

Demographic Transition Revisited: Low Fertility, Socioeconomic Development, and Gender Equity

Thomas Anderson and Hans-Peter Kohler

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INTRODUCTION

Many contemporary studies in family demography examine trends over a time horizon that begins in the mid-20th century and ends at present-day (e.g., Collins 2010; Feyrer et al. 2008; Engelhardt et al. 2004; Lesthaeghe 2010). This timeline proves convenient not only because data during this period are available and widely accessible, but also because clean-cut secular trends (such as high to low fertility and marriage rates, and low to high divorce and out-of-wedlock birth rates) make theoretical frameworks uncomplicated. Examining such a narrow window of history, however, fails to capture important social and demographic trends occurring during the first half of the 20th century—some of which were puzzlingly more similar to contemporary than mid-century trends, and may therefore help to better understand our world today.

Encompassing a broader time horizon, beginning in the early 20th century, this paper pieces together novel empirical evidence with a wide body of social science literature to provide new theoretical insights into the interrelations between low fertility, socioeconomic development, and gender equity. Drawing on these insights, we propose a variant of the demographic transition that incorporates a homeostatic interplay between changes in fertility and gender equity. We then provide empirical evidence to support our theoretical framework, and conclude by acknowledging key limitations and avenues for future research.

BACKGROUND

First-Wave Developers

The late 19th to early 20th century was an era of profound economic, social, and demographic change for countries in Northern and Western Europe, and the English-speaking countries.¹ Because these countries were at the forefront of industrialization and socioeconomic development, they are referred to hereinafter as “first-wave developers” (for more on industrialization and growth, see Crafts (2002), Galor (2004), and Maddison (2007)). Economic growth spurred a rise in living standards, educational and occupational opportunities for men and women flourished, and novelties like kitchen appliances and cars became available to a growing share of the population. While material change quickly swept across industrializing countries, societies found themselves in a flux of old and new ways of thinking. Traditional norms clashed with a new wave of progressive attitudes in several social domains. Observing these “clashes”,

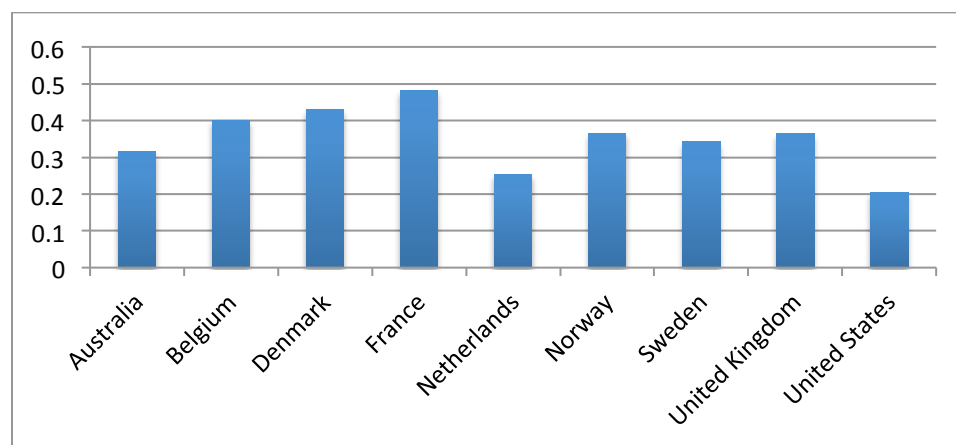
¹ These include Australia, New Zealand, the US, and Canada.

² Among contemporary demographers, low fertility during the early half of the 20th century in Western Europe is frequently attributed as a consequence of economic and political instability during the interbellum period (e.g.,

Ogburn (1922) theorized that a “maladjustment” period occurs during which individuals fail to synchronize behavior and attitudes to new material change. He called this period a “cultural lag”.

One area in which cultural lag was especially pronounced during this era was that of women’s roles. Technological progress and capital accumulation in the early stages of the Industrial Revolution complemented mentally intensive tasks more than physically intensive tasks, thereby raising the return to the former relative to the latter (Galor and Weil 1996, 1999; Galor 2011). Because women held a comparative advantage in mentally intensive tasks while men held a comparative physiological advantage in physically intensive tasks, the demand for women’s labor increased and the gender wage gap narrowed (Galor 2011). While occupational opportunities rose for women and female labor force participation across industrializing countries increased during the early part of the 20th century (ranging from 20% in the US to nearly 50% in France in 1900; see Figure 1 below), traditional male breadwinner/female housewife norms prevailed. As a result, a substantial stigma against working wives outside the home existed, leaving women at the time with a “clear choice between family and career” (Goldin 2004, p. 23)

Figure 1: Female Labor Force Participation Rates for Select First-Wave Developers, 1900



Source: Olivetti (2013)

McDonald has articulated that a strong work-family conflict—or in his words “a conflict or inconsistency between high levels of gender equity in individual-oriented social institutions and sustained gender inequity in family-oriented social institutions” (McDonald 2000, p. 427)—drives very low fertility. In other words, where traditional norms regarding childrearing, household work, and breadwinner roles prevail, women are more likely to view having a family as being at odds with pursuing career aspirations (hence, “work-family conflict”), and fertility falls to low levels.

The following Figure (2) illustrates how differential levels female labor force participation (a component of “institutional” gender equity) and household (or “family-oriented”) gender equity lead to varying degrees of the work-family conflict. The first and third quadrant echo McDonald’s theory: high levels of both institutional and household gender equity equate to higher fertility (quadrant 1) than equally high institutional but low household gender equity (quadrant 3). Expectedly, the fourth quadrant indicates that low FLFP is associated with a weak work-family conflict. The second quadrant is left blank, as it is unlikely that men share household tasks evenly in a society where women do not (desire to) work outside of the home. As we discuss in the limitation section, the fourth quadrant may provide insight into the gender dynamics during the mid-century baby boom.

