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DISCUSSION PAPER SERIES

IZA DP No. 15217

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APRIL 2022

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ABSTRACT

Gender Economics: Dead-Ends and New Opportunities*

The economics literature on gender has expanded considerably in recent years, fueled in part by new sources of data, including from experimental studies of gender differences in preferences and other traits. At the same time, economists have been developing more realistic models of psychological and social influences on individual choices and the evolution of culture and social norms. Despite these innovations much of the economics of gender has been left behind, and still employs a reductive framing in which gender gaps in economic outcomes are either due to discrimination or to “choice.” I suggest here that the persistence of this approach is due to several distinctive economic habits of mind—strong priors driven by market bias and gender essentialism, a perspective that views the default economic agent as male, and an oft-noted tendency to avoid complex problems in favor of those that can be modeled simply. I also suggest some paths forward.

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Keywords: gender, culture, social norms, discrimination

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As economics continues to expand into new domains of social science it seems inevitable, given the significance of gender roles in our economic and social lives, that there will be increasing interest in the economics of gender. There has been, and continues to be, some impressive work being done at the frontier, applying new insights into how humans make decisions in gendered domains. However, much of the empirical research on gender seems uninformed by this new economics of choice. The dead-ends of the title are the many studies that continue to frame analysis of gender differences in terms of a discrimination vs. preferences dichotomy that ignores the psychological and social forces that we know are important drivers of behavior. This paper has three main components: a brief review of how recent developments in economics present opportunities for innovative studies of gender and its role in the economy; some speculation as to why we have not taken full advantage of these opportunities to date and finally, some thoughts on where we might go from here. The bottom line, I argue, is that some habits of thought characteristic of economists, combined with the demographic imbalance of the profession, have limited our conceptual horizons in this area of inquiry. There is much to gain from overcoming these barriers and examining more deeply the sources of economic gender gaps.

1. Current state of gender economics and some problems

The study of gender and gender roles holds a central position in the social sciences. This has been less true in economics than in many other fields since, for much of its history, economic research focused narrowly on market interactions and much of the economic activity of women has occurred outside formal markets. But interest in gender-related topics has been much more apparent in recent years.¹ Men and women tend to occupy distinct social roles, though the size and nature of the differences vary widely over time and space, and these roles generate measurable inequality on outcomes of interest to economists, including time use and control of material resources. The documentation of these differences, and their rationalization, is the subject of a growing literature that commands considerable attention across the discipline.

The root of gender differences in economic and social status lies in the gender division of labor, which concentrates female economic activity in private households in many societies. This implies that issues of economic demography—fertility, health, migration—can't be understood without considering the distinct interests and capabilities of men and women, and the same is true of the study of human capital, given the importance of early investments in children. These are the traditional topics of gender economics, but it is becoming apparent that gendered behavior across a wide range of other domains, from crime to corporate governance, from labor markets to taxation, can shine a light on deeper issues in economic motivation and economic interactions.

Much of the most recent work in gender economics can be placed into three categories: (1) documentation of gender differences in traits and behavior using novel sources of data, including field and lab experiments, (2) causal estimation of social influences on gendered dimensions of behavior, such as labor supply and entry into STEM fields, and (3) studies of gender discrimination in markets and interpersonal interactions.

¹ As one indicator of the prevalence of economic research on gender, 9% of the sessions at the 2021 Society of Labor Economics annual meeting had the word “gender” in the title, and another 6% featured “family.”

A number of recent surveys summarize the experimental evidence on gender differences in behavioral traits and preferences (Croson and Gneezy, 2009; Bertrand, 2011; Niederle, 2016; Shurchkov and Eckel, 2018). Women appear to have slightly higher average levels of risk-aversion than men, though the magnitude of the difference is not invariant across domains and framing can reduce or even eliminate the gap (Eckel and Grossman, 2008, Nelson, 2015). Women are less likely, on average, to choose to enter competitive tournaments in experiments and to describe themselves as competitive. There is also a gender gap in mean levels of willingness to negotiate, though this may be driven by a difference in the expected returns to doing so, rather than a difference in preferences (Exley, Niederle, and Vesterlund, 2020).² Experimental studies on gender difference in social preferences have yielded mixed results. There has been considerable speculation about what impact these gender differences in traits and behaviors have on economic outcomes and there are recent attempts to establish external relevance for lab studies by showing that such traits are correlated with labor market outcomes (Buser, Niederle, and Oosterbeek, 2021).

Research in the second category, on the role of social influences on economic behavior, has shown that social networks, family, and cultural milieu have powerful effects on attitudes and behavior, including gendered behavior. For example, several recent studies have shown, with plausible causal identification, direct evidence of the importance of social factors and gender norms on the gender gap in STEM education. Influences have been shown to include parents, particularly fathers in a STEM occupation, and teachers (Oguzoglu and Ozbeklik, 2016; Alan, Ertac, and Mumcu, 2018). Cools, Fernandez, and Patacchini (2019) find that greater exposure to "high-achieving" boys has a negative effect on girls' science and math grades and decreases the likelihood that girls go on to complete a bachelor's degree, while exposure to high-achieving girls has positive effects. Eble and Hu (2019) show that randomly assigned variation in the proportion of a child's middle school classmates whose parents believe that boys are better than girls at learning math affects children's perceived difficulty of math, aspirations, and math performance to the detriment of girls. Social effects have also been identified in other aspects of women's economic lives. In addition to the well-documented positive relationship between a woman's labor supply and that of her mother, women who were exposed to more working mothers as adolescents, via high school peers' mothers, are more likely to work themselves when they have children (Olivetti, Patacchini, and Zenou, 2020). Girls who have a younger brother, rather than a younger sister, earn less as adults and develop more traditional gender attitudes, with mechanisms that include lower parental academic expectations for daughters, but not sons (Cools and Patacchini, 2019) and more gender-specialized parenting (Brenøe, 2021). Impacts of broader cultural norms have also been identified: Nollenberger et al. (2016) find that the degree of gender equality in immigrant parents' country of origin is correlated with the relative math scores of girls and boys.

Finally, recent economic investigation of discrimination has included setting up experiments or correspondence studies³ that control for individual characteristics that might affect the judgements of a possible employer, judge, or fellow player by randomly assigning gender or race to agents or their observed credentials. The resume study of Bertrand and Mullainathan (2004), who randomly assigned traditionally black or white names to resumes sent to employers, is a classic example of this case-study

² An observational study of real estate transactions found that apparent gender differences in negotiated outcomes disappeared with better controls for the characteristics of the property (Andersen et al., 2021).

³ Correspondence studies are similar to audit studies, but examine the responses to fictitious, rather than actual, agents.

approach. There are now a large number of micro-studies, generally focusing on hiring or assessment outcomes in particular markets or occupations (Azmat and Petrongolo, 2014). The results have been mixed, with some finding evidence of apparent gender discrimination while other find none or even reverse discrimination (Williams and Ceci, 2015). Discrimination studies often attempt to sort out mechanisms for differential treatment—distinguishing between taste-based discrimination (or animus) and statistical discrimination or implicit bias.⁴ These studies and the assessment of interventions to combat bias have occupied much of the attention of some recent reviews (Sevilla, 2020; Giusta and Bosworth, 2020).

These general categories, and work on gender economics that lie outside them, include a large body of rigorous, insightful research. The problems arise, to my mind, in the interpretation of the results, sometimes by the authors themselves, but also in the discourse around them in seminars and other forums. Such discussions tend to default into a discrimination vs. choice/capability dichotomy for understanding gender differences in economic outcomes—“women are more risk-averse (or agreeable) than men, so that’s no doubt why they earn less”, or “there’s no evidence of gender discrimination in this applicant callback (or resume assessment) experiment, so women must just prefer not to enter this occupation”. This is a dichotomy rendered obsolete by a great deal of theoretical innovation that has changed the way economists look at individual choices, and its persistence is hindering our ability to make progress in understanding the role of gender in the economy.⁵

We are seeing that culture and social influences affect behavior, which implies that men and women effectively make choices in very different environments and subject to distinct incentives. Gender identities that conform to community norms are policed, both by individuals who have internalized them, and by peers and authorities. Behavioral economics has made it clear that our actions can be impulsive and error-prone—actions in domains where gender is salient are subject to behavioral defaults and emotional resonance that can lead to non-optimal outcomes. Most of this work on the economics of choice has not been centered on explaining gender differences, and the empirical research on gender economics seems largely decoupled from these innovations.

In our haste to fall back on the reductive discrimination vs. choice framing of gender differences, we also seem to skate over concerns about causality and inference that are more rigorously enforced in other areas of research. How consistent and convincing is the evidence for gender differences in traits and behaviors, given the likely presence of publication bias? Are these differences large enough to explain the observed differences in outcomes that we are interested in? How can we interpret an empirical association as causal when so many individual traits are unobserved? Most importantly, are gender differences in traits or preferences (often measured using behaviors) in any sense exogenous, or are they being driven by social pressure, expected rewards, or information gaps? The appropriate interpretation of empirical results and the path forward, both intellectually and in policy terms, depends on the answers to these questions, yet they often go unasked.

⁴ For example, Bohren, Imas, and Rosenberg (2019) bring such tests into a dynamic environment, setting up an online platform in which content is evaluated by other users and introducing posts with exogenous gender identities. Women face discrimination initially, but those who accumulate positive evaluation histories reverse this pattern, indicating that biased initial beliefs generated the initial discrimination.

