Robert Schuman Centre for Advanced Studies

The Welfare State, Gendered Labor Markets and Political Orientations in France, Belgium, Germany, Italy, Denmark and Britain 1977-1994

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ABSTRACT

This paper theoretically specifies and empirically examines a causal chain linking: 1) cumulative left governance to 2) welfare state institutions promoting female specific labor demand and supply, in turn to 3) female labor force participation, and finally to 4) various specifications of political support for left parties. Using fuzzy set methods for the controlled comparison of cases, we find that high cumulative left governance is causally necessary for high civilian public sector expansion, and for high public daycare for children ages 0-2 and children ages 3 to school age. High civilian public sector expansion, high public daycare for children ages 0-2 and high public daycare for children ages 3 to school age are all individually causally sufficient for high female labor force participation. In turn, high female labor force participation is causally sufficient to produce high general left support, high female left support, high in-the-labor-force female left support and gender gaps in (with high feminization of) center-left support. High female labor force participation is causally necessary to produce a substantial female left support gap across labor force locations, with in-the-labor-force women more likely to support the left than at-home women. Emphasizing the scholarly and pragmatic importance of distinguishing relations of causal sufficiency from relations of causal necessity, we discuss the theoretical implications of our findings, and the usefulness of our methodological innovations for policy making and research.

INTRODUCTION

Gendering welfare state research has become an international pastime in the past fifteen years. Gender, as well as class, routinely is taken into account in identifying the nature, causes and consequences of welfare expansion and retrenchment and in defining features of welfare state regimes (Siim 1988; Hobson 1991; Lewis 1992, 1997; Orloff 1993, 2000; O'Connor 1993, 1996; Sainsbury 1994, 1996, 1999; Huber and Stephens 2000, 2001; Korpi 2000; Scharpf and Schmidt 2000a, Koven and Michel 1993; Hobson and Lindblom 1997; O'Connor, Orloff and Shaver 1999; 2000, Korpi 2000; Stier, Lewin-Epstein and Braun 2001). Important empirical associations between divergent welfare and labor market institutions and differing levels and patterns of class and gender-based economic inequality have been documented (Rosenfeld and Kalleberg 1990, 1991; Esping-Andersen 1990; Korpi and Palme 1998; Gornick and Jacobs 1998; Gustaffsson and Johanssen 1999; Korpi 2000, Huber and Stephens 2001). However, though replete with assumptions about how the classed and gendered nature of social policies should affect longer term political support for parties associated with welfare state expansion, the literature contains at most historical discussion and scattered statistical evidence pertaining to these assumptions (e.g. Esping-Andersen 1985, 1990, 1993; Baldwin 1990; Kitschelt 1994, Kitschelt and McCann 1995; Piven 1985; Huber and Stephens 2001; Schmidt 2000).[1]

In this paper, we examine a chain of effects from the production of key aspects of welfare state regimes through to popular support for left and left-center—that is, non-right—political parties. Because we focus on gender, we likewise focus on institutional features most pertinent for gender-based political orientations. Because some arguments suggest that gender gaps in partisanship have come to overshadow class cleavages, we also attend to over time shifts in class-based partisanship. Ours is a macro-level analysis, but where relevant, we build on insights from the normally separate micro level literature on determinants of political partisanship. As well, we construct macro level political orientation indicators from results of micro level empirical analyses that we conducted on relationships among gender, class and labor force status, and left-center-right political partisanship.

UNPACKING CAUSAL CHAINS FROM WELFARE REGIMES

Though Esping-Andersen (1990) was not first to categorize welfare state regimes, his concept quickly became the standard structuring all subsequent elaboration and debate. Some feminist critics proposed that the gender regime construct—highlighting variation in policy-embodied gender ideologies and their consequences for gender roles and inequalities—be maintained distinct from the notion of welfare state regime, because countries belonging to the same welfare regime type could have widely varying gender regimes (e.g. Sainsbury 1996, 1999). In contrast, other researchers assimilated key aspects of varying gender regimes into welfare regime typologies proper, elaborating Esping-Andersen's initial three fold typology of social democratic, liberal and conservative-corporatist types and adding new categories where needed to better highlight relative "woman-friendliness" of diverse institutional arrangements (e.g. Scharpf and Schmidt 2000a; Huber and Stephens 2001, Leon 2001, Esping-Andersen 1999). At present, different scholars propose or employ somewhat different typologies, though there is substantial consensus around core dimensions of welfare state regimes and considerable overlap in country categorizations.

Whatever the specific typology, the regime concept remains an ideal type that can not be expected to match perfectly any particular country's institutional configuration. The concept is useful as a short-hand organizing device and as a measurement tool against which to describe concrete features of particular policy contexts. But analytic leverage obtained from using the regime lens is limited in important ways, and these go beyond problems of necessarily crude matches between observed country characteristics and ideal-typical regime type, and the different country groupings that result by emphasizing different class or gender-related elements of the regime As Korpi (2000, p. 141), noted, the original Esping-Andersen typology "span[ned] from assumed causal factors to program characteristics and outcomes." Conflation of causes, mediating policy content and institutional characteristics, and outcomes also runs through much recent discussion of welfare state and gender regimes (see e.g. Scharpf and Schmidt 2000a; Leon 2001; O'Connor, Orloff and Shaver 1999). Even when scholars are careful to distinguish what they conceive of as cause, mediating institutional feature, and outcome, current labels such as social democratic vs. Christian democratic regime are easily conflated with the cumulative social democratic or Christian democratic governance that produces the regime in the first place (see Huber, Ragin and Stephens 1993; Huber and Stephens 2001).

In short, the regime concept can obscure as much as it reveals, especially if the goal is to specify and empirically examine a causal logic. We agree with Korpi (2000, p. 141) that "causal analyses" require unpacking "conglomerate" regime typologies. This involves thinking carefully about what is input or cause, what is mediating institutional factor and what is effect or outcome, and it involves careful specification of mechanisms moving us through the causal chain.[2] Thus, we disaggregate key elements of regime typologies. Cumulative partisan composition of government is the initial input factor for our proposed causal chain. Mediating institutional factors include variations in general family

vs. dual earner support (Korpi 2000), and support for female labor force participation and mothers employment (Scharpf and Schmidt 2000a; Huber and Stephens 2000; Stier, Lewin-Epstein and Braun 2001; Gornick, Meyers and Ross 1997). Outcome factors are class and gender-based political partisanship.

