Changing Beliefs or Changing Populations? A Decomposition of Cross-National Trends in

Gender Ideology

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March 2006

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Change in Beliefs or Change in Populations? A Decomposition of Cross-National Trends in Gender Ideology

Abstact:

Using regression decomposition, this research documents cross-national change in beliefs about gender equality and gender roles during the1990s. The data suggest that while the direction and magnitude of change in gender ideology is non-uniform for the countries included in this analysis there is still significant inter-regional homogeneity. Beliefs about gender equality and gender roles are most progressive in Northern European countries and most traditional among people from non-Western countries. Change in beliefs about gender equality was about evenly split between within cohort change and cohort replacement for most European countries, while it was largely due to within cohort change for Eastern Europe and non-Western countries. Decomposition of change into its proximate sources suggest for nearly all non-Western countries, individual and cohort effects are offsetting, with cohort replacement contributed to more egalitarian beliefs and individual change contributing to more conservative beliefs.

INTRODUCTION

> *"What is becoming less doubtful is that, if we are to undertand social change, the*
> *inside of peoples heads, whether they are called ideas or social values or habits*
> *of thought, need analysis as much as the objective conditions that lie outside"*
> *(Preston 1986:189).*

A large body of research affirms a clear trend in the United States over the last half of the 20th century toward increasingly favorable views about gender equality and a steady erosion of traditional beliefs toward gender roles. This trend has been pervasive, effecting all social groups, including the old and young, rich and poor, black and white, educated and uneducated, parents and the childless. Changes in the structure of society and demographic trends have both played and important role in this national sea change. More recently, attention has turned to cross-national trends in gender ideology and the results thus far suggest that the underlying sources of change in select European countries are following a relatively similar pattern to the one observed in the United States.

Yet we still know very little about the micro-level determinants of macro change in attitudes and beliefs outside of the United States except in a select few European countries. Are all countries following a similar trajectory with regard to attitudes and beliefs about gender? In so far as we observe macro change in gender ideology, is it primarily do to individual change, or is it due to compositional change in populations? In this paper, I extend the research on change in gender ideology to a more countries, including a number of non-Western and Eastern Europe countries in an attempt to answer these questions. The inclusion of non-Western countries is of particular interest because, to date, we know almost nothing about the proximate sources of attitude change outside of the United States and Europe.

As Brewster and Padavic (2000: 478) note, "identifying the contributions of microlevel change and population turnover to attitude shifts is important because of their different implications for the likely pace of future change." This is so because the two sources of change typically move at different rates, with compositional change generally the more slow but sure. Adoption of new roles and change in economic conditions and in political discourse can, and often does, have an immediate and pronounced effect on people's attitudes and beliefs. If the

direction of change in gender ideology is positive and largely due to compositional change, we can, with greater confidence, draw substantive conclusions from the trend. If, on the other hand, change is largely due to within-cohort change, we must proceed more cautiously because individual change is more revolutionary, occurs more rapidly, but is also more likely to see a reversal as social and political conditions change (Mason and Lu 1988; Firebaugh 1992).

While the study of attitudes and beliefs are important in their own right, an understanding of trends in attitudes and beliefs about gender has implications for structural inequalities. Mason Cazjka, and Arber (1976: 573) comment that "marked attitude shifts in the population at large are likely to produce sociopolitical climates conducive to structural change." In so far as people's attitudes and beliefs about gender are associated with their behaviors, change in gender ideology is likely to influence poltical participation and representation (Paxton and Kunovic 2003), labor force participation and wages (Nordenmark 2004; Baxter and Kane 1995), and the household division of labor (Artis, Julie E. and Eliza K. Pavalko 2003; Treas and Widmer 2000).

The paper is organized as follows. After a discussion of attitudes, beliefs, and values, I briefly discuss the age, period, and cohort concepts. In section three I turn to previous research on gender ideology and address theories relevant to this research. In section four I discuss data and measurement and in section five I present the results of the regional analysis and non-Western country-specific trends followed by a discussion of the results.

ATTITUDES, BELIEFS, AND VALUES

The expectancy-value model is a useful conceptual framework for organizing the relationship between attitudes, beliefs, and values. According to the expectancy-value model (Fishbein and Ajzen 1975), beliefs are associated with an object through its attributes, and the subjective values a person holds and associates with the object determines their overall attitude toward it (Azjen 2001). Attitudes are based on beliefs about an object and its attributes, and beliefs are motivated by the underlying values associated with those beliefs.

Attitudes are "latent predispositions to respond or behave in particular ways toward attitude objects" (Alwin and Scott 1996: 77) and have a cognitive, effective, or behavior component (Rockeach 1968). Attitudes are evaluations of an object (Azjen and Fishbein 2000) and these evaluations can be positive or negative. Beliefs can loosely be conceptualized as statements of reality, of what people take to be real (Alwin and Scott 1996) and beliefs may be

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singular and independent of other beliefs or they may be associated with other beliefs. The typical person possesses thousands of beliefs and some are more central than others (Converse 1964; Rokeach 1968). The more central a belief, the more resistant to change ("I beleive in God"), and when a central belief changes, it is likely to lead to change in a great many other beliefs.

