in this manuscript was allowed to proceed by the Yale HRPP, IRB protocol ID 2000034072.

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<sup>1</sup>The end of our sample coincides with the public announcement of the results of Ederer, Goldsmith-Pinkham, and Jensen (2024), which significantly changed the content and discourse on EJMR.

participation from marginalized groups. This dual nature, as both a valuable resource and a source of harm, necessitates a nuanced examination of its role in shaping economic discourse.

Our paper complements previous findings of Ederer, Goldsmith-Pinkham, and Jensen (2024) by analyzing EJMR's evolving interactions with external information sources. We focus on three key aspects: (i) the prevalence and impact of links to external domains; (ii) the surge in discussions driven by Twitter posts since 2018; and (iii) the categorization of individuals whose tweets and content are discussed on EJMR. Using data on linked domains, we examine how these trends reflect broader changes in the economics profession's digital footprint. Our analysis not only sheds light on EJMR's informational role but also raises critical questions about the forum's implications for inclusivity and professional ethics.

### I. Links to External Domains

Our examination of EJMR discussions reveals that a significant proportion of discussion topics begin with links to external sites. To measure links to external sites, we use a database of all posts on EJMR from 2012 to May 2023 and identify all links—"anchor" or "a" tags with href attributes in the HyperText Markup Language (HTML). We then roll up these links to their canonical domain name. For example, we combine the two links [m.twitter.com](https://m.twitter.com) and [www.twitter.com](https://www.twitter.com) into the Twitter domain. We focus on the presence of links that are in the first post of a given topic (a thread of posts) in order to avoid double counting and assess the impact of links driving the conversation on EJMR.

From January 2012 to May 2023, the proportion of topics containing a link in the first post varies between roughly 10 and 20 percent. These links predominantly direct to academic resources, news outlets, and, increasingly over time, to the social media platform Twitter, reflecting the shifting priorities and preferences of EJMR users. Early years exhibit a strong preference for academic and blog-based content, such as NBER papers and *Marginal Revolution* (a popular economics blog) posts. From 2018 onward, Twitter's rapid growth reshaped the forum's linking habits, reflecting broader changes in how economists interact with public and semipublic discussions. This evolution suggests that EJMR has become a microcosm of the economics profession's digital transformation, with implications for how economic ideas are shared and debated.

Figure 1 shows the shares of topics with links in the first post by the domain to which the links point. At the beginning of our sample, approximately 10 percent of the opening posts contain links that direct to YouTube. However, beginning in 2018, the share of topics linking to YouTube disappears almost entirely due to automatic moderation instituted on EJMR. This automatic moderation substantially reduced the ability to post links to YouTube as such posts increasingly contained repetitive spam messages.

In the middle of our sample from 2018 to 2020, about 5 percent of topics link to a combination of websites on economic research such as the blog *Marginal Revolution*, NBER, and, to a much smaller extent, the economics working paper repository RePEc. The remaining 5 percent of topics link to Twitter, Wikipedia, the *New York Times* (with a large share early on linking to Paul Krugman's contributions), the *Guardian*, and other topics on EJMR. Links to blog posts on *Marginal Revolution* are overwhelmingly posted by a specifically designed *Marginal Revolution* bot and contain a short summary of the corresponding blog post. Links to the NBER website are mostly to new NBER working papers (96.3 percent) and, to a much lesser degree, to NBER conference schedules and announcements. Whereas the links to working papers are mostly posted by a dedicated EJMR bot, the topics with links to NBER conference schedules and announcements are posted by human EJMR users.

Since 2018, EJMR has experienced a substantial increase in topics initiated by references to Twitter posts. This shift corresponds to the broader integration of social media, in particular Twitter, within the academic economics ecosystem commonly referred to as #EconTwitter. The proportion of EJMR topics citing Twitter surged from around 1 percent in 2018 to nearly 8 percent by 2023. Twitter's role as a disseminator of real-time news and economic research has made it a focal point for EJMR users who engage with its content. At the same time, the proportion (and also the overall number) of the topics linking to *Marginal Revolution* and to the NBER falls precipitously after 2020 and 2021, respectively. These two domains are entirely displaced by a large increase in the share of topics linking to Twitter and a much smaller increase in the share of topics linking to other topics on EJMR.