Social Democratic Governance and Incentives for Female Labor Market Participation

Huber, Ragin, and Stephens (1993) showed that, whereas long term Christian democratic party incumbency promoted development of relatively generous, but transfer-oriented welfare states that are not particularly redistributive, long term social democratic party incumbency promoted development of generous welfare states that are redistributive and oriented as much or more toward state social service provision as toward transfer payments. Huber and Stephens (2000, 2001) built on these findings, suggesting positive synergy among social democratic government, public social service expansion, women's labor force participation and women's political mobilization.

Huber and Stephens (2000) treated public sector expansion as a *consequence* of rising female labor force participation when experienced in the context of social democratic governance. Rising female labor force expansion would lead to rising female demands for services including day care for children and elder care, no matter what the political coloration of government, but left/social democratic governing parties would be especially responsive to these demands. The authors had no measure of women's political demands or mobilization, but their evidence did show a modest statistically significant additive effect of female labor force participation on public delivery of welfare state services and a stronger interaction effect of female labor force participation and social democratic government on public social service delivery. Yet what of an *alternative, reverse causal argument* that is more consistent with the idea of different welfare state regimes with different effects on class and gender inequalities?

The reverse causal argument suggests that cumulative social democratic governance expands the public sector, which in turn promotes expanded female labor force participation. Huber and Stephens (2000) entertain this reverse possibility, but try to circumvent it, specifying a model with lagged women's labor force participation effects on public provision of services. Here we examine empirically a causal chain that first explores in more detail, then expands on the reverse causal logic.

As noted in Huber and Stephens (2001), publicly-provided social services allow women to enter the labor force and provide employment opportunities for

them. Because publicly-provided caring services remove women's family-oriented time constraints, these services should increase female labor supply (O'Connor, Orloff and Shaver 1999, pp. 78-88). At the same time, publicly-provided caring services should increase demand for female—as opposed to male—labor, insofar as public sector jobs require tasks considered female-oriented In short, through public services setting in motion *both* supply and demand mechanisms, social democratic incumbency cumulated extensively over time likely increases female labor force participation.

Welfare state and labor market researchers long have suggested that growth of public sector social service occupations expands women's job opportunities (Myles and Turegin 1994; Esping-Andersen 1990, pp. 206-229; Rosenfeld and Kalleberg 1990; Kolberg 1991; Schmidt 1993; Gornick and Jacobs 1998; Huber and Stephens 2000; Daly 2000). In liberal, market-oriented welfare states, private sector service expansion increases job opportunities for women, especially in low wage service, including caring, jobs that are disproportionately feminized (e.g. O'Connor, Orloff and Shaver 1999, pp 97-98; Daly 2000). Underlying such observations is an extensive literature examining how gender segregated labor markets affect gender inequalities in income as a function of the gender of tasks necessary to a job, the (mostly trans-cultural) expectations that women should be matched to jobs requiring (mostly) female-oriented tasks and men to jobs requiring (mostly) male-oriented tasks, and the systematic devaluation of skills involved in female-oriented tasks (Rosenfeld and Kalleberg 1990; Steinberg 1990; Reskin 1993; Ridgeway 1997; Ridgeway and Smith-Lovin 1999; Grusky and Charles 2001; Bonstead-Bruns and Eliason 2002). Both survey and experimental evidence show that men *and* women assume that people-oriented or nurturing/caring tasks are predominantly female work. Employers, then (to a large degree unwittingly), match women disproportionately to jobs requiring these "female" tasks. Once the gender of a task or job is presumed female, rather than male, the skills it takes to do the job, and thus the job itself are systematically under-valued.[3]

Incorporating ideas of gendered tasks, sex segregated labor markets, and matching of women to jobs requiring so-called female tasks into welfare state arguments makes it even clearer why public sector expansion—creating jobs requiring female-specific skills—should enhance *demand* for, as well as *supply of*, female-specific labor. This makes it more important to evaluate hypothesized causal effects *from* the public sector *to* female labor force participation. At the same time, analytically separating demand-side and supply-side mechanisms for enhanced female labor force participation makes it clear that state provision or subsidies for child care and parental leave and tax policies favoring dual earner households should affect female labor force participation by increasing female labor supply.

Available, affordable day care should increase labor supply through preference formation and/or budgetary constraint mechanisms (see Blau and Ferber 1992; Gornick, Meyers and Ross 1997). Where child care is available and affordable, mothers should have increased preferences for time spent in paid work vs. time spent in unpaid home labor. Alternatively, "the price of care may be viewed as a tax levied on mothers' hourly wages" (Gornick, Meyers and Ross 1997, p. 48). Just as would higher wages, lower day care costs should increase paid employment and hours worked in paid employment by women with child care responsibilities. Generous maternity leaves may increase labor supply by increasing women's attachment to the labor force, both in the short and longer term, because wage replacement and job guarantees are likely to decrease exits from or job shifts within employment (Gornick, Meyers and Ross 1997).

Generous paternal leaves for child care may increase employment continuity among women, enhancing their earnings prospects and long term labor force attachment, if their male partners take up these leaves. Finally, tax structures may have negative effects on labor supply not just for mothers or women with child care responsibilities but for all married women. As Scharpf and Schmidt (2000a, p. 10 and n.5) note, "the ideal-typical" Christian democratic or continental welfare state regime institutionalized policies protecting married women at home through health and pension insurance targeted to male breadwinners, and it allowed "tax splitting" to reduce income tax on husband's income. Working wives pay income taxes at marginal rates defined by joint income while they pay insurance contributions from which they receive no added benefit (Gustafsson 1991).

The Causal Chain

Figure 1 depicts the causal chain that we presume links governing parties, welfare state institutions, women's labor force participation and aggregate political orientations. We build on Huber and Stephens (2000, 2001), but highlight causal effects *from* public sector expansion *to* female labor force participation. We respecify women's labor market-related political demands as an outgrowth of long term social democratic incumbency. In our model, party support outcomes are to be tested as the end of the causal chain, though we recognize this specification as wrapping back around, through time, to affect the party composition of government.

With respect to the role of *governing parties*, long term social democratic/left incumbency as contrasted with both Christian democratic government incumbency and secular right or center-right incumbency is presumed to expand the welfare state through state provided services, including caring services. Social democratic/left incumbency also is presumed to facilitate

tax structures that do *not* penalize dual earner households, and to provide other supports for dual earners, including generous parental leaves. Long term Christian democratic incumbency is presumed to enshrine the male-breadwinner model into benefit provision, leading to the relative absence of public *or* market provision of day care and elder care, tax penalties for dual earner families, and—at least in contrast with left incumbency—to less generous parental leaves (Huber, Ragin and Stephens 1993; Gustafsson 1994; Gornick, Meyer and Ross 1997, p. 56; Korpi 2000, pp. 151-52).