Values, on the other hand, are more enduring and durable than either attitudes or beliefs (Konty and Dunham 1997). I take a modified view of the beliefs/values structure posited by Schwartz and Bilzky (1987) that "values are (a) concepts (b) about desirable end states (c) that trascend specific situations, (d) guide selection or evaluation of behaviors and events, and (e) are ordered by relative importance (quoted in Hitlin and Piliavin 2004: 362). This resonates with Ingelhart's (1977) assertion that the ordering of values is quite similar to the structure of needs put forward by Maslow (1954), where values associated with physical needs and security are more central than those associated with ego fulfillment, self expression, and self-actualization. Surkyn and Lesthaeghe (2004) compared this hierarchical ording of values to a tree, with survival values—those values motivated by physiological needs, forming the trunk, and the higher order, self-actualizing values forming the branches. Alwin (2001: 103) summarizes values well when he states that "values are... stable expressions of individual beliefs about what ends to seek, the standards used to choose among desired end-states and means to achieve them".

So we can order attitudes, beliefs, and values such that terminal values (Alwin 2001) are the most basic or central, followed by beliefs, and finally attitudes rest on top of both beliefs and values. Attitudes are derived from the beliefs and values that inform (congitive) and motivate (affective) them and attitudes. Becuase the typical attitude is informed by many beliefs and values, they are relatively more enduring than beliefs, yet less stable than values.

AGE, PERIOD, AND COHORTS (APC)

The proximates source of aggregate social change are change in people or change in publics (Firebaugh 1992). Change in people refers to individual change, while change in publics refers to change in the composition of population, typically through cohort succession. The challenge here is to disentangle the effects of aging, period, and cohort effects.

The *age effect* refers to the influence of the lifecourse, or biographical time, and asserts thata person's stage in the lifecourse is associates with the dependent variable. *Period effects*

capture the influence of historical events on all people exposed to the event (eg. Civil rights movement and 9/11 in the US). Finally, *cohorts* might be considered a synthesis of age and period and represent the intersection of historical and biographical time (Alwin 1997). Cohorts link lifecourse to history by grouping people (usually by birth cohort) such that researchers can link an individual's stage in the lifecourse to a specific point in historical time. Ryder (1965) argues that the cohort replacement contains the seeds of societal transformation and as such, it is potentially a powerful source of aggregate social change. Because it is not possible to estimate all three (APC) simultaneously with repeated cross-sections—age and birth cohort are perfectly confounded within a survey year (Alwin and McCammon 2003; Firebaugh 1989, 1997)—researchers must carefully determine which concepts best inform their research and make certain assumptions regarding the omitted effect.

Cohort replacement theory posits that social change arises through the relatively slow process of population turnover. Three conditions, or assumptions, that inform this process of social change are a) the impressionable youth assumption, b) the individual persistence assumption, and c) the cohort effects assumption (Alwin and McCammon 2003). In short, the impressionable youth assumption posits that attitude and belief systems are malleable in youth and early adulthood, but become stable and relatively persistent throughout adulthood and old age (Ryder 1965; Firebaugh 1989, 1992). Socialization instills attitudes, beliefs, and values in children and this socialization comes from diverse sources included, family, school, and church (Alwin 2001). The individual persistence assumption posits that as people age, their attitudes, beliefs, and personalities become stable (Alwin 1997; Ardelt 2000) are are relatively resistant to change. Cohort replacement theory argues that changing labor market conditions, family structure, political conditions, and religious adherence over time differentially imprint birth cohorts as they are subject to different normative and behavior agents of socialization.

A common approach for gettign around the counfounding influences of age, period, and cohorts is to simply model change occuring within cohorts (individual change) and between cohorts (cohort replacement). I refer to the first source of change as the cohort effect (mean differences in Y by birth cohorts) and the second source as individual change (either due to aging or period influences).

WHAT WE ALREADY KNOW

At least seven studies on US samples have explicitly addressed the question of macro change in gender ideology via the proximate sources of individual and cohort change (Brewster and Padavic 2000; Ciabattari 2001; Firebaugh 1992; Mason and Lu 1988; Misra and Panigrahi 1995; Rindfuss and Pagnini 1996; Wilkie 1993) while others have analyzed the causes and consequences of change in US gender ideology (Cherlin and Walters 1981; Mason and Bumpass 1975; Mason, Czajka, and Arber 1976; Rindfuss, Brewster, and Kavee 1996; Thorton 1989; Thornton, Alwin, and Camburn 1983; Thornton and Freedman 1979). Summarizing the findings of these studies we find that dating back to the early 1970s, attitude research in America has documented a clear and consistent trend toward more egalitarian attitudes and beliefs. Chronologically, the 1970s saw the most rapid positive shift in gender ideologies, with some flatting in the 1980s, followed by positive gains again in the 1990s. This change has occurred within and between cohorts and overall the contribution of individual and cohort change has been roughly equal, though with some variation by decade. Change at the individual level has been pervasive and all social groups studied appear to have seen substantial change in gender ideologies over the last decades of the twentieth century. That is not to say their are not important group distinctions in level and change with regard to gender ideology.

