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The Gender of Economics

Abstract: The production of knowledge is a subjective process. This paper shows some of the ways in which the knowledge produced in contemporary mainstream economics is biased by gender norms and relations. I discuss how gendering affects the extant personnel structures, publication processes, culture/environment, and empirical data produced in economics. I further give short examples of gender bias in economics' topics of analysis, pedagogy, and models. To the extent that these various elements of the discipline of economics are influenced by gender-specific norms and structures, the knowledge produced in the field will be partial.

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Introduction and Background

This paper studies the ways in which gender norms and relations influence the production of knowledge in contemporary mainstream economics. The paper is built upon literature in feminist economics, feminist science studies, Black feminist thought, and the recent literature on the so-called "gender problem in economics."

To study the gendered nature of a discipline is to study whether and how the knowledge it creates is influenced and bounded by the gendered conditions from within which it operates. To the extent that the relations within and the knowledge generated from economics are shaped by gender-specific norms, behaviors, and ideologies, I refer to a "gendered economics." Consider, for example, an economics that is strongly affected by gender norms that privilege one gender over others.[1] One characteristic of such an economics would be that it primarily seeks answers to questions that relate to the economic lives, activities, and experiences of one gender only. If this economics were to turn its attention to other genders, its assumptions, questions, and models could be inappropriate.[2] The same point holds if gender is not considered in relation to other categories of a person's identity, such as race, sexual orientation, and class background (Kimberle Crenshaw, 1989).

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[1] Gender is not constrained to binary categories; in this context that means that the various elements of a discipline can be gendered in different ways and to different degrees. In examples below in which I discuss only men and women, it is because the data and/or literature on which the idea is built is limited to these categories of gender identity.

[2] Consider an example of a related point, namely, the approach to analyzing the economic lives of people in same-sex couples (e.g., Alyssa Schneebaum 2013). In discussing how economics can contribute to understanding the economics of same-sex couples, M. V. Lee Badgett (1995) warns against universally applying the models originally built to study the economic lives of different-sex couples to same-sex couples. Her point is that in using a "one-size-fits-all" model of the economics of couples, economic analysis would "overlook the important legal, political, and cultural differences that shape the economic position and behavior of families formed by lesbian, gay, and bisexual people" (ibid., p. 123). The parallel point is true of gender: if economics prioritizes -- implicitly or explicitly -- an understanding of the economic lives of men, or people with mainly masculine characteristics, then the application of standard economic thinking to understand the economic lives of people of other genders will overlook important structural differences across genders.

Why the great concern with economics? Economics is the academic discipline whose central aim is to study economies and economic relations. A principal assumption of the discipline, and one that this paper adopts, is that all connections between people, communities, and countries are infused with economics: most interactions are either motivated or facilitated by economic interests or bounded by economic constraints. Ideally, then, the very point of economics should be to understand how economies function, for all people and all communities. The charge of this paper is that the knowledge produced from economics has limited veracity and relevance if the discipline's assumptions, beliefs, and practices are bounded by limiting dominant gender norms, roles, and beliefs.

What is a "gendered discipline"?

The bodies of scholarship in feminist science studies have created a framework for understanding academic disciplines as gendered. To understand the argument, we need a definition of gender. I define gender as a socially constructed mapping of particular roles, behaviors, statuses, and positions of power onto normative identity categories such as "masculine" and "feminine." This mapping is institutionalized through repetition of everyday interactions; is historically, demographically, and geographically specific; and is made functional by the sanctioning of behavior. It is moreover contingent on the intersections of multiple identity categories, as the effects of gendered structures are always dependent on other identity markers.

The scholars writing about the gender of academic disciplines have primarily drawn on the idea that there are parallels between gender norms on the one hand and conceptions of human behavior and/or interpersonal relations in an academic discipline on the other (Sandra Beaufaÿs and Beate Krais, 2005; Alexandra Rutherford, 2020). These parallels show the ways in which the academic discipline has gendered norms, behaviors, and beliefs embedded within itself. In other words, a study of the "gender of science" is an assessment of the gender-

specific and typically unequal gender structures of the elements of a discipline, such as its personnel, environment, and content, and the ways in which these structures affect knowledge production (Margaret Conkey, 2008). As Rutherford (2020, p. 22) puts it,

> "'Gendering science' is a set of processes whereby the ideas, theories, practices, epistemic values, and institutions of science become masculinized and feminized. Gendering affects who comes to be seen as an 'appropriate' scientist, regulates differential access to and success in many scientific fields, and even affects the products and communication of scientific work."

In paying particular attention to androcentric biases in the construction of scientific knowledge, feminist epistemologists have pointed to the partial, the subjective, and the situated nature of research processes and scientific inquiries (Karin Knorr Cetina, 1999; Patricia Hill Collins, 2000; Donna Haraway, 1988; Sandra Harding, 1991; Nancy Hartsock, 1983; Evelyn Fox Keller, 1982). Additionally, Black feminist theory has been highly influential in generating more differentiated and multidimensional analyses engaging with gendered structures of knowing (Patricia Hill Collins, 1986; Angela Davis, 1981; bell hooks, 1984; Diane Lewis, 1977). This paper draws from and builds upon the work of these bodies of scholarship pushing for more self-reflective, critical, and inclusive scientific practices in economics.