Figure 2: Female Labor Force Participation and Household Gender Equity Relationship

		Female Labor Force Participation	
		High	Low
Household Gender Equity	High	Weak Work-Family Conflict (Near) Desired Fertility	
	Low	Strong Work-Family Conflict Low Fertility	Weakest Work-Family Conflict (Near) Desired Fertility

While McDonald’s theory of gender equity and fertility was developed within a 21st century context, its applicability holds for the social and demographic context of the early 20th century: It has been well-documented that one consequence of the “work-family conflict” during the early 20th century was sub-replacement fertility (Van Bavel 2010; Tolnay and Guest 1982).² Social scientists of the early 20th century like Edin (1932), Myrdal (1941), Tandler (1927), Charles (1934), Darwin (1919), von Ungern-Sternberg (1937), and Wieth-Knudsen (1937), all directly discussed the negative associations between fertility and female educational attainment/labor market participation. In Sweden, a country now championed for its family friendly environment, it was documented that very low fertility was driven partly by female laborers who found it difficult to combine childcare with a career (Van Bavel 2010; Edin 1932). In the United States and Australia, nearly half of female university graduates in the early 20th century remained childless, while the other half reached fertility levels well below replacement

² Among contemporary demographers, low fertility during the early half of the 20th century in Western Europe is frequently attributed as a consequence of economic and political instability during the interbellum period (e.g., Lesthaeghe and Surkyn 1988; Sobotka 2008; Frejka and Sardon 2004). In recent years, however, this claim has been empirically refuted. Van Bavel (2010), for example, argues that low fertility during the interwar period was due to processes now associated with the Second Demographic Transition rather than economic hardships. In initial disbelief to Van Bavel’s findings, Goldstein (2012) modestly exclaimed that after “torturing the data”, he was not able to find any effect of the great depression on fertility rates, and conceded to Van Bavel’s argument.

(Cookingham 1984; Mackinnon 1993; Goldin 2004). High incidences of childlessness among working women were also documented in England and Wales (Kelsall and Mitchell 1959) and Germany (von Ungern-Sternberg 1938). As Van Bavel and Kok (2010) observe: “for well-educated women in the early twentieth century, to become a mother often meant forfeiting a career.”³

It was during this time period when fertility fell and population replacement levels in many first-wave developers hit their all-time lows. Table 1 compares fertility and reproduction trends for select Northern/Western European countries and Figure 1 displays these in graphical form. We compare cohort fertility rates rather than period fertility rates because the former indicates the actual number of children born to a birth cohort of women while the latter is a synthetic measure subject to distortive tempo effects (Bongaarts and Feeney 1998; Sobotka and Lutz 2009). Together, Table 1 and Figure 3 show that *reproduction nadirs occurred in the early 20th century (with the exception of the Netherlands)*, and that *the indicator of generational reproduction, the NRR, has risen, in some cases dramatically, over the latter half of the 20th century*.

Table 1: Cohort TFRs in European Countries, Early 20th Century and NRR Comparisons

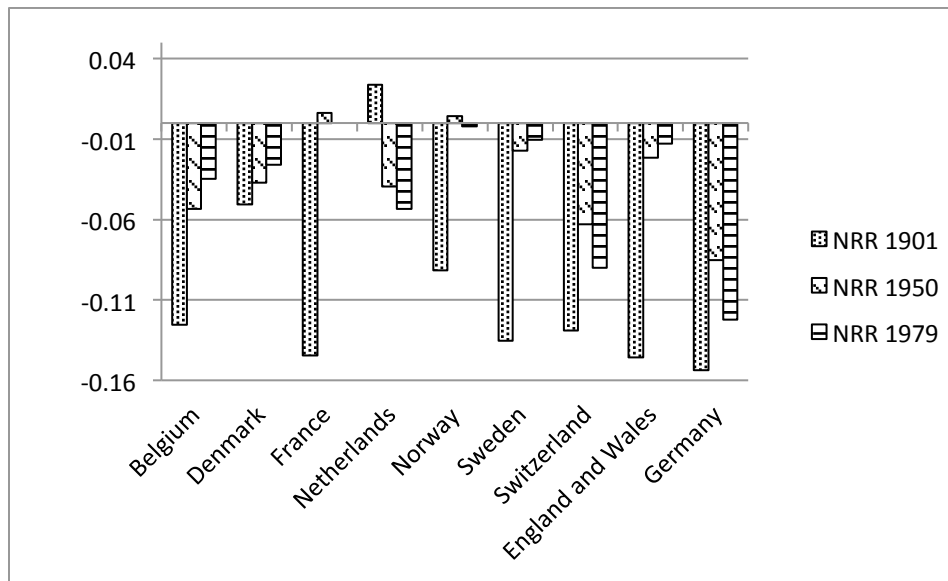
Cohort TFRs in European Countries, Early 20th Century and NRR Comparisons					
Country	Cohort Year	CTFR 1901	NRR 1901	NRR 1950	NRR 1979
Belgium	1906	2.03	0.749	0.885	0.923
Denmark	1901	2.2	0.89	0.918	0.942
France	1901	2.12	0.717	1.014	1.000
Netherlands	1901	2.86	1.056	0.913	0.885
Norway	1901	2.07	0.81	1.010	0.995
Sweden	1901	1.88	0.732	0.962	0.976
Switzerland	1901	1.99	0.743	0.865	0.813
England and Wales	1901	1.96	0.715	0.952	0.971
Germany	1905	2.12	0.702	0.822	0.755

Source: Sardon (1991) for early 20th century cohort fertility data and Myrskylä et al. (2012) for late 20th century data⁴

³ Analyzing data from the Netherlands and United States, Hagestad and Call (2007) note that high levels of childless in the early 20th century served as “indications that some of these women may have been forerunners of what we consider a “modern” pattern: actively choosing childlessness and stable work engagement’.

⁴ Because cohorts born in 1979 have not yet finished their childbearing years, we use Myrskylä et al.’s recently published cohort fertility projections.

Figure 3: Deviation from NRR=1 in select First-Wave Developers, 1901, 1950, and 1979



While comparable cohort NRR data for the United States and Australia is not available, other indicators suggest that similar declines in fertility were taking place. For instance, period NRRs in the mid-1930s in both countries fell below the replacement rate (Van Bavel 2010), and in economically progressive areas, childlessness levels rose to unprecedentedly high levels (approaching 30% in the northeastern US and 25-30% in Australia) (Morgan 1991; Rowland 2007).