Characteristics associated with more egalitarian attitudes include being female, more educated, being a working mom (or being married to one), black, and being raised in a home where the parents, and particularly the father, hold progressive ideologies. Being male, Hispanic, poor or working class, from the South, a self-described evangelical Protestant, childless, and raised in a home where traditional gender roles were espoused are all associated with a more traditional gender ideology. More recently, evidence suggest that beyond just individual characteristics, contextual factors have an influence over individual gender beliefs (Moore and Vanemann 2003; Rindfuss, Brewster, and Kavee 1996).

While thus far only a handful of studies focused on gender ideology in cross-national perspective have been conducted, an emerging pattern is becomin evident. Besides Eastern European and former communist countries, the same general pattern of change observed in the United States is unfolding in Western and Northern Europe. The general trend toward more egalitarian attitudes is due to both individual and cohort change (Scott, Alwin, and Braun 1996). Eastern Europe has seen a similar shift away from traditional beliefs, but the trend appears to be largely due to individual change (Alwin, Lee, and Tufis YEAR). Considerable cross-national

varation exists (Baxter and Kane 1995; Nordenmark 2004; Scott 1999; Treas and Widmer 2000; Tu and Liao 2005), and a number of grouping schemes have been employed to reduce cross-national variation. Similar to their influence in the US, social institutions and national policies also influence gender ideologies in comparative perspect (Orloff 1993; Treas and Widmer 2000). To date, we know virtually nothing about the proximate sources of social change outside of the Unites States and Europe.

GENDER IDEOLOGY

Converse (1964) definition of ideologies as wide ranging belief systems (as opposed to simple and narrow belief systems) works well for a study of attitude and belief structures as complex and multi-faceted as gender (Mason et al 1976; Mason 1986; Bradley and Khor 1993). A growing body of research suggests there are at least three lines of demarcation within contemporary America belief structures regarding gender. First is the distinction between notions of gender *equality* and gender *roles*. The second disctinction is between what *can* be versus what *should* be, and the third is the disctinction between the *public* and the *private* domain.

Equality vs. roles. People hold a number of different, and often contradictory beliefs about gender, but their attitudes and beliefs appear to be loosely grouped around the distinction between gender equality/sex segregation, and gender roles (Brooks and Bozendahl 2004; Ciabattari 2001; Mason, Czajka, and Arber 1976; Mason and Bumpass 1975; Thorton 1989; Thornton Alwin and Camburn 1983; Thornton and Freedman 1976). On the one hand, a growing number of people support the idea of equality between men and women. This dimension addresses equality in a more general, abstract sense and deals with the question of basic rights, access, and fairness. So responses to questions that ask whether women should have just as much right to a job as men, who should be the decision-maker in the home, the importance of education for boys and girls, and which sex is most fit for service in public office seem to be motivated by a rising generalized value for tolerance, individualism and individual choice, social justice, and equality of opportunity for all people (Brooks and Bozendahl 2004; Ingelhart 2003).

On the other side of the demarcation line are beliefs about gender roles, but at least two distinct gender role dimensions come out of previous research. The first centers around women as paid workers and the second around their roles as wives and, more importantly, mothers (Mason, Czajka, and Arber 1976 Treas and Widmer 2000). In comparative perspective, beliefs

about gender roles are much more progressive when children are not involved. In their 23 country study of gender beliefs, Treas and Widmer (2000: Table 1) estimate that 80 percent of respondents support women working full time when they have not yet had children, while, on average, only 9 percent believe a woman with preschool children should work. So a key distinction within the gender role belief system is the parent-child relationship. Questions that involve the well-being and care of children have typically evoked the most traditional responses from both women and men and suggest that most people value the parent-child relationship, and most do not yet think it can or should be replaced with other types of relationships although this is changing (Mason, Czajka, and Arber 1976; Brewster and Padavic 2000). So statements that directly or indirectly query the parent-child relationship often elicit different responses than those that query values and beliefs associated with women's paid work.

Can vs. should. While these terms may seems like two sides of the same coin, people seem to differentiate between them on the grounds of what can be, and what should to be. By this I mean that when people consider women's roles generally and more abstractly, we tend to find greater support for progressive beliefs. The closer the statements come to a person's personal life, the less likely they are to hold egalitarian attitudes. Statements that address equality in the general, or abstract, sense and deal with the question of basic rights, access, and fairness can be grouped into the general category of what *can* be, as do those that address general notions of gender roles. But statements that address the husband/wife, breadwinner/homemaker, and parent/child roles and relations in a more specific sense tend to fall in the should category. The can/should distinction seems to be the distinction between practical and ideal cicumstances. "Yes, I believe that a woman should be paid as much as a man if she chooses to work outside the home, but I don't think she should work outside the home, particularly when young children are still at home". "Yes, a woman should have just as much right to attend school or work outside the home, but not my wife". Statements such as these hint at the complexity, and even the ambivalence of gender belief systems.