Which economics?

The "economics" assessed in this paper is the contemporary version of the so-called mainstream of economics. With "mainstream," I refer to the theories, models, and methods of economics that are taught at prestigious universities and colleges worldwide; that are considered to be "state-of-the-art" in papers published in the highest-ranked journals and presented at key conferences; and that receive the discipline's top awards. Similar to David Dequech (2012), I understand mainstream economics as comprising "a set of ideas... [that do] not need to correspond to any particular school of thought... [and that do] not have to be

internally consistent" (ibid., p. 254). In other words, mainstream economics does not map perfectly onto any particular school of economic thought. Moreover, the content of mainstream economics changes over time. In my view, mainstream economics had been, but is no longer, strongly characterized by the theoretical framework of neoclassical economics. The core tenet of neoclassical economics, rational choice theory, has persisted, but is increasingly challenged as a reasonable starting point for the conceptualization of economic behavior (William Davis, 2006). Instead, today's mainstream economics could be defined by its core methodologies: mathematical formalization (David Colander, Richard Holt, and J. Barkley Bosser, 2004; David Dequech, 2007) and most recently, applied quantitative empirical economics (Joshua Angrist et al., 2017) – the latter referring to economics' so-called "empirical turn." The gendered aspects of neoclassical economics have already been examined by feminist economists, as I will review below. One key contribution of this paper is to assess the gendered nature of various aspects of today's mainstream economics – an economics much more reliant on quantitative empirical data and seemingly more aware of and sensitive to its own (history of) practices of gender-based discrimination, harassment, and exclusion.

The gender of economics, or the anything of anything

This paper studies the gendered nature of the discipline of economics, but the framework developed can be used to study the characteristics of any academic discipline. Both gender and economics are only examples. Consider the work of Kate Zernike (2023), which reports on the culture of discrimination and intellectual marginalization against female scientists at the Massachusetts Institute of Technology (MIT). As a concrete example, Zirnike explains how molecular biologist Nancy Hopkins revealed that women were given less lab space than men at MIT. The gendered nature of many other disciplines have been assessed, as well, such as the gender-specific biases in the methods (Stephanie Moser, 2007) and content

(Conkey, 2008; Lori Hager, 2008) of archaeology; the culture of architecture, astrophysics, botany, chemistry, pharmacy, and political science (Bettina Heintz, Martina Merz, and Christina Schumacher 2004; C. Megan Urry, 2008); the characteristics expected of a scientist in STEM fields (Tanja Paulitz, Susanne Kink, and Bianca Prietl, 2016) and in management (Saija Katila & Susan Meriläinen, 1999); the theories, environment, and historicity of psychology (Rutherford, 2020); the data production in neuroscience (Hannah Fitsch, 2014); and the environment and historicity in mechanical engineering and material science (Anne-Françoise Gilbert, 2009). Many of the insights from the work in other fields are helpful to understand the gender of economics. For example, the same idealization of "objectivity," "neutrality," "disinterest," and "rigor" that characterizes economics (Diana Strassmann, 1994; Julie Nelson, 2010) has also contributed to the acceptance of gender-biased methods in STEM fields (Paulitz et al., 2016) and some subfields of psychology (Rutherford, 2020). As discussed below, neoclassical economics has been found to be bound by gender biases, but the gendered nature of *contemporary* mainstream economics is yet to be explored.

Similarly, just as we can study the gendered nature of various disciplines, we can consider economics (or any discipline) from a range of different characteristics. We could look at biases in a discipline based on race, ethnicity, economic class, nationality, political orientation, or something else. For example, economics has been studied from a race-based perspective, similar to how this paper studies it from a gender-specific perspective. Tim Koechlin (2019) explores the resounding silence on racism in the discipline's theories and subject matter, confounding racism simply with "discrimination." This simplification ignores many layers of complex reality. By reducing racism to "discrimination" alone, economics is partial in its understanding of economic relations. Patrick L. Mason, Samuel L. Myers Jr., and William A. Darity Jr. (2005) further document silence on issues of race-based discrimination in economics publishing and a dismissal of the research of Black economists. Both papers show that the discipline – its pedagogy, its models and methods, its personnel structures – are

systematically silent on issues of racism. This is a race-based bias in the field. Relatedly, a recent blog post gives an excellent summary of the bias towards research on high-income countries in economics (Eeshani Kandpal, 2023). Relevant to both points, the AEA Climate Report (AEA 2019a) reveals tremendously high levels of experiences of discrimination and harassment of people of color in economics.