As the century progressed in first-wave developers, so too did gender roles. While the first forty years of the early 20th century in Western/Northern Europe and the English-speaking countries was dominated by a strong work-family conflict brought about by rigid gender roles, the latter half welcomed a departure from traditional gender norms and a greater prevalence of dual-earner households.

One area in which palpable change occurred was the division of household labor. In 1988, Gershuny and Robinson noted a historical change in the household division of labor. Using time-budget surveys for the UK and the US, the authors showed that women's participation in household work declined substantially from the 1960s to 1980s, while men's participation increased (though remained much less than that of women) (Gershuny and Robinson 1988). Their findings closely paralleled similar findings for other first-wave developers, like Canada, the Netherlands, Denmark, and Norway, indicating progress toward a more egalitarian division of household labor.

Nearly 12 years later, Bianchi et al. (2000) found the trend toward household gender equity had continued so much so that household work had nearly been cut in half for women in the US since 1965, and doubled for men during this period. An international comparison of unpaid work trends by Hook (2006) revealed similarly optimistic results: over-time increases in

unpaid work by men in Australia, Canada, France, Germany, the Netherlands, Norway, and the UK. Other more recent isolated findings have found similar longitudinal advances in household gender equity throughout Western countries (e.g., Sullivan and Coltrane 2008; Bianchi et al. 2006; Coltrane 2004). Lastly, a comparison of OECD countries shows that by and large, Northern/Western European and English-speaking countries have the smallest gap in the number of minutes women and men perform in unpaid work, while East Asian and Southern/Eastern European countries have the largest (OECD 2011).

Inequalities persist with regards to both the “quality” and “quantity” of household labor in “first-wave developers”: women continue to bear most of the burden in the number of minutes spent on household labor, and the type of unpaid work performed by each sex varies (with men taking on more “masculine” tasks like yard work and home repair, and women more “feminine” tasks like cooking and cleaning) (Bianchi et al. 2006; England 2010; Lachance-Grzela and Bouchard 2010). Yet despite persisting inequalities, it is impressive how much these disparities have shrunk over such a short time horizon. As Sullivan and Coltrane (2008) optimistically describe, “men and women may not be fully equal yet, but the rules of the game have been profoundly and irreversibly changed...[a]ll these trends are likely to continue for the foreseeable future.”

It is worth noting that changes in household gender norms have occurred hand-in-hand with varying “degrees” of the work-family conflict. Few articles have examined the evolution of the work-family conflict over the 20th century as neatly as Goldin (2004), which traces the career and family experiences of five cohorts of college educated women in the United States. The work-family paths identified by Goldin include: “family or career” (Cohort 1, graduated 1900-1919), “job then family” (Cohort 2, graduated 1920-1945), “family then job” (Cohort 3, graduated 1946-1965), “career then family” (Cohort 4, graduated 1966-1979), and finally, “career and family” (Cohort 5, graduated 1980-1990). Goldin’s concludes that “[e]ach [generation] stepped into a society and a labor market with loosened constraints and shifting barriers. The road was not only long, but it has also been winding...*only recently has a substantial group been able to grasp both [work and family] at the same time*” (Goldin 2004, p. 34; italics not in original).

GENDER EQUITY DIVIDEND

A large body of literature stresses social and economic explanations for the great gender equity advances which began in the 1960s/1970s in many first-wave developers, (see, for example, Esping-Andersen 2009; Bianchi et al. 2000; Bianchi et al. 2006; Sullivan and Coltrane 2008). Adding to this, we propose a demographic explanation. Specifically, we believe that these changes were facilitated by an optimal age structure that fosters greater marital bargaining power for women.

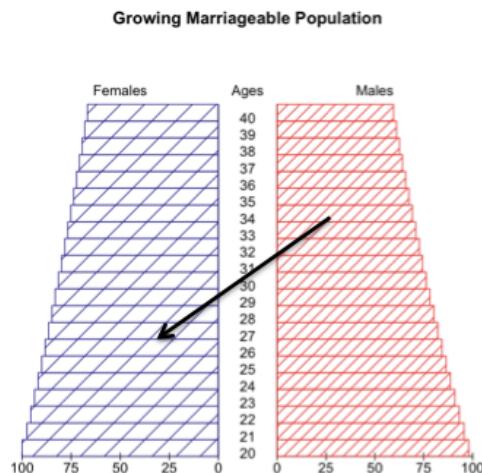
The “demographic dividend” refers to a period during which a country’s age structure provides infrastructure for economic growth (Bloom et al. 2003). According to this theory, a bulge of the working age cohorts allows for high productivity while smaller older and younger cohorts minimize dependency ratios. No one argues that the “demographic dividend” is a primary driver of economic development, but rather, that this unique age structure “greases the wheels” for socioeconomic development. Paralleling this logic, an argument can be made that a favorable population age structure facilitates advances in gender equity via greater spousal bargaining power.

A marriage squeeze occurs when eligible females outnumber eligible males or vice-versa (Schoen 1983). Though typically discussed as a phenomenon in the African American community, a marriage squeeze can also occur on any population level. Theoretically, when the supply of females is greater than that of males, females experience greater competition in the marriage market amongst themselves and lose bargaining power in potential marriages (Angrist 2002). After all, a man who wishes to marry a “traditional” or homemaker wife has better chances to do so when he has more women from which to choose. The opposite should hold true when males are in a marriage squeeze: they face greater competition in the marriage market and therefore, to land a wife, must be willing to “pay a higher price” for a potential spouse (Angrist 2002). For women, a larger pool of men translates into more easily finding men with equitable gender ideologies. Consider the following two scenarios of marriage squeezes.

Scenario 1

Imagine a population closed to migration in which the NRR for time $t-40$ to $t-20$ is 1.0202, yielding an annual intrinsic growth rate of 2% during this period (Figure 4). Because men marry, on average, at older ages than women (Van Bavel 2012; Heer and Grossbard-Shechtman 1981; Angrist 2002), the growing marriage market in this population (ages 20-40) makes it advantageous for older men to search for younger women, as the supply of younger female cohorts is greater than that of older male cohorts.

