

# Gender-Role Ideology, Labor Market Institutions, and Post-industrial Fertility

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SEVERAL REGIONS of the post-industrial world face what some observers have called a crisis of the family: increasing rates of non-marriage and very low birth rates. Fertility rates in Southern and Eastern Europe as well as East Asia are well below population replacement level (Anderson and Kohler 2015; Billari and Kohler 2004; Goldstein, Sobotka, and Jasilioniene 2009; Kohler, Billari, and Ortega 2002; Ogawa 2003). Ironically, many of the countries with very low birth rates have conventionally been regarded as the most family-oriented within the post-industrial world (Dalla Zuanna and Micheli 2004; De Rose, Racioppi, and Zonatta 2008; Frejka, Jones, and Sardon 2010; Livi-Bacci 2001; Mills et al. 2008; Ochiai 2011). These include countries such as Italy, Japan, South Korea, and Spain, which have traditionally been characterized by near-universal marriage and childbearing.

The historically unprecedented decline to total fertility rates of 1.3 or fewer children per woman took social scientists and national governments by surprise in the waning decades of the twentieth century, especially since it contrasts with total fertility rates close to 2.0 in Canada, France, Norway, Sweden, the United States, and a number of other countries. Beyond constituting a fascinating contrast for demographers to explain, cross-country variation in fertility rates in the post-industrial world poses important policy issues. Societies with very low fertility face challenges related to rapid population aging, declining economic productivity, debates over the role of immigration as a solution, and increased intergenerational conflict over the distribution of government resources.

Social scientists' explanations of comparative fertility across post-industrial societies have increasingly turned to cross-cultural variation in the extent of gender inequality (Anderson and Kohler 2015; Arpino, Esping-Andersen and Pessin 2015; Bernhardt and Goldscheider 2006; Esping-Andersen, and Billari 2015; Chesnais 1998; Esping-Andersen 2009; Goldscheider, Bernhardt, and Lappegård 2015; McDonald 2000a, b; 2013; Mills 2010; Mills et al. 2008). McDonald has argued that the

emergence of very low fertility stems from a fundamental contradiction that has been slow to resolve itself in many post-industrial societies: women's increasing education and labor market opportunities on the one hand, and the persistence of a highly gendered division of household labor and childcare on the other. McDonald has asserted that "Very low fertility rates will persist unless gender equity within family-oriented institutions rises to much higher levels than prevail today." The logical correlate, he states, is that "In a context of high gender equity in individual-oriented institutions, higher gender equity in family-oriented institutions will tend to raise fertility" (2000a: 438).

This article seeks to make both a theoretical and an empirical contribution to the analysis of how gender inequality is related to fertility levels in the post-industrial world. First, we theorize how popular support for the aspect of gender inequality related to gender essentialism (the idea that men and women have distinct characteristics and preferences) influences a country's total fertility rate. We emphasize how the dominant cultural norms in a society prescribing not just women's but also *men's* roles affect fertility. Second, we go beyond the dichotomy of "traditional" and "egalitarian" gender-role ideologies. Using data from a range of post-industrial societies, we inductively generate the prevailing types of gender-role ideology, showing that these do not array in a continuum from conservative to egalitarian but instead represent additional configurations that combine beliefs about the appropriate roles for men and women in more nuanced ways. We establish for each of 24 OECD countries the distribution of these ideologies across the young adult population. Our analysis demonstrates differences in the gender-role ideologies that dominate various countries, and differences in the patterns of change over time. Third, we consider how the "individual-oriented" institution of the labor market (McDonald 2000a) varies in structure across post-industrial societies, and how this structure is likely to affect opportunities for mothers' economic participation and for the entry of young men into stable jobs as potential breadwinners. Finally, we analyze how gender-role ideologies (representing the underlying cultural norms for men's and women's roles) combine with the structure of labor market institutions to influence total fertility. We also take into account young male unemployment as an indicator of the economic context for family formation. Overall, our theoretical framework linking gendered norms and labor market institutions to country-level fertility emphasizes how culture and structure interact to influence countries' maintenance of moderate fertility or the continuation of a low-fertility pattern.

## Theoretical background

Well before very low fertility emerged as a phenomenon characterizing parts of Europe and East Asia, the attention of many demographers

focused on how the tradeoffs between market work and childrearing were changing as married women increasingly entered the paid labor market in the 1970s and 1980s (Becker 1981; Willis 1974). The “new home economics paradigm” in human capital research developed by Becker and his colleagues predicted that fertility would decline as the opportunity costs of having children increased with women’s improved income-earning capacity. This emphasis on work/family incompatibility and tradeoffs for women has continued to motivate much of the research on fertility, including efforts to explain why some post-industrial countries are experiencing record-low fertility while others are maintaining near-replacement fertility rates (Ahn and Mira 2002; Brewster and Rindfuss 2000; Del Boca, Pasqua, and Pronzato 2008; Rindfuss and Brewster 1996; Rindfuss, Guzzo, and Morgan 2003).

McDonald’s gender equity theory (2000a, b; 2006) has been a much-cited extension of the opportunity cost framework, highlighting the slower pace of change in the gendered division of labor at home than in the market. If childrearing and housework become more equally shared between men and women, McDonald argues, then the dampening effect of women’s labor force participation on fertility is likely to be weaker. In other words, to the extent that greater gender equality in the labor market is mirrored by increasing gender equality in post-industrial households, couples will be more likely to progress to two or even three children.

McDonald’s explicit emphasis on the contrast between women’s advancement in the labor market and their less-altered roles in the household has increased demographers’ attention to how continued gender-role specialization in the family can depress post-industrial fertility rates. Conversely, McDonald’s theoretical emphasis on the parallel nature of the public and private spheres illuminates how a country’s moderate (replacement-level) fertility can be maintained if women’s labor force participation is coupled with a more egalitarian division of labor at home. Many post-industrial countries now demonstrate the combination of high employment rates among women and near-replacement level fertility rates, while others show low rates of both (Ahn and Mira 2002; Engelhardt and Prskawetz 2004; Presser 2001; Rindfuss, Guzzo, and Morgan 2003). This divergence suggests underlying cultural and institutional conditions that either facilitate or discourage women’s dual role in the market and the home.<sup>1</sup> One possible set of cultural conditions is a more egalitarian gender-role ideology and greater shared responsibilities between men and women in the private sphere, per McDonald’s suggestion.

## Empirical tests of gender equity theory

In positing how micro-level dynamics at the household level combine with the macro-level trend of increased gender equality in the public sphere to

produce variation in country-level birth rates, McDonald's theory combines both micro and macro levels of analysis. Subsequent empirical studies have examined the relationship between gender equality and fertility at both levels. The bulk of empirical work has used survey data to examine the relationship between the household division of labor or spouses' gender-role attitudes and fertility intentions or outcomes (Cooke 2004, 2009; Kaufman 2000; Mills et al. 2008; Oláh 2003; Puur et al. 2008; Torr and Short 2004). These studies have produced mixed results, but have generally found that greater egalitarianism in attitudes or division of housework has a positive effect on fertility, especially when wives are employed. Torr and Short (2004) find that in the US, couples with a traditional gendered division of household work and those with a fairly egalitarian division are both more likely to have a second birth than couples who fall in between. Mills et al. (2008) find in Italy and the Netherlands that a woman's share of household labor depresses her fertility intentions, contingent on her working hours outside the home. Cooke compares Italy and Spain (2009) and finds that fathers' share of childcare does not affect the probability of a second birth in Spain; in Italy, fathers' childcare time has a positive effect that varies in strength based on mothers' employment status. In couples where the wife works part-time, the probability of a second birth is highest when the husband contributes around 30 percent of total childcare time. His contribution needs to be much higher (around 60 percent) to affect the probability of a second birth if his wife works full-time. Similarly, Cooke (2004) finds that in Germany, husbands' greater share of childcare time is positively related to the probability of a second birth, but the negative effect of long work hours among women is not fully outweighed by this factor.