Existing literature on the gendered nature of economics

There are two main strands of thought on the question of gender biases in economics. The first engagement with economics' gender biases came almost exclusively from the sub-field of feminist economics, particularly in the 1990s. The foundational literature in feminist economics since the 1980s and 1990s has sought to identify the ways in which gender and gender norms impact the production of knowledge in economics. In my understanding of that literature, there have been three main goals of feminist economics. The first has been to get mainstream economics to include women in their analyses. At the time of the founding of feminist economics as a formal sub-field of economics in the 1990s, women were still remarkably absent from economic analyses. It was feminist economists who pushed for the inclusion of gender – at the time, understood strictly as women – in these analyses. Feminist economists further pointed out that when women were included in classical economic texts, they were characterized as dependent and unfit as economic agents (Michèle Pujol, 1992). Even in economic work that dealt with areas typically considered relevant for women, such as the household, the understanding of women did not reflect the lived experiences of most women (Paula England, 1982; Francis Wooley, 1993; Ester Boserup, Su Fei Tan, and Camilla Toulmin, 2013). Feminist economists wanted economics to pay attention to women as members of society and the economy.

The second goal of feminist economics has been to rid the discipline of so-called masculine biases (Marianne Ferber and Julie Nelson, 2009; Gabrielle Meagher and Julie Nelson, 2004). These biases have to do with the fundamental construction of economic thought, at the level of the discipline's assumptions and questions. Feminist economists argued that an economics laden with male biases would primarily seek answers to questions that relate to the economic lives, activities, and experiences of men only. At the time that feminist economics was formalized in the 1990s, the mainstream of the discipline comprised mainly neoclassical models and conceptions of human beings. Neoclassical economics sought to explain the choices of *homo oeconomicus*, its "representative agent" (that is, it is the way in which neoclassical economics modeled some basic characteristics of human behavior). The feminist economic critique of *homo oeconomicus* was that his traits and characteristics correspond to masculine-ascribed characteristics typically assigned to (biological) men. They pointed out that a source of the male-biased thinking in neoclassical economics was its rooting in humanism, which is strongly characterized by binary thinking and that associates masculinity with rationality (Giandomenica Beccio, 2019). In taking *homo oeconomicus* as its representation of all humans, neoclassical economics left non-masculine figures out of the analysis, ignoring women and their contributions to and experiences in the economy (see, among many others, Marianne Ferber and Julie Nelson, 1993). As Marjorie Cohen (1982, p. 148) put it, "[e]conomic theory has little that is useful to say either about what is happening to women in the economy or why it is happening."

The third goal of feminist economics has been to improve economic research output, such that it incorporates a more diverse understanding of the ways in which people experience economic life. One way to improve economics, from the feminist economic point of view, would be to include some key issues in knowledge about the economy, such as "caring and unpaid labor as fundamental economic activities; use of well-being as a measure of economic success; analysis of economic, political, and social processes and power relations; (...) and

interrogation of differences by class, race-ethnicity, and other factors" (Marilyn Power, 2004, p. 3). In other words, feminist economics have wanted economics to do better at explaining the real world. It is this call from feminist economics to improve the discipline of economics upon which this paper is built.

Interestingly, things have developed such that *contemporary* mainstream economics is very much engaging with some aspects of the role of gender in the discipline. In the last few years, we have experienced the emergence of literature and thinking on the so-called "gender problem in economics." This contemporary "gender problem" refers to the facts that men are strongly overrepresented in economics and, in particular, that there is a leaky pipeline in the field: the higher up the academic career ladder one looks, the lower the share of women in the position (Shelly Lundberg and Jenna Stearns, 2019). This is not a new issue – feminist economists and others have long made clear that women are (too) underrepresented in the field (Myra Strober, 1975; Shulamit Kahn, 1995). As discussed by Nancy Folbre (2009) and Becchio (2019), this was also an issue in very early economic thought. What is new in the contemporary discussion is that it is receiving attention and active contributions from the mainstream – though the attention on gender is not intersectional in its analysis, hardly acknowledging that BIPOC women face a steeper hill in the discipline (Gary Hoover and Ebonya Washington, 2021) and not having data on trans*[3] people (American Economic Association, 2019a). The "gender problem in economics" became the topic of special sessions at key conferences, of special issues in top journals, and the impetus for the American Economic Association to create a professional code of conduct (American Economic Association, 2019b). Moreover, several papers discussing gender-specific inequality in the discipline have received abundant media attention (e.g., Leah Boustan and Andrew Langan, 2019; Erin Hengel, 2022), The literature on the "gender problem in economics" will be

[3] The asterisk in trans* connotes the inclusion of many identities whose gender does not correspond to their assigned sex at birth and/or who do not identify with the dominant gender binary, such as transgender, non-binary, genderqueer, and agender identities.

critical in understanding the contemporary ways through which gender norms and practices bias the creation of economic knowledge, as we will see below.

Finally, we know that mainstream economics claims to have no gender, to be value-free, neutral, and "objective" (Julie Nelson, 2010). This self-perception is an important hindrance to an honest assessment of the discipline's gendered nature and the ways in which its dominant gendering undermines its ability to produce economic knowledge. This paper should help shed light on the ways in which the production of knowledge in economics is made partial by limiting gender biases.

Why does it matter if economics is gendered?