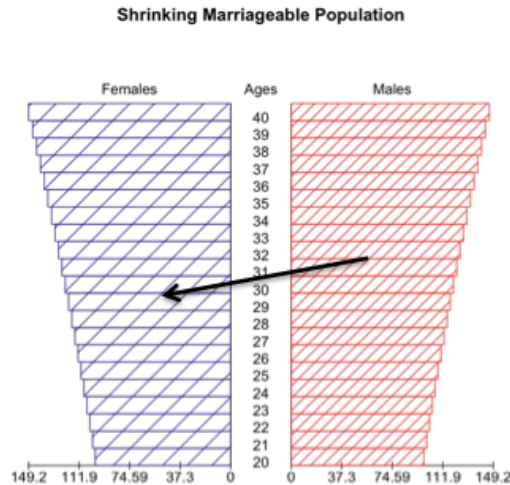
Figure 4: Growing Marriageable Population



Scenario 2

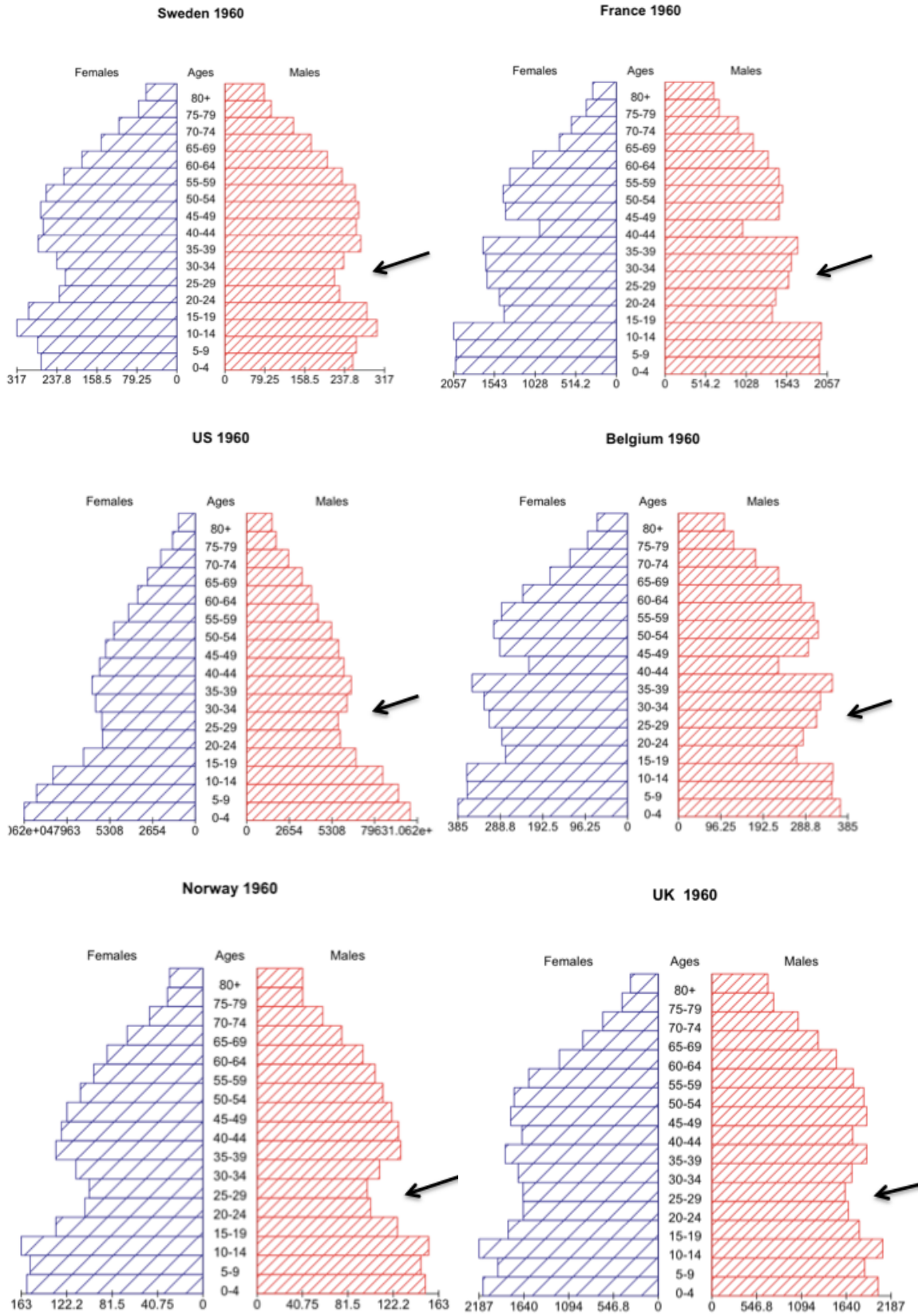
Now imagine the reverse scenario: a population closed to migration has an annual NRR of .9802 during time $t-40$ to $t-20$ and an intrinsic growth rate of -2%, rendering each successive birth cohort smaller than the previous, like in Figure 5. Assuming women do not marry younger men, females in each birth cohort have a larger supply of men from which to choose.

Figure 5: Shrinking Marriageable Population



We argue that the sub-replacement fertility levels (i.e., $NRRs < 1$) experienced in the early 20th century by first-wave developers played a role in advancing gender equity during the mid to late half of the century. Low fertility in the early 20th century engendered age structures in the mid-century which largely resembled scenario 2: cohorts of older “marriageable” males outnumbered younger cohorts of females. These age structures coincided during a period of rising female labor force participation as well as an emergence of quantifiable household gender norm changes. Figure 6 illustrates the existence of the gender equity dividend in select first-wave developers in 1960.