These individual-level analyses carried out in one country or a small number of countries offer tentative support for the gender equity theory of fertility by comparing fertility intentions or outcomes across individual couples with varied gender-role attitudes or levels of gender specialization in household labor. But a principal tenet of McDonald's theory is that very low fertility rates result from "the extent of incoherence between social institutions" (2000b: 4). As such, the theory is oriented toward explaining why different countries at advanced levels of economic development exhibit varied fertility levels, not why different couples *within* a given society have varied fertility intentions or completed family sizes. The theory thus requires testing at the macro-comparative level.

Other recent theoretical work has also argued persuasively for the importance of the unfinished gender revolution in explaining why fertility in some post-industrial societies has fallen well below replacement level and has not yet recovered (Esping-Andersen and Billari 2015; Goldscheider, Bernhardt, and Lappegård 2015). But probably as a result of the methodological difficulties of using the country as the unit of analysis, fewer empirical tests have been conducted at the macro level. Mills (2010) used

multi-level modeling to test the relationship between five indexes of societal gender equality and two measures of fertility (individual fertility intentions and progression to a birth among partnered individuals of reproductive age) in 24 European countries. She found that none of the gender equality indexes was significantly related to progression to a birth, and only one measure (the GDI, or Gender-related Development Index) was positively and significantly related to fertility intentions. This led her to call for closer attention to what aggregate-level indicators are actually measuring, as these vary in the degree to which they capture McDonald's conceptualization of gender equality. A widely cited article by Myrskylä, Kohler, and Billari (2009) also suggested that the societies experiencing a fertility recovery from very low levels in the past several years have recorded substantial progress toward gender equality.<sup>2</sup> De Laat and Sanz (2011) found that female labor force participation and fertility are higher in countries where men contribute more to household labor. Arpino, Esping-Andersen, and Pessin (2015) tested the relationship between attitudes toward men's and women's equal labor market opportunities and the total fertility rate for 27 countries. Their results are consistent with Esping-Andersen and Billari's theoretical model of family change (2015) and with McDonald's theory: as countries abandon the male breadwinner model there is generally a decline in fertility, after which there is a rebound as attitudes reflecting greater gender equality diffuse throughout society.

Our approach adds to prior studies by using attitudinal data from post-industrial societies to inductively develop a typology of gender-role ideologies, then theorizing and testing how these ideologies interact with characteristics of the labor market to influence countries' total fertility rates. But rather than prioritizing gender inequality as the most prominent explanatory factor, we focus on the persistence of gender-role norms that emphasize gender essentialism, or "the notion that men and women are innately and fundamentally different in interests and skills" (England 2010: 150). Our emphasis on societal variation in the strength of gender-essentialist norms for men's and women's roles gives greater weight to the cultural context in the analysis of fertility. Likewise, we incorporate the gendered institutional context into the analysis by considering cross-national variation in the degree to which labor market regulations protect workers in regular, long-term jobs; such workers tend to be male rather than female, and are often well-established mid-career workers (Bertola 1999; Genda 2003). As explained below, such labor protections go hand-in-glove with a so-called insider/outsider labor market that generally penalizes women and can also penalize young men when economic conditions are difficult. In such conditions, employers may restrict entry-level hiring to temporary, dispensable jobs that provide insufficient income and security to support a family (Osawa, Kim, and Kingston 2013).

In sum, we term our framework a gender-essentialist theory of post-industrial fertility. This emphasis signals that it is neither gender inequity (the absence of perceived fairness in gender relations; McDonald 2013) nor gender inequality per se that explains the persistence of very low fertility in some post-industrial countries; rather, it is gender essentialism. Gender essentialism is embodied in specific gender-role ideologies and in institutions that reinforce the assumption that men and women are naturally suited for distinctly different social roles: that of breadwinner and caregiver, respectively. Such ideologies and institutions are inconsistent with the advance of women into education and the labor market that had occurred throughout the post-industrial world by the late twentieth century. In focusing on gender-essentialist norms and institutions, we refocus attention on gender roles, the “socially constructed roles and expectations for men and women” (Mills 2010: 448), a crucial component of Mason’s concept of the gender system (1997).

Our empirical strategies are twofold. First, we employ data from a large number of OECD countries to model the distribution of gender-role ideologies in a country’s population. Second, we use this distribution together with a measure of labor market regulations protecting regular workers and a number of variables reflecting the economic context in order to model influences on aggregate fertility rates in OECD countries over the past two decades. Our methodological approach thus uses country-level variation in gender-role ideologies and labor market institutions and over-time variation to predict changes in aggregate fertility.

### **Interactions between gender-role ideology, labor market institutions, and economic context**

*Gender-role ideology.* Research on gender inequality has increasingly pointed to the asymmetry of changes in men’s and women’s roles in the post-industrial context (hence the “unfinished revolution”; Cotter, Hermsen, and Vanneman 2011; England 2010). While married women have participated in the labor market in ever-larger numbers, this has not been mirrored by an equivalent increase in men’s participation in household labor (England 2006, 2010). Moreover, declines in occupational sex segregation have largely been the result of women’s entry into previously male-dominated occupations rather than the reverse (Reskin and Padavic 2002; Ridgeway 2009; Williams 1992). These asymmetries draw attention both to women’s changing roles and to the rigidity of cultural definitions of feminine and, in particular, masculine roles (Ridgeway 2009, 2011; Ridgeway and Correll 2004). To the extent that attitudes supporting gender-essentialist norms of behavior remain resistant to change, the gender-role revolution remains incomplete.

These insights from the gender inequality literature are highly relevant to the comparative analysis of post-industrial fertility, as there is clearly a spectrum of gender-role ideologies that coexist within and across post-industrial societies. Such ideologies range from the traditional male breadwinner/female caregiver one to a dual earner/dual carer ideology of egalitarianism, which regards it as natural and important that both sexes participate both in the market and in household and childcare responsibilities (Gornick and Meyers 2008; Leira 2006). This latter model, which is largely a rejection of gender essentialism, is postulated to be instrumental in maintaining replacement-level fertility in post-industrial societies (Esping-Andersen and Billari 2015; Goldscheider, Bernhardt, and Lappegård 2015; McDonald 2000a). On the other hand, the ideology of the male breadwinner/female caregiver model is ill-suited to post-industrial society, as the strong normative emphasis on women's primacy in childrearing (and on men's negligible role) conflicts with their expanded opportunities in the labor market. Between these poles of traditionalism and egalitarianism lie other normative gender-role ideologies that retain elements of gender essentialism regarding women's "natural" role as caregivers but reflect a more nuanced outlook on women's role in the labor market.