With respect to the role of *public sector social services*, as suggested by our prior discussion, these are expected to increase *demand* for female labor. At the same time, *generous parental leaves*, and availability of *publicly provided or state subsidized day care*, are expected to increase female labor *supply*. Relative *absence* of either public or market provided day care and tax penalties for dual earners should decrease female labor supply, relative to "male-breadwinner married to housewife" households.

With respect to *female labor force participation and political partisanship*, once set in motion, high female labor force participation as an outgrowth of long-term social democratic governance should provide political support for publicly provided services, including but not restricted to day care, generous parental leaves and tax structures favorable to dual earner households. Support for these institutions should, in turn, translate into support for the social democratic, and more generally left, political parties associated with producing them.

Since we already have motivated Figure 1's first two causal links, we state these now as more formal hypotheses:

> *Hypothesis #1:* Where there is greater cumulative social democratic governance, relative to other governance patterns, there should be larger public sectors.
> *Hypothesis #2:* Where there is greater cumulative social democratic governance, there should be expanded welfare state institutions supportive of dual earner households and mother's employment, including greater publicly provided or state subsidies [through grant or tax break] for day care and more generous maternity leaves.[4]
> *Hypothesis #3:* Where there is greater public sector size, there should be greater female labor force participation, as a consequence of expanded *demand for* female labor.[5]
> *Hypothesis #4:* Where there is greater state provision or subsidy of day care and where there are more generous maternity leaves, there

should be greater female labor force participation, as a consequence of expanded female labor supply.

Figure 1's causal link from women's labor force participation to political party support requires further elaboration. Micro-level research on class and political partisanship, and gender and political partisanship, respectively, suggest that neither set of relationships is uniform across all advanced capitalist countries at all times (see e.g. Weakliem 1991; Franklin, Mackie and Valen 1992; Evans 1999; Mayer and Smith 1985; Walker 1994; Norris 1996).[6] Most pertinent for our hypotheses are arguments about how gender cleavages may come to the fore when institutionalized "in and through the welfare state" (Svallfors [1999, p. 203]; see also Brown [1988]; Esping-Andersen [1990]; Orloff [1993]; Piven [1985]; Hernes [1987a, 1987b]; Borchorst and Siim [1987]; Manza and Brooks [1998]). Gender segregated labor markets, female care responsibilities and the self interest of public sector employees all enter this argument

Feminist scholars showed that women often are more dependent on the welfare state than are men, because women are linked to the state more often as clients or employees or family members relieved of under- or unrewarded care work (Hernes 1987a, 1987b; Borchorst and Siim 1987; Erie and Rein 1988; O'Connor, Orloff and Shaver 1999). Piven (1985) argued that women's disproportionate reliance on the welfare state should make women more generally supportive of welfare policies than are men. Where some feminists emphasize material interests as a basis for welfare state support by women, others emphasize how women's socialization orients them disproportionately toward values of nurturing and caring (see Svallfors 1999). In short, women—relative to men—are likely to be especially supportive of the welfare state, both because of economic self-interest and because of values, socialization, or ideology. In turn, "benefits that allow women to support their families when marriages break up or fathers refuse responsibility for their children, and policies to protect job rights when children are born, or to promote greater wage equality and access to good jobs… [have brought] political observers to believe that electoral gender gaps [will] reflect women's sensitivity to the appeals of social policies of parties of the welfare state" (O'Connor, Orloff and Shaver 1999, p. 2).

More specific reasoning about how public social service delivery, female labor force participation and pro-welfare state attitudes translate into women's electoral support for left parties can be drawn from scholarship directly examining the relationship between gender and political partisanship. Research on gender and partisanship in Nordic political-institutional contexts combining high public sector expansion and a public-sector-oriented welfare state with high

female labor force participation argues that increased women's labor force participation moves women to the left on political issues (Togeby 1993, 1994). In Denmark, a 1987 election study and a 1988 study of those aged 19-37 found that women's support for the Social Democrats and other left parties was significantly greater than that of men (Togeby 1994). Denmark, Iceland and Norway all experienced increased women's political mobilization in the 1970s and 1980s as women's labor market participation increased (Togeby 1993).

At the same time, recent research by Manza and Brooks (1998) on the gender gap in partisanship in a contrasting, market-oriented context showed that, from 1952-1992, the United States gender gap in electoral behavior progressively widened, with US women increasingly disproportionately favoring the Democratic over the Republican party. The authors suggest the increased gap was due to increased women's labor force participation.

Manza and Brooks suggest that women favor the Democratic party because it is the left-most party in the United States, relative to distributional issues, and it is far more supportive of the welfare state than is the Republican party—the other major party in a two-party, winner take all electoral system. Manza and Brooks (1998) also found that attitudes toward the welfare state mediated the positive relationship between women's labor force participation and voting for the Democratic party. Women in the labor force had more positive attitudes about the welfare state and these in turn positively affected their support for the party most supportive of the welfare state. This could be either because working women had more need for state provision or funding of caring services than non-working women, or because working women were more sensitive to redistribution issues due to labor market disadvantage than are men (Manza and Brooks 1998), or because women who select into paid employment had more progressive attitudes in general than women who did not.

Regardless of reason why, the clear implication of this association combined with other arguments linking women's labor force participation and party support, is that where there is high female labor force participation, women should be disproportionately left relative to men and they should be disproportionately left relative to women in low female labor force participation contexts. In all high female labor force participation contexts—whether women are absorbed by market or public provision of caring services—a combination of women's labor market disadvantage relative to men, their enhanced needs for government provided or subsidized day care, and their enhanced support for the caring ideologies of those political parties most supportive of the welfare state, should raise the aggregate level of female left support. This leads to the following:

Hypothesis #5: Higher aggregate female labor force participation leads to enhanced left voting, to enhanced female left voting, and to a left-oriented gender gap between men and women.

Hypothesis 5 makes predictions about increasing female-based support for left parties, but does *not* presume men are correspondingly decreasing their support. *All else equal*, if labor force participation leads women to increase their support of the left, aggregate left voting will increase and increasing gender gaps will reflect left parties increasingly drawing support from women without pushing men away. However, some arguments presume that, as women's support for the left increases because of welfare state institutions and their impact on labor markets, these *same* institutions are causing welfare backlash among male manual laborers, who previously could be counted on to support the left. Welfare backlash then is presumed to push male manual laborers away from the left and toward the right of the political spectrum.

For example, some studies suggest that where there are large public sectors and highly feminized public sector employment, inter-related public sector and gender conflicts may be diluting or replacing traditional class conflicts over redistributive and state-market issues. Supporting a big public sector is expensive, employment in it gives rise to self interest in its maintenance, and those who are not employed by it may be more prone to backlash (Dunleavy 1980; Zetterberg 1985; Esping-Andersen 1990; Svallfors 1999). As Svallfors (1999, p. 206) notes, "heavy concentration of women within the welfare state sector creates strains between a welfare state mainly populated by women and a private sector mainly populated by men."