The previous section showed that the state of our knowledge about the gender of economics reveals the latter to be characterized by male biases, at least in its past models and theories, as well as in its past and current personnel structures. The problem of economics being characterized by masculinity is that a masculine economics is likely to produce only knowledge about the economic experiences, interests, and perspectives of men (or people with predominantly masculine characteristics). For example, economics' conceptualization of its most common measure of a country's economic health -- the Gross Domestic Product -- ignores the economic value created by the tremendous amount of unpaid care and household work, primarily done by women, and women of color in particular (Cheryl Dow, 2020). Moreover, the policy suggestions that come out of a masculine discipline disregard the interests and needs of women and trans* people. Caroline Criado Perez (2019) points out a large number of studies that omit women and minority groups. That book makes tremendous strides in illuminating how the ignorance of gender in the production of knowledge very seriously harms women. Thus, in short, an economics that is not aware of the relevance of gender norms and ideologies in its own practices is bound to creating only impartial knowledge, which can lead to bad policy.

Approach of the study: the elements of a discipline

We now turn to an assessment of the gendered nature of contemporary mainstream economics. I do this by exploring different elements of the discipline from a gender-aware perspective. This approach is similar to that taken by Nelson (1995), who showed how a the awareness of gender in four different elements – or what she calls aspects – of economics would greatly improve the discipline. She analyzed (1) economic models (with a focus on homo oeconomicus, but also covering models of the labor market); (2) economic methods (defined as those that follow "[s]trict adherence to rules of logic and mathematics, formalization in the presentation of assumptions and models, sophistication in the application of econometric techniques" (ibid., p. 138)); (3) economic topics (in the mainstream, individuals and markets); and (4) economic pedagogy (not just what economics is taught, but *how* it is taught). Here, I build on and expand Nelson's (1995) work by analyzing four additional elements of the workings of an academic discipline: its personnel; publication practices; culture/environment; and empirical data used in its analyses. I further build on Nelson's points about models, topics, and pedagogy with examples of gender blindness in these elements of *contemporary* mainstream economics.

Personnel

Let us start with the literal face of economics. Men are overrepresented in economics. Though women make up more than 30% of economics Ph.D. students in the US, fewer than 15% of full professors there are women (Boustan and Langan, 2019), showing economics' "leaky pipeline" (Donna Ginther and Shulamit Kahn, 2004; Lundberg and Stearns, 2019). Women are less likely to make it to the top of the profession.

This gender imbalance is problematic for the knowledge that the discipline can produce. This is particularly true because male and female economists, on average, hold

different views on core topics in economic policy (Ann Mari May, Mary G. McGarvey, and David Kucera, 2018; Ann Mari May, Mary G. McGarvey, and Robert Whaples, 2014). An under-representation of one group challenges the discipline's ability to achieve *strong objectivity* (Sandra Harding, 1992, 2015). The ideas produced in a gender-imbalanced economics – particularly given that people of different genders hold varying views about the economy – will be biased towards the views of the over-represented group.

The discipline has been increasingly attentive to this issue. Having identified the presence of a gender imbalance in economics, the questions have now turned to an understanding of the sources of the imbalance: why is it there, and how is it perpetuated? In answering these questions, it is fruitful to consider how to "move up" in economics. The answer is, of course, through publications. As it turns out, there is gender bias in publication processes in the discipline, as we will see in the next section.

Publication practices

The personnel structure of economics depends heavily on publication records, and journal rankings are key in the valuation of publications. Women are far less likely to author or co-author papers published economics, both overall (Ginther and Kahn, 2004) and in the top journals in the field (Hengel, 2022). Research from the last few years on publication processes in economics reveals built-in gender bias that may explain at least some of the gender gap in publications, and thus, in career advancement and tenure.

To begin, female authors are held to higher standards in publications. David Card, Stefano DellaVigna, Patricia Funk, and Nagore Iriberri (2020) analyze submission for four top journals: *Quarterly Journal of Economics (QJE), Review of Economic Studies (RES), Journal of the European Economics Association,* and *Review of Economics and Statistics.* The authors use data on the authors of submitted papers and the referees assigned to a paper, including the referee's summary recommendations. They also track the citation count for the

paper, regardless of where it was ultimately published. Using citation count as a measure of quality, the authors find that female-authored papers are higher quality: they get 25% more citations than similar papers authored by men. This finding is confirmed in the literature; in both the top-five (T5) journals and in the broader literature, papers written by female economists are more often cited than those written by males (Erin Hengel and Eunyoung Moon, 2020; Shoshana Grossbard, Tansel Yilmazer, and Lingrui Zhang, 2018). Nevertheless, Card et al. (2020) find that papers written by men and women are equally likely to be rejected by referees and editors. They conclude that they see evidence that "female researchers are held to a higher bar" and that editors "effectively reject too many female-authored papers relative to a citation-maximizing benchmark" (p. 324).

Female economists are also held to higher standards of readability in their writing (Hengel, 2022). Hengel measures readability using five standard formulas. She analyzes papers published in four of the top five journals, namely, *American Economic Review (AER), Econometrica (ECA), Journal of Political Economy (JPE),* and *QJE*. Hengel finds that papers written by female authors are 1-6% better written than those written by men and that this gap widens in the peer review process. However, the peer review process, in which women's papers improve in their readability, takes 3-6 months longer for women than men – valuable time, especially while on the tenure clock.