Public vs. private. The public/private sphere distinction is another important divide with regard to gender differences (Bradley and Khor 1993). The most progressive attittudes are those that deal with public sphere, including education and work, while the most traditional attitudes are typically those dealing with how *gender roles* in the *private sphere* (the home) *should* to be divided. Attitudes that appear to be most resistant to the general progressive egalitarian trend are

those that tap beliefs about what men and women would like to see happen in their own homes, within their own relationships, and with their own children. Attitudes about gender equality and roles outside the home tend to be more progressive than attitudes about life in the private sphere. McDonald (2000) suggests that the reason public sphere attitudes are more egalitarian is because many public institutions, such as the school and the workplace, deal with people as individuals, rather than members of families. So question wording is critical when to topic is as nuanced and complex and gender ideologies. Does the question address equality or roles? Does the question tap people's notion of what can be or what should be? And does the question address these topics in an abstract and public context, or in a more concrete and private context?

ARGUMENTS FOR CROSS-NATIONAL SIMILARITY AND DIFFERENCE IN GENDER IDEOLOGY

DEVELOPE THIS SECTION

1. *Revised Modernization Thesis.* The primary framework guiding this research in comparative context is revised modernization thesis. In condensed form, it argues that a broad cultural change follows from the structural changes associate with economic development and modernization (Ingelhart 1977, 2000; Inglehart and Norris 2003; Ingelhart and Wetzel 2005). This cultural change occurs along two dimensions. First, there is a value shift from a traditional to a secular-rational orientation and second, there is a shift from survival to self-expression values. Inglehart and Norris (2003) find a number of cohesive gender attitude country groupings along the two axis (see Appendix A) and while modernization plays a role in level and change in value orientation, cultural zones are heavily determined by religious traditions and cultural legacies (Ingelhart and Baker 2000). In fact, in a pooled cross-section of countries, Inglehart and Norris (2003) find large cohort differences by society type, but the largest world cleavage seems to be a West-and-the-rest divide. Non-western, less developed countries, particularly those from the Middle East, South-east Asia, and Africa have the most traditional gender attitides with the smallest between-cohort differences attitudes (Ingelhart and Norris 2003). These findings are similar to Huntington's "Clash of Civilizations" thesis. Essentially, Hungtinton (1996) argues that with the fall of Communism, the world has become multimodal, with the key divisions falling along cultural/civilizational lines.

2. Demographic Change: (Leasthaeghe YEARS; Others) Between-country demographic differences are likely to play a role in overall change through cohorts. Aging populations are less

likely to see a cohort effect than are relatively young populations. Change attributable to cohorts has the capacity to effect macro-change in young populations with high mortality and fertility. But young populations only increase the *capacity* for change. In the absence of attitude-changing historical events and individual movement within the social structure, even young populations with rapid population turn-over are unlikely to produce a cohort effect. A country such as Nigeria with above replacement fertility and still relatively high mortality rates has greater cohort replacement potential that an aging country from Eastern Europe with below replacement fertility.So previous research and relavent theory lead to the following hypothesis.

3. Institutional and Structural Determinants (Orloff YEARS; Hook 2006; Treas and Widmer; Scott, Alwin and Braun, 1996; Rinduff et al YEAR)

4. Interactionist perspective (Ridgeway YEARS)

5. Cultural Differences: Samuel Huntingon (1997); Rogers et al YEAR

6. Dependency Theory: (Baxter and Kane 1995)

7. Social Structural Position: Brooks and Bolzendahl (2003) point to social structural theory as another source of aggregate social change. This theory posits that change in a person's position within the social structure is the primary determinant of change in their attitudes. As people move across educational and income classes and adopt new roles associated with change in family status (including marriage and parenthood), employment, and homeownership, etc., their attitudes will change.

One of the important findings from Treas and Widmar's (2000) research is not so much the existence of cross-national heterogeneity, but rather, comparative sameness with regard the gender ideologies. At least one theory that warrants consideration when we seek to explain these cross-national similarities is world society/world polity theory. Boli et al (1997) and Meyer et al (1997) argue for the existence of a dominant world culture since at least World War II. This culture, represented in the polity by the rise of NGO's and INGO's, is distinctive, pervasive, and emphasizes democratic ideals and individual and universal rights for all of the world's citizens (Boli et al 1997). Evidence for the presence and influence of the world polity and world society are the many global initiatives focused explicity on gender equality and women's status, such as the United Nations Millenium Development Goals, the 1995 Fourth World Conference on Women in Beijing and the World Summit's declaration of "Progress for Women is Progress for All" as the mantro for ending worldwide gender descrimination.