Examining attitudinal support for the welfare state in Sweden, Svallfors (1999) found that of all class positions, manual workers were most supportive of state social welfare expenditures and also of public finance and delivery of social services. Higher-level nonmanual employees and those self-employed were, in general, least supportive. All the while, however, the association between class location and attitudes on expenditures somewhat weakened from 1981 to 1992, while the association between public vs. private sector employment and these attitudes grew stronger over this period. Net of class and public sector—the latter mattered especially for attitudes toward public delivery and financing of social services—women were more positively disposed toward state welfare spending than were men.[7] Ringdal and Hines (1999) demonstrated declining class-based voting for Norway between 1957 and 1989. They argued that gender cleavages were replacing class cleavages because of a combination of growing female employment in welfare occupations and tax-welfare backlash by younger working class males upset because Norway, in 1977, abandoned the full employment goal.

Such suggestions that the expanded female labor force participation facilitated by greater public provision of social services is accompanied by welfare backlash among male manual workers and a corresponding reduction of class-based voting motivate us to empirically examine the following hypothesis:

Hypothesis #6: Higher aggregate female labor force participation leads to left party support drawn disproportionately from women *at the expanse of* left parties' traditional manual working class voting base.

Finally, where many feminists emphasize consistency of welfare state institutions with gender-linked ideologies of caring, inferring that gender role socialization primes women to support the welfare state and *left* parties, early political science research on women's electoral partisanship presumed that women cross-nationally would disproportionately support *conservative* parties (e.g. Ogburn and Golta 1919; Duverger 1955; Almond and Verba 1963, p. 327). Arguments suggesting women are more politically conservative ordinarily presume that some combination of traditional gender role socialization and women's disproportionate religiosity within conservative religious traditions such as Catholicism create *not* just nurturing and care-oriented values, but care-oriented values that tie women specifically to a subordinated, caring *role* within the private family sphere (see e.g. Lovenduski and Hill 1981; Mayer and Smith 1985). Whether such values are internalized primarily through gender role socialization or religious socialization and reinforced in politics through Confessional or secular conservative parties, the implication is that these values translate into support for conservative parties (Mayer and Smith 1985).

We suggest that women's labor force participation may shape political implications of gender-related ideologies of caring. Women with gender ideologies specifically linked to their subordinated, caring role in the family may be less likely to select into paid employment. Alternatively, experiencing paid employment may reduce women's attachment to conservative visions of family and gender roles while it sensitizes women to gender-based labor market inequalities, including disadvantage due to their disproportionate responsibility for child care and household labor or female-typed labor market tasks. Where public sector service expansion facilitates high levels of female labor force participation through the demand mechanism of a large public sector and the supply mechanism of publicly provided day care, a greater "value-gap" between women who choose to remain at home vs. those who enter paid employment may emerge. Where there is high female labor force participation, gendered caring ideologies of women in the labor force may be especially oriented to institutionalization of caring values through the welfare state, because this institutionalization is so prevalent that it has created or reinforced general social

norms about desirable social organization and also expectations that choices that fit these general norms are appropriate. Meanwhile, gendered caring ideologies of those who remain housewives may be especially oriented to traditional gender roles. Otherwise, these women would be unlikely to remain at home when the institutional incentive system and social norms favor women's participation in the paid labor market. This leads to the following:

> *Hypothesis #7*: Higher aggregate female labor force participation leads to a higher left-oriented gender gap between women who are in the paid labor force and women who are housewives.

DATA AND VARIABLES

Our hypotheses require both individual and aggregate level data. For individual-level analyses, we use individual Eurobarometer surveys from 1977 to 1994.[8] Using comparable sampling frames and methods, including the same questions asked at the same times across countries, these provide comparable micro data across many European countries. However, survey limitations constrained our choice of countries and periods. To ensure cross-country comparability and over-time consistency in class, labor force, and party preference variables, while still providing important variation in macro institutional factors, we include France, Belgium, West Germany, Italy, Denmark, and the United Kingdom from 1977 to 1994. For reasons of sample size or key questions *not* being asked in a relatively large proportion of survey years, coupled with sparse data on specific variable distributions, we dropped Ireland, the Netherlands and Luxembourg, even though these countries were in the Eurobarometer from its inception in the mid-1970s.

The six countries we include provide a wide range of pertinent variation. Although we disaggregate key macro level factors included in welfare state regimes, our sample contains exemplars of all three Esping-Andersen regime types. Britain invariably is categorized as a market-oriented, liberal welfare state and Denmark as a social-democratic welfare state. Belgium, Germany, Italy and France fall within Esping-Andersen's continental regime (Scharpf and Schmidt 2000a; Huber and Stephens 2001). Comparative studies of welfare retrenchment suggest that the basic institutions for all three types and major variations among them were well institutionalized by the late 1970s, when our study begins. Our sample also contains countries with wide-ranging political-electoral institutions and state structures (see Cook and Preston 1998; Einhorn and Logue 1999; Hancock et al 1998; McCarthy 1999; Huber, Ragin and Stephens 1993).

To obtain a sample large enough to ensure meaningful results for micro level association models relating gender, labor force, class and party

preferences, we combined adjacent surveys, resulting in the following ten time periods for analysis (Eurobarometer Surveys in parentheses): 1977 (7, 8), 1978 (9, 10), 1980 and 1981 (13, 16), 1984 and 1986 (21, 26), 1987 and 1988 (27, 30), 1989 and 1990 (31, 33,0), 1991 (35, 26), 1992 (37.0, 38), 1993 (39.0, 40), and 1994 (41.0, 41.1). Some combinations, especially in the mid 1980s, mask some details in time trends, but alternatives—either to discard data from these Eurobarometers or to disaggregate these years—are even less desirable. The former would leave substantial gaps in the analysis. The latter would reduce sample size to the point that results would be artifacts of sparse data.