⁵ At the very least, our understanding that the most important drivers of gender inequality are “pre-market” factors that include the family division of labor is a long-standing one (Polachek, 1975).

These points would seem obvious to a social psychologist or sociologist--why do economists seem particularly vulnerable to a simple-minded view of gender differences that leads to analytical short-cuts and rather loose assertions of causality? Strong priors seem to be one reason—there appears to be a widespread desire to explain gender gaps as “just the way women/men are.” Thus, a very limited study that fails to find overt discrimination can be generalized to a broad conclusion that dismisses female underrepresentation as a serious problem to be dealt with. I suggest below that a viewpoint in which the default agent is male and an aversion to tackling complex questions may also contribute to this short-sightedness. Motivated reasoning may be at play here—a Panglossian desire for all to be well on the gender equity front. We have good professional reasons for overcoming these barriers: moving on from the measurement of gender differences to the serious pursuit of the “why?” of gendered behavior presents distinct opportunities for economics moving forward.

In the following sections, I will briefly discuss some of the new approaches to choice, social influences, and cultural evolution that are relevant to gender economics, suggest some economic habits of thought that are holding us back, and offer some examples of paths forward that we might take.

2. New opportunities

In recent decades, economics has been developing more sophisticated and realistic models of decision-making and acquiring solid evidence of psychological and social influences on individual choices. In addition to the well-known innovations of behavioral economics, with its focus on the cognitive limits and biases that afflict the supposedly rational actor, the social context of choices has received both empirical and theoretical attention. A separate literature examines the more macro aspects of these social influences, including the way they are transmitted, persist, and evolve in the form of accepted norms and culture. The implications of these developments for welfare analysis and our understanding of policy are profound, and their importance for understanding gendered patterns of behavior and outcomes and their interpretation has not always been acknowledged.

2.1 Extensions of the choice framework: Behavioral economics, endogenous preferences, and identity

There have been many challenges to the traditional economic model of rational optimization by individuals with well-defined preferences as a framework for explaining actual human behavior. The best-known of these fall under the broad umbrella of behavioral economics, which adds insights and evidence from psychology to improve the explanatory power of economics and augments these using experimental and other means (Camerer and Loewenstein, 2004). Behavioral economics focuses on the cognitive limits and biases of real humans and how these lead to departures from so-called rational behavior. Real people tend to be overconfident, are more sensitive to losses than to gains, and have problems with self-control in ways that generate systematic biases in behavior that depart from optimal decision-making. The problem with economic theory, according to Richard Thaler, is that “We are relying on one theory to accomplish two rather different goals, namely to characterize optimal behavior and to predict actual behavior” (Thaler, 2016). Economics, he argues, should rely on “evidence-based theory.”

The conceptual tools of behavioral economics can be relevant to analyzing behavior in gendered contexts, though little has been done in that realm.⁶ One distinct feature of behavioral economics, dating back to Simon (1983), is an explicit treatment of how emotions can affect choices. Immediate emotions such as fear, anger, and embarrassment, as well as anticipated emotions like regret, have important consequences for behavior that can be modeled (Loewenstein, 2000). That emotions play a powerful role in decisions concerning relationships with family members and with romantic and sexual partners seems obvious, and yet most economic analysis in these domains is purged of any overt references to emotions. Occasional exceptions to this appear in studies of domestic violence but even here words like ‘anger’ tend to be avoided in pursuit, perhaps, of scholarly detachment.

A second important behavioral finding concerns the power of heuristics in driving behavior. Our brains are lazy, decision-making is hard, and negotiation with others is incredibly difficult, so we are always ready to take the easy way out. The strong tendency to choose default options is a prime example, and the most common application is to schemes to promote savings, beginning with Madrian and Shea (2001). But the same basic insight drives the separate spheres model of household bargaining (Lundberg and Pollak, 1993), in which socially-prescribed gender roles provide couples with a default public-goods provision option as a negotiation-free default in marital bargaining. Social norms and gendered identities can affect decisions through traditional routes such as modifying preferences or applying social constraints, but they can also act as familiar behavioral templates that drive behavior independently of conscious decision-making or overt bargaining.⁷

Beyond behavioral economics, a number of other extensions of the canonical model have implications for gendered choices. A distinct conceptual challenge emerges from theoretical frameworks in which preferences themselves are neither fixed nor exogenous, but respond to an individual’s environment or socialization or are even, to some extent, chosen. An acknowledgement that individual tastes can change and a concern for the implications of preference endogeneity are long-standing in economics. Friedman (1962) argued that economists should ignore changing preferences as part of a division of labor between the social sciences, and should instead focus on prediction. Conversely, Pollak (1978) points out that, for empirical demand analysis, effective prediction requires that sources of endogeneity such as habit formation and interdependent preferences be taken into account. Bowles (1998) defines preferences themselves as cultural traits and learned influences on behavior. Among the ways in which markets and other economic institutions affect preferences, he argues, are via deliberate processes of cultural transmission (eg. through schools).

The resistance of economics to the possibility of preference change has been criticized by these and other authors. Pollak dismisses the Stigler/Becker approach of attributing changes in behavior not to changing preferences but to changing household technology (i.e. the accumulation of “consumption capital”) as “a matter of semantics, not substance.” Bowles forcefully describes the assumption of exogenous preferences as an indicator of the heavy price that economics pays for “its self-imposed

⁶ One exception: Becchio (2019) employs a distinction between neoclassical or ‘as-if’ behavioral economics (Berg and Gigerenzer, 2010) and ‘smart’ behavioral economics to argue that feminist economics is consistent with the ‘smart’ version in its rejection of standard rationality and its incorporation of emotions and institutional and social determinants of decision-making.

⁷ Women’s tendency to volunteer (and to be asked to volunteer) for low-reward tasks can serve as an example (Babcock et al., 2017).

isolation from the other behavioral sciences.” A more recent discussion by Fehr and Hoff (2011) that focuses on psychological mechanisms underlying malleable preferences also criticizes the reluctance of economists to invoke preference changes as explanatory factors despite accumulating empirical evidence.

Beyond changing preferences lies the possibility that we can deliberately influence our own tastes, to actually choose our preferences. The concept of identity, as introduced by Akerlof and Kranton (2000), provides a context in which such choices are possible. The basic idea is that people divide themselves (or are placed) into social categories, each of which is associated with norms and ideals concerning how someone in that category should behave. Individual utility depends on identity, and on the degree to which one’s behavior or characteristics conform with the (socially-determined) norms. Behavior that deviates from expected behavior for someone in your identity category decreases utility, causing “anxiety and discomfort in self and others.” The extent to which identities are chosen or assigned will vary both by category and time—identities may be fixed in the short-run, but via actions such as migration, marriage, or school choice we can, over the medium- and long-term, change our social groups and identity.⁸ Of course some characteristics, such as race and gender, are for most relatively fixed as well as being fundamental ingredients in any society’s menu of social categories. Men and women can alter behavioral expectations to some extent by changing marital status, education, or occupation but these expectations will continue to be gendered. Increased acceptance of gender nonconformity and gender transitions, contested though it is at the moment, will no doubt change the way we think about gender identity as assigned to individuals by the sex they are assigned at birth, however (Broussard and Warner, 2019).

The idea that social norms play an important role in driving gender differences in behavior has been increasingly accepted in economics. Recent work has emphasized the importance of gender identity for explaining patterns of behavior in the work lives of women in a family context (Bertrand, 2011). For example, women who earn more than their husbands are in violation of identity norms for both men and women in households, and this outcome is associated, according to Bertrand, Kamenica, Pan (2015), with reduced marital satisfaction and a higher probability of divorce. Bertrand points to the role of “gender stereotypes” behind the two main “pain points” in economic gender inequality—women’s relative avoidance of higher-paying STEM fields and the burden of primarily responsibility for childcare (Bertrand, 2020). Sevilla (2020) also emphasizes the importance of social norms and culture in driving the stereotypes that contribute to gender gaps.

One notable aspect of the identity framework of Akerlof and Kranton is that disutility from non-normative behavior emerges from two different mechanisms. Identity consists of both internalized social norms, in which conforming behavior enhances utility directly, and a social identity through which community approval or disapproval affects wellbeing. The “anxiety and discomfort” that an individual’s non-conforming behavior evokes in others is a social externality, and category enforcement actions can

⁸ An important contribution in this frame is the work on chosen preferences by Bernheim et al. (2021) who develop a dynamic model in which individuals choose from a socially-provided menu of “worldviews.” Current experiences are evaluated according to current worldviews but preferences adapt to anticipated constraints. If mind-sets are not perfectly flexible, this can lead to time-inconsistent behavior.

include not just disapproval or exclusion, but harassment or violence. It is difficult to identify the mechanisms involved in the effect of identity norms on behavior, in particular the relative importance of preferences (internalized norms) vs. constraints (the expectation of social approval or disapproval), and this of course applies to the growing body of empirical work on social influences on behavior in general.

2.2 Social influences on individual traits and behavior

Economists have produced a great deal of empirical evidence on the impacts of families, peers, and neighborhoods on individual characteristics, behavior, and economic outcomes, but much remains to be learned about the inter-personal mechanisms involved. To what extent are the effects of others on our behavior driven by socially-determined preferences, as opposed to a desire to conform or avoid disapproval, the exchange of information, or the availability of resources? Identifying mechanisms is important for several reasons. The welfare implications of policies and other changes in the social environment, the best avenues for intervention, and the likely persistence of socially-driven behaviors will all depend on whether social influences operate via possibly persistent changes in tastes or perceived constraints.