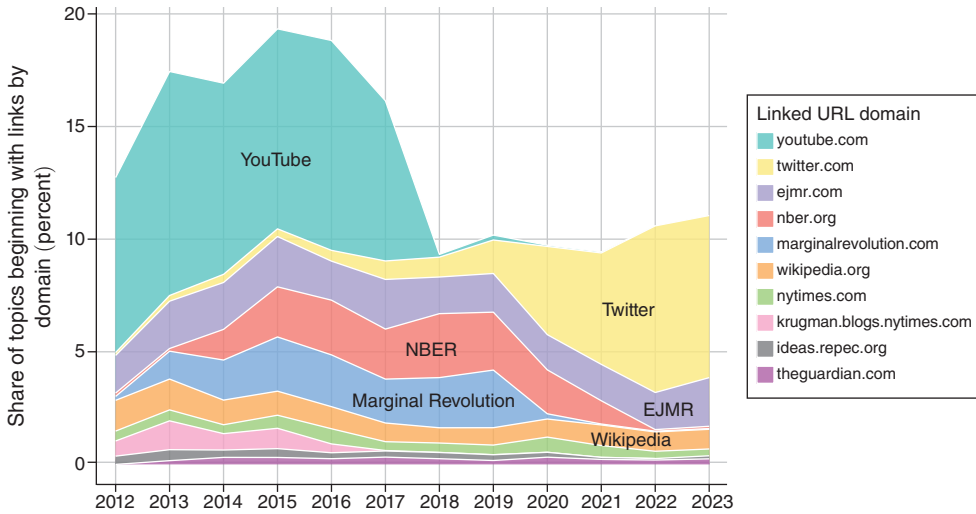


FIGURE 1. SHARE OF DISCUSSION TOPICS WITH LINKS IN THE FIRST POST OVER TIME

Note: This figure plots the share of EJMR topics that begin with a link to the top ten most popular domains linked on the site over our sample.

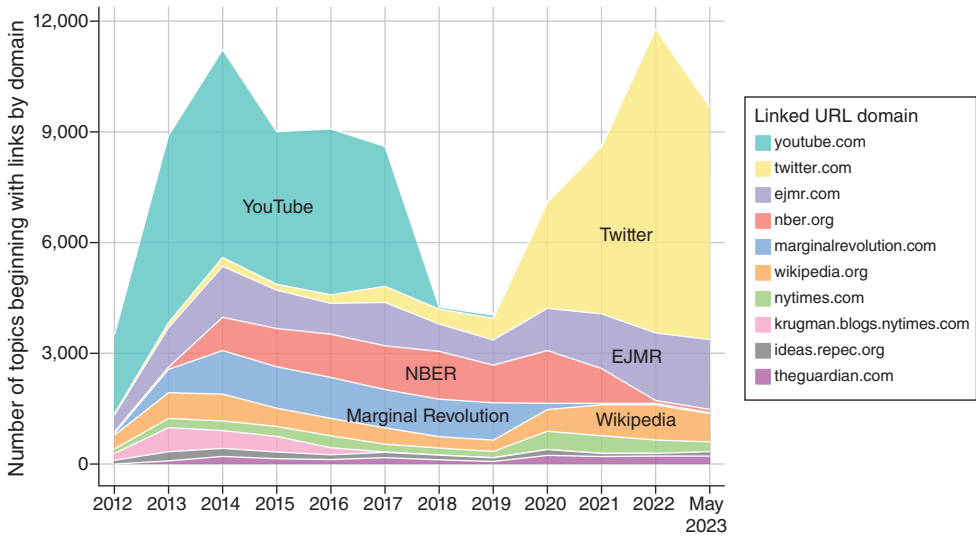


FIGURE 2. NUMBER OF DISCUSSION TOPICS BEGINNING WITH LINKS OVER TIME

Note: This figure plots the number of EJMR topics that begin with a link to the top ten most popular domains linked on the site over our sample.