Labor Force and Class Locations

Our general strategy was to recognize that some labor force and class locations may be considered nested in other, more general, labor force and class locations. Figure B.1 in Appendix B shows this nesting structure. Given information available in the Eurobarometer surveys for all six countries at all times, we first classified those in—and those not in—the labor force. Those not in the labor force are further subdivided into those in school, retired, or otherwise at home. Those in the labor force are further divided into employed and unemployed, those employed into employed by someone else and self-employed, and those self-employed into business and professional occupations. Those employed by someone else are divided into managers and non-managers, and non-managers into manual and non-manual workers. The nesting strategy allows us to isolate the effect of one specific labor force/class location, e.g. *manual labor*, over and above the effect due to a more general parent classification, e.g. the labor force location of *in the labor force*. It allows us to investigate precisely *where* in this nested structure gender gaps in political party preference are largest in our six countries over our ten time periods, indicating strong conditioning effects on the gender gap due to that specific labor force/class location.[9]

Various locations have played key roles in causal arguments. Arguments attributing emergence of gender gaps to increased female labor force participation highlight the *in-the-labor-force/not-in-the-labor-force* distinction. Arguments presuming welfare backlash among traditional working class left supporters highlight the *non-manual/manual* distinction. Though arguments leaning on the in-the-labor-force/not-in-the-labor-force distinction often neglect considering the heterogeneity of persons "not in the labor force," who may be retired, at home, or in school, these finer distinction may alter the gender gap in partisanship in varying ways.

In sum, our coding enables us to measure how the association between gender and party preferences differs by the following labor force and class

locations (numbers correspond to the labeled partitions in Appendix B, Figure B.1):

1. the effect due to being in the labor force (ILF) as opposed to not in the labor force (NILF),
2. the effect due to being a student, at home, or retired, over and above the effect captured by the NILF location,
3. the effect due to working as opposed to unemployed, over and above the effect captured by the ILF location,
4. the effect due to being self-employed as opposed to employed-by-someone-else, over and above the effects captured by the working and ILF locations,
5. the effect due to being in a business occupation as opposed to a professional occupation, over and above the effects captured by the self-employed, working, and ILF locations,
6. the effect due to being a manager as opposed to non-manager, over and above the effects captured by the employed-by-someone-else, working, and ILF locations,
7. the effect due to being nonmanual as opposed to manual labor, over and above the effects captured by the non-manager, employed-by-someone-else, working, and ILF locations.

Left, Center, and Right Political Party Preferences

For the individual level analyses, we use the variable in the individual Eurobarometer surveys asking the respondent to indicate the party that s/he would support if there were a general election held tomorrow. Responses indicated the full range of possible parties for a given country at a given time. We recoded parties as left, center, or right after collecting information from various sources on each party for each country at each time. Most central for our recoding were data collections and analyses by Castles and Maier (1984) and Laver and Hunt (1992).

Castles and Maier (1984) collected and analyzed national experts' ratings on a global left-right scale for political parties in each of our six countries in the early 1980s. Laver and Hunt (1992) used national expert raters who provided separate left-right ratings for party platform/leadership ideological content variables, including scales tapping desirability of public ownership, increasing services vs. cutting taxes, anti- vs. pro-clerical, pro- vs. anti-permissive moral policy, pro-environment vs. pro-economic growth, decentralization/ centralization, urban/rural, and a scale tapping friendliness to the [then] Soviet Union. The authors analyzed the dimensionality of political space in each country using principal components.

Laver and Hunt's (1992) research allowed us to see how distributive/redistributive and state ownership factors key to defining parties along a more traditional socialist-capitalist, left-right political axis relate empirically to religious and moral factors that are equally or more important to defining both Confessional parties and environmental issues promoting emergence of Green parties during the period we analyze. The Laver and Hunt research also allowed us to see which parties cluster together in political space and away from other parties. This helped us draw boundaries for left, center and right in each country, and to know which parties had to be coded in the same category for the coding to adequately and accurately represent party placement in each country's political space.

In Laver and Hunt's (1992) analysis, political space in Germany and Italy comprised only one *interpretable* global dimension, in which pro-redistributive and public ownership values load together with anti-clericalism and permissive moral policy among other factors. Britain—which institutionalized *no* religious party—is the only country in our sample in which a distinct secondary dimension organized in part along lines of the clericalism factor emerged. Yet the British parties are virtually indistinguishable when experts rate pro- vs. anti-clerical attitudes of party leaders. Political space in Belgium, France and Denmark also included a distinct, yet much less important second dimension—in this case organized around environment or centralization issues. In short, *all* our countries exhibit a clear, overwhelmingly primary global dimension that Kitschelt (1994) and others characterized as left-libertarian vs. right-authoritarian, and that organizes traditional socialist vs. capitalist issues together with moral concerns. In all our countries except Britain, in which clericalism vs. anti-clericalism is virtually irrelevant to distinguishing political parties from each other, *both* the pro- vs. anti-clerical factor and moral policy concerns key to defining Confessional parties loaded [in opposite directions] with redistribution and state ownership concerns central to defining communist, socialist, social democratic and labor parties. Thus, a global left-right ideological spectrum anchored in issues central to welfare state policies and politics—supplemented by inclusion of libertarian vs. authoritarian moral concerns—remains central to politics in Belgium, France, Italy, Germany, Denmark and Britain in 1977-1994. In all countries except Britain, the clericalism factor paramount to Confessional parties' identity is squarely incorporated into this global left-right spectrum.

Some parties were too numerically insignificant to be rated in Castles and Maier (1984) or Laver and Hunt (1992), or, while significant, were unrated because they did not exist at the time of these studies. Silvio Berlusconi's Forza Italia, formed prior to the 1994 elections, exemplifies the latter. For such parties, we consulted Cook and Preston's (1998) *European Political Facts* 1900-1996, and various other sources including Kitschelt (1994); Kitschelt and McCann

(1995); Ole Borre's study of Denmark in Franklin, Valen and McKie (1992); Patrick McCarthy's (1999) chapter on Italy in Tiersky (1999), and Zariski's (1998) chapter on Italy in Hancock et al (1998). Additional expert consultants who helped us resolve remaining ambiguities about party coding included Michael Lewis-Beck and Bruce Western (for France), Hans Joergen Neilsen and Aage Sorensen (for Denmark), Wolfgang Streeck (for Germany), Colin Crouch (for Britain), Marino Regini (for Italy) and Hans De Witte (for Belgium). Appendix A provides details for specific left-center-right codes in each country.

For all six countries, we estimated individual-level measures of political support and of gender gaps in political support from the micro-level data in comparable Eurobarometer surveys from 1977 to 1994. Our measures derive from parameter estimates of log-linear models of the association among gender, class and political partisanship. More precisely, within each country, we estimated a series of log-linear models for the probability of left, center, and right political party support, where the probability of support for party j in country k at time t is a function of

1. a main effect for capturing the overall support for party j in country k,
2. a main time period effect capturing the over-time variation in support for party j in country k,
3. a main gender effect capturing the gender gap in support for party j in country k,
4. main labor force and class effects capturing the labor force and class variation in support for party j in country k,
5. an interaction of labor force/class and time capturing the over-time variation in the labor force/class differences in support for party j in country k,
6. an interaction of gender and time capturing the over-time variation in the gender gap in support for party j in country k,
7. an interaction of gender and labor force/class, capturing the labor force/class variation in the gender gap in support for party j in country k, and
8. an interaction of gender and labor force/class and time capturing the over-time differences in the labor force/class variation in the gender gap in support for party j in country k.