Taken together, the above theories lead to three key research hypotheses.

HYPOTHESIS 1:

Among European countries, Western and Norther European countries and the Neo-Europes will have the most egalitarian attitudes and positive change in gender ideologies over the study period, while Eastern European countries, because of the economic collapse following Perestroika, will have the lowest means and change.

HYPOTHESIS 2:

In line with previous research, it is expected that individual and cohort change will contribute about equally to macro change for all but Eastern European countries, where change is expected to be primarily within cohorts due the massive social, economic, and politic change that has recently taken place.

HYPOTHESIS 3:

Level and change in gender ideology will be lowest in Non-western countries. Cohort change is expected to contribute more to macro change than individual change.

DATA AND MEASUREMENT

Data for this study come from the World Values Survey Integrated Data File, 1981-2004 (European Values Study Group and World Values Survey Association, 2006). The World Values Survey employs a repeated cross-sectional survey design and includes representative samples from a diverse sample of the world's countries. It measures attitudes and beliefs about a wide range of topics including a battery of attitude and belief questions about gender equality and gender roles. While not all questions have been asked of the same countries and during the same years, four questions were included in the 1991, 1996, and 1999 surveys[1] of twenty-four countries, of which eight are from non-Western countries. Listwise deletion of missing cases on survey year, birth cohort and the four dependent variables resulted in a final *N* of 102,246 cases. The average time from first to last survey year across the 5 indicators was 9 years and the mean difference in average birth cohort from the first to last survey year was 8.5 years..

A notable limitation of the data is the overrepresentation of Western, industrialized

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[1] While most countries were surveyed in 1991, 1996 and 1999, a few countries were surveyed in 1990-1994 in 2000-2002, and at an additional time point in the mid 1990's. Thus, survey years were pooled into three groups as follows: 1990-1994=1991, 1995-1998=1996, and 1999-2002=1999. No country included in the analysis had more than one survey year under the grouping scheme, with the following exceptions: Slovakia (1990 & 1991) Spain (1999 &

countries in the data set. To correct for this limitation, data were pooled regionally and all analyses conducted separately in regional groupings as follows:

Northern Europe: Finland and Sweden.

Europe and Offshoots: Germany, Slovenia, Spain and United States.

East Europe: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russian, and Slovakia.

Non-Western: Argentina, Chile, China, India, Japan, Mexico, Nigeria, and South Korea.

Using Hungtington's (1996) typology, we find that the majority of countries in this sample are from Western Christendom and the Orthodox world, but still we have representation from Latin America, sub-Saharan Africa, and the Hindu, Sinic, and Japanese civilizations. In fact, the only civilizations for which this analysis lacks representation are the Caribbean and the Muslim world. Additionally, the non-Western countries include some of the world's most populous countries, but also represent some of the largest and fastest growing economies in the world.

With 24 countries, several dependent variables, and multiple time points, finding a way to reduce the data without missing the story was a challenge. I took a number of steps to gradually reduce the data while ensuring that importing trends and correlations were not lost. First, I conducted parallel analysis on all four items fore each country separately. Next, countries were aggregated into regions that captured homogeneity in level of development and culture, as well as spatial proximity. Third, I use regression decomposition, rather than standard cohort tables, in order to save space and reduce the individual change and the cohort effects to just two point estimates (Alwin and McCammon 2003). While previous research has shown a slight loss of model fit when using a single cohort ceofficient rather than cohort groupings of 4 or more in regression decompositions (Brooks and Bozendahl 2004), I opted to use a single point estimate of the cohort effect, which imposes a linear assumption on the data[2].

In addition to conducting parallel analysis of the five dependent variables, factor analysis determined that the four indicators loaded on two factors. The first two indicators capture beliefs about choice and equality, while the second factor centered on women's roles as mothers, homemakers and paid workers. The gender equality questions were: "When jobs are scarce, men

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2000).
[2] I ran a number of models to test for regional non-linearities in survey year and birth cohort using ten and twenty

should have more right to a job than women"[JOBSCARCE] and "Being a housewife is just as fulfilling as working for pay" [HOUSEWIFE]. JOBSCARCE used a three-point, agree/disagree scale and taps beliefs about rights while HOUSEWIFE used a four-point, strongly agree to strongly disagree scale and seems to center on choice. The gender role questions were: "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work" [WARMREL] and "Both the husband and the wife should contribute to household income" [BOTHINCOME]. WARMREL centers on the mother-child relationship, while BOTHINCOME is concerned with whether or not women should work outside the home. JOBSCARCE also loaded on the gender roles factor, most likely tapping the women as paid workers dimension. Based upon these results, I created two additive indexes and JOBSCARCE was given a scale equivalent weight in both indexes. Questions were recoded so that lower scores represent more traditional beliefs and higher scores represent more progressive beliefs.