East Asian societies provide strong examples of very-low-fertility countries where social norms continue to place heavy responsibility in mothers' hands for domestic work and childrearing and to promote men's role as breadwinners (Fujita 1989; Fuwa 2004; Ochiai and Molony 2008). Despite these norms, women's increased educational levels and their subsequent expanded access to white-collar jobs—as well as the increased economic appeal of dual-earner households—have made wives' labor force participation less objectionable on normative terms. This produces a situation where norms that endorse breadwinning as men's primary role coexist with norms supporting women's dual roles in the labor market and the home, with the latter regarded as their main responsibility. This combination of norms corresponds to McDonald's description of very-low-fertility post-industrial societies, where women's labor market participation is normatively accepted but the home remains the site of a highly gendered division of labor. This is the classic "second shift" situation for women (Hochschild 2012). When this is the dominant gender-role ideology, many women experience an either/or conundrum with respect to work and family. This can exert a negative effect on total fertility; some women will delay entering marriage or a long-term cohabitation or opt out entirely, while those who do enter a long-term union are likely to encounter a difficult balancing act between having children and remaining in the work force. As Chesnais puts it, "Young women invent alternatives to family building, such as permanent celibacy, career-centered life, or new leisure patterns" (1998: 94).<sup>3</sup>

In recent years the gender inequality literature has also emphasized another ideology beyond the traditional male breadwinner/female

caregiver ideology and the egalitarian dual earner/dual carer ideology. This is the framework of “choice” for women. This normative stance incorporates the idea that men and women have some fundamental differences, whether inherent or socialized, but it does not consider these differences to be necessarily antithetical to gender equality (Charles and Grusky 2004). Just as persistent occupational sex segregation is shaped by “‘separate but equal’ conceptualizations of gender and social justice” (ibid.: 27–28), individuals who acknowledge the existence of some sex-specific preferences (such as the choice by some women to focus equally or even more on the home than on the workplace) may also subscribe to gender egalitarianism and not see a contradiction between the two (Cotter, Hermsen, and Vanneman 2011; Stone and Lovejoy 2004). This normative ideology differs from one that emphasizes women’s *duty* to prioritize home over work (as in the male breadwinner/female caregiver ideology) due to their “essential” nurturing characteristic. Rather, it does not penalize women either for choosing this option or for choosing to combine employment and childrearing. In taking a neutral stance toward women’s diverse work/family patterns, this type of ideology is likely to be associated with moderate rather than low fertility, because it renders individuals’ fulfillment of the two-child norm typical in post-industrial societies (Sobotka and Beaujouan 2014) independent of a particular normatively prescribed family model (e.g., male breadwinning).

The possibility of multiple co-existing gender-role ideologies in post-industrial societies leads to three hypotheses about the relationship between a country’s most prevalent ideology and the total fertility rate:

1) Fertility will be lower in post-industrial societies where the dominant gender-role ideology is traditional (supporting the male breadwinner model) rather than egalitarian, supporting men’s and women’s equal participation in the household and the labor market (the dual earner/dual carer model).

2) Fertility will be lowest in societies where the dominant gender-role ideology supports labor market participation for women while maintaining gender-essentialist expectations of women’s primary role in the home. Such an ideology places women under pressure from both the market and the home, without an equivalent set of expectations for men.

3) Fertility will be as high in post-industrial societies dominated by a “choice” framework (where varied patterns of work/family commitment by women are normatively acceptable) as it is in post-industrial societies dominated by a dual earner/dual carer ideology of egalitarianism.

*Gendered implications of labor market institutions.* Gender is also manifested at the macro level in social-institutional arrangements and policies that reinforce or challenge gender-essentialist norms (Acker 1990;



Chesnais 1996; Hook 2006; Mason 1997; Ridgeway 2009; Ridgeway and Correll 2004; Risman 2004). As Ridgeway points out, "The roles that are embedded in institutional and organizational frameworks are often themselves infused with gendered cultural meanings. Indeed, one of the most powerful ways that the gender frame affects the gendered structure of society is through infusing gendered meanings into the institutional practices, procedures, and role identities by which various organizations operate" (2009: 152). The macro-level institutional context provides the setting where men and women translate their own attitudes into behavior and carry out normatively prescribed roles. But the relationship between the ideational environment of gender-role norms and the labor market environment remains under-theorized in demographic work. It is worthwhile asking to what extent gendered assumptions are built into the labor market institutions of some post-industrial societies (Adam 1996; Adserà 2004; Ahn and Mira 2002; Bernardi, Klärner, and von der Lippe 2008).

As discussed in Esping-Andersen's influential work (1990) and elaborated in the literature on varieties of capitalism (Hall and Soskice 2001), labor market institutions exhibit considerable variability within the post-industrial world. Estévez-Abe (2006) has argued that labor market institutions are gendered, in the sense that they privilege some types of skill formation over others. Labor markets dominated by firm-internal labor markets that involve employer investment in the skill training of core regular workers and strong job protection for such workers tend to privilege men. Women's higher probability of discontinuous employment due to childrearing creates a strong disincentive for employers in internal labor markets to invest in women's human capital, thus creating a vicious cycle between employers' attitudes and women's lessened aspirations and ability to hold core jobs. As an example, firm-internal labor markets in Japan have been shown to be closely related to the greater gender inequality in that country's labor market compared to Western societies (Brinton 1989, 2001; Estévez-Abe 2013).

Internal labor markets and employment protection for core workers tend to privilege the traditional male breadwinner/female caregiver model, with ideal workers being those who are able to engage in the male-typical pattern of uninterrupted labor force participation over the life cycle together with the long work hours and face time that characterize the "committed worker" (Brinton and Mun 2016; Cha 2010; Estévez-Abe 2013; Schoppa 2010). Employment protection for labor market "insiders" makes it difficult for prospective mothers to become fully integrated into full-time roles in the labor force because it discourages employers from hiring women into career-track jobs that entail on-the-job training and employees' long-term and continuous labor force participation (Rovny 2011). Employers in this type of labor market are likely to engage in statistical discrimination, basing hiring and training decisions for individual women on their estimate

of the probability that women will quit their jobs when they bear children (Brinton 1993). In this way, women are likely to divide into two groups: those who embark on careers and either delay or forsake childbearing altogether, and those who quit work upon childbearing (Schoppa 2010). In countries with a normative framework that makes it acceptable for mothers to work, regulations protecting labor market insiders are particularly likely to exert downward pressure on the fertility rate. Women who want to have careers will be faced with a starker either/or choice than would be the case in a labor market structure with greater possibilities for inter-firm mobility and mid-career hiring. The latter labor market structure, in creating more employment opportunities for mothers, renders it more feasible for women to balance work and family by moving in and out of the labor force or across firms. This leads to our fourth hypothesis:

4) The positive effect on a country's fertility rate of a gender-role ideology that privileges mothers' choice to work will be reduced when employment regulations favor labor market insiders (workers in career-track jobs in internal labor markets).