The increasing importance of Twitter (and #EconTwitter in particular) on EJMR is not just a matter of composition. Figure 2 shows that, by 2022, the large increase of activity on EJMR documented by Ederer, Goldsmith-Pinkham, and Jensen (2024) and the concurrent rise of Twitter resulted in almost 8,000 EJMR topics with an opening post linking to Twitter, further highlighting Twitter’s role as an influential platform for economic discourse.

## II. Referenced Twitter Accounts on EJMR

Given the rise of importance of Twitter on EJMR, it is natural to ask which Twitter accounts receive the most attention on EJMR. Table 1 reports the usernames of Twitter users that are most frequently linked to on EJMR alongside the number of topics which have, as an opening post, a link to their corresponding Twitter handle. For each of these accounts (except for those wishing to remain anonymous), we retrieved the account's name and description along with the tweets displayed on the first page of the account's profile on Twitter. These tweets were then fed to OpenAI's 4o LLM (Achiam et al. 2023) for labeling using a brief prompt, listed in Figure 3, asking for a five-to-ten-word classification of the Twitter account owner. The resulting labels (e.g., "Sensationalist news aggregator with a conservative slant") are also shown in Table 1.

These accounts can be broadly categorized into three main groups: economists, right-wing commentators, and journalists. The group of economists (e.g., Claudia\_Sahm, jenniferdoleac, and JustinWolfers) includes academic and professional economists from diverse institutions whose tweets often serve as springboards for debates on research findings, policy implications, and professional conduct. The second group includes polarizing and predominantly conservative commentators and agitators (e.g., realChrisBrunet, RichardHanania, and libsoftiktok) and reflects EJMR's right-wing slant and engagement with contentious political and social issues. The third group is a collection of news sources and journalistic accounts, many of which have a conservative slant (e.g., visegrad24, disclosetv, and nypost).

Table 1 further includes  $z$ -scores of the average post classification measures of *Hate Speech*, *Negativity*, *Misogynistic*, and *Toxic* from Ederer, Goldsmith-Pinkham, and Jensen (2024) for the opening post of EJMR topics linking to the respective Twitter accounts. These measures are standardized into  $z$ -scores such that a  $z$ -score equal to 1 reflects 1 standard deviation above the average relative to all linked Twitter users. Positive values, highlighted in red, indicate above-average measures, whereas negative values, shaded in blue, represent below-average measures. For example, the relatively high  $z$ -score of 1.014 for *Hate Speech* for DrEricDing means that EJMR topics linking to this Twitter account contain more hate speech.<sup>2</sup>

Among the 10 most frequently mentioned Twitter accounts, there are four economists, including three female economists. EJMR posts referencing two of these female economists (Claudia\_Sahm and jenniferdoleac) have very high average  $z$ -scores of 1.974 and 2.598 for the *Misogynistic* classifier, indicating that EJMR posters discuss them in strongly misogynistic terms compared to all other Twitter accounts mentioned on EJMR. These results are particularly stark examples of the findings of Wu (2018, 2020) who also documents the use of gendered and sexist language by EJMR posters discussing female economists. The only other large average  $z$ -score for the *Misogynistic* measure is for EJMR posts referencing elben ( $z$ -score *Misogynistic* = 0.956), an academic economist who has championed LGBTQ-inclusive policies in the economics profession. Although the results for the most frequently mentioned female economists are particularly pronounced, several other prominent economists are also discussed on EJMR in negative or toxic terms such as ProfEmilyOster ( $z$ -score *Negativity* = 0.433) or arindube ( $z$ -score *Toxic* = 1.009).<sup>3</sup>

## III. Conclusion

EJMR's trajectory, marked by increased linkage to social media and broadening external references, underscores the forum's dual role as an information aggregator and a mirror of professional economics. However, its toxic culture raises concerns about inclusivity and the amplification of divisive narratives. Addressing these challenges requires a concerted effort to balance the platform's informational utility with its broader impact on the economics profession.

<sup>2</sup>For the *Hate Speech* and *Misogynistic*  $z$ -scores, there are many accounts with entries of  $-0.37$  and  $-0.335$ , respectively. These specific  $z$ -scores are the result of zeroes in the raw data.

<sup>3</sup>The two Twitter accounts (text35237388338 and text3863) with exceedingly high positive sentiment (i.e., large negative  $z$ -scores for *Negativity*) are referenced by repetitive spam posts on EJMR containing religious (Christian) messages of love and forgiveness.