      With individual data for multiple countries grouped into regions, I elected to account for dependence in the regression models using fixed effects regressions. The fixed effects models allowed me to difference out between-country variance (much the same as including dummy variables for each country), adjust for dependence among the observations, and focus on the within-country effects of individual and cohort change. Fixed characteristics, those that are not effected by time, are differenced out of the model and thus will not bias the estimates. The linear regression decomposition[3] formula is quite simple.

$$Y_i = \beta_{0i} + \beta_{1i}(\text{Individual}) + \beta_{2i}(\text{Cohort}) + e_i \qquad (1)$$

where Y is either the gender equality or gender roles scale, β_1 is the within-cohort component, and β_2 is the between-cohort component. The individual coefficient is then adjusted by multiplying β_1 by the number of years between the first and year surveyed (for regionally aggregated data, I used the *average* number of years), and the cohort coefficient is then adjusted by multiplying β_2 by the change in the mean birth cohort from the first to the last year surveyed (Firebaugh and Davis, 1988). For this analysis, a statistically significant period coefficient, when adjusted as described, indicates the magnitude of the period component of change and a statistically significant cohort coefficient, when adjusted, indicates the magnitude of the cohort replacement component.

year birth cohort intervals, but the differences from a single year and cohort estimates were neglible.
[3] For a detailed discussion of the strengths and weaknesses of the two methods see (Firebaugh, 1989; Firebaugh,

REGIONAL TRENDS AND DECOMPOSITIONS

The analysis will proceed as follows. First, I analyze trends in regional means for the two scales. Second, I use regression decomposition to disagregate change in regional means into the within and between cohort components. Third, I disagregate the non-Western regional trends into individual country trends and finally, I decompose change within non-Western countries into its proximate sources. Table 1 reports regional means and change for the gender equality and gender role scales.

The countries of Northern Europe had the most egalitarian beliefs about work roles and gender equality in 1991 and 1999, while non-Western countries had the least egalitarian beliefs in 1999. Eastern Europe saw the largest increase over the study period and while the absolute change was the same for both indicators, the relative increase was greater for EQUALITY. In line with previous research, gender ideology in West Europe and the United States became more egalitarian during the 1990s, where the proportional increase was slighly greater for ROLES than for EQUALITY. The regional trends for both measures are generally encouraging, with one exception. Non-Western beliefs about gender equality became more traditional during the 1990s.

Because the scales for EQUALITY and ROLES are different, we cannot directly compare the means or the standard deviations across measures. By computing the coefficient of variation (CV)[4], we have a standardized, relative measure of inequality that is comparable across the two scales. The CV (results not reported) indicates there is much more intra-regional homogeneity in beliefs about gender roles than about gender equality, where the CV is roughly 30 percent higher on gender equality.

Regression decomposition found a similar West-and-the-rest divide with regard to individual and cohort change (Table 2). Aggregate change in all three European regions was toward more egalitarian beliefs regarding EQUALITY and GENDER ROLES within *and* between cohorts. The proximate source most responsible for change in the European regional mean of ROLES was individual change. The results were less consistent for EQUALITY, where the source of change was cohort replacement (>80 percent) for Northern, Southern, and Western Europe, but individual change for Eastern Europe (89 percent). These results suggest that the

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1990).

[4] $CV = \sigma/\mu$, where σ is the mean and μ is the mean.

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rapid change in gender ideology in Eastern Europe has been more pervasive, effecting all age groups, but also that it may be more directly linked to conditions in the 1990s. Thus, it is possible that we might see rapid fluxuation in the opposite direction in the coming years. For the rest of Europe (and the US) younger cohorts appear to hold more progressive beliefs toward general notions of equality, choice and tolerance than older cohorts (Brooks and Bozendahl 2004) and comparing the coefficients, we see that the difference between cohorts is moderate.

Turning to the non-Western region we find offsetting trends for both measures. While this is relatively uncommon, it is not unheard of (Firebaugh and Harley 1991) and though we cannot fully disentangle these results, as Firebaugh and Harley (1991) note, the offsetting trends may be evidence of a lifecycle effect, where aging is associated with change in gender ideology. Individual change in gender ideology was negative, but the cohort effect was positive, suggesting that younger cohorts are more egalitarian than older cohorts. Clearly, the non-Western regression results leave many questions unanswered and warrant further exploration.

NON-WESTERN COUNTRY TRENDS AND DECOMPOSITIONS

Standard devations in Table 1 indicate that the greatest intra-regional variation in both scales was in the non-Western region, and this suggest that a single category for all countries included in this region may be masking important inter-country variation in gender ideology. To further explore trends among non-Western countries, I report level and change in means by country in Table 3 and regression decomposition results in Table 4.