The theoretical literature does not always make a sharp distinction between these forces when examining the “interdependencies among individuals in which preferences, beliefs, and constraints faced by one person are directly influenced by the characteristics and choices of others” (Durlauf and Ioannides, 2010). In *Social Economics*, Becker and Murphy (2009) include the social environment as an argument in utility functions to represent the “pervasive” effects of social influences on behavior, and intend this to incorporate a very broad set of forces—information, gains to coordination, conformity, and a desire for prestige. In their introduction to the *Handbook of Social Economics*, Benhabib, Bisin, Jackson (2010) consider both social preferences, which are individual tastes that depend upon population aggregates, and social action, which are the equilibrium outcomes of social interactions with others and reflect the returns to coordination and conformity. They also discuss neighborhood effects, which can operate through a variety of routes—resources, constraints, and information, and family/kinship networks, where risk-sharing and informal contracts may play a role.

Since networks, neighborhoods, and other social units are endogenous, much of the scholarly focus, beginning with Manski (1993), has been on the econometric identification of social influences and peer effects in the aggregate, rather than the tracing of individual pathways. Such identification relies on panel data, random shocks, random peers, or structural endogeneity (Bramoullé, Djebbari, and Fortin, 2020). Studies of peer and neighborhood effects have produced mixed results as to the magnitude and significance of such effects, and it has become clear that the effect size may vary both by context and by outcome (Graham, 2018). Large randomized interventions such as Moving to Opportunity have allowed researchers to investigate neighborhood effects on a wide variety of outcomes for adults and children, including long-term impacts (Aliprantis, 2017; Chetty, Hendren, and Katz, 2016).

The substantial empirical literature on the influence of social networks, peers, and family on individual choices has established that our traditional model of choices that result from optimization by an individual with stable preferences facing time and budget constraints is inadequate in many domains. The implication for gender economics is that these extensions of the choice framework and evidence of the importance of social influences imply that there are likely to be complex differences between men

and women in the context in which they make decisions. The next question that arises is—how are the gender norms operative at a given time and place determined?

2.3 Social equilibrium

Social norms concerning the appropriate behavior, responsibilities, appearance, and modes of interaction of men and women are important components of the culture of a time, place, and social group. Even if we restrict our attention to wealthy western societies, there have been substantial changes over recent decades in the acceptance of market work for mothers and purchased childcare, and in attitudes towards divorce, non-marital cohabitation, and premarital sex. Where do such norms come from and how are they transmitted across generations? What determines the relative persistence of some norms and the malleability of others? To what extent can social norms and cultural rules be purposefully influenced by social or political groups or by economic actors who have interests in doing so? Sociology has had much to say on these questions⁹ and recently, economics has begun to consider them as well. To the extent that individual decisions depend upon gendered identities and social pressures, these questions are central to gender economics.

The persistence of culture over time rests on the effectiveness of intergenerational transmission mechanisms. Economic theory on this topic begins with Bisin and Verdier (2001), who model the purposeful socialization of children by parents who are imperfectly altruistic. Parents would like their children to share their culture, but there may be a tradeoff between this transmission and economic success. Cultural transmission can occur through several different channels: from parents to children, between peers, or through the influence of extra-familial authorities such as teachers.¹⁰ Families and communities transmit culture not just through direct transmission of preferences and attitudes, but also through choices of schools and neighborhoods, and via social learning and imitation within groups who are organized geographically, linguistically, or through self-isolation (Giuliano, 2020; Bisin and Verdier, 2011).

In addition to varying among social groups, norms concerning the appropriate social roles of men and women change over time. The study of cultural evolution is a broad and multidisciplinary field with roots in evolutionary biology (Cavalli-Sforza and Feldman, 1981; Boyd and Richerson, 1988). Economists have applied evolutionary game theory to the evolution of social norms where the mechanisms that support behavioral norms, including positive returns to coordination, imitation, avoidance of social sanctions, and the signaling of group membership interact with deviations in behavior due to inattention, idiosyncratic beliefs, or payoff shocks (Bowles, 2004; Young, 2015). These deviations

⁹ See, for example, Charles and Grusky (2004), England (2010), and Pepin and Cotter (2018) on the stalled gender revolution.

¹⁰ Economists' attention to gender norms focused initially on women's labor force participation, and the systematic ethnic differences in the family roles of women despite similar labor market environments (Reimers, 1985). There is now a substantial literature on cultural influences on women's labor supply, fertility, and gender role attitudes, much of it focusing on the experiences of first- and second-generation immigrants (Antecol, 2000; Blau et al., 2011; Blau et al, 2020; Fernandez and Fogli, 2006, 2009; Fernandez, 2007). What Fernandez (2007) calls the epidemiological approach to assessing the importance of culture in driving gender norms uses differences in economic outcomes for individuals in the same economic and institutional environment, but whose social beliefs may be affected by the experiences of previous generations, including parents.

provide information to other agents, and can precipitate cultural change, as can shifts in technology that alter the costs and benefits of existing norms. Notably, although social interactions maintain norms through the mechanisms described above, they can also accelerate shifts initiated by shocks such as technological change. For example, conservative sexual norms were maintained in the mid-20th century by parental socialization and perceived marital sanctions from premarital pregnancy, but innovations in contraceptive technology reduced these costs and led to a widespread and rapid increase in permissive attitudes termed the sexual revolution (Greenwood and Guner, 2010).

Culture can enhance efficiency by providing behavioral defaults, and one might expect cultural evolution to converge to optimal behavior in a stable environment. In the face of environmental change, however, a mismatch can arise between the current environment and a culture that reflects past conditions. In this situation, the path from one equilibrium to a better one can be blocked by the losses that a temporary disequilibrium will impose (Dawkins, 1996). Even if one evolutionary path turns out to be better than the other, a society that has progressed far enough down the non-optimal path with these behavioral externalities will find it costly to undo customs and, instead, becomes “locked in more deeply into a suboptimal equilibrium” (Nunn, 2021). Young (2015) discusses some collective attempts to dislodge embedded but harmful social equilibria, including foot-binding and dueling. In the latter case he attributes its eventual demise, after legal and educational attempts had failed, to changes in weapons technology that increased fatalities and, consequently, the costs of the practice.

Cultural forces also influence the relative economic or political status of men and women by restricting or advancing their actions in markets and society. This means that some groups will have an incentive to use social movements, media, or the actions of institutions such as schools, the church, or the courts to either maintain or erode cultural constraints. The social roles of men and women have been contestable, as the history of women’s rights movements and episodes of religious and political backlash in response to them attest. Attempts to preserve or shift cultural norms can be in pursuit of individual wellbeing or social justice or, since norms inevitably have distributional consequences, in pursuit of economic or political gains. Going forward, the mechanisms of cultural change will be a key issue in gender economics.

3. Where does this take us in the economics of gender?

The implications of these innovations in the economics of choice for studies of gender and gender inequalities are profound. The current landscape of available choices for both men and women are circumscribed by social and institutional forces which are likely to shape preferences as well as constraints. As we have seen, any welfare analysis of policies and institutional changes that infringe on gender roles will rest on unstable ground given that inter-personal externalities in social behavior are pervasive and that decisions may be influenced by the defaults of gender norms and the emotional resonance of choices in this domain.

The challenges to traditional welfare analysis in the face of endogenous preferences are fairly straightforward, and have been acknowledged for many years (Pollak, 1978; Elster, 1983; Bowles, 1998) though the way forward is always left for future research. Bernheim et al. (2021) note the difficulties in evaluating welfare when individuals can choose “worldviews”, and illustrate this with this example: “Are women in gender-oppressive cultures who prefer to wear the burqa making optimal choices, or are they

undermining their own well-being?” This echoes Sen’s decades-old rejection of utilitarian approaches in evaluating the choices of women when they have been socialized to expect little (Sen, 1990).

The extended models of choice also highlight difficulties that individuals face when trying to optimize in domains particularly affected by gender roles. The intrusion of strong emotions, the policing of gender identities, and the need for effective communication and negotiating skills to maneuver successfully in these social domains make the achievement of optimal outcomes difficult.¹¹

One broader implication of these complexities, and in particular the importance of social influences on goals, beliefs, and behavior, is that it makes clear that we obtain a limited view of discrimination from even very well-designed correspondence and experimental studies. If gender discrimination is defined as differential treatment of individuals based on their gender alone (as though gender were a manipulable quality), then it is somewhat divorced from real-world biased treatment of individuals with different gender identities. The notion that one can identify discrimination on the basis of gender with “all else equal” belies the impossibility of controlling in practice for the rich social and psychological factors and beliefs inseparable from gender itself.¹²

On the plus side, economists have been incredibly productive and energetic in documenting new and reliably-measured gender differences in the distributions of a broad range of traits and behaviors. There has also been a remarkable increase in economic attention to gender norms in the context of advancing gender equality. Bertrand (2020), focusing on gender stereotypes, which tend to exaggerate differences between men and women, argues for more research (and in particular a greater willingness to publish null results) and changes in the way media, advertising, and educational materials portray gender. Considering the persistence of a gendered division of household work despite the convergence of labor market behavior by men and women, Cortes and Pan (2020) discuss the role of gender identity norms as a source of stickiness in the adjustment of behavior. Jayachandran (2021) reviews the impact of social norms as barriers to women’s employment in developing countries, and assesses possible interventions including improving the safety of female workers, fostering interaction among working women, and fielding programs designed to change norms, particularly about women working.