*Implications of labor market institutions for young men.* Employment regulations protecting regular workers can also depress fertility through a second mechanism, one that primarily affects young men. Job protection for mid-career breadwinners can generate employment difficulties for young people who are attempting to secure stable entry-level jobs (Genda 2003; Genda, Kondo, and Ohta 2010; Rovny 2011; Rueda 2005). In particular, employers' inability to shed more highly paid mid-career workers during periods of economic recession creates rigidity in the firm's wage costs, exerting a depressing effect on the creation of regular entry-level jobs for young workers. This leads to higher rates of unemployment and precarious employment (Bertola et al. 2013; Brinton 2011; Kahn 2007; Yu 2012). While this affects both young men and young women, the normative expectation in many societies for young single men to secure regular employment before starting a family means that the contraction of regular entry-level jobs can depress fertility by delaying young men's entry into the family formation stage (Mills and Blossfeld 2005). By preserving the jobs of mid-career employees, employment protection represents a generational tradeoff between older and younger workers, exacerbating young men's difficulties in setting up independent households (Fogli 1999; Rovny 2011). It has been argued that this insider/outsider labor market structure has dampened fertility in Southern Europe and Japan in the past few decades, especially since the onset of protracted economic recession (Adserà 2004; Brinton 2011). This leads us to posit a negative effect on fertility of labor market protection when young male unemployment is high. Thus we propose a fifth hypothesis:

5) Employment regulations that protect labor market insiders will have a particularly negative effect on fertility when young male unemployment rates are high.

Many demographers have argued for the negative effect of unemployment on fertility, either at the aggregate level or at the level of individual circumstances (Ahn and Mira 2002; Kravdal 2002; Rovny 2011; Schmitt 2012; Sobotka, Skirbekk, and Philipov 2011). In particular, young men who are unable to secure regular jobs are likely to delay family formation (De La Rica and Iza 2005; Pailhé and Solaz 2012).<sup>4</sup> We do not necessarily expect young male unemployment to exert an overall negative effect on total fertility. Rather, we expect it to do so in the institutional context of employment protection for regular workers and in cultural contexts where the dominant gender-role ideology emphasizes male breadwinning. This leads to our sixth hypothesis:

6) The negative effect of young male unemployment on fertility will be exacerbated in societies dominated by a male breadwinner gender-role ideology.

## Data and methods

*Dependent variable.* Our country-level dependent variable is the yearly total fertility rate (TFR). Changes in the TFR reflect both quantum and tempo effects (Bongaarts and Feeney 1998; Bongaarts and Sobotka 2012; Sobotka 2002), and many researchers argue that the tempo-adjusted TFR is preferable to the TFR for cross-country comparisons. However, the tempo-adjusted TFR is available for only 13 post-industrial countries over the time span of our analysis (1990–2012).<sup>5</sup> The zero-order correlation between the TFR and the tempo-adjusted TFR for these 13 countries across this period is high (.81,  $p < .001$ ). Accordingly, we present the regression analysis using the unadjusted TFR so that we can include all 24 OECD countries of interest.<sup>6</sup>

*Independent variables.* Our data on gender-role attitudes come from the World Values Survey (WVS), the attitude survey that covers the largest number of OECD countries. We use the second (1990–94), third (1995–98), and fourth (1999–2004) waves of the WVS as well as data from the 5<sup>th</sup> or 6<sup>th</sup> waves if the country's survey was done in 2011 or before. Our criteria are that the country survey must be within the time frame of our analysis and have the relevant questions on gender-role norms.<sup>7</sup> Individual countries' participation in the four survey waves varies and thus results in unbalanced panel data. We address this and other issues in the Appendix.\*

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\*Appendix is available at the supporting information tab at [wileyonlinelibrary.com/journal/pdr](http://wileyonlinelibrary.com/journal/pdr).

**TABLE 1** Frequency distribution of responses to gender-role attitude statements: 24 OECD countries, pooled across WVS waves

WVS question	Frequency (percent)
1. When jobs are scarce, men should have more right to a job than women	
Disagree	78.1
Agree	21.9
2. A woman has to have children to be fulfilled	
Disagree	57.1
Agree	42.9
3. A pre-school child suffers with a working mother	
Disagree	48.1
Agree	51.9
4. What women really want is a home and children	
Disagree	50.8
Agree	49.2
5. Having a job is the best way for a woman to be an independent person	
Disagree	26.4
Agree	73.6
6. Both the husband and wife should contribute to household income	
Disagree	22.6
Agree	77.4
7. A working mother can establish just as warm and secure a relationship with her children as a mother who does not work	
Disagree	23.5
Agree	76.5
8. Being a housewife is just as fulfilling as working for pay	
Disagree	42.2
Agree	57.8
Total responses	54,764

We use the gender-role attitude questions that most closely reflect respondents' views on men's and women's normatively prescribed roles in the spheres of work and family. Table 1 presents the eight questions we use and their frequencies in the pooled sample. While some of the questions were asked in a Likert-scale format, we dichotomize all the responses for computational efficiency. In order to represent the gender-role attitudes of individuals in their prime family formation years, we use the responses of women and men aged 20–49 in the survey year. We use latent class analysis (LCA) to establish how these gender-role attitudes cluster into normative ideologies (or “classes”) that reflect beliefs about the appropriate roles for men and women.<sup>8</sup> Individuals are classified into latent classes according to their estimated probabilities, enabling researchers to characterize the nature

of latent classes by interpreting the response patterns of members of a given latent class.

To examine the labor market institutional context, we use the OECD's index of employment protection legislation, which measures the strength of country-level regulations regarding the hiring and dismissal of regular workers.<sup>9</sup> Available as a time-varying index for each OECD country starting in 1985 (Venn 2009), values range from 0 to 6, with 6 indicating the strongest protection against dismissal of employees working under regular/indefinite contracts. We favor this indicator of employment regulation over an indicator of protection for fixed-term and temporary workers or a broader measure covering both regular and fixed-term workers, given that we wish to measure the degree to which the jobs of labor market insiders are protected (Kahn 2007).

We measure the availability of employment for young men as the ratio of unemployed men aged 25–29 to the total male labor force in that age group. This age group corresponds most closely to the mean age of family formation for men in post-industrial societies.

*Control variables.* In the multivariate analysis we control for the level of economic development (measured as logged GDP per capita and its squared term), economic growth, female labor force participation, and public spending on family policies. Controlling for economic development is important as one could argue that post-industrial countries with higher per capita GDP tend to have lower fertility. We control for economic growth so that we can separately assess the specific influence of young male unemployment on fertility, especially in conjunction with labor market protection and male breadwinner ideology.

Many aggregate-level studies have reported that the correlation between the country-level total fertility rate and the female labor force participation rate shifted from negative to positive in post-industrial countries from the mid-1980s onward (Ahn and Mira 2002; Rindfuss and Brewster 1996; Rindfuss, Guzzo, and Morgan 2003). Most of these studies report the bivariate correlation and interpret the reversal in sign as suggesting that fertility increased in countries where institutional, policy, and/or normative factors make it more feasible for women to balance work and family roles. Because our theoretical framework posits such factors as explanatory, we include female labor force participation as a control variable. We restrict the measure to the age group 25–44, the age range in which the majority of women in post-industrial societies experience the greatest work/family conflict.