TABLE 1—TOP 50 TWITTER ACCOUNTS MENTIONED ON EJMR

Twitter username	LLM description	z-score of average post classification				Number of topics
		Hate speech	Negativity	Misogynistic	Toxic	
realChrisBrunet	Right-wing commentator and controversial social media figure	-0.127	0.405	0.069	-0.62	325
elonmusk	Billionaire entrepreneur and technology influencer	-0.332	0.172	-0.146	0.056	302
text35237388338	N/A—Twitter account has been deleted/unavailable	-0.37	-7.121	-0.335	-0.851	214
RichardHanania	Conservative commentator and president of policy center	0.12	-0.531	-0.029	1.04	189
Claudia_Sahm	Economist and expert on fiscal policy and Fed	-0.216	0.187	1.974	0.116	172
jenniferdoleac	Economist and criminal justice policy expert	-0.003	-0.131	2.598	0.657	162
Noahpinion	Economics blogger and commentator with a humorous style	-0.08	0.065	0.026	0.223	158
JustinWolfers	Economics professor and commentator on public policy	-0.282	0.273	-0.335	0.048	132
libsoftiktok	Conservative social media commentator and agitator	-0.264	0.445	0.191	0.232	105
Black Female Economist*	N/A—Twitter account has been deleted/unavailable	-0.144	0.301	-0.335	-0.205	105
visegrad24	Conservative news aggregator and commentator on current affairs	0.225	-0.139	-0.335	-0.306	103
realDonaldTrump	Former US President and conservative political figure	-0.136	-0.691	-0.335	0.215	102
text3863	Christian evangelist and religious commentator	-0.37	-6.474	-0.335	-0.851	99
disclosetv	Sensationalist news aggregator with a conservative slant	-0.126	0.234	0.274	-0.294	92
nntaleb	Philosopher and author focused on probability and society	-0.123	0.224	0.281	0.276	91
WallStreetSilv	Financial market enthusiast and commentator	-0.08	1.022	-0.335	-0.355	88
paulkrugman	Nobel prize winning economist and columnist	-0.37	0.106	-0.335	0.102	86
mattyglesias	Political commentator and journalist	0.026	-0.171	0.326	0.358	84
Steve_Sailer	Conservative commentator and social critic	-0.046	-0.063	0.474	-0.111	76
zerohedge	Financial and political news and commentary blog	-0.37	0.101	-0.335	-0.132	75
realchrisrufo	Conservative commentator and cultural critic	-0.213	-0.028	0.45	0.047	74
abdcerian	Insufficient information to classify account owner	-0.37	0.979	-0.335	-0.851	65
nypost	Conservative-leaning news outlet and media organization	-0.37	0.848	-0.335	-0.444	62
nexta_tv	Eastern European news and media organization	0.19	0.368	0.6	-0.21	61
parse114	N/A—Twitter account has been deleted/unavailable	-0.165	0.634	-0.335	0.786	61
MrAndyNgo	Conservative journalist and political commentator.	-0.179	0.827	-0.335	0.236	60
RWApodcast	Pro-Russian geopolitical commentator and podcast host	0.081	0.02	-0.335	-0.334	60

(continued)

TABLE 1—TOP 50 TWITTER ACCOUNTS MENTIONED ON EJMR (continued)