Finally, women receive less credit towards tenure for co-authored work than men do (Heather Sarsons, Klarita Gërxhani, Ernesto Reuben, and Arthur Schram, 2021). Men with similar numbers and levels of publications are equally likely to receive tenure, regardless of whether their papers are single-authored or co-authored. However, the returns to the probability of getting tenure for a co-authored article is lower for women than it is for men.

Taken together, the recent literature on gender-specific aspects of the publication process in economics shows that female and male economists are playing the same game with different rules and unequal opportunities. The research indicates that there are gender-specific

processes at play when publishing in economics. This matters because women's work is less likely to be heard. This result not only biases the chances for tenure and the personnel structure of the discipline, but also it means that the content produced by women is less likely to be published. Gender bias in the publication process biases the knowledge that the discipline creates.

It is interesting to note that the research on gender and publication processes discussed here is all published in top journals in economics. Slowly but surely, economics is acknowledging its gender problem – at least in the ways that it can be quantified. The same this is happening when thinking about the culture and environment of economics, though much of what is to be said about gender bias in that field cannot be quantified and thus remains for many a black box.

Culture/environment

The "culture" of a discipline is impossible to quantify completely – and, given economics' affinity for numbers, it thus historically has received a lot of attention from the mainstream. However, the last few years have seen a flurry of research activity trying to understand this point. Indeed, the whole contemporary discussion of the "gender problem in economics" was sparked by a Bachelor thesis by Alice Wu that analyzed the culture of one institution in the discipline, the online forum *Econ Job Market Rumors* (EJMR); Wu's research is now published in top journals in economics (Wu, 2018; 2020). Here I review this and another key area of new research on the culture of economics.

EJMR is an anonymous website on which professional economists share information about the job market, economics in general, methods, and gossip or rumors. The website has received a great deal of negative attention, but it continues to be an important resource with informal information – it receives 2.5 million monthly visits and tens of thousands of posts

each month (Florian Ederer, Paul Goldsmith-Pinkham, and Kyle Jensen, 2023). As Ederer (ibid.) put it, "it contains much useful information… [like] how to run non-linear least squares with fixed effects… how to make your Stata graphs more beautiful… where one should move to for the best salaries." Wu (2018; 2020) analyzes a gender-specific aspect of this website by asking which words are most likely to predict whether a post is about a male or a female economist. Words about physical appearance or personal information, like "hot," "pregnant," "marry" and "breast" are on the list of top ten words that predict whether a post is about a female economist. Some of the top ten words that predict whether a post is about a male economist are "homo," "testosterone," "chapters," and "macroeconomics" (Wu, 2018). Wu (2020, p. 879) uses a model of identity proposed by George Akerlof and Rachel Kranton (2010) to explain the gendered posts as serving to "reinforce the perception of women as outsiders in the economics profession through diminishing their professional image."

Second, Pascaline Dupas et al. (2021) show that male and female economists are treated differently when presenting their research. The authors study interactions between presenters and audience at research seminars at the top 30 economics departments in the US and one elite conference in 2019. At research seminars, conference presentations, and job talks, women receive 12% more questions than male presenters – this gap is driven by an even higher gender discrepancy in job talks. Importantly, the questions asked of female presenters are more hostile and patronizing. The more hostile environment in the room while a woman presents her research likely decreases the probability that women's papers to make it into top journals (because editor and reviewers can be present and can be influenced by the negative reception of the paper by their peers), which would will make it less likely that women advance in their careers. Most fundamentally, Dupas et al. (2021) show that there is an underlying – though likely unintentional at the collective level – hostility towards women, sending socially perceptive women the message that they are not as welcome in the discipline.

These empirical examples highlight the trends identified in the AEA's (2019) Professional Climate Survey. 20 percent of female economists report being "satisfied with the overall climate within the field of economics," versus 40% of male respondents. Half as many women than men "always feel included socially" in the discipline, and only 28% of women report always feeling included intellectually, versus 49% of male respondents. Thirty percent of women report having been discriminated against at all, and 48% say they have been discriminated against based on their sex.

The gendered culture of economics affects the ideas that come out of the discipline. 48% of female AEA members report that they have at least once not presented their question, idea, or view at their place of work to avoid possible harassment, discrimination, or unfair or disrespectful treatment (AEA 2019a). Half as many men report having withheld their views for the same reason. A hostile environment sets boundaries around which people can feel comfortable sharing their ideas, an activity that is fundamental to the progress of science. Silencing the views of women, trans* and non-binary people by creating and/or accepting a culture in which mainly men's views are heard and values biases the knowledge created in economics.