Finally, while not a central theoretical focus of the article, we take into account state policies supporting the family. Empirical studies linking family policies and fertility have produced mixed findings (Balbo, Billari, and Mills 2013; Büttner and Lutz 1990; DiPrete et al. 2003; Gauthier 2002,

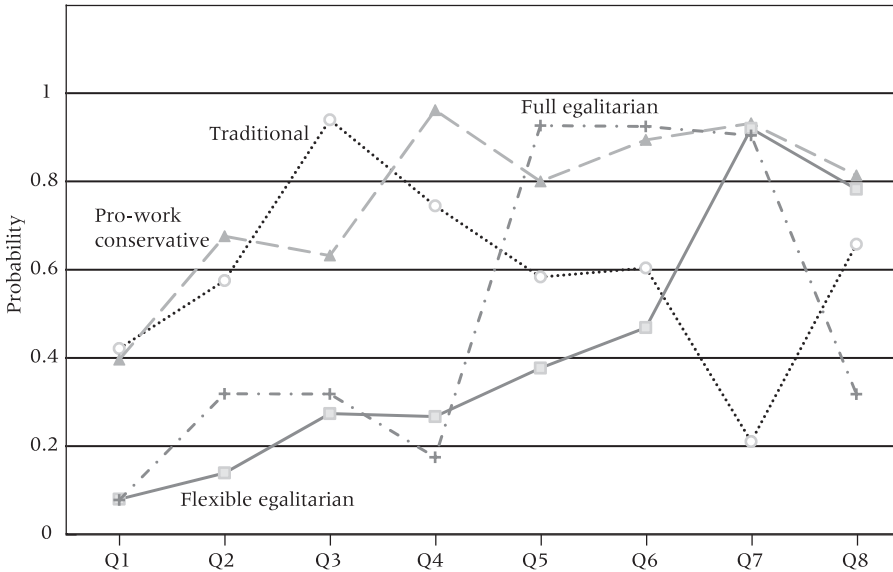
2007; Gauthier and Hatzius 1997; Kalwij 2010; Neyer and Andersson 2008; Rovny 2011; Sleenbos 2003). This is likely due to several factors. For instance, the implementation of generous parental leave policies in countries such as Japan and South Korea occurred as a *response* to very low fertility (Frejka, Jones, and Sardon 2010; Schoppa 2010) and has had little effect to date on raising fertility back up to replacement level. Further, as is often pointed out, the US is an outlier in terms of having no national system of paid parental leave, yet it has one of the highest fertility rates among post-industrial societies. Such examples lead us to doubt the wisdom of predicting a causal link between parental leave policies and country-level fertility. We thus use state support for families as a control variable, measured as the percent of GDP spent on family policies.<sup>10</sup> The measure covers total public spending on all family policies including child allowances and credits, childcare support,<sup>11</sup> income support during maternity and parental leave, and supplemental payments to single parents. While we expect state expenditures on family policies to bear a positive relationship to total fertility, we predict that the effects of our principal explanatory variables will remain significant. All variables are based on OECD data (<http://stats.oecd.org>), with the exception of the gender-role attitudes from the WVS.

## Results

*Gender-role ideology.* We ran the latent class analysis of respondents' gender-role attitudes using WVS data pooled across countries and waves ( $N = 54,764$ ). Based on goodness-of-fit statistics and the theoretical validity of the latent classes produced (Collins and Lanza 2009), we chose a four-class model; it is the most parsimonious and is theoretically the most appropriate because it captures the nuanced normative frameworks we have theorized (support for women's employment together with an emphasis on their primary caregiving role vs. support for women's choice of how to combine work and family) as well as the more polarized normative frameworks (traditional vs. dual earner/dual carer egalitarian). We label the four classes traditional, pro-work conservative, flexible egalitarian, and full egalitarian. Strikingly, these four ideologies were also inductively generated in a separate analysis of gender-role attitude change in 18 European countries (Knight and Brinton, forthcoming). This gives us additional confidence in the validity of the distinctions among the four ideologies.

Figure 1 presents the conditional probability that respondents within a particular latent class agree to a given survey statement. Respondents in the traditional and pro-work conservative classes tend to grant priority to men when jobs are scarce (Q1), feel that women need children in order to be fulfilled (Q2), perceive that women want a home and children (Q4), and consider the status of housewife to be as fulfilling as working for pay (Q8).

**FIGURE 1 Conditional probability that respondents supporting a particular gender-role ideology agree with each survey statement**



NOTE:  
 Q1: When jobs are scarce, men should have more right to a job than women.  
 Q2: A woman has to have children to be fulfilled.  
 Q3: A pre-school child suffers with a working mother.  
 Q4: What women really want is a home and children.  
 Q5: Having a job is the best way for a woman to be an independent person.  
 Q6: Both the husband and wife should contribute to household income.  
 Q7: A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.  
 Q8: Being a housewife is just as fulfilling as working for pay.

These normative ideologies thus reflect strong gender-essentialist assumptions. Traditionalists are much more likely than pro-work conservatives to feel that pre-school children suffer if their mother works (Q3), that it is not necessary for both husband and wife to contribute to income (Q6), and that a mother’s relationship with her children is compromised if she works (Q7). Pro-work conservatives, by contrast, are much closer to one or both of the two egalitarian classes with regard to these latter beliefs as well as the belief that a job is the best way for women to be independent (Q5). This shows the support of pro-work conservatives for women playing an economic role, at the same time that they grant priority to men in the labor market and hold other beliefs that also reflect gender-essentialist norms. Traditionalists make up 19.4 percent / of the pooled sample across countries and pro-work conservatives make up 25.0 percent.

The other two gender-role attitude classes or normative ideologies generated by LCA represent distinct variants of egalitarianism, which we label flexible egalitarianism and full egalitarianism. They share a number

of similarities with each other but also show some significant differences. Members of both classes believe that men should not be prioritized in the labor market (Q1), that women do not need children to be fulfilled (Q2), that pre-school children do not suffer if their mother works (Q3), and that a mother can have a good relationship with her children if she works (Q7). They have only a weak belief that women want a home and children (Q4). In contrast to full egalitarians, flexible egalitarians are much more likely to say that a job is not necessarily the best way for a woman to be independent (Q5), that it is not necessary for both husband and wife to contribute to income (Q6), and that being a housewife is just as fulfilling as working for pay (Q8). These differences illustrate that flexible egalitarianism does not include the normative requirement that women hold a job (in contrast to the full egalitarian position) nor the normative requirement that women prioritize childrearing (in contrast to the pro-work conservative position). Flexible egalitarians make up 14.4 percent of the pooled sample and full egalitarians make up 41.2 percent.