Goodness of fit tests were used to obtain models of the probabilities of party support, and gender gaps in party support, where the magnitude of the parameter estimates was not likely to be due to high levels of sampling error. That is, the parameter estimates we chose based on goodness of fit tests capture all significant information in the association among gender, class and political

partisanship. We then used these parameters to measure, at a specific time, a country's fuzzy set membership score on various political partisan outcomes relevant to testing our hypotheses. (See Appendix B for details on the micro-level partisanship models tested and used for each country.)

Aggregate Measures

Aggregate measures of female labor force participation and government employment are taken from Scharpf and Schmidt (2000b). The Huber, Ragin and Stephens (1997) comparative welfare state project provides aggregate measures of cumulative cabinet incumbencies and also—to supplement Scharpf and Schmidt—civilian government employment and female labor force participation. There is substantial cross-national variation in these measures among the six countries. For example, in 1994, Italy, at 43.4% of the female population aged 15-64, had the lowest female labor force participation among 18 OECD countries; Denmark, at 73.8% of the female population aged 15-64, had the second highest, only slightly behind Sweden (see Table 3:1, O'Connor, Orloff and Shaver 1999, p. 69).

We also examine key components of composite indicators of general family support and dual earner support developed by Korpi (2000), and of related composite indicators of employment support for mothers developed by Gornick, Meyers, and Ross (1997). We supplemented these data with corresponding OECD public expenditure data. We examine the roles of maternity leave, public day care services for children ages 0 to 2 years, public day care services for children ages 3 to school age, and family/child cash and tax benefits. All these tap the welfare state's gendered nature and are argued to help women enter and maintain labor force participation. We examine how each, in turn, may help create the gendered character of political party support. (See Appendix C for details on these measures).

To prefigure that the large variation among our six countries on institutional factors presumed to affect female labor supply captures to large degree the spectrum of variation among the broader group of EU and OECD countries, among fourteen countries, Denmark—with 48% of children 0-2 in publicly funded child care—leads in this policy, ahead of Sweden and Finland, which have 32% of children 0-2 in publicly funded child care (Gornick, Meyer and Ross 1997, Table 3, p. 56). Germany and the United Kingdom are close to the bottom—with two percent of children 0-2 in publicly funded day care. They are equal to Australia, Luxembourg and the Netherlands, and ahead of the US, at one percent. Italy is close to the bottom (at five percent), Belgium and France (both at 20 percent) are in the middle.

Descriptive Statistics

Appendix B shows the complex time trends and cross-national differences in labor force and class-conditioned gender gaps in partisanship. Because of this complexity, generalizations are offered with great care and caution. At a very general level, Belgium, especially in the earlier years, may be characterized as the most right-oriented country from 1977-1994. Denmark and France in the earlier years and Germany over the middle and later years, may be characterized as being the most left-oriented countries in our sample. Though left and right orientations vary in part by gender and by labor force and class locations, to varying degrees and accelerations, the Eurobarometer data from 1977 to 1994 show left support declining in France and Denmark, increasing in Germany, staying roughly constant in Belgium, fairly constant in Italy until 1993, then dropping, and moving in varying directions in Britain—rising from 1977 to 1980-81, then declining through 1987-88, then increasing again from 1987-88 to 1994. The data show right support from 1977-1994 to be increasing in France, Denmark and 1987-88 to 1994 Italy, roughly constant in Belgium and Germany, and moving in varying directions in Britain—falling from 1977 to 1980-81, then rising through 1987-88, then declining again from 1987-88 to 1994. Slightly increased support for the center is evident in France, Britain, 1993-94 Italy, and 1977-92 Belgium (after which center support begins to decline).

Gender gaps in political orientations are highly variable across time and country. The gaps depend on three distinct foci: a) gender differences in left or center or right preferences or in any pairwise party comparison (left vs. center, left vs. right, center vs. right; b) *within* labor force/class location gender gaps in these different party preferences and pairwise comparisons; and c) *across* labor force/class location gender gaps in these different party preferences and pairwise comparisons. Because generalizations about gender gaps in partisanship that fail to attend to these details are hazardous, Appendix B provides detailed summary discussion, while not distracting from the logical flow of testing our aggregate level hypotheses.

Appendix C gives values for each macro variable as well as within-country means and standard deviations and corresponding fuzzy-set scores (discussed below) constructed for the analysis. There is substantial variation in each measure. Denmark consistently exhibits the highest levels of cumulative left cabinet incumbency, public sector employment and female labor force participation, whereas Italy consistently exhibits the lowest levels on these factors—though at times Italy is joined by other countries, as for example, with Germany in civilian public sector employment. Britain, Belgium, Germany and post 1989-90 France all show moderate levels of left cabinet incumbency, with pre 1989-90 France showing levels as low as those found in Italy. France and

pre-1993 Britain show moderate levels of public sector employment, while Belgium, Germany, Italy and 1994 Britain show low, and practically indistinguishable levels. Female labor force participation exhibits much variability between Denmark's high and Italy's low. Britain consistently is in the high range, close to Denmark in later years. Belgium is consistently low, close to Italy in the mid-1980s, though pulling away in the 1990s. France and Germany represent the middle range of labor force participation, with France being ever so slightly higher than Germany prior to 1990, and Germany outpacing France after 1990. There have been overall positive trends for female labor force participation in each country from 1977 to 1994, but the rate of increase has been for the most part modest. Exceptions are Denmark through the early 1980s and Britain in the mid-1980s.

Denmark also leads in maternity leave, mildly so, and in day care indices, substantially so. Britain shows the lowest levels on these indicators, though post-1990 Italy joins Britain at the lowest levels on public day care. From 1977 to 1980-81, Denmark was only slightly ahead of France's moderate maternity leave levels, but after 1980-81, Denmark began to pull away from France. France remained roughly constant; Denmark increased through 1994. Close behind France in maternity leave support are Italy, Germany and Belgium. From 1991 to 1994, France and Germany are almost identical, while Belgium and Italy coalesce at slightly lower levels.

Indicators of public day care support for children ages 0-2 and 3 to school age tell a different story. Denmark has substantially higher levels than do the other countries. For day care support for children 0-2, from 1977 to 1980-81, France and Belgium are next highest and close together (but much lower than Denmark), with German and Italian levels following relatively close behind. After 1980-81, France takes off on a strong positive trajectory, accelerating away from Belgium, which in fact declines slightly over this period. After 1987-88, Italy drops to Britain's low support levels, while Germany shows slightly increasing support levels.