On the other hand, economists’ work on social norms and endogenous preferences tends to be siloed and has failed to develop into a broader discussion within economics of the determinants of gender roles and their impact on behavior and significance for policy. The complexity of decisions made in a specific social context has not been reflected in much recent empirical work on gender differences, which tends to default to an old and familiar framework: discrimination vs. choice, with the “choice” option implicitly attributed to inherent differences in preferences and capabilities. Why do economists tend to fall back on this reductive framing?

¹¹ Several studies in countries with relatively conservative gender norms have shown that men’s perceptions of community norms affect both their own behavior and the opportunities of female partners, and that men are often misinformed levels of community disapproval of working women or paternal leave-taking (Miyajima and Yamaguchi, 2017; Bursztyn, Gonzalez, and Yanagizawa-Drott, 2018, Field et al., 2021).

¹² For an extended discussion of this conceptual issue in the definition and detection of discrimination in a racial context, see Kohler-Hausmann (2018).

4. Economic habits of mind.

Increasing empirical evidence of social influences on behavior and a conceptual expansion of our models of choice have failed to lead to a more modern economics of gender because new work has run into several economic habits of mind that erect barriers to the broader adoption of these approaches. These habits of mind generate resistance to thinking about gender differences as outcomes of complex economic and social processes and lead us to fall back on simplistic frameworks instead. This means that we fail to conceptualize new evidence, both as researchers but also as readers and referees who judge new work, in a way that lets us formulate productive new questions to investigate. These habits of mind can be described as follows: 1. Economists possess very strong priors against acknowledging market failures, and in favor of inherent differences as the sources of gender gaps; 2. To economists, the default agent in an economic model is male, so that masculine characteristics or behavior are seen as ‘human’ characteristics or behavior; 3. Economists avoid complex questions. All of these factors have been noted by others in the past, but they come together in the analysis of gender in the economy in ways that strike me as destructive of deep inquiry to a degree that can only be equaled by the economics of race.

4.1 Strong priors: Markets work fine, so there must be something wrong with women

As part of a recent Federal Reserve symposium on racism and the economy, Sendhil Mullainathan made a forceful (but hardly unprecedented) point about how economists think (Mullainathan, 2021). He noted that, absent overwhelming evidence to the contrary, economists prefer to believe that employers are efficient and therefore do not discriminate. The hurdle for empirical evidence to overcome this strong prior is very high, and this bias persists despite widespread awareness that many markets (and particularly labor markets) do not function efficiently. Turning from the racial context of his remarks to the economics of gender, the market bias that profoundly affects our thinking about race can be supplemented by an additional cognitive bias—gender essentialism.

Market bias is a well-known phenomenon in economics, and probably needs little further explanation. The basic idea is that we believe markets work efficiently and therefore it makes sense to assume that, if some groups systematically earn less than others, it must be because they are less productive, or because they have chosen jobs that are more pleasant or flexible and therefore pay less. If observable productivity or job characteristics can’t explain the pay discrepancy, then there must be unobserved factors at play. There is a disciplinary preference at play here, not just a logical process: some unobservable forces are privileged at the expense of others and in pursuit of a rhetoric of justifiable differences.

A related but distinct phenomenon is that we tend to take as given what you bring to the market. Although the scope of economics has broadened to include pre-market investments in skills and traits, and early socialization with its impact on what we so infelicitously call noncognitive skills, there has not been a wholesale reconsideration of this market-focused framework.¹³

¹³ There is experimental evidence that people, assessing how deserving two workers are, tend to pass judgement on the basis of observed choices alone, even when they are aware that these choices are shaped by different circumstances, but we might expect more discernment from researchers than experimental subjects (Andre, 2021).

Market bias generates a very strong tendency for economists to explain away group differences in outcomes. Priors about market efficiency are comfortable ones on both race and gender frontiers, and they are stoutly defended.¹⁴ Gender essentialism provides an easy supporting mechanism, fostering a belief that fundamental differences between men and women explain gender gaps in economic outcomes. Gender essentialism is a concept from psychology that describes a belief that there are innate and fixed qualities of men and women that drive observed differences in behavior. Psychologists treat essentialism, the belief that “certain categories have an underlying reality or true nature that one cannot observe directly but that gives an object its identity, and is responsible for other similarities that category members share” as a cognitive bias that is particularly strong among young children (Gelman, 2004).

One aspect of essentialism is a belief that characteristics are fixed at birth; for example, young children are likely to believe that a child adopted at birth will speak the language of birth parents rather than adoptive parents (Hirschfeld and Gelman, 1997). Even when the ‘switched at birth’ scenario is tested on young adults, they are quite likely to give essentialist responses (Eidson and Coley, 2014).¹⁵ Such responses are even more likely when the subject is under time pressure, which would be consistent with a dual-processing approach to reasoning in which essentialism is a more automatic or primitive reaction than a reasoned response (Kahneman, 2003).¹⁶

The notion that there are gender differences in behavior because “that’s just the way women/men are” is a typically essentialist view and characterizes much of economists’ discussions of gender inequality. This shows up in many contexts, but economic approaches to gender specialization in household work are foundational. Household specialization is attributed by Becker to biological differences in comparative advantage between the sexes (Becker, 1991) which, in turn, emerge from the physical demands of childbirth and breastfeeding and a ‘maternal instinct’ that leads to a great commitment to the care of children by women. That these differences in the demands of early childhood would lead to profound differences in economic status may seem surprising in a low-fertility modern economy with readily-available market substitutes for home production, but the Becker story is that extreme specialization results from the dynamic investments that follow birth, causing “the magnification of small differences in comparative advantage into large differences in earnings” (p. 63). Becker provides no empirical support for the plausibility of a dynamic effect this large—the power here is in the narrative, and the appeal of gender essentialism. Similarly, the underrepresentation of women in STEM fields is variously attributed to a dislike of math, a preference for dealing with people rather than things, and to greater male variance in math ability (the latter supported by distributions of math achievement,

¹⁴ An aside: Anyone who doubts the existence of these strong priors need only participate in a discussion among economists of what is now extensive and convincing evidence that women receive biased treatment in the economics profession itself (Lundberg and Stearns, 2019).

¹⁵ In the ‘switched at birth’ scenario, subjects are told to imagine that a baby girl is sent to live on an island with an uncle and is raised in a community with only men and boys, then asked whether she will engage in stereotypical female behavior later in life.

¹⁶ Individual gender essentialism has also been found to be strongly associated with a lack of support for egalitarianism and support for gender discrimination (Skewes, Fine, and Haslam, 2018).

rather than of unobservable ability). Early experimental evidence of gender differences in risk aversion and avoidance of competition were quickly leveraged as explanations for women's lower wages.

Maintaining these comfortable priors has also been associated with departures from empirical rigor that are separable from the conceptual bias of essentialism. The following questions have often been ignored: How sure are we about the magnitudes, or even the existence of gender differences in traits, given likely publication bias? Are gender differences in traits big enough to matter for the economic outcomes we are interested in? How can we assert that associations between gender gaps in traits and outcomes is causal, given the likely presence of unobservable drivers? And finally--the key to the essentialist argument—are these gender differences in traits and behaviors inherent to men and women, or are they endogenous?

How large are gender differences in traits?

There is a clear tendency to exaggerate the consistency and magnitude of gender differences, particularly if they cater to gender stereotypes. In a meta-analysis, Hyde (2005, 2014) finds that, with a few exceptions, gender differences in a long list of skills, traits, and attitudes are small or trivial, although variance within each gender is large. Subjects asked to predict gender differences in traits tend to overestimate these differences for traits, such as social sensitivity, that are gender-stereotyped but not traits, such as happiness, that are not (Eyal and Epley, 2017). People also tend to give biased self-reports about characteristics that conform to their gender identity. In an experimental study, women reported themselves as more empathic than men, though this was not supported by performance in an emotion recognition task, and the extent of this over-reporting depended on context and on gender-role orientation (Löffler & Greitemeyer, 2020). Bertrand (2020) speculates that beliefs about positive gender stereotypes ('women are more caring') may be more persistent than negative stereotypes because they are seen as less harmful.

This gender stereotype bias can sometimes be seen in the interpretation of economics research on gender differences as well. Nelson (2014) argues that stereotype-confirmation, in the form of inaccurate citation of prior work, emphasis of stereotypical results, and publication bias, characterize the literature on gender differences in risk aversion. But such reporting issues are by no means limited to economics. A recent neuroscience review reports substantial evidence of reporting bias and publication bias in favor of gender differences in studies of brain activation, brain abnormalities, and cognitive functioning, but a systematic metastudy of similar brain imaging studies finds negligible evidence of sex differences (Eliot, Ahmed, Khan, and Patel, 2021).

Are gender differences in traits large enough to account for observable differences in economic outcomes?

This question is seldom addressed, since the existence of a story—a gender difference exists in a trait that is correlated with economic outcomes—appears to trump the need for a quantitative analysis. Blau and Kahn (2017) provide an expansive review of the gender wage gap literature, including not just the conventional human capital and work experience/hours variables but also psychological attributes and other measures of 'noncognitive skills.' They find that these new variables make only a small to moderate contribution to narrowing the persistent unexplained wage gap. Two recent papers provide instructive examples of how we might move forward on this front. Kleven, Landais, and Sjøgaard (2021) ask whether biology can, in fact, drive the child penalties that women face in labor market outcomes

relative to men by comparing parents of biological and adopted children. They find, as one might expect, that short-run penalties are slightly larger for biological mothers, who will be directly affected by birth and breast-feeding, but that the long-run penalties are essentially identical. The fact that adoptive mothers experience the same labor-market consequences as biological mothers strongly suggests that gender roles, not biology, are the driving force behind child penalties. Siminski and Yetsenga (2020) examine within-household division of labor and ask what level of differential productivity in the home and market sectors would be consistent with the observed level of specialization in heterosexual couples. They find that a man would need to be implausibly less productive in market work than his female partner before the couple would be predicted to achieve parity in domestic work.