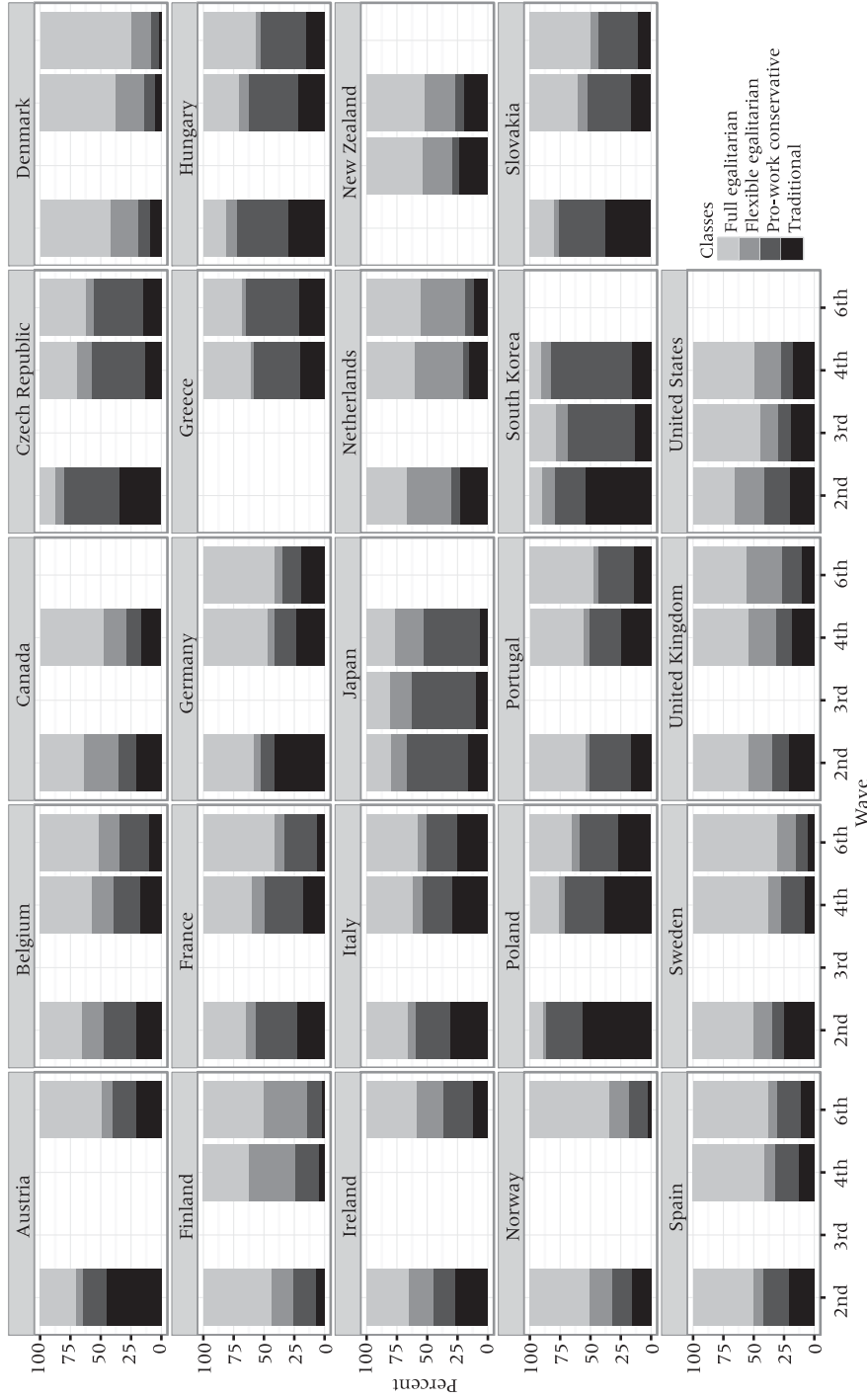
Figure 2 shows the percent of each country's respondents in each gender-role attitude class across time. The prevalence of a traditional gender-role ideology representing the male breadwinner/female caregiver model has clearly declined in all countries over time. But some of the countries that initially had the largest percent of their population adhering to this ideology in 1990 maintain a high percent who adhere to the most similar ideology—pro-work conservatism—even in the most recent survey. These include the Czech Republic, Greece, Hungary, Japan, South Korea, and Slovakia, all of which are very-low-fertility countries. The full egalitarian class has increased noticeably in almost all countries but continues to remain very small in East Asia (Japan and Korea). The presence of flexible egalitarianism, the normative framework we predict to be most closely associated with moderate fertility rates, is more apparent in Finland, the Netherlands, New Zealand, the US, and the UK than in other countries.

Table 2 shows descriptive statistics for our variables of interest (averaged over countries and years), including the distribution across the four normative gender-role ideologies. Figure 3 shows the total fertility rate for each country at the starting and ending points of our analysis; countries are arrayed from left to right based on their TFR in 1991. Twelve countries had TFRs below 1.5 in 2012, and only three countries (France, Ireland, and New Zealand) had TFRs at or above 2.0.

*Regression analysis.* Table 3 presents the results of a pooled time-series regression analysis (1990–2012) with countries' TFR as the dependent variable; the TFR and the independent variables are measured annually. The independent variables are lagged one year. In Model 1, we show the effects of the unemployment rate for young males, employment regulations, and the control variables. Public spending on family policies is positively



**FIGURE 2** Percent of respondents in 24 OECD countries in each of four gender-role attitude classes across WVS waves



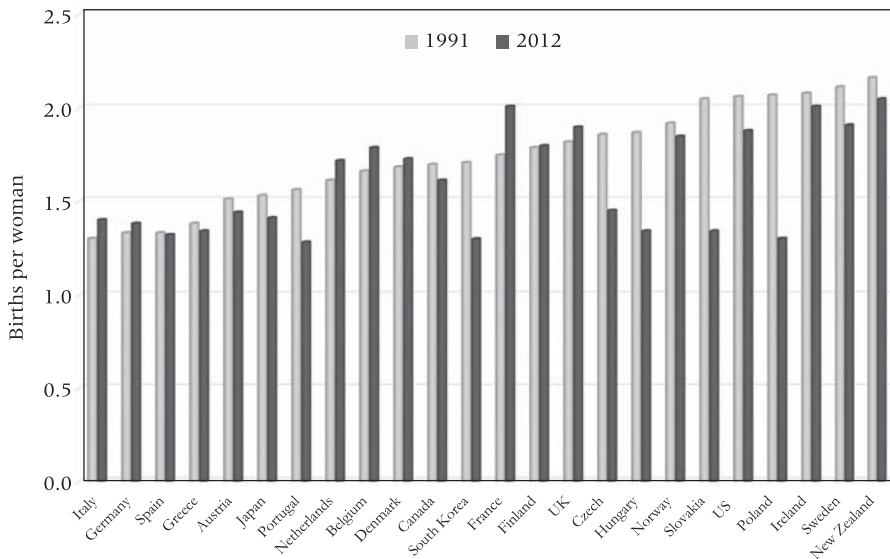
NOTE: 2nd wave 1990-94, 3rd wave 1995-98, 4th wave 1999-2004, 6th wave 2008-2011. Data for Austria are from the European Values Survey.

**TABLE 2** Descriptive statistics: 24 OECD countries, 1990–2012

	Mean	Minimum	Maximum
Total fertility rate	1.6	1.1	2.2
Percent supporting traditional gender-role attitudes	19.4	2.1	56.6
Percent supporting pro-work conservative attitudes	25.0	5.2	66.0
Percent supporting flexible egalitarian attitudes	14.4	2.0	39.3
Percent supporting full egalitarian attitudes	41.2	9.6	74.8
Young male unemployment rate (aged 25–29) <sup>a</sup>	9.6	2.0	35.4
Employment protection index for regular workers (0–6) <sup>b</sup>	2.3	0.3	4.8
Female labor force participation rate (aged 25–44)	75.5	49.9	90.9
Public expenditure on family policies (percent of GDP)	2.2	0.0	5.9
Logged GDP per capita	1.1	8.9	1.8
Economic growth rate (%)	1.7	-11.6	1.7

<sup>a</sup>Ratio of unemployed men aged 25–29 to total male labor force in that age group.

<sup>b</sup>A value of 6 indicates the strongest employment protection.