Data

Recall that contemporary mainstream economics has been described as going through an "empirical turn" (Angrist et al., 2017). The mainstream seems to be defined by its "orientation to method" (Tony Lawson, 2006), in which a core unifying commonality among work in economics is its use of applied quantitative empirical methods. It is certainly not the content of economics work that unifies economics – there are papers in top journals on a wide range of issues that may not seem to be related to economic questions, but they all use the methods taught in econometrics classes. An argument in support of quantitative analyses in economics is that they allegedly bring us to "truth," that is, that there are existing facts in the

world, and when we can capture them in quantitative data, then we can objectively describe the ways of the world. What if the quantitative data themselves are biased, though?

I present here one original example of quantitative data that appears to suffer from gender-specific biases. In particular, I study how the gender of the interviewer collecting data on a large economic survey impacted the answers that respondents gave on the survey. This example introduces the idea that gender relations impact even supposed "objective" data in economics. The main point is that gender norms affect the information given on economic surveys, which means that the data analyzed in economics are already laden with invisible gender biases. In this way, the knowledge that comes out of economic analyses are intrinsically bound by gender relations.

The existence of a so-called "interviewer effect," which refers to the distortion of answers to survey questions due to interviewer characteristics, is well-known in the literature. The interviewer effect gives important framing of the interpersonal dynamics that affect the quality of the quantitative data collected in interviews. Social desirability theory can help explain the presence of interviewer effects. It suggests that survey respondents under-report socially undesirable and over-report socially desirable attitudes, behaviors, or characteristics to avoid tension and to gain social approval from their interviewer (Simon Kühne, 2018; Mark Leary and Robin Kowalski, 1990). In their review of the gendered nature of interviewer effects, Brady West and Annelies Blom (2017) conclude that it seems to be most pronounced in gender-sensitive questions, such as questions about attitudes towards gender equality. While interviewer effects are not completely unknown in economics (e.g. Thomas Crossley, Tbias Schmidt, Panagiola Tzamourani, and Joachim Winter, 2021), *the role of gender in interviewer effects* in economics is missing in the literature.

To the best of my knowledge, this is the first investigation of the role of the gender-specific interviewer effect in the collection of economic data.[4] I ask if there is a relationship between the gender of the interviewer and of the survey respondent with the amount of wealth that the respondents claim to have, on average, using data from the Household Finance and Consumption Survey (HFCS). The HFCS is an EU-wide survey on the assets, consumption, and savings of private households. The survey is coordinated by the European Central Bank and administered by country-specific national banks. Data for the survey are collected by interviewers who visit the homes of respondents and ask them, using a so-called Computer Assisted Personal Interview (CAPI), about the individuals living in the household and the household's finances. The HFCS is an exceptional source of European-wide information on household wealth and income. The HFCS from Austria is unique: it is the only HFCS data that contain information on the characteristics of the interviewers, including their gender, education, migration background, age, and even personality type.

My analysis of the Austrian HFCS data reveals that there are important differences in responses depending on the gender of the interviewer. Table 1 shows that male respondents interviewed by women report having, on average, almost €300,000, but male respondents interviewed by men report having an average of less than €250,000. Women also report higher levels of wealth when they are interviewed by women (€220,000) instead of by men (€185,000). These differences are all statistically and economically significant. Since the (treatment) assignment of interviewers to particular households and therefore respondents is done randomly, the results can be interpreted as causal effects of the gender of the interviewer.

[4] The only exception is Robert Groves and Nancy Fultz (1985), who found that respondents give more optimistic answers about their economic outlook, on average, when interviewed by men instead of women. These are data on economic perceptions, not supposed objective empirical economic facts.

Table 1: Net wealth by respondent/interviewer gender combination

	Net Wealth (thousands of Euros)	
	Mean	Standard Error
Interviewer male - respondent male	247.3	6.1
Interviewer female - respondent male	295.9	13.2
Interviewer male - respondent female	186.1	6.9
Interviewer female - respondent female	219.7	7.9

Notes: Interviewers are assigned randomly to households. Pooled data on 8,449 observations from the three waves (2010, 2014, 2017) of HFCS data. All multiple imputations and survey weights provided in the survey have been used.

Overall, both men and women report having higher wealth when interviewed by women. The average answers of male respondents to female interviewers parallel the gender norm that men should be, and are, more economically independent and successful. When interviewed by women, the average claim to how much wealth they have is higher than when interviewed by men. Female respondents also fit in with this stereotype when they report having less wealth when talking to male interviewers versus of female interviewers. These empirical findings support the idea that gender norms play an important role in the creation of economic data. In particular, the gap in average reported wealth by interviewer gender is consistent with predictions from the social desirability theory in combination with gender norms. It is a compelling example of how economics – even at the foundational level of collecting the data that it uses to do its analyses – is influenced by gender norms and structures. This example is particularly important in the context of economics' empirical turn.

Contemporary examples of gendered topics, pedagogy, and models

In this section, I build on Nelson's (1995) work and provide short examples of gender bias in the topics, pedagogy, and models of contemporary mainstream economics. These examples are meant to be illustrative.

Topics

In the last 15 years, economics has expanded from being the discipline to study "the economy" to now address much more, like "everyday life" (Steven Landsburg, 2012), "life" and "the world" (Tim Harford, 2008), and indeed "just about everything" (Andrew Leigh, 2015). However, has economics also studied gender and gender relations?