Twitter username	LLM description	z-score of average post classification				Number of topics
		Hate speech	Negativity	Misogynistic	Toxic	
Black Male Economist*	Economics professor	-0.169	-0.686	0.669	0.067	60
nytimes	Mainstream media news organization and publisher	-0.176	-0.3	-0.335	0.477	57
JackPosobiec	Conservative commentator and political influencer	0.307	0.394	-0.335	-0.076	53
DrEricDing	Public health expert and social media commentator	1.014	0.951	-0.335	0.731	49
AlexBerenson	Conservative commentator and critic of Covid policies	-0.37	-0.171	-0.335	-0.549	46
Breaking911	Alternative news source focusing on sensational headlines	0.122	-0.693	-0.335	-0.287	46
elben	Assistant Professor of Economics specializing in health policy	-0.37	0.501	0.956	-0.26	44
NateSilver538	Statistician and author with political and sports interests	-0.084	0.433	-0.335	-0.198	43
arindube	Economics professor focusing on labor and inequality	-0.099	0.244	-0.335	1.009	43
EJMR_news	Anonymous economics forum content aggregator and commentator	-0.37	1.142	-0.335	-0.851	41
stillgray	Conservative commentator and podcast co-host	-0.37	0.9	-0.335	0.154	41
DonnieDarkened	Christian commentator focused on end-times prophecy	-0.06	0.886	-0.335	-0.142	40
florianederer	Economics professor with interest in antitrust and policy	-0.37	0.326	-0.335	-0.099	40
ProfEmilyOster	Economist and author focused on parenting and health	-0.37	0.433	-0.335	-0.851	39
econjobrumors	Controversial economics commentator and online provocateur	-0.37	0.287	-0.335	-0.851	39
haralduhlig	Economics professor and commentator on politics and academia	-0.37	-0.139	-0.335	-0.142	39
subgirl0831	Adult content creator and social media personality	-0.37	1.142	-0.335	-0.076	39
wesyang	Conservative commentator and writer on social issues	2.268	-0.555	-0.335	0.489	39
alexkokcharov	N/A—Twitter account has been deleted/unavailable	-0.077	-1.041	-0.335	-0.851	39
aylamao3	N/A—Twitter account has been deleted/unavailable	-0.37	1.142	-0.335	-0.851	38
hashtag	N/A—Twitter account has been deleted/unavailable	-0.041	-0.761	1.309	-0.475	37
greg_price11	Conservative political commentator and Trump supporter	-0.051	0.35	-0.335	-0.486	36
wwwojtekk	Economist and editor with skeptical commentary	-0.37	-1.024	-0.335	0.003	36

Notes: See the text for details on the LLM description of Twitter accounts and the construction of z-scores. Entries marked by \* have been anonymized according to the wishes of the account holders.

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Here is some information about the “{{user.name}}” @{{user.username}} account on
Twitter. The account description is as below:

'''
{{ user.description }}
'''

Here are the most recent posts from this account.

'''
{% for tweet in tweets %}
{{ tweet.text }}

{% endfor %}
'''

Based on the posts and the description, give me a five to ten word classification of
this account owner, e.g., “liberal commentator and agitator”, “economics professor
at a public university”, “german technology magazine”, “journalist in mainstream
media”, etc.

Return only the classification, no commentary. Do not be overly specific, for example,
prefer “Nobel prize winning economist and columnist” to “Nobel prize winner Paul
Krugman and author of The Conscience”.

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FIGURE 3. PROMPT FOR LLM CLASSIFICATION (OPENAI 4o)

## REFERENCES

- Achiam, Josh, Steven Adler, Sandhini Agarwal, Lama Ahmad, Ilge Akkaya, Florencia Leoni Aleman, Diogo Almeida, et al.** 2023. “GPT-4 Technical Report.” Preprint, arXiv. <https://doi.org/10.48550/arXiv.2303.08774>.
- Ederer, Florian, Paul Goldsmith-Pinkham, and Kyle Jensen.** 2024. “Anonymity and Identity Online.” Preprint, arXiv. <https://doi.org/10.48550/arXiv.2409.15948>.
- Lowrey, Annie.** 2022. “Harassment in Economics Doesn’t Stay in Economics.” *Atlantic*, November 26. <https://www.theatlantic.com/ideas/archive/2022/11/economics-sexual-harrassment-women-sexism/672239/>.
- Wolfers, Justin.** 2017. “Evidence of a Toxic Environment for Women in Economics.” *New York Times*, August 18. <https://www.nytimes.com/2017/08/18/upshot/evidence-of-a-toxic-environment-for-women-in-economics.html>.
- Wu, Alice H.** 2018. “Gendered Language on the Economics Job Market Rumors Forum.” *AEA Papers and Proceedings* 108: 175–79.
- Wu, Alice H.** 2020. “Gender Bias among Professionals: An Identity-Based Interpretation.” *Review of Economics and Statistics* 102 (5): 867–80.