Are the associations we observe between gender differences in traits and outcomes evidence of a causal relationship?

An important issue arises in attributing causality when assessing the impact of gender differences in characteristics. Economic studies of so-called noncognitive skills tend to use behaviors or task performance as measures of these skills, and I have noted elsewhere that this is problematic if they are being treated as fixed traits (Lundberg, 2019). One issue with using behavior as a measure of skill is that choices also depend on other traits, incentives, beliefs, and situational factors that we are unlikely to be able to control for, and that are likely to differ between individuals whose circumstances vary because of race, sex, or income.¹⁷

Research on competitiveness, with robust evidence of gender differences and recent attempts to establish external relevance, provides a useful case study (Niederle, 2017). Experimental studies of competitiveness use a choice between piece-rate or tournament compensation for tasks, though some also use survey reports of what choice the subject would make, or general self-reports of competitiveness. Buser, Niederle, and Oosterbeek (2021) find that survey measures of competitiveness are strong and consistent predictors of income, education, and other outcomes (controlling for risk aversion, confidence, and some other characteristics) and conclude that gender differences in competitiveness can “explain” 5-10 percent of observed gender differences in education and labor market outcomes. This leap from “predict” to “explain” or “account for” is endemic in the noncognitive skills literature and can only be explained, given current standards for causal inference in economics, by very strong priors. The willingness to compete is a behavior, one that is conditioned on many gendered forces that are difficult to control for, including a desire to conform to a feminized identity and a fear of being punished for success. Unobserved characteristics and constraints are likely to be confounders in any model of educational or occupational decisions, and conclusions regarding causality need to recognize this.¹⁸

¹⁷ School suspensions, for example, are strongly predictive of later crime and other negative outcomes, and so are often used as measure of noncognitive skill. However, the very substantial racial gap in school suspensions cannot be treated as an indicator of a black-white difference in adolescent skills rather than a reflection of different disciplinary environments, family resources, and other unobserved factors (Lundberg, 2019).

¹⁸ The fact that a gender gap in competitiveness can be eliminated by a modest educational intervention also shows that it is not a fixed trait (Alan and Ertac, 2019).

Are gender differences in traits and behaviors exogenous?

The heart of gender essentialism is the notion that men and women have innate and fixed qualities that drive differences in their behaviors—differences that economists codify as preferences and skills. Household specialization is attributed to women caring more about children, acquiring home production skills, choosing jobs that accommodate household responsibilities. These factors appear in family models as different preference parameters for home goods, higher productivity at home, and greater disutility for working (Cortes and Pan, 2020). A natural question arises: to what extent are these differences in preferences and abilities due to biological sex differences? In addition to the metastudy on brains cited above, a recent survey of the implications of gender differences in behavioral endocrinology (i.e. hormones), genetics, neuroeconomics (brain functioning, emotions, and self-control), and sensory functioning by Cobb-Clark (2018) finds that, though research is ongoing, there is currently no systematic evidence of biological effects on gender disparities in behavior that are economically significant.

We do, however, have abundant evidence that gendered preferences and skills are socially constructed; the fact that norms and attitudes about the gender division of labor vary over time and place illustrates their malleability (Bertrand, 2020; Fortin, 2005), as do studies that show the development of feminized traits and preferences with age and socialization.¹⁹ Gneezy et al. (2009) provide a dramatic contrast in willingness to compete in a patriarchal versus a matriarchal society—women are more likely to choose to compete than men in the matriarchal environment. It remains true, however, that much of the discussion of gender inequality seems imbued with the exogeneity assumption. But understanding the mechanisms whereby women come to different decisions than men—internalized gender norms, social pressure to conform, environments that have rewarded and penalized different actions and traits—has important implications for further research, welfare assessments, and policies.²⁰

The recent economics literature has some vivid examples of new questions we can look at about differences in constraints that men and women face. Several papers document strikingly different treatment of men and women in labor market roles and therefore distinct incentives for male and female workers. Sarsons (2019) finds that physicians interpret quality signals very differently for male and female surgeons, with referrals to female surgeons dropping more sharply following a patient death and referrals rising less following a good outcome, presenting female surgeons with considerable downside risk. In an experimental study of corporate decisions, when lower-ranking employees are permitted to send angry messages to managers, they send more to equally-performing female managers, and are more likely to question their decisions (Chakraborty and Serra, 2021). These biased responses yield different working conditions for equally-productive male and female workers.

¹⁹ Alan, Ertac, Kubilay, and Loranth (2020) show that girls' willingness to exhibit leadership drops dramatically from childhood to adolescence, due to a decline in social confidence.

²⁰ Bertrand (2020) uses gender differences in math performance as an illustration of how gender stereotypes set up dynamics of choices and skills that generate self-fulfilling prophecies—girls growing up in environments in which they are believed to be bad at math are less likely to have the confidence and motivation to acquire math skills.

Different perceptions of marriage market consequences also affect men's and women's behavior. Female business school students modify their observable signals of ambition and career focus in the presence of male students (Bursztyn, Fujiwara, and Pallais, 2017). Female college students believe that choosing science or business majors in college, though it will increase their own earnings, will reduce their marriage and childbearing options in the future (Wiswall and Zafar, 2021). Finally, information sets will depend on experiences, which in turn are gender-specific. Women have different expectations about macroeconomic variables because their gendered economic roles and transactions result in different information sets (D'Acunto, Malmendier, and Weber, 2020).

We tend to invest in skills and traits that we think are likely to pay off in whatever social and economic environment we find ourselves (and probably, learn to like what we must accept). A tendency towards gender essentialism in economics, however, makes us less likely to dig down on the sources of gender differences, and to be satisfied with facile explanations along the lines of "women are just more X than men." It is increasingly clear that John Stuart Mill was correct when he wrote, in *The Subjection of Women* (1869) "What is now called the nature of women is an eminently artificial thing—the result of forced repression in some directions, unnatural stimulation in others." (p. 39).

4.2 Male as default, female as deviant

A common critique of economics, particularly from feminist scholars, is that economic analysis regards the male agent as the default and male behavior as normal (Grapard, 1995). This implies that the behavior of women, when it differs from that of men, is treated as anomalous and, implicitly, female agents as deviants from the normal (from "economic man").²¹ It's worth asking what the implications of this viewpoint might be—is this simply a stylistic issue, or is it a problem for economics?

In a male-dominated field, it is perhaps not surprising that investigators tend to assume that the people they study are "like me", i.e. are men, and the history of economics makes this even less surprising. For much of its history, economic analysis focused on formal markets and the actions of men in these markets as workers, investors, and employers. Women primarily worked in informal markets, as part of family enterprises, or in private homes, and women who weren't being paid for their work were not regarded as workers at all. It is notable that much of the work of early female economists focused on the domestic work of women in household production, and this work led eventually to the New Home Economics of Becker and Mincer (Grossbard-Shechtman, 2001; Stage and Vicenti, 1997).

There have been two consequences of the male default: a tendency to ignore topics and issues that are seen as principally of relevance to women (and to fail to acquire data that would enable such studies), and a reluctance to study male agents as men—that is, to examine the effect of masculinity and related norms on behavior. The relevance of the first issue—that economics is primarily about men's economic behavior—has declined dramatically in recent decades as first, women have increased their participation in formal markets and second, economics has expanded into the study of economic activity

²¹ As a societal framing, male norming has received a great deal of general attention lately, much of it sparked by the book *Invisible Women* (Perez, 2019). Perez documents the ubiquity of this norming and the harm it does through medical treatment standards based on research with few or no female subjects, automobile safety standards that treat the average male body as the "normal" driver or passenger, and so on. More recently, she has investigated charges that the protective equipment used by medical personnel during the pandemic in the UK (most of them women) were too large to fit most female faces and therefore exposed female workers to additional infection risk.

outside formal markets, including households.²² The flood of mainstream research on the labor supply of women, beginning with Mincer (1962) was prompted directly by the increasing labor force participation of women.

What has not really changed over time has been economists' unwillingness to deal with male decision-making as distinctly male, i.e. as linked to male identity and the social construction of masculinity and usefully studied in that context. Topics about men and masculinity *per se* don't gain traction in economics, and the discipline is the poorer for it. Masculine identities clearly drive behavior and, in some cases, create social problems as a result. The study of crime, education, and health would, it seems clear from work in other social sciences, be enriched by a broader conceptual framework in which decisions are made, not just by a default economic agent, but by an agent who happens to be male (or not), and in a particular social context. Given the unique strengths of the economic approach and toolbox, continuing to cede these issues to other disciplines would be unfortunate.