Possibly the most striking result in Table 3 is that while the magnitude of change varied across countries, every country but Chile saw a net decline in beliefs about gender equality during the 1990s. The greatest declines were in India and Mexico, both of which reported some of the most egalitarian attitudes on EQUALITY in 1991. Trends on ROLES were more mixed, where means increased for five countries and decreased for four, with no clear sub-regional patterns. The only clear sub-regional pattern is that South America, as represented by Argentina, Chile, and Mexico, has the most egalitarian beliefs about EQUALITY and ROLES. One trend that warrants note is the sizable increase in ROLES for South Korea during the 1990s. It was clearly the outlier of the groups in 1991, but by 1999 had a mean comparable to those of the other Asian countries. Inter-country variation decreased from 1991 to 1999 for both EQUALITY and ROLES, but the standard deviation decline within each country was not as precipitous as the

decline in means over the same period. Thus, for the non-Western countries included here, the decade of the 90s represented rising inequality in gender ideologies.

Country regression decompositions indicate that the cohort effect is positive and individual change is negative for EQUALITY and GENDER ROLES for all countries but Chile (and South Korea for GENDER ROLES). Comparing the adjusted regression coefficients, we see that the large observed increase on ROLES in South Korea during the 1990s was about equally due to within and between cohort changes, as was also the case in Chile. Virtually all parameter estimates were statistically significant (p<.05) and a comparison of the estimated and observed mean change suggests that the estimates are accurate.

DISCUSSION AND CONCLUSION

This research set out to analyze change during the 1990s in gender ideology across world regions. It was hypothesized that individual and cohort change would both contribute to aggregate positive change in gender ideologies. Gender belief change in Europe was positive and in all regions but Eastern Europe, cohort change was the primary source of change. This would suggest that the rising egalitarianism in the West is likely to be volitile and ephemeral in Eastern Europe than in other parts of Europe. Most surprising was the overall decline in beliefs about gender equality in non-Western countries. With change concentrated at the individual level, rather than in cohort differences, it appears that the 1990s might best be characterized by a widespread rise in conservatism with respect to gender equality. In this respect, the results confirm my hypothesis that differences in level and change in gender ideology would be most distinct along the West-and-the-rest axis.

The rising equality documented in Table 1 is most likely tied more to the general rise in rights-based ideology of tolerance and choice (Brooks and Bozendahl 2004) and a hightened value of the individual and self-expression (Inglehart and Norris 2003; Inglehart and Wetzel 2005). This is probably one reason the level and change in beliefs about gender equality is higher in the West than in non-Western countries.

Gender role attitude change was more consistent across all regions, where we observed a net shift toward more progressive views about gender roles in each region studied. The estimated source of change in EQUALITY was largely within cohorts, while more of the change in ROLES occurred between cohorts. This provides further evidence for the multi-faceted nature of

gender ideologies and suggests that the underlying values movitating beliefs about the two constructs are not the same. Where the estimated source of change was largely concentrated in individual change, as with EQUALITY, we must be more cautious in making inferences about future change. But change in GENDER ROLES beliefs, which are, on average, more traditional that notions of equality, was largely concentrated in the between-cohort component and suggest a more enduring trend. Perhaps most unexpected were the relatively weak trends among Northern European countries, long the vangaurd of progressive attitudes and behaviors regarding gender equality. While the reason for the relatively small positive change in gender ideology in this region in not clear, it is possible that we are seeing a ceiling effect, where the diffusion of egalitarian attitudes and beliefs will continue to gradually slow as it approaches the upper limit of the scale values (Rogers 2003).

DEVELOPE AND FINISH

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Table 1. Regional Means and Standard Deviations on Gender Beliefs[a]

		EQUALITY			GENDER ROLES		
Region	1991	1999	Δ	1991	1999	Δ
Means							
Northern Europe	5.86	5.97	**0.11**	10.19	10.38	**0.19**
West, South and Neo-Europe's	5.45	5.68	**0.23**	9.01	9.44	**0.43**
Eastern Europe	4.65	5.35	**0.70**	8.63	9.39	**0.76**
Non-Western	5.02	4.76	**-0.26**	8.78	8.90	**0.12**
Standard Deviations							
Northern Europe	1.40	1.16	**-0.24**	1.57	1.35	**-0.22**
West, South and Neo-Europe's	1.58	1.50	**-0.08**	1.87	1.74	**-0.13**
Eastern Europe	1.55	1.48	**-0.07**	1.86	1.67	**-0.19**
Non-Western	1.58	1.51	**-0.07**	1.93	1.78	**-0.15**

Data Source: World Values Survey Cumulative File (1981-2003).

[a] **Question Wording:** (GENDER EQUALITY) "When jobs are scarce, men should have more right to a job than women" and "Being a housewife is just as fulfilling as working for pay"; (GENDER ROLES) "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work" and "Both the husband and the wife should contribute to household income", and "When jobs are scarce, men should have more right to a job than women".