For day care support for children ages 3 to school age, from 1977 to 1980-81, Germany and France, though distant from Denmark, have the next highest support levels, with Italy and Belgium close behind. After 1980-81, Germany and France begin an upward trajectory, with France pulling ahead ever so slightly over this time period. As with day care support for younger children, Italy, after 1987-88, drops to Britain's lows, and Belgium shows a very slight decline. The drop in both day care measures for Italy after 1987-88 is partly a function of coding—indices are weighted by percentage of GDP in public day care spending. In Italy, the 1991 to 1994 percentage of GDP in public day care spending is zero, as is so for Britain in 1977-94.

Indices for family and child cash and tax benefits exhibit a different pattern. Belgium leads over all years by far, France shows moderate levels, and Britain, Germany, Italy and Denmark show relatively low levels. While France's moderate levels remain fairly constant, Belgium's levels begin noticeable decline after 1980-81, leveling off around 1989-90. Among low level countries, Italy and Germany begin small but noticeable declines from 1980-81, with Germany holding steady after 1987-88 but Italy continuing to decline. Britain begins slightly above Denmark, but by 1991, Britain's decline and Denmark's rise brings these two together, joining Germany.

FUZZY SET EMPIRICAL METHODS

We build on fuzzy-set methods as described in Ragin (2000) to examine our hypotheses. Fuzzy set methods date back to logician Max Black's work in the 1930s and evolved significantly in engineer Lotfi Zadeh's work in the 1960s (Black 1937; Zadeh 1965). From there, concepts and applications of fuzzy set logic developed in research on expert systems and artificial intelligence, helping to solve problems such as those stemming from identifying some object as belonging to some set or class of objects (e.g. McNeill and Freiberger 1993). Fuzzy set methods and accompanying algorithms are commonly used in diverse areas including optical character recognition (such as that used in pen-based handheld and tablet computers), so-called "smart" devices (such as intelligent household appliances) and identification recognition (implemented in airport security).

Charles Ragin (2000) pioneered use of fuzzy-set methods in social science, where the methods assess causal relations using the subset principle and draw on logic similar to that found in case-oriented comparative work—whose lineage extends back to John Stuart Mill (1967 [1843]). Compared to the "crisp" set logic of qualitative comparative analysis (QCA), where the researcher assesses the relation between presence/absence of some hypothesized cause and the presence/absence of some hypothesized outcome, fuzzy-set logic is based on *the degree to which* the cause and outcome are present (or absent) in each specific case. For example, rather than establishing presence or absence of "High Cumulative Left Cabinet Incumbency" as required by QCA, in a fuzzy-set analysis we identify countries in a specific time period by their *degree of belongingness* to the set "High Cumulative Left Cabinet Incumbency." Degree of belongingness traditionally is measured in terms similar to probabilities, with a minimum score of 0 indicating the minimum degree, and a maximum score of 1 indicating the maximum degree, of belongingness to some set.[10] Scores between 0 and 1 indicate degree of belongingness relative to the minimum and maximum.

Appendix D provides information on how to assess the relation between some hypothesized cause and outcome using fuzzy-set analysis, then discusses our coding of fuzzy-set membership scores. We located our explanation and extensions to fuzzy set methods in an appendix to avoid distracting from the flow of results, but we caution readers that understanding advantages, implications and limits of our empirical approach is not possible without consulting Appendix D. However, in an effort to avoid confusion—as most readers will be accustomed to reading biplots from a correlational and regression point of view—we provide here a one-paragraph description of how to read a fuzzy-set biplot.

Figure 2 provides a quick and simple way to assess a fuzzy-set biplot. As shown in Figure 2, a fuzzy-set graph under a causally necessary relation would have all of the cases (points) *below* the main diagonal. If, on the other hand, all cases (points) were to fall above the main diagonal, then the data provide evidence that the cause is sufficient, but not necessary, to observe the outcome. Finally, if all cases in the biplot fall directly on the main diagonal, then the data provide evidence that the cause is necessary and sufficient to observe the outcome. Again, this is an overly simplistic assessment of the empirical content of a fuzzy-set graph. Appendix D provides the information necessary to understand the empirical content of a fuzzy-set biplot and the more general analysis in this manuscript.

RESULTS

Our first two hypotheses relate the roles of cumulative social democratic governance to size of the public sector and support for dual earner households and mother's employment. To examine these, we coded cases on degree of membership in the set "High Cumulative Left Cabinet Incumbency." For Hypothesis #1, addressing the demand for women's labor through creation of public sector jobs likely to require female-typed skills, we coded cases on their degree of membership in the set "High Public Sector Size." For Hypothesis #2, addressing female labor supply through factors likely to increase freedom of women's labor market attachment, we coded cases on their degree of membership in the sets "High Maternity Leave," "High Public Daycare for Children Ages 0-2," "High Public Daycare for Children Ages 3 to School Age," and "High Family/Child Cash & Tax Benefits."[11] See Appendix C for details on these variables and membership scores.

Figure 3 gives the fuzzy-set graph, distance and consistency measures for the relationship between "High Cumulative Left Cabinet Incumbency"—the hypothesized cause, on the horizontal axis—and "High Civilian Public Sector

Size"—the hypothesized effect, on the vertical axis. For reference, we include the main diagonal on the graphs. Dotted lines represent plus and minus the measurement adjustment factor of 0.05. Each graph includes the sum of squared distances from and percent consistency with the null association, and arguments of causal necessity, causal sufficiency, and causal necessity and sufficiency together. (See Appendix D for details on the construction and meaning of all these measures, on reading fuzzy set graphs and on constructing measurement adjustment factors.) We also provide odds relative to the null for the remaining arguments; this provides a pairwise relative measure of the consistency. These odds may be interpreted as the odds that the information in the graph is consistent with a specific argument relative to the argument of null association.

Figure 3 shows that the data are strongly consistent with a causal necessity argument—the information in the graph is 97.6% consistent with "High Cumulative Left Cabinet Incumbency" being causally necessary for "High Civilian Public Sector Size." And the odds are such that the graph's information is 7.65 times more consistent with an argument of causal necessity than with one of null association. Although most cases line up with a causal necessity argument, time periods 1977, 1978, 1980-81 and 1984-86 in France are inconsistent with causal necessity, suggesting that earlier years in France show higher public sector size than would be expected given France's relatively low levels of cumulative left governance.

In Figure 4, the fuzzy-set graph and measures for the relationship between the sets "High Cumulative Left Cabinet Incumbency" and "High Maternity Leave" show little support for any of the causal arguments. The data are most consistent with a sufficiency argument, but the percent consistency is quite low—only 82.8%—leaving almost 20% of the graph's information inconsistent with that argument. And the data are only 1.45 times more consistent with causal sufficiency than they are with an argument of null association. All this suggests that maternity leave is unlikely to be causally linked to cumulative left governance.