One example of the typical economic take on male behavior concerns gender gaps in education. Boys fall behind girls in academic achievement early in grade school and go on to have, in the United States and many other countries, lower rates of high school graduation, college entry, and college graduation. Lower achievement and school progression rates are accompanied by higher rates of school suspension and expulsion for boys, and other indicators of behavior problems. A consensus story has developed that explains these education deficits as consequences of lower noncognitive "skills" among boys with the implication that these skill gaps are inherent (Goldin et al., 2006; Becker et al., 2010).²³

A related literature finds that family and neighborhood disadvantage have larger marginal effects on the school behaviors and achievements of boys, relative to girls, and these findings are also attributed to a greater vulnerability of boys to such disadvantage (Autor and Wasserman, 2013; Bertrand and Pan, 2013; Autor et al., 2019). Collaborators and I, however, have been unable to find these asymmetric effects of disadvantage on later outcomes such as college graduation and earnings, though we do find consistent effects on boy's school performance in adolescence (Brenøe and Lundberg, 2018; Lei and Lundberg, 2020; Lundberg, 2020). The fact that school gender gaps in behavior do not translate into adult economic outcomes casts into doubt the interpretation of these gender gaps in terms of skills, or some inherent vulnerability, rather than as gendered responses to disadvantage—boys tend to act out, girls are more likely to withdraw.

The male advantage in math test scores emerges in adolescence and the increasing evidence that many girls' interest in and performance in STEM fields is influenced by the gender attitudes of families and teachers strongly suggest that avoidance of STEM is part of the development of gender identity for girls. Similarly, though we have less evidence with good causal identification, poor school achievement and rebellious attitudes to school seem to be part of an analogous adolescent process for some boys (DiPrete and Buchmann, 2013). Hsin (2018) finds compelling supporting evidence that cultural forces may be at play in the underachievement of schoolboys. Asian-American boys do not begin to trail girls in school achievement in the early grades, as non-Asian boys do, but only in adolescence, when peer culture becomes more important and norms of masculinity become more salient. Hsin speculates that

²² Though the continued neglect of the substantial amount of productive work that is performed outside of markets has important implications for our measurement of living standards and inequality (Folbre, 2008).

²³ Goldin et al. note the different developmental trajectories for girls and boys and cite differences in the prevalence of learning disorders and ADHD.

model-minority stereotypes and parental high expectations insulate younger boys from peer pressures to underperform in school. Does it matter if boys' behavior deficits in school are attributed to skills deficits rather than masculine identity issues? It can matter a great deal in terms of how we interpret the gaps, as social or biological, and how we attempt to address them. As it is, a version of gender essentialism reigns in economics even in studies of men and boys.

4.3 Avoiding difficult problems

"...economics, as a discipline, gives rewards that are biased in favor of the "Hard" and against the "Soft." This bias leads to "sins of omission": in which economic research ignores important topics and problems when they are difficult to approach in a "Hard" way." (George Akerlof, "Sins of Omission and the Practice of Economics," 2020)

That economics is a field which avoids tackling difficult problems, preferring instead to strip out complexities and pose simpler questions, is a criticism with clear precursors in feminist critiques of neoclassical economics that have become more mainstream. Marianne Ferber and Julie Nelson argue, in the introduction to the volume *Beyond Economic Man: Feminist Theory and Economics* (1993), that economics has a bias towards "hard"-seeming definitions of concepts, and that this leads to a more limited, less rigorous science. The simple model in which autonomous agents with fixed, exogenous preferences are able to rank all possible outcomes and optimize subject to known constraints that may be internal (skills) or external (market prices and wages) was one of the principal targets of feminist critics (Strassman 1993).

As we have seen, this model has come under considerable pressure from the extensions to the choice framework discussed above, including behavioral economics and social economics. In his AEA Presidential Address, Richard Thaler (2016) provides an overview of how the psychological complexity of early economics, typified by the writings of Smith, Pigou, and Fisher, was lost—a transition that he describes as Humans being replaced by Econs as economics agents. He says that "the most plausible explanation is that models of rational behavior became standard because they were the easiest to solve" (p. 1579).

The simplicity of economic models is clearly a strength as well as a weakness—it permits the structuring of questions in ways that have produced major insights into human behavior and the operation of markets not accessible to a less formal analysis. Indeed, it is possible that this tendency has been exacerbated in recent years by the increased emphasis on causal identification strategies relying on exogenous variation, which tend to push us towards very simple questions. But the argument that economics fails to make room for the complexity that cannot be avoided in the human mind and in social interactions is not a new one. Andrew Postlewaite (2011) notes critically the reluctance of economists to include social effects in theoretical models, and Dani Rodrik (2015) argues that economics "offers limited room for methodological pluralism..." (p. 199). Sendhil Mullainathan, in his remarks at the Federal Reserve, offers the scathing critique that economists' desire to avoid letting messy human beings, with their history, attitudes, and beliefs interfere with their tidy models is due to the deepest insecurity of economics—the fear that we are not a science. Economics needs to become, he argues, more of a fundamentally social science (Mullainathan, 2021).

In the recent paper cited above, Akerlof includes among the consequences of economics' preference for formality a bias against new ideas, including an inability to challenge existing paradigms because the bar for questioning them is so high and the standards for publication so rigid. He includes among the "sins of omission" caused by this bias the failure of economists to predict the financial crisis of 2008. In a gender economics context, I would point to the very slow evolution of economic thinking on family behavior. The canonical model of the family for many years not only took for granted existing gender roles—it effectively merged spouses into a single agent in what is now known as a 'unitary' model, where in Becker's formulation that agent is effectively a powerful and altruistic patriarch. Isabel Sawhill noted that conflict or the use of power played no role in early economic models of the family, making it rather surprising that divorces occur at all (Sawhill, 1977). Bargaining models of the household were introduced shortly after this (Manser and Brown, 1980; McElroy and Horney, 1981), but had a limited impact on the field until years later. My impression from several decades in this area was that there was considerable discomfort with the notion that conflict and power played a role in household decisions. The new abstractions of the 'collective model,' with neither explicit bargaining or 'threat points', were welcomed for their detached formality as well as for their power and convenience (Chiappori, 1988, 1992).

There are many difficult and uncomfortable questions in gender economics, and we have a tendency as economists, not just to simplify them, but also to sterilize them. Other social scientists have developed a greater degree of detachment on gender issues that still eludes us, possibly because they have regarded them for so long as suitable objects of academic study. As the territory of economics has expanded, we have left behind the social science division of labor that Friedman advocated, but without expanding our modeling frames accordingly. Humans are messy, emotional, and occasionally destructive creatures and our job, as Thaler points out, is to analyze Humans, rather than Econs.

5. What should we do?

Increasingly, economists are coming to the conclusion that economic behavior can't be understood independently of its social and cultural context. It's time to be more intentional about incorporating social forces into economics in general, and this is particularly true of work on gender. Understanding the social construction and enforcement of gender roles is a central component of this endeavor. This is not just about combatting gender stereotypes and developing policies to enhance gender equity as social goals, but also changing the science so we can understand the forces that drive gendered behavior, how norms persist and change, and what the implications of social context are for policy. In this section, I suggest a couple of roads down which we can travel—though many more exist.

5.1 Study men

It is easy to find economic studies that examine distinctive male behavior and outcomes, but they tend not to address the role of gender norms or social factors in driving these outcomes. For example, several studies have found evidence of excess male mortality following economic shocks that have disrupted employment (Sullivan and von Wachter, 2009; Autor, Dorn, and Hanson, 2019). Other outcomes, such as declines in marriage, are given economic context as a confirmation of Becker's household model that a decrease in men's relative wages reduces the gains to specialization and therefore marriage, but the mortality effects are not. Excess mortality in this context would seem to

signal a pathology related to provider norms, and this deserves additional scrutiny, perhaps through examining heterogeneity of these effects, that might inform policy. Studies of women's behavior have exploited variability in gender norm attitudes to establish causal effects—the same strategy should work with men's behavior as well.

In public health and other fields, a substantial literature documents the impact of masculine gender norms, which valorize risk-taking, aggression, and dominance, on adverse health outcomes and on the optimal design of public health programs (Fleming et al., 2014 and references). To an established body of knowledge including the impact of masculinity norms on smoking, violence, and HIV testing, we can add suggestive recent survey results showing that high levels of resistance to COVID vaccination and mask-wearing are particularly pronounced among men who assert traditionally masculine identities (Farleigh Dickinson University, 2021).

The rapidly-growing literature on the economics of crime has paid little attention to gender *per se*, though male crime rates are much higher than female crime rates and men dominate prison populations. Recent work in the field is dominated by high-quality program evaluations, with a focus on policing (Chalfin et al., 2020), criminal justice (Mueller-Smith and Schnepel, 2021), anti-poverty programs (Barr and Gibbs, 2017), and mental health treatment (Jacome, 2020). Gender differences are addressed, in the few papers that focus on them, in terms of incentive differences: women's illegal earnings from property crimes are lower than men's though their opportunity cost in terms of legal earnings are lower as well; women face lower probabilities of arrest and more lenient treatment in the judicial process; gender homophily in peer and network pathways into crime seem to limit women's entry into organized crime (Campaniello and Gavrilo, 2018; Gavrilo, 2021). These differences, however, explain little of the gender gap in crime.

Recent papers examining the association between fatherhood and crime are suggestive of possible additional themes: men who father their first child at a young age are convicted of fewer crimes in subsequent years if the child is a boy rather than a girl (Dustmann and Landersø, 2021), and pregnancy has a causal negative effect on fathers' crime, though domestic violence arrests spike after childbirth (Massenkoff and Rose, 2020). A behavioral response by men to child gender is supported by a broader literature and seems to be related to men's understanding of their family responsibilities (Lundberg, 2005). Other emerging topics in the economics of crime with likely links to gender identity include mass shootings (Jetter and Walker, 2018) and white supremacist terrorism. Finally, the well-known association between pregnancy, childbirth and domestic violence deserves more attention from economists (Currie, Mueller-Smith, and Rossin-Slater, 2020; Wallace et al., 2016).