**FIGURE 3** Total fertility rate in 24 OECD countries in 1991 and 2012

NOTE: Countries appear in ascending order according to TFR in 1991.

related to total fertility, but neither young men's unemployment rate nor employment regulations per se are significantly related. Model 2 adds the percent of a country's respondents adhering to each normative gender-role ideology, with full egalitarianism as the reference category. There is no statistically significant difference between the relationship of total fertility to the proportion adhering to traditional gender-role ideology and the proportion adhering to the full egalitarian ideology (in contrast to our first hypothesis). That is, the male breadwinner model in and of itself is predictive of neither a lower nor a higher total fertility rate than the full egalitarian

**TABLE 3** Determinants of total fertility rates in 24 OECD countries, 1990–2012

Variables	Model 1	Model 2	Model 3	Model 4
Percent supporting traditional gender-role ideology <sup>a</sup>		.001 (.002)	.004 <sup>†</sup> (.002)	.001 (.002)
Percent supporting pro-work conservative gender-role ideology		-.006 <sup>***</sup> (.002)	-.007 <sup>***</sup> (.001)	-.006 <sup>**</sup> (.002)
Percent supporting flexible egalitarian gender-role ideology		.005 <sup>*</sup> (.002)	.012 <sup>***</sup> (.002)	.005 <sup>*</sup> (.002)
Young male unemployment rate	-.002 (.002)	-.001 (.002)	.005 <sup>†</sup> (.003)	.007 <sup>*</sup> (.003)
Employment protection for regular workers	.014 (.023)	.012 (.022)	.057 <sup>†</sup> (.029)	.051 <sup>*</sup> (.022)
Female labor force participation rate	.001 (.003)	.002 (.003)	.002 (.003)	.002 (.002)
Public spending on family policies	.040 <sup>*</sup> (.019)	.042 <sup>*</sup> (.018)	.035 <sup>†</sup> (.019)	.038 <sup>*</sup> (.018)
Logged GDP per capita	-7.644 <sup>***</sup> (1.443)	-7.527 <sup>***</sup> (1.448)	-8.129 <sup>***</sup> (1.465)	-7.794 <sup>***</sup> (1.347)
Logged GDP per capita squared	.387 <sup>***</sup> (.081)	.385 <sup>***</sup> (.080)	.415 <sup>***</sup> (.082)	.398 <sup>***</sup> (.075)
Economic growth rate	-.003 (.002)	-.003 (.002)	-.003 (.002)	-.003 (.002)
Year	-.018 <sup>**</sup> (.006)	-.019 <sup>**</sup> (.006)	-.018 <sup>**</sup> (.006)	-.018 <sup>**</sup> (.006)
Young male unemployment rate × traditional gender-role ideology			-.003 <sup>*</sup> (.002)	
Employment protection for regular workers × flexible egalitarian gender-role ideology			-.005 <sup>**</sup> (.002)	
Employment protection for regular workers × young male unemployment rate				-.004 <sup>***</sup> (.001)
Country dummies	X	X	X	X
Wave dummies	X	X	X	X
Rho	.880	.863	.868	.856
R-squared	.968	.971	.971	.972

NOTE: Robust standard errors in parentheses. Total N is 322 (country-wave years).

\*\*\*Significant at  $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; <sup>†</sup> $p < .10$ <sup>a</sup>Reference category is full egalitarian.

model emphasizing equal roles for men and women. Consistent with our second hypothesis, the proportion of a country's population believing in the pro-work conservative ideology compared to full egalitarianism has a negative and statistically significant relationship to total fertility. Conversely, countries with a higher proportion of flexible egalitarians than full egalitarians exhibit higher total fertility rates. This outcome supports our third hypothesis.

Models 3 and 4 add the interactions posited between gender-role ideology and employment regulations, and interactions between gender-role ideology and young male unemployment. Model 3 shows that young male unemployment is negatively related to total fertility in the context of a traditional gender-role ideology favoring male breadwinner norms (our sixth hypothesis). Additionally, the negative impact on fertility of employment regulations favoring labor market insiders is greater when gender-role norms support the idea of mothers' labor market participation (flexible egalitarianism). This supports our fourth hypothesis. In Model 4, we test for the negative interaction between employment protection for regular workers and young male unemployment (our fifth hypothesis).<sup>12</sup> Our expectation is supported: in contexts where employment regulations protect already-employed insiders (most likely middle-aged men), young men's employment difficulties have a negative effect on total fertility.

## Discussion

Our multivariate results indicate that the dominance of a pro-work conservative gender-role ideology compared to full egalitarianism is negatively related to total fertility. This suggests that fertility will be depressed in those post-industrial societies that advocate female employment while also supporting the gender-essentialist norm that women are the natural caregivers. Interestingly, the dominance of a male breadwinner (traditional) ideology in and of itself compared to full egalitarianism is not significantly related to total fertility. We return to this point in our conclusion. As we predicted, the normative framework that offers women the widest array of socially acceptable options with respect to work and family—flexible egalitarianism—is more closely linked to a country's higher total fertility.

These results for the main effects of normative gender-role ideology show that the two intermediate ideologies—the ones that are neither fully traditional nor fully egalitarian—are the most predictive (albeit in opposite directions) of total fertility. In contrast to the relationship between these cultural conceptions of gender roles and fertility, neither labor market structure per se (employment regulations) nor the extent of young men's unemployment is significantly related to total fertility. Instead, it is the interaction between gender-role ideology and labor market regulations, as well as the interaction between gender-role ideology and young men's unemployment rate, that influences country-level fertility. Traditional (male breadwinner) ideology is negatively related to total fertility in the context of high unemployment rates for young men. This suggests the importance of identifying the economic conditions under which gender-essentialist male breadwinner norms exert the greatest influence. If cultural norms define men as breadwinners and jobs for young men are abundant, the dominance of this type of gender-essentialist belief does not depress total fertility. When labor markets

are slack, on the other hand, the cultural definition of men as breadwinners will depress fertility. Countries facing this combination of conditions over the past few decades include Italy, Poland, and Slovakia. Similarly, young male unemployment is particularly negatively related to total fertility in a labor market where employment regulations favor already-employed insiders. Protection for the jobs of middle-aged workers narrows the possibilities for young men to enter the labor market and to move into the family formation stage. This situation has characterized a number of countries in Southern Europe in particular.

We hypothesized that the interaction of gender-role ideology and labor market institutions also influences total fertility through another mechanism, one that affects women. Flexible egalitarianism offers normative support for women's individual preferences vis-à-vis the combination of work and family. But the positive effect of this ideology on total fertility is dampened when labor market institutions provide employment protection for insiders. Such labor market contexts represent the most inflexible and inhospitable environments for women to be able to move between firms or in and out of the labor market in tandem with changes in the demands of childrearing. In short, even when a gender ideology that supports women's choice of how to combine work and family is popular, a rigid institutional context in the labor market depresses the positive effect on total fertility.

In sum, our empirical results offer support for a textured account of how gender-role ideology and labor market institutions interact to influence total fertility. It is the particular combination of these aspects of culture and structure, together with the economic conditions facing young men, that either maintains replacement-level fertility or depresses fertility in post-industrial societies.

## Conclusion

This article has theorized the importance of how different gender-role ideologies either reflect or minimize beliefs about the essential nature of women (as caregivers) and men (as breadwinners). Moreover, we have theorized how variation across post-industrial economies in the structure of individual-oriented institutions—namely, labor market institutions—interacts with gender-role ideology and the economic conditions facing young men to affect total fertility rates.

The first of our theoretical contributions is to bring gender inequality researchers' emphasis on gender as a relational concept to the study of post-industrial fertility, focusing not only on women's difficulties with work/family balance but also on the normative pressures placed on men to fulfill societal expectations for responsible parenthood. Gender-essentialist norms prescribing the appropriate social roles for men and women figure

prominently in our explanation—more prominently than either gender equity or gender equality per se. This leads us to term our framework a theory of gender essentialism.