Figure 6: Gender Equity Dividends in select First-Wave Developers (1960)



There has been a fragmented discussion in the literature supporting the idea that population age structures exerted catalytic pressure on gender norms in first-wave developers. In Sweden, for example, Kabeer (2007) and Florin and Nilsson (1999) argue that sustained low fertility throughout the early 20th century and rapid economic growth led to labor shortages in the 1960s. Kabeer (2007, p. 249) asserts that the small nation of about 7.5 million had “a choice between encouraging immigration or persuading [more] women to increase their labor force participation”. Gender advocates, backed by Sweden’s strong labor unions, supported the latter position, prompting political parties to incorporate the ideals of gender equity in their platforms (Sandqvist 1992; Florin and Nilsson 1999; Kabeer 2007). “Getting mom a job and making dad pregnant”, as put by one young parliamentarian in the 1970s, encapsulates the direction in which Swedish society wished to move (Klinth 2002). A string of policies and initiatives were to follow in order to get men and fathers more involved in family life and women more involved in the labor market (Nagy 2008; Klinth 2008).

A similar story unfolded in the United States. Decades of low immigration due to the restrictive “Johnson-Reed Act” combined with low levels of fertility from the 20s through early 1940s gave rise to a marriage squeeze for men—that is, an age structure favorable to women in the marriage market (see Figure 6 above). Heer and Grossbard-Shechtman (1981, p. 62) contend that “the marriage squeeze [of the 1950s and 60s] was instrumental in reducing not only the proportion of females who could marry but also the compensation which men were obliged to give women for traditional wifely and maternal duties”.

Periods of low fertility, brought on in part from a strong work-family conflict and low household gender equity, create an age structure conducive to increasing bargaining power of women and increasing household gender equity. In turn, these gains in household gender equity weaken the work-family conflict and thus raise fertility. Emphasizing this point is important, as it illustrates a homeostatic relationship of bi-directional causality between fertility and gender equity: low (household) gender equity causes low fertility, and low fertility (and time) facilitates gender equity change.

FERTILITY AND GENDER EQUITY IN SECOND-WAVE DEVELOPERS

Whereas Northern/Western European and the English-speaking countries foreran industrialization in the mid-19th/early 20th century, second-wave developers constitute a group of countries that have experienced overwhelming increases in living standards and development from the mid-20th century onwards, including those in Southern Europe, East Asia, and to an arguable extent, Eastern Europe. Indicators such as GDP growth rates and historical human development index (HDI) figures confirm the grouping of these regions as “second-wave developers” (see Crafts 2002, Maddison 2007, and Galor 2004).

While “institutional” gender equity (in labor market and educational opportunities) has increased in second-wave developers over the last half-century, “family-oriented” gender equity

lags (Esping-Andersen 2009). Objective differences in household gender equity between first and second-wave developers are stark. For example, in second-wave developers like Italy, Portugal, Japan, and Korea, women perform a daily average of three to four hours more of unpaid work (i.e., household tasks) than men; in first-wave developers like Denmark, Sweden, the USA, and Belgium, this figure lies within one to two hours (OECD 2011). Furthermore, strong family values that stress marriage, discourage cohabitation, and encourage traditional breadwinner norms persist across second-wave developers (Reher 1998; Anderson and Kohler 2013).

Differences in fertility trends between first and second-wave developers have also been, and remain, salient. While cohort fertility in most first-wave developers remained relatively stable from 1950-1979⁵, it has fallen—in many cases substantially—over this same period in second-wave developers (Myrskylä et al. 2013). Furthermore, very low period TFRs (between 1.0-1.4 children per woman) over the last two decades have been documented almost exclusively in second-wave developers (Goldstein et al. 2009). There is overwhelming consensus in the literature that fertility differentials between what we label “first and second-wave developers” are driven in large part because of a strong-work family conflict in second-wave developers (e.g., Myrskylä et al. 2013; McDonald 2013; Esping-Andersen 2009).

While the gap between institutional and family-oriented gender equity remains large in second-wave developers, there is evidence that some second-wave developers are entering an incipient stage of change regarding gender norms and family values similar to what first-wave developers underwent in the 1970s. For instance, Rindfuss et al. (2004, p. 843) make a compelling case that “major changes in Japan have converged to create conditions favorable for dramatic family change”.⁶ Their conclusion stems from mounting tensions between traditional family expectations and changes in the labor market, educational system, consumer preferences, and women’s desires for greater gender equity in marriage. Similar findings of the nascent breakdown of traditional family norms have been observed in other second-wave developers, like Spain, where “[y]oung parents behave increasingly like Americans when it comes to who reads with the children and who washes the dishes” (Esping-Andersen 2009, p. 173). Just as second-wave developers followed first-wave developers in socioeconomic development, the former may well be following in the footsteps of the latter, on the cusp of entering a similar epoch of greater household gender equity.

⁵ Cohorts not having finished their childbearing years (e.g., 1965-1979) have been projected by Myrskylä et al. (2013)

⁶ Feyrer et al. (2008, p. 21) express similar optimism for European countries where household norms remain traditional: “In the lowest fertility European countries the progress of women is limited both in the workforce and in the household relative to other high income countries. We see this as a temporary state. The social structure in these countries and the division of child care has led women to choose to have fewer children than did their mothers, but we see no reason why these social factors cannot also work in the other direction and lead to future increases in fertility.”