There are some clear exceptions to the general avoidance in economics of references to masculine identity as a possible driver of behavior. Bertrand, Kamenica, and Pan (2015) reference gender identity norms in analyzing the responses of both men and women to relative income within households. Baranov, De Haas, and Grosjean (2020) use variation in convict transportation in Australia and find that areas with more male-biased populations are later characterized by more violence, male suicide, occupational gender segregation, opposition to same-sex marriage, and bullying of boys in school. Their use of the term "masculinity norms" is, as far as I can tell, unique so far in mainstream economic research, and in this case provides a clear conceptual framework for the cluster of outcomes they examine.

Another area in which gender norm framing in economics has been more explicit is occupational choice. There has been concern that the economic prospects of male workers, particularly those without college degrees have been hampered by a reluctance to enter rapidly-growing fields that are traditionally female, such as health care and education (Stevenson, 2016). While some studies have found that, in specific fields, men are more responsive to wages and returns to ability than to workforce gender composition (Delfino, 2021), others find that men’s reluctance to enter traditionally-female fields is due to “non-wage” factors, and that this is particularly true in countries with more traditional gender norms (Graves and Kuehn, 2021).

There may be even more compelling reasons to study the effects of masculinity norms than norms of femininity—they are more constraining and potentially very socially impactful. Psychologists have found that male social roles are less flexible than female roles, and men are in many domains permitted less flexibility in their behavior than women, particularly by other men (Berndt & Heller, 1986; Vollhardt, 1990; Levy, Taylor, & Gelman, 1995). Also, there seems to have been a great deal of attention paid to relatively small differences in risk aversion with a focus on women compared to large gender differences in traits in which men’s behavior might be considered non-normative, such as the propensity to commit violent acts or over-confidence (Reuben, Wiswall, and Zafar, 2017; Niederle and Vesterlund, 2011). Some reallocation of our focus may be warranted.

5.2 Allow for more complex behavior in a gendered frame

The insights of behavioral economics and other theoretical innovations, plus the causal evidence for social influences on behavior that we have discussed, could be used, to a far greater extent than is currently the case, to model behavior in gendered contexts. Recognizing that preferences are endogenous, norms constrain actions, emotions warp decision-making, defaults can trump negotiation, and beliefs can be self-serving would be productive additions to the basic tools of analysis for gender differences. Let’s consider a few examples—emotion, defaults, and social influences.

Emotion: “When behavior is driven by intense visceral factors, it stretches the meaning of the term to say that people are making ‘decisions.’” (Loewenstein, 2000)

Loewenstein goes on to describe some specific ways in which strong emotions derail rational behavior. An angry agent in a bargaining situation, who may be obsessed with causing pain to the other party, may exhibit little concern for the consequences of their actions and negotiate very poorly. Self-control problems triggered by anger or sexual arousal can lead to extreme discounting in situations of intertemporal choice. Cognitive evaluations of risk can diverge from emotional reactions when one is angry or fearful, leading to poor choices.²⁴ It is clear that social and market interactions involving gender norms and gender identities tend to evoke strong emotions that can lead to behavior that is harmful, short-sighted, or even violent, and even the fear or anticipation of emotional reactions can constrain actions. Beyond fear and anger, there is also much to be learned about the role of other emotions, including love, guilt, and pride, in decisions that involve gender and gender norms.

There are few gender-related studies that explicitly consider emotions. One rare example is a study of time inconsistency in the behavior of repeated victims of domestic violence, who report in fear and then

²⁴ There is experimental evidence that eliciting emotions affects risk aversion. Conte et al. (2018) find in an experimental context that various emotions—joviality, fear, anger, and sadness—all reduce apparent risk aversion.

refuse to cooperate with prosecution of their partner (Aizer and Dal Bo, 2009). They find that the adoption of no-drop prosecution policies provides a commitment mechanism in this situation, and decrease the murders of abusive partners by women for whom this is a more extreme commitment device. Less direct is a study of a short-term cognitive behavioral therapy program called Becoming a Man (BAM) on young men in disadvantaged neighborhoods in Chicago (Heller et al., 2017). The program, intended to reduce crime and encourage school engagement, includes immersive activities designed to encourage young men to reflect on and assess aggressive actions and the gains to cooperation and had large impacts on outcomes, including violent crime arrests. The authors interpret this unusual success as the consequence of reducing “automatic” responses conditioned by dangerous environments, as in the dual systems approach of Kahneman (2011). Another, complementary, way to think about the mechanism behind the BAM effects is that the exercises disrupt masculine behavioral defaults activated in emotionally-charged circumstances.

Defaults: “... we found that mothers (and fathers) justified unequal parenting arrangements (during the pandemic) by pointing to gendered structural and cultural conditions that made mothers’ disproportionate labor seem “practical” and “natural.” These justifications allowed couples to rely on mothers by default rather than through active negotiation.” (Calarco, Meanwell, Anderson, and Knopf, 2021)

Since bargaining is difficult and costly, gender norms can provide a fallback to negotiated arrangements, particularly in family settings. Amartya Sen points to a reasonable fear of conflict in the family as a factor that limits the ability of family members to bargain with each other and thereby achieve efficient household outcomes. “So the conflicting elements in families tend to be hidden, and people don’t see them. What therefore happens is that there is a kind of agreed upon perception as to how these conflicts should be resolved, and this usually takes the form of some kind of legitimacy notion, which everybody accepts. In sexist societies it may take the form that the men get more than the women in the division of food or health care, and that the boys get more than the girls.” (Sen in Swedberg, 1990, p.257).

When are such defaults likely to be triggered? One possibility is that defaults are more salient in situations when resources are limited or must be deployed quickly (as in an emergency) or emotions are aroused. New parenthood, when young adults are faced with new responsibilities and fatigue, is when household gender roles tend to change dramatically, becoming more traditional in many households. The COVID pandemic, when childcare facilities and schools were closed suddenly and two-career parents needed to adjust their hours to care for children, led to a dramatic increase in the gender gap in domestic work and childcare (Del Boca, Oggero, Profeta, and Rossi, 2021; Jessen, Spiess, Waights, and Wrohlich, 2021; Sevilla and Smith, 2020). Why did mothers sacrifice income and career prospects to care for children? In some households there may have been an explicit agreement based on wages and career costs. Anecdotal reports indicate that for many women, it was because everyone expected her to—her partner, her children, the schools—even herself.

Social influences: “When they expect their classmates to observe their answers, single women report substantially less career ambition in a questionnaire designed to be instrumental in finding them a summer internship. They also express much less career ambition in front of their (single) male than female classmates.” (Bursztyn, Fujiwara, and Pallais, 2017)

What are the mechanisms by which parents, other family members, peers, mentors, and communities affect individual behavior? As we have seen, there is a large and growing literature that documents the existence of social and cultural effects, on economic decision-making, but we know much less about the transmission and persistence of these social influences. Documenting patterns of gender difference and evaluating the causal effects of programs are important, but at some point we need to go on from “what?” to “how?” and “why?” How much choice do individuals in fact have regarding their identity or “worldview”? To what extent are social influences internalized (i.e. affect preferences) vs. due to the expected policing of norms? In the study quoted above, there is evidence that lower levels of ambition expressed by women in an elite business school are largely the result of immediate concerns about social disapproval (and loss of mating opportunities), since the audience matters. If gender differences depend on who is looking, then we can assume they are not solely the result of internalized norms or altered preferences. This distinction, though it can be difficult to measure, has important implications for welfare, and potentially for policy.

A final complexity that gender economics will have to face in the future is presented by the increasing number of individuals who reject the gender binary of male and female. It seems unlikely that economists will be among the pioneers in this reckoning, and I expect greater availability of data about non-binary identities will precede theorizing but we will need to incorporate the non-binary into our models of family behavior and cultural transmission.

5.3 Consider the connections between policy and cultural change

The gender norms that are embedded in our cultures are important determinants of the behavior of men and women, influencing both preferences and perceived social constraints. Economists have begun to study how these norms persist and are disrupted, but at the moment there is much that we do not know about the drivers of social change. Particularly important is the interaction between culture and policy—social forces can affect the impact of policies, and policies and programmatic interventions can, in some cases, influence norms. Institutions can reinforce existing norms and, in some cases, do so in the interests of particular groups at the expense of others. Policies designed to change gender norms in the workplace and the family (such as paternal leave) have been implemented in some countries, but initiating such measures requires a community consensus that, on gender issues in particular, can be very difficult to forge.

Existing models of cultural evolution treat norm changes as an adaptive process—in a stationary environment, behavioral norms may be efficient because they reduce transactions costs by providing default actions but when conditions change we need to overcome the inertia inherent in the cultural transmission process (Giuliano and Nunn, 2017). In this evolutionary frame, we can think of changing attitudes regarding the market and household roles of men and women over long periods of time as responses to fundamental changes in the returns to economic activities for men and women—changing relative payoffs in labor markets to brain vs. brawn, technological change that draws productive activity out of the household and into distant factories, increasing returns to investments in children’s human capital (Galor and Weil, 1996, 2000). The transmission of culture across generations, however, and the fact that gender norms exist within a set of established rules and institutions concerning employment, marital arrangements, and inheritance contributes to a degree of stickiness even in the presence of profound economic changes.