Our second contribution is to identify a spectrum of normative gender-role ideologies from the traditional to the full egalitarian. Along this spectrum are other, more nuanced gender-role ideologies. These include an ideology prescribing that women participate in the labor market while maintaining their primary role in the home (what we have called pro-work conservatism) and an ideology that instead accepts or condones women's own choice as to how to balance work and family (flexible egalitarianism). The former is likely to have a depressing effect on a country's fertility rate compared to full egalitarianism. Countries where pro-work conservatism is prevalent include Japan, South Korea, and a number of societies in Southern and Eastern Europe, all of which have very low fertility rates. As in other countries, the dominance of a traditional gender-role ideology has generally declined in these societies. But the belief in a pro-work conservative ideology has been largely maintained. In contrast, countries where a higher proportion of the population adheres to flexible egalitarianism are likely to have higher fertility rates, even compared to countries that adhere to full egalitarianism. We posit that this is because in countries with larger proportions of individuals adhering to flexible egalitarianism, a variety of choices concerning how to combine employment and childrearing are condoned for women, making it easier for women to fulfill their fertility intentions in a normatively acceptable way. These countries include Finland, the Netherlands, New Zealand, the UK, and the US.

Our third theoretical contribution is to extend recent sociological discussions of gendered institutions by recognizing that the unfinished gender-role revolution does not exist in the ideological or attitudinal sphere independently of the institutional context. Employment regulations that either implicitly or explicitly favor middle-aged male breadwinners by privileging continuous regular employment disadvantage women who may wish to balance work and family through intermittent employment. This disadvantage may translate into lower total fertility, as demonstrated by the fact that the positive effect of flexible egalitarian ideology is reduced in the context of regulations that protect labor market insiders. Furthermore, in restricting the hiring of new labor market entrants, such employment regulations also combine with higher unemployment rates to affect young men, leading to delays in family formation. Higher rates of young male unemployment are also related to lower fertility in cultural contexts that promote male breadwinning and young men's ability to support a family.

Our theoretical framework positing how gender essentialism and labor market institutions interact to influence total fertility rates demonstrates the complexity of how cultural and structural forces intertwine to affect country-level fertility. Family-oriented (*viz.* male breadwinner) countries

in Southern Europe and East Asia with very low total fertility rates tend to have strong employment protection for regular workers. Low fertility in these regions is due in part to the difficulties young men face in fulfilling the male breadwinner role, especially when unemployment is high and labor demand is slack. Moreover, even though women's increasing educational attainment and employment opportunities characterize these and other post-industrial economies, such changes have not necessarily been accompanied by a lessening of the gender-essentialist definition of men as breadwinners first and caregivers second. This has caused difficulties for women in balancing the roles of caregiver and wage-earner, especially if gender-role ideology prescribes that women should simultaneously engage in both roles (as in the pro-work conservative ideology) while prioritizing their role at home. Societies in which these difficulties seem to have lessened—especially through a gender-role ideology that is flexible with respect to women's choice of work/family balance—are ones where very low fertility appears less inevitable. The positive influence of this flexible egalitarianism is especially strong when labor market regulations do not privilege labor market insiders, typically middle-aged men.

Empirically, a worthwhile next step would be to use multilevel models incorporating the contextual variables we have theorized here, together with individual-level data on fertility intentions such as the intention to progress to a second birth. This approach could test how the proximate determinants of fertility intentions operate within the macro-level normative, institutional, and economic contexts we have identified. In the meantime, our comparative analysis contributes additional evidence to the emergent view that the unfinished gender revolution is linked to one of the most detrimental demographic consequences experienced so far in post-industrial societies: the failure of populations to naturally replace themselves.

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## Notes

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1 Observers also caution that one must avoid the ecological fallacy: it is not necessarily the case that it is employed women who are having more children and thus keep-

ing national fertility rates at moderate levels (Brehm and Engelhardt 2015).

2 Myrskylä, Kohler, and Billari related countries' total fertility rates to the Human Development Index (HDI), an index based on indicators of a country's health conditions, living standards, and human capital. As Mills (2010) and others (Jütting et al. 2008) have pointed out, the HDI is best considered as a summary measure of national economic prosperity and human development, which are related to gender equality but are not perfectly correlated with it.

3 See Schoppa (2006, 2010) for a cogent discussion of this balancing act with respect to Japan's persistently low fertility.

4 Unemployment may also have an effect on women's postponement of child-bearing, although this is more likely to vary by their opportunity costs and hence their education. The negative effect of female unemployment on fertility is thus more contingent on country-specific conditions (Schmitt 2012).

5 The Human Fertility Database (<http://www.humanfertility.org/cgi-bin/zipfiles.php>) has detailed data on fertility rates (cohort, period, and age-specific), including tempo-adjusted TFRs based on the 1998 Bongaarts-Feeney method for 13 of the 24 countries of interest to us.

6 We also tested our regression model including only the 13 countries for which the tempo-adjusted total fertility rate is available as a dependent variable. Because of the reduction in data points for the regression analysis, the standard errors are larger. However, the signs and relative magnitudes of the coefficients for our main variables are very similar to our model using the TFR as the dependent variable.

7 In determining which country-wave data to include in the latent class analysis below, we used two criteria: 1) A country must have at least two waves of WVS data, and 2) each WVS wave should have all eight gender-role attitude questions of interest to us. The second criterion made it necessary for us to drop the fifth wave of the WVS entirely. In weighing the tradeoff between data quality and geographical representation, we applied the second criterion more flexibly because three of the eight gender-role attitude questions were not included in waves 3 and 4 of the WVS for several countries: Canada, Japan, New Zealand, South Korea, and the United States. Rather than dropping these countries entirely from the analysis, we treat the missing questions as usual missing data. Latent Gold software (see also endnote 8) calculates the probabilities for these countries based on five questions rather than the eight questions used for other countries. Based on robustness checks, we determined

that while having three missing questions for the five countries may slightly increase classification errors across the gender-role attitude latent classes within these countries, this affects neither the overall structure of the latent classes nor their distribution in the other countries.

8 Similar to factor analysis or cluster analysis, LCA is a data-reduction method (McCutcheon 1987; Magidson and Vermunt 2004). LCA is appropriate for handling categorical variables. We use Latent Gold software, which provides full-information maximum-likelihood estimates even in the case of some missing data on the indicator variables (Vermunt and Magidson 2005). This allows us to include cases with missing values on any indicator without doing imputation. In doing so, we assume that missing data are missing at random (MAR), conditional on the other observed data (Little and Rubin 2002; Vermunt and Magidson 2005; Winship, Mare, and Warren 2002). While we acknowledge that this is a strong assumption, this method is preferable to listwise deletion, which requires that data be missing completely at random (MCAR).

9 The OECD definition of employment protection legislation includes the difficulties employers encounter in dismissing workers with regular contracts as well as the regulation of temporary contracts. We include only the measure of employment protection for workers with regular contracts.

10 The spending variable can be affected by factors other than the generosity of policies, such as the size of the beneficiary population. We also tested the effects of the duration of paid maternity and paternity leaves, but no significant effects were found.

11 Childcare support represents all public financial support (in cash, in kind, or through the tax system) for families with children participating in formal daycare services (crèches, daycare centers, and family daycare for children under age 3) or in pre-school institutions (including kindergartens and daycare centers for children aged 3–5 years; Adema, Fron, and Ladaique 2011).



12 We cannot include this interaction in Model 3 because of the high correlation with the interaction term between young male unemployment and traditional gender-role ideology.

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