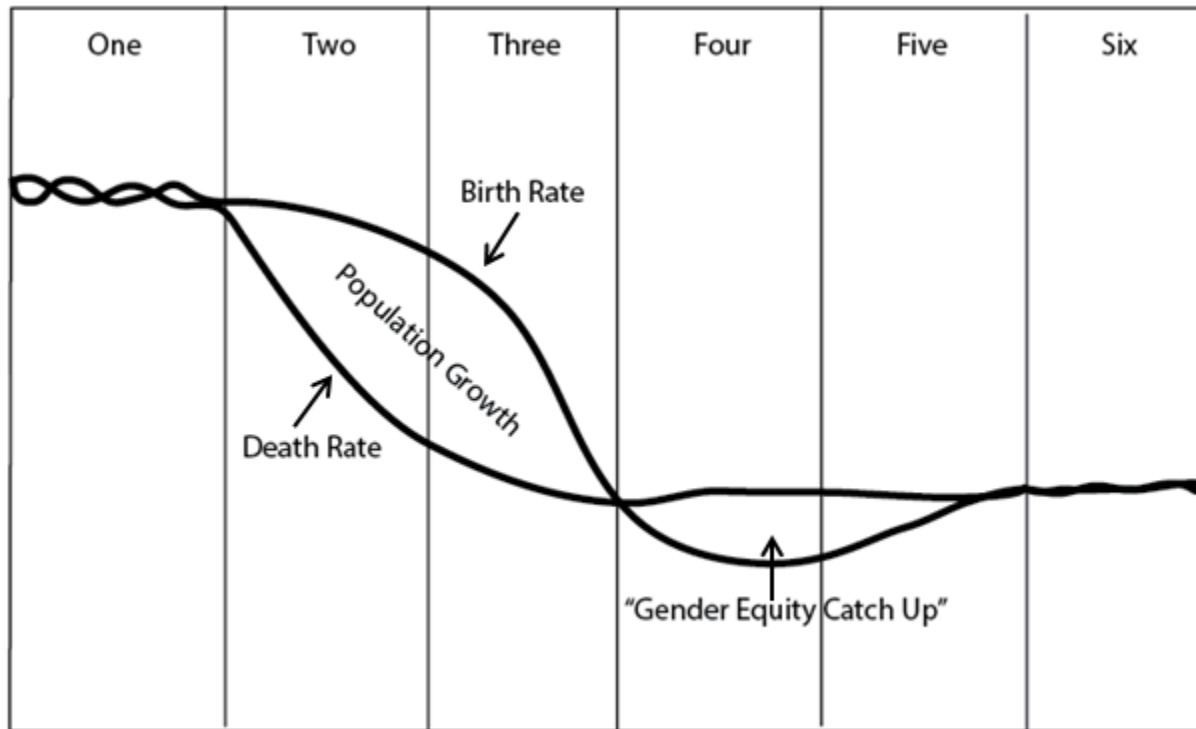
THEORY

In light of the aforesaid historical and contemporary trends, we postulate that countries hit “reproduction nadirs” following periods of fast-paced socioeconomic development. During this period, rapid gains in institutional gender equity are made while family gender equity lags (in other words, women’s access to education and employment increases while family/household norms remain unchanged). This period of incoherent levels of gender equity in individually oriented social institutions and family-oriented social institutions leads to a “work-family conflict” for career-oriented women (e.g., McDonald 2013; Bellavia and Frone 2005; Schreffler et al. 2010). As a result of this disequilibrium, a period of low fertility persists—often decades long—during which family gender equity begins to change. Indicators of familial gender norms becoming more equitable include greater participation by males in household and childrearing tasks, and attitudinal shifts supporting dual-earning partnerships. These changes are facilitated by optimal social, demographic, and economic factors which, similar to the demographic dividend in relation to economic development, open a window of opportunity for advances in household gender equity.

Our theoretical framework can be directly incorporated as part of the demographic transition (see Figure 7). In Phase 4, fertility drops to sub-replacement levels, in part due to a clash between *traditional* family gender equity and *modern* institutional gender equity. Over time, family-oriented gender equity “catches up” to institutional gender equity as a consequence of institutional, societal, cultural, economic, and—as we introduce in this paper—demographic changes, effectively weakening the work-family conflict. As a result, having both a career and family becomes more compatible, leading to less voluntary childlessness and higher fertility rates. If one were to place developed countries in the transition in Figure 7, Western/Northern European and English-speaking countries, the forerunners of the demographic transition and industrialization, would fall roughly in Phase 5. Southern Europe and East Asian countries, most of whom began developing in the 20th century, would fall in Phase 4 of the transition. With a weak work-family conflict and near-replacement fertility, Sweden and Denmark are arguably the closest countries to reach Phase 6. Ironically, these two countries were cited by Van de Kaa (1987, p. 11) as the frontrunners of the Second Demographic Transition—a theory that presumes long-term sub-replacement fertility (Lesthaeghe 2010).⁷

⁷ Van de Kaa (1987, p. 11) states that Denmark and Sweden are the “[o]nly two European countries [that] appear to have experienced the full sequence of changes in family formation that have led to very low fertility”.

Figure 7: Extended Demographic Transition



EMPIRICAL SUPPORT

Much has been written on the association between socioeconomic development and fertility. Bongaarts and Watkins (1996), for example, use the Human Development Index (HDI) and show a strong linear negative fertility-development association. More recently, Myrskylä et al. (2009) demonstrated the emergence of a j-curve relationship between fertility and HDI, suggesting that very advanced levels of socioeconomic development may cause fertility decline reversals.

We argue, however, that while we do tend to see a reversal in fertility declines at advanced levels of development, small changes in development *per se* are not driving these changes. Relatively high fertility (as well as “fertility decline reversals”) is prevalent in countries that began developing in the 19th/early 20th century (e.g., Norway, the USA, the Netherlands, Australia, Sweden, etc.). As argued in this paper, thanks to greater gender equity, the causal mechanisms of very low fertility have begun to diminish in first-wave developers, in part, because it has become less cumbersome (especially for women) to balance a work and family life. Because these countries (first-wave developers) had a head-start to development, they find themselves occupying the top spots of development indices. Nevertheless, their relatively high fertility and “fertility decline reversals” are not due to simply achieving a certain threshold of development, but rather due to having evolved into a society in which traditional norms no longer clash as hard with the facets and demands of modernity. While they have

quickly caught up in literacy, life expectancy, and wealth over the last 50 years, second-wave developers with comparable HDI levels as long developers (e.g., Japan, South Korea, and Hong Kong) serve as outliers to the j-curve fertility-development relationship, in part because persisting low gender equity drives fertility to very low levels.⁸ Thus, even if the East Asian or Southern/Eastern European countries were able to reach HDI levels near 1, it would be unlikely that fertility would rebound to higher levels without changes in gender regimes.

As Goldin (2004) rightfully points out, only recently has the possibility of combining a job and family become widespread throughout all income and educational strata.⁹ We must continually remind ourselves that it took more than a century from the onset of industrialization for observable changes in the realm of household tasks and gender norm attitudes to take place, and for the attitudinal, institutional, and economic groundwork to be laid to facilitate the balance of work and family in first-wave developers. From this logic, it becomes clear that **time** has served as a crucial ingredient for lagging household gender equity to catch up with institutional gender equity (think cultural lag theory). A simple explanation for why second-wave developers face a strong work-family conflict is that second-wave developers have simply not had enough time for family-oriented gender equity to catch up to institutional oriented gender equity.