Extreme examples of persistence can be found in evidence that historical, even pre-industrial economic conditions and societal characteristics that affected the status and activities of men and women appear to have very long-term impacts on women's labor force participation and other indicators of gender equality (Giuliano, 2020). For example, Alesina et al. (2011, 2013) find that geographic and climatic conditions that were most suitable for plough-based agriculture, which limited women's agricultural work, are correlated with fertility and levels of female market work in the present.²⁵ More recently, women's relative education levels have risen everywhere in the industrialized world, shrinking the gender wage gap and increasing women's employment, but there have been only modest changes in men's domestic work, and changes have been particularly slow in countries with more traditional gender norms (De Laat and Sevilla, 2011). The drag of tradition can also be seen in developing countries, where variations in cultural barriers to women's market work are associated with large differences in women's employment between countries at similar levels of development (Jayachandran, 2021).

Preferences and beliefs about gender have so much emotional resonance that it should not be surprising that they are not easy to change. Our beliefs about the proper conduct of men and women raise issues, not just of identity, but also of love, pride, status, and tradition. It is perhaps not surprising that policies that attempt to alter behavior in gender and family domains through standard incentive and information mechanisms are often ineffective.²⁶ Pronatalist policies in general and US efforts to increase marriage rates in low-income populations (starting with welfare reform in 1996) are examples of government failures of this sort (Lopoo et al., 2018; Wood et al., 2012). We can hope that additional research about changing norms may inform the design of more effective policy: as Bowles (1998) notes, "the effectiveness of policies and their political viability may depend on the preferences they induce or evoke."

Can gender norms, persistent though they are, be purposefully changed? Economists have begun to examine the drivers of norm changes more directly when an exogenous shock permits a causal inquiry. These shocks can be provided by changes in policies that move the boundary between government and family provision of supports (Bau, 2020; Campa and Serafinelli, 2019), or by changes in technology. Increased access to modern programming in commercial television has been shown to result in changes in women's status, fertility, and divorce (Chong and La Ferrara, 2009; Jensen and Oster, 2009; La Ferrara et al., 2012). A randomized control trial based on classroom discussions in secondary schools in India successfully shifted students' attitudes towards gender equity, a result that was particularly strong for boys and stable for 2 years (Dhar et al., 2020). Norm changes need not move in the direction of gender equality, of course: Pre-pandemic changes in men's attitudes to maternal employment in France and Germany reversed during the period when school and daycare closures increased the need for domestic childcare (Boring and Moroni, 2021; Danzer et al., 2021). Changes can also be transitory: Dahl et al. (2021) found that gender integration in military boot camp increased gender-egalitarian attitudes among male recruits, but these effects only persist during treatment.

²⁵ These results support a hypothesis advanced by Boserup (1970).

²⁶ Pondering on interventions to combat gender inequality, Alice Evans argues that "quick fixes" tend to be ineffective, though they are popular in social science because they "are amenable to causal inference" and "cater to our desire to change the world." Their inefficacy she attributes to the fact that gender relations are the product of deep roots, such as ancestral farming and kinship, and of massive disruption in economic systems (Evans, 2021 "Quick Fixes" (Twitter)).

Paternity leave provides a good example of policy-makers struggling to change gender norms, in this case Nordic governments committed to advancing gender equality in labor markets. Allowing fathers to share total parental leave with mothers was ineffective in generating change, and the introduction of dedicated “use-it-or-lose-it” leave for fathers also led to initially-disappointing levels of take-up. These rates have increased gradually over time, however, and there is evidence of social externalities, as young men with older brothers or coworkers eligible for paternity leave are more likely to use leave themselves (Dahl, Løken, and Mogstad, 2014). There is much more work to be done to combine the empirical literature on social influences with modelling of cultural change.

The possibility of changing gender norms, through policy, interventions, or technological innovations, raises the important issue that groups in society may have interests in either altering or maintaining these norms.²⁷ Advertisers and political parties are among the economic actors with clear incentives to manipulate social categories and the identities associated with them to their own advantage (Akerlof and Kranton, 2000). The constraints on behavior that gender norms impose can also have distributional implications that create conflict and give rise to calls for collective action—the Women’s Movement is a clear case of a social movement that contributed to dramatic changes in women’s identities as workers and wives (Goldin, 2006) and legislative limits on women’s reproductive choices do the opposite. Economic models of expansions in women’s property rights set up this political decision as the outcome of male voters trading off the interests of their wives (which opposed their own) and the interests of their daughters (Doepke, Tertilt, and Voena, 2012). This theme of conflict between men and women concerning the basic rules of gender and its impact on policy has been one of the themes of feminist economics and, increasingly, other work on gender as well.²⁸

6. Professional politics and gender economics

I’ve outlined some habits of thought that, I believe, encourage economists to take a shallow and simplistic view of gender and gender inequalities. This tendency persists despite a great deal of increasingly sophisticated work on how people actually make decisions, and on the role of social and cultural factors on these decisions. These innovations open up the possibility of major advances on gender topics, though they have been slow to filter down to much mainstream empirical work. What distinguishes economics in this respect? The most important factor, it seems to me, is the already-noted widespread, largely unconscious desire to believe that distinct gender roles in the economy are just natural and inevitable. This basic essentialism is the driver of the inclination to reduce the analysis of gender differences to the discrimination vs. choice dichotomy and seems, in turn, to be a status quo bias that leans against acknowledgment of gender inequities.

²⁷ For example, “stratification economics” analyzes the creation of social distinctions as a tool for political and economic dominance, and its implications for racial inequality (Darity, Hamilton, and Stewart, 2015).

²⁸ McCrate (1988) also points to the collective enforcement of cultural norms about gender via the law and the terms of the marital contract. Men, she argues, don’t increase their domestic work because, given their intensive investment in masculine identities, it would represent a change in who they are. Braunstein and Folbre (2001) look back at patriarchal marital property rights through the 19th century which, gave control over wives’ labor but not all responsibilities were specified, left men as the residual claimant of household production. This, they show, gives men an incentive to force women to “overspecialize” in reproductive labor.

In this context, it is instructive to think about the rise and marginalization of feminist economics in the late 1970s and beyond. Much of the feminist critique of neoclassical economics—the call for a broader conceptualization of decision-making, the emphasis on the social construction of gender and the role of collective interests in that process, the importance of the care economy—has, as we have seen, gone mainstream in economics (Ferber and Nelson, 2003; Folbre, 2011). At the time, the feminist critique didn't fit easily into the standard theoretical framework and it was couched in unfamiliar rhetoric. Methodological critiques are more likely to be well-received when they come in the form of virtuosic displays of accepted technique, of course, and most of feminist economics was relatively informal in presentation. Their critique of economics' sole reliance on formal methods was generally, and for the most part incorrectly, interpreted as anti-math and rejected on that basis. What was, in essence, a stylistic confrontation overshadowed the real and substantive methodological critiques that feminist economics levied against neo-classical economics.

This brings us to the role of the underrepresentation of women in economics, as a driver of the discipline's narrow outlook on social forces and often reductive analyses of gender inequalities. There is evidence that women economists have systematically different views on what economists should study: a recent survey finds that they think economic research should be more policy-relevant, multidisciplinary, risky, and disruptive (Andre and Falk, 2021). Of course, women are over-represented among researchers studying gender, but they work in a professional environment in which colleagues, editors, and hiring committees are not. The barriers to innovative work on gender are not limited to the viewpoints of potential authors themselves, but also to those of the consumers of their work. Gender economics is not a tightly-closed field, in which you can count on being judged by a small group of like-minded reviewers, but a wide-ranging research agenda positioned across applied microeconomics and beyond. The views of many economists, male and female, will determine the trajectory of gender economics.

In an article examining the persistence of the “coy female” stereotype in evolutionary theory of sexual selection, despite the accumulation of evidence contradicting it, anthropologist Sarah Hrdy notes “I will speculate about the role that empathy and identification by researchers with same-sex individuals may have played in this strange saga.” She concludes that women researchers were crucial to the re-examination of this myth and that is important to recognize the sources of bias (the “all-too-human” element in science) as part of a robust science with multiple studies and a broad array of observers (Hrdy, 1986). The feminist argument is that economists' obsession with objectivity as a product of emotionally detached individual researchers rather than a characteristic of a scientific process of evaluation and synthesis in which observers are understood to have different frames is a problem (Ferber and Nelson, 1993).²⁹ It seems reasonable that a discipline with more female researchers will be less prone to imaginings about “the basic nature of women.”³⁰

These are exciting times for those of us interested in the economics of gender. We have at our disposal new data, new methods of analysis, and abundant new evidence about gender differences in traits,

²⁹ A narrative of the rise of feminist economics and the debate over what constitutes a “competitive” labor market in the context of the economics professions first “gender reckoning” can be found in Chassonnery-Zaïgouche, Cherrier, and Singleton (2019).

³⁰ The scientific benefits of professional diversity have been explored extensively elsewhere (Bayer and Rouse, 2016).

behavior, and outcomes. What is needed, in my view, is a willingness to think more deeply about the drivers of gendered behavior, drawing on behavioral and cultural perspectives now available. These new perspectives call into question standard assumptions about what we can regard as exogenous and how we should think about social influences on behavior. Forty-five years of sitting in economics seminars, listening to my colleagues, has led me to believe that motivated beliefs leading to market bias and gender essentialism, and erecting barriers to deeper and, perhaps, riskier approaches to the economics of gender, are all too prevalent. The time has come to be more adventurous and move beyond these constraints.

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