Regional Groupings: <u>Northern Europe:</u> Finland, Sweden. <u>West, South and Neo-Europe's:</u> Germany, Slovenia, Spain, United States. <u>East Europe:</u> Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russian, Slovakia. <u>Non-Western:</u> Argentina, Chile, China, India, Japan, Mexico, Nigeria, South Korea.

Table 2. Period and Cohort Fixed Effects Regression Decomposition of Change in Gender Beliefs

	Adjusted[a]				Percentage Contribution to Total Estimated Δ	
Region	Adj. β_{Cohort}	$\beta_{Individual}$	Est. Δ	Obs Δ	Cohort	Individual
EQUALITY						
Northern Europe	0.138	(0.029)	0.17	0.11	0.83	0.17
West, South and Neo-Europe's	0.207	(0.040)	0.25	0.23	0.84	0.16
Eastern Europe	0.075	0.580	0.65	0.70	0.11	0.89
Non-Western	0.103	-0.389	-0.29	-0.26	**0.36**	**-1.36**
GENDER ROLES						
Northern Europe	0.057	0.175	0.23	0.19	0.24	0.76
West, South and Neo-Europe's	0.203	0.270	0.47	0.43	0.43	0.57
Eastern Europe	0.044	0.775	0.82	0.76	0.05	0.95
Non-Western	0.100	(-0.045)	0.06	0.12	**1.80**	**-0.80**

Data Source: World Values Survey Cumulative File (1981-2003).

Notes: Countries composing each region are the same as those reported in Table 1. Parentheses indicate the unadjusted coefficient was *NOT* significant (p>.05). Numbers in **BOLD** represent offsetting period and cohort effects. Regional regressions used the xtreg, fe command in Stata SE 9.0.
[a] Refers to the original coefficients weighted by the change in mean birth cohort (cohort coefficient) and by distance from first to last survey period (individual coefficient).

Table 3. Non-Western Country Means and Standard Deviations by Gender Beliefs

	EQUALITY			ROLES		
Country	1991	*1999*	*Δ*	1991	*1999*	*Δ*
Means						

Argentina	5.52	5.17	**-0.35**	9.34	9.31	**-0.03**
Chile	4.85	5.10	**0.25**	9.15	9.45	**0.30**
Mexico	5.49	5.04	**-0.45**	9.31	9.40	**0.09**
China	4.73	4.61	**-0.12**	9.39	8.99	**-0.40**
Japan	4.57	4.44	**-0.13**	8.18	8.26	**0.08**
South Korea	4.53	4.22	**-0.31**	7.32	8.59	**1.27**
India	5.16	4.54	**-0.62**	8.48	8.29	**-0.19**
Nigeria	5.06	4.82	**-0.24**	9.29	8.83	**-0.46**
Standard Deviations						
Argentina	1.53	1.45	**-0.08**	1.87	1.72	**-0.15**
Chile	1.56	1.55	**-0.01**	1.78	1.84	**0.06**
Mexico	1.47	1.62	**0.15**	1.82	1.95	**0.13**
China	1.42	1.36	**-0.06**	1.56	1.46	**-0.10**
Japan	1.31	1.12	**-0.19**	1.46	1.39	**-0.07**
South Korea	1.58	1.26	**-0.32**	2.00	1.62	**-0.38**
India	1.57	1.51	**-0.06**	1.82	1.86	**0.04**
Nigeria	1.80	1.65	**-0.15**	1.92	1.68	**-0.24**

Data Source: World Values Survey Cumulative File (1981-2003).

Table 4. Period and Cohort Regression Decomposition of Change in Gender Beliefs

Country	Adjusted		Estimated	Observed
	Cohort	Individual		
EQUALITY				
Argentina	0.122	-0.481	-0.36	-0.35
Chile	(0.143)	(0.123)	0.27	0.25
Mexico	0.107	-0.600	-0.49	-0.45
China	0.118	-0.249	-0.13	-0.12
Japan	0.104	-0.201	-0.10	-0.13
South Korea	0.147	-0.487	-0.34	-0.31
India	**0.017**	-0.646	-0.63	-0.62
Nigeria	0.036	-0.309	-0.27	-0.24
GENDER ROLES				
Argentina	0.119	**-0.142**	-0.02	-0.03
Chile	(0.110)	(0.139)	0.25	0.30
Mexico	0.131	-0.232	-0.10	0.09
China	0.074	-0.454	-0.38	-0.40
Japan	0.092	**-0.020**	0.07	0.08
South Korea	(0.152)	(0.988)	1.14	1.27
India	0.041	-0.244	-0.20	-0.19
Nigeria	0.054	-0.467	-0.41	-0.46

Data Source: World Values Survey Cumulative File (1981-2003).
Notes: Countries composing each region are the same as those reported in Table 1. **BOLD** indicates the unadjusted coefficient was *NOT* significant (p<=.05) and Parenthesis indicate trends were *not* offsetting.

Appendix A (From http://
margaux.grandvinum.se/SebTest/wvs/SebTest/wvs/articles/folder_published/article_base_54)