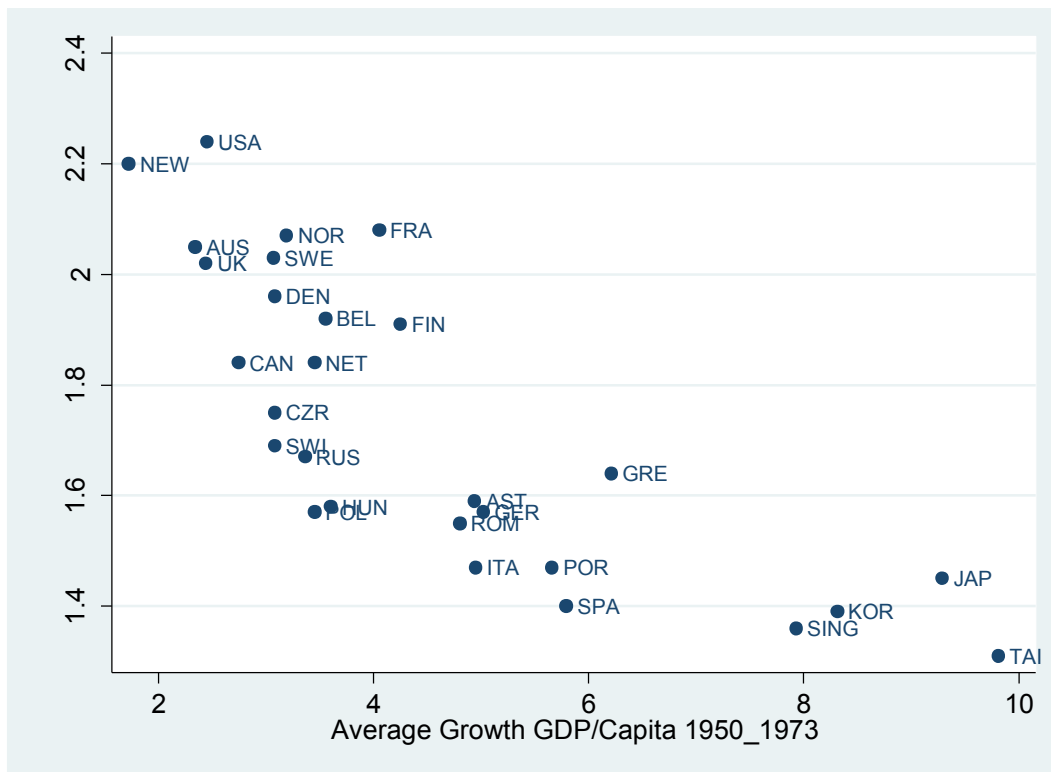
Thus, we hypothesize that the prevailing traditionalism regarding family norms, sex roles, and gender equity in Southern/Eastern Europe and East Asia is partly attributable to the fact that the **onset** of socioeconomic development occurred much later than the first-wave developers, and that the **pace** of development occurred at such a rate that household gender equity still severely lags institutional gender equity. Given the close connection between low gender equity and low fertility, the fast pace and late onset of development contribute to second-wave developers' low fertility rates via low gender equity.

HDI figures for 1950 plotted against 2010 period fertility and completed fertility for the 1979 cohort lend support to our hypothesis: the most developed countries in the mid 20th century—all first-wave developers—have, on average, substantially higher fertility than second-wave developers. Among all developed countries, HDI figures for 2012 explain only about 18% of completed cohort fertility variation (for the 1979 birth cohort) and 22% of 2010 period fertility variation (see Figure 8). Remarkably, HDI estimates for the same countries in 1950 are much better predictors of today's fertility trends, explaining about 60% of current variation in both period and cohort fertility. While the graphs say nothing about family policies, gender equity, or labor market flexibility, the historical HDI figures suggest that the pace, and perhaps more importantly, the onset of development, are much more explanatory of current fertility trends than present-day development levels.

⁸ Other contributing factors to East Asia's ultra-low fertility rates, such as a stronger "quality-quantity" tradeoff have also been tied to the region's fast pace development story (Anderson and Kohler 2013).

⁹ Goldin makes this observation for educated women in the United States, but we argue that it is applicable to other first-wave developers.

Figure 9: Cohort Fertility (1979) on Annual Average GDP/Capita Growth (1950-1973)



Source: Myrskylä et al. (2012) and Maddison (2007)

LIMITATIONS

Admittedly, our broad-brush stroke approach oversimplifies a number of complex, nuanced aspects of the interrelations between low fertility, socioeconomic development, and gender equity. As a result, this paper suffers from a number of limitations.

The first limitation is that our theory does not take into account other factors contributing to low fertility. Incongruent levels of gender equity (i.e., a strong work-family conflict) were not the *sole* driver of low fertility in early 20th century, nor are they the sole driver of low fertility today (see Van Bavel (2010) and Caldwell and Schindlmayr (2002)). Out of various economic, cultural, and social contexts emerge forces that either foster or hinder the realization of desired fertility. For example, economic conditions in Eastern Europe have been linked to low fertility since the fall of the Iron Curtain (e.g., Witte and Wagner 1995; Filipov and Dorbritz 2003; Caldwell and Schindlmayr 2002; Thornton and Philipov 2009). In East Asia, the high pressure on parents to provide costly private education has elevated the price of children so much that many families face a strong quality-quantity trade-off (Anderson and Kohler 2013).¹⁰ And high

¹⁰ It has been argued that the surge in competition among youth, which has led to the a strong quality-quantity trade-off in the region, can be partly attributed to East Asia's rapid socioeconomic development (Anderson and Kohler 2013).

levels of youth unemployment may encourage childbearing postponement in Southern Europe, which has been documented as a driver of very low period TFRs and may impact completed childbearing levels (Kohler et al. 2002; Lutz et al. 2006)

The second limitation of this paper is that it fails to explain how the mid-century baby boom squares in with the story we tell. The baby boom was not only a period of high fertility and nuptiality, but also of traditional breadwinner roles in the household and a widespread acceptance of these roles (Coontz 2011).¹¹ Several explanations exist as to why these transitorily reemerged as the hegemonic norms. One explanation, put forth by Doepke et al. (2007), argues that younger women in mid-20th century were crowded out of the labor market by men who had returned from WWII and by older women who had gained experience in the labor market during the war. Simply put, these young women had little choice but to marry and have children.