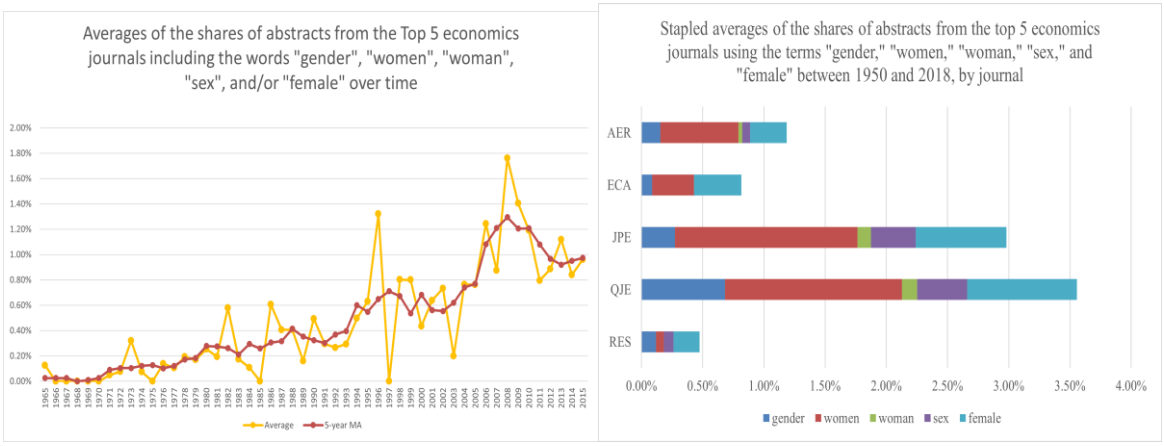
Preliminary analysis of these questions suggests, unfortunately, that the answer is no. I have constructed data on the share of abstracts from papers published in the T5 journals in economics (AER, ECA, JPE, RES, and QJE)[5] between 1965-2015 that include the words "female", "gender", "sex", "women", and/or "woman." The original dataset comprising abstracts from these journals were collected by Hengel (2022).

Figure 1 shows the share of abstracts in the T5 journals that mention women or gender, from 1965-2015. The yellow line is the yearly share of abstracts that mention one of these words at least once; the red line gives the five-year average of the number of abstracts that mention the words. The share of abstracts that say something about women and/or gender was basically zero up until the 1970s. Even at its highest point in these data, in 2010, fewer than 1.8% of all abstracts in these journals mentioned gender and/or women. The majority of the abstracts that do deal with these questions belonged to papers published in the QJE and the *JPE*, with 3.5% and 3.0% mentioning one of these words, respectively. The other three top journals have had close to nothing to say about women or gender.[6] Thus, at least until 2015, the mainstream of economics was relatively uninterested in women and gender.

[5] This ranking has been stable over time and is robust to journal ranking list (David Card and Stefano DellaVigna (2013).

[6] Earlier and outside of the T5 journals, only 70 out of 42,668 articles published in the 1950s and 1960s listed in the ECONLIT database mention "gender", "women", "female", or "sex" (Conrad, 2018).

Figure 1: Share of T5 abstracts mentioning gender/women, over time and by journal.



Notes: Author's calculations.

Pedagogy

What is taught in economics classes and the ways in which it is taught contain biases that affect who wants to, who can, and who successfully does study economics. This issue has been discussed at some length among feminist economists; Stephan Lefebvre and Lisa Giddings (2023) give an excellent review of the literature. Today, men continue to be overrepresented in undergraduate economics. Hannah Gartner & Alyssa Schneebaum (2023) review the literature on why this is the case. They identify several main drivers built into the pedagogy of economics that favor male over female students (again, we lack data on trans* and gender non-binary individuals). Some of these explanations reflect other gender biases in economics. First, related to the gender bias in personnel structures discussed above, Gartner and Schneebaum (2023) discuss a lack of female role models in the field as a deterrent to female students. Second, gender biases held by students of economics in Chilean universities widen in each year of the economics degree (Valentina Paredes, M. Daniele Paserman, and Francisco Pino, 2023). This finding suggests one of two things: either the climate of economics classes or the content of economics classes *creates* gender bias, or there is selection bias and people with greater gender bias feel more comfortable to pursue a degree in

economics. Either way, there is some gender-specific partiality happening, even at the undergraduate level.

Finally, as evidenced by Cynthia Bansak and Martha Starr (2010), the content of introductory economics classes is more aligned with the interests of male students than with those of female students. Female students express more interest in topics such as social welfare, global poverty, inequality, and discrimination, and these topics do not receive much coverage in introductory textbooks (Bansak and Starr, 2010). At the same time, male students express more comfort with the math-heaviness associated with economics classes, and the economics discipline in general. It is fruitful to consider the parallel between broader social norms about gender-appropriate traits and competencies and the methods and topics of economics. Math is stereotypically considered a "boy's" subject, while care and social work are considered "girl's" topics. Loading introductory economics classes with math and diluting social dimensions of economic issues deters women from economics from the start. For girls who do pursue economics anyway, the lack of same-gender peers in the field can be a deterrent later on (Ulf Zölitz and Jan Feld, 2018).

Models

A final example of the gendered nature of economics looks at one of the most prominent textbooks used in introductory cases. In their widely read book *Economics* (19e., 2010), Paul Samuelson and William Nordhaus (2010: 4) say that economics is often thought of as "the study of how societies use scarce resources to produce valuable goods and services and distribute them among different individuals." However, as evidenced by the rest of the same book, economics sometimes falls short of working to achieve an understanding economic processes. In their 650+ page book, Samuelson and Nordhaus discuss gender in just three short sections: in the context of explaining discrimination, in talking about poverty, and

to discuss labor force participation. This reduction of the role iof gender in the economy is a gender bias in itself. Let us look at one more deeply.

In their first of three mentions of gender, talking about discrimination, the authors say that discrimination against women has declined significantly, and that leaving aside the "family gap" (the gap in earnings related to labor market interruptions that occur when people – mostly women – leave their paid jobs to care for children, the elderly, and the sick), "women appear to have approximately the same earnings as equally qualified men" (p. 263). Even if this were statistically the case (to this point Samuelson and Nordhaus say that "gender discrimination… is vanishing today" (p. 328)), framing the discussion in this way ignores the fact that gender-based discrimination continues to exist in many areas of the economy beyond earnings. Centering the conversation about discrimination on the comparison of earnings of "equally qualified" people is flawed from the get-go. It leaves out any discrimination that occurs on the way to reaching the same qualifications.

Most importantly for this study, Samuelson seems to know this. In his statement to the Joint Economic Committee to Congress on *Economic Problems of Women, Part I* in 1973, he says

> "if because of the dead hand of custom and discrimination half of our population have a quarter of their productive potential unrealized - and that may be an understatement - then by simple arithmetic a gain of between 10 and 15% in living standards is obtainable, by ending these limitations and discriminations." (Cited in Cecilia Conrad, 2018)

In this context, it is important to note the difference in the perspectives. When talking to policymakers, Samuelson acknowledges the presence and cost of discrimination. In a textbook meant to introduce people to the discipline of economics, the same person writes discrimination against women off as a "vanishing" phenomenon. This is a simple example of the gendered nature of the limitations of economics' ability (or willingness) to produce

relevant, real-world knowledge, even if they reveal themselves to know better in other contexts.

Concluding Remarks

This paper has shown a plethora of ways in which the discipline of economics is laden with gender-specific biases. From the teaching of undergraduate economics up through the culture of the discipline for practitioners in the academy, we see implicit (or explicit) gender-specific partialities. As I have argued, an economics characterized by gender bias – or any bias – slows down progress and makes our knowledge partial.

I argued above that gender bias in the discipline limits the knowledge that the discipline can create. May, McGarvey, and Whaples (2014) and May, McGarvey, and Kucera (2018) document differences in the views of male and female economists. Diversity of opinion and perspective are important to create "strong objectivity" (Harding, 1992, 2015). The gender biases in economics discussed in this paper lead to an underrepresentation of voices and views other than those held by men. Given that male and female economists hold different views on some key issues, on average, then the exclusion of one group biases the standing knowledge in and coming from the discipline.

This paper can serve as a building block for future research, which would be very fruitful to pursue. One shortcoming of the present analysis is certainly the lack of intersectional perspectives in what we know about the elements of the discipline of economics. Part of why we know so little about the experiences and circumstances faced by economists of color and queer* economists is because people in these populations are not well-represented in the field – either by self-selection or by exclusionary forces. It will be illuminating to collect more data on the experiences of these populations so that we can get a fuller picture of the *intersectional* gender of economics.

Future research can build on many of the specific points brought up in this article. The section on quantitative data could be expanded by looking at other data sets that contain information on the gender of the interviewer. The issues in the environment/culture of economics would be better understood using qualitative research methods. Tracking economics' engagement with topics around gender beyond 2015 will be an interesting avenue for future research. There has surely been an increase in attention to women (if not gender overall) – can future research address the mechanisms that made this shift occur? Interviews with journal editors, for example, could help uncover some of what had changed.

As the mainstream of economics continue to evolve, as it always has and always will, it will be interesting to track how the gender-specific issues I have brought up here change. The section on quantitative data shows that the "empirical turn" can lead economics to greater gender bias if the data collected are biased. The use of register data could address these issues, but register data lack information on things we can capture in a survey, like opinions and expectations; they do not allow us to "get into people's minds" the way that survey data can (Stefanie Stancheva, 2021). If economics continues its focus on quantitative data, it will be important to find ways to be sure that the data collected are free of gender bias.

Though this paper has brought up many issues that reveal weaknesses in the discipline of economics, it is not meant to dismiss the discipline as a whole. There are many promising developments in economics – such as its recent attention on its own "gender problem" and the creative ways that the problem has been studied. This paper is meant as a reflection, giving a framework to understand the relevance of gender in the production of economic knowledge. My hope is that future practitioners can use it to do even better economics in the future.

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