Another explanation for the return to traditional breadwinner roles is that high scale female labor force participation during WWII created a post-war environment in which working mothers became even more heavily stigmatized. Terms such as “latchkey children” and “eight-hour orphans” were used during war to refer to children whose “neglectful mothers” left them during work (Zucker 1944). Just after the war, hostile attitudes toward working mothers disseminated throughout the country, and “a concerted effort developed to defend traditional values” (Chafe 1976, p. 16).¹² According to Chafe (1976, p. 20), “[m]agazines during the 1950s celebrated the virtues of “togetherness” and advertisers attempted to sell their product by showing families with four children—the ‘average’ American family—out on a picnic or vacation. Public opinion polls showed that the vast majority of Americans did not question the traditional allocation of sex roles and believed that a woman’s primary place was in the home. Thus, while traditional breadwinner roles reigned during the baby boom era, spanning from the mid 1940s to early 1960s, female labor force participation aspirations remained lower than early 20th century levels in most countries (Appendix 1), leading to a weak work-family conflict and high fertility (quadrant 4 in Figure 2).¹³ Our understanding of fertility dynamics would greatly benefit from empirical analyses on the origins and consequences of the baby boom (see Van Bavel and Reher 2013).

Outliers in our theoretical framework present a third limitation. In particular, Germany and Austria stand out for being countries that began industrializing in the early 20th century along

¹¹ Coontz (2011, p. 39) asserts that “even women who had experienced other models of family life and female behavior said that during the 1950s they came to believe that normal families were those where the wife and mother stayed at home, and that normal women were perfectly happy with that arrangement.”

¹² In 1944, the Chairman of the Womanpower Committee of the War Manpower Commission in the Cleveland area predicted that “[w]e can expect the voices of the supporters of the back to the home movement to be louder and stronger than in the days of the depression. One of the reasons for this is because “[t]he consciousness of the value of children quickened through war and the belief that the child is best taken care of in the home by his mother” (Michel 1999, p. 49).

¹³ In the United States, FLFP actually increased between 1900 to 1960, though this was likely due to a greater share of older women working (Doepke 2007)

with other first-wave developers. Yet unlike other first-wave developers, Germany and Austria still exhibit very low fertility. Recent research suggests that institutional factors likely explain the “Western European fertility divide” between Germany and other Western countries (Klüsener et al. 2013), and that Germany and Austria—along with the other Axis powers, Italy and Japan—experienced cultural and institutional responses to the war that have negatively impacted their fertility levels (Weinreb and Johnson-Hanks 2014). Nonetheless, the literature may benefit from future research that investigates why Germany and Austria have been slow to adopt more family-friendly environments compared to other Western European countries.

CONCLUSION

We began this article with a look at the past and feel it is appropriate to conclude with a speculative look at what our argument could imply for the future. Should our theory hold up, fertility will nudge closer to desired fertility levels in the today’s “developed world” as the gap between incoherent “institutional” and “family” oriented gender equity continues to close.¹⁴ This will not only continue to occur in first-wave developers but also begin to accelerate in second-wave developers. Conversely, today’s swiftly developing countries (including China, India, and Brazil, where nearly 3 of the world’s 7 billion citizens live) could well enter periods of very low fertility should a similar evolution of incongruent realms of gender equity take place.¹⁵ In other words, these “third-wave” developers” could replace second-wave developers as the new poster children of low fertility in the 21st century.

¹⁴ Desired fertility levels in nearly all developed countries hover around the replacement level (Goldstein et al. 2003)

¹⁵ Indeed, such a scenario is already playing out in in Brazil, where fertility has been below the replacement level for nearly a decade, and urban China, where cities like Shanghai have documented TFRs under 1 (Lutz 2009; see also, Lutz 2008).

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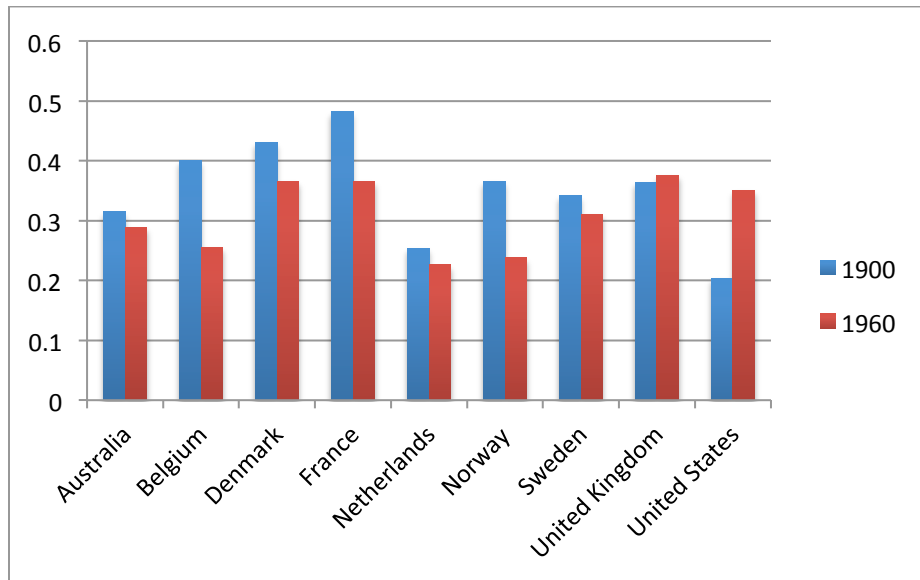
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Appendix 1

Female Labor Force Participation Rates for Select First-Wave Developers, 1900 and 1960



Source: Olivetti (2013)