Figure 5 shows strong evidence for a causally necessary relation between the sets "High Cumulative Left Cabinet Incumbency" and "High Public Daycare for Children Ages 0-2." All cases except for 1977 France are consistent with this argument, and even that case is very close to the line adjusting for the measurement imprecision factor of 0.05. Likewise, the distance and consistency measures show that the graph's information is only 0.01 from—and almost 100 percent consistent with—a causal necessity argument. The graph is almost three times more consistent with causal necessity than it is with the argument of no relationship. In short, these data provide strong evidence suggesting that high

cumulative left governance is causally necessary for high public day care for children 0-2.

Similarly, the graph depicted in Figure 6 strongly suggests a causally necessary relationship between high cumulative left governance and high public daycare for children ages 3 to school age. When we exclude Britain from the calculations, the data suggest an even stronger causally necessary and sufficient relationship. Excluding the British points, remaining data are over 90 percent consistent with necessity and sufficiency and are over 10 times more consistent with a causal necessity and sufficiency argument than they are with an argument of no association.

But what does it mean to exclude Britain from the analysis? In doing so, we are suggesting that the necessity and sufficiency relationship does not hold for Britain because of characteristics that make Britain unique in this analysis. Because Britain is the only country that is moderate on cumulative left cabinet incumbency while providing no public support for daycare for children ages 3 to school age, the impact of left governance seems to have a different "flavor" in Britain compared to other country contexts. We address why this should be so in our discussion section below.

Figure 7 depicts the relationship between "High Cumulative Left Cabinet Incumbency" and "High Family/Child Cash and Tax Benefits." Similar to the graph for maternity leave, this graph suggests a weak relationship at best, but this time toward causal necessity. However, the percent consistency with causal necessity is low—only 84 percent—and the odds relative to the null association argument also are low. The graph's information is less than 1.5 times more consistent with an argument of causal necessity than it is with one of no relation. Generally, these data provide little evidence that high cumulative left governance is causally linked to high family/child cash and tax benefits.

In sum, with reference to hypotheses pertaining to the relationship between cumulative left governance and enhanced female labor supply and demand, these data strongly suggest that on the demand side, high cumulative left governance is causally necessary for high public sector size. On the supply side, the data provide strong support for arguments that high cumulative left governance is causally necessary for high public daycare for children ages 0-2 and also for high public daycare for children ages 3 to school age. Excluding Britain, remaining cases provide strong support for the argument that high cumulative left governance is both causally necessary and sufficient for high public daycare for children ages 3 to school age.

Hypotheses 3 and 4 address the next step in the causal chain—that between factors hypothesized to affect female labor supply and demand on the one hand, and female labor force participation on the other. Figure 8, comparing membership in the set "High Civilian Public Sector Size" with membership in the set "High Female Labor Force Participation" is unambiguous—100% consistent with a relationship of causal sufficiency. The information in the graph is 3.84 times more consistent with an argument of causal sufficiency than with one of no relationship, likewise providing strong evidence that expanding public sector jobs strongly shapes demand for female labor.

Figures 9-12 provide fuzzy-set graphical relations between the outcome factor—membership in the set "High Female Labor Force Participation"—and membership in sets representing each of the four supply side factors we examine—"High Maternity Leave," "High Public Daycare for Children Ages 0-2," "High Public Daycare for Children Ages 3 to School Age" and "High Family/Child Cash and Tax Benefits." Clearly, day care plays an important role in producing high female labor force participation, but there is little evidence of any causal relation between female labor force participation and either maternity leave or family/child cash and tax benefits.

Figures 10 and 11 reveal strong consistencies with the argument that high public daycare support for both the younger and older children is causally sufficient for high female labor force participation—99.9% and 99.2% respectively. Focusing on Figure 11 highlights Britain's significant outlying position in the graph. Aside from the British cases, much of the data are within bounds adjusting for measurement imprecision, providing compelling evidence to suggest that Britain is anomalous with respect to supply side incentives for female labor force participation. In particular, Britain has higher female labor force participation than we would expect given that the country provides no support for public daycare for children ages 3 to school age. If Britain is excluded from the analysis, remaining cases show the remarkably high level of 97.6% percent consistency with the argument that high public daycare for children ages 3 to school age is causally necessary and sufficient for high female labor force participation.

Summarizing the causal story as suggested by empirical results so far, when including all cases:

1. High Cumulative Left Cabinet Incumbency is causally necessary for: a) High Civilian Public Sector Expansion; b) High Public Daycare for Children Ages 0-2; and c) High Public Daycare for Children ages 3 to School Age.

2. High Civilian Public Sector Expansion, High Public Daycare for Children Ages 0-2, and High Public Daycare for Children Ages 3 to School Age are all individually causally sufficient for High Female Labor Force Participation.

When we exclude Britain, suggesting a type of scope condition on causal statements signaling the unique nature of the British context compared to that for the country cluster Denmark, France, Germany, Belgium and Italy, a stronger and more parsimonious causal story emerges.

1. Excluding Britain, High Cumulative Left Cabinet Incumbency is causally necessary and sufficient for High Female Labor Force Participation.
2. Excluding Britain, High Public Daycare for Children Ages 3 to School Age is causally necessary and sufficient for High Female Labor Force Participation.

Our last set of hypotheses complete the causal chain to left support and the presumed changing nature of that support as an outcome of high female labor force participation. Figures 13 through 15 provide the fuzzy set graphs relating membership in the set "High Female Labor Force Participation" to various left support memberships. (Appendix C reports left support membership scores; Appendix B provides the empirical analyses on which these scores are based.)

Information in the graph in Figure 13 is 96.7% consistent with the argument that high female labor force participation is causally sufficient for a high level of general left support. This information is over 1.75 times more consistent with an argument of sufficiency compared with an argument of no causal relation. Once the high variability of left support across time and countries is taken into account, results become even more compelling. Micro-based measures of left support have far more variability in them than any of the macro measures examined to this point (see Appendices B and C for details). In short, the data show a remarkably strong causally sufficient relation between high female labor force participation and a high level of general left support.

Figure 14 suggests an even slightly stronger relationship of causal sufficiency between high women's labor force participation and high female left support. Information in the graph is roughly 97% consistent with a causal sufficiency argument and that argument is 1.93 times more consistent than is a no-relation argument with information in the graph.

The information in Figure 15 also suggests a causally sufficient relationship, in this case between the set "High Female Labor Force Participation" and the set "High In-The-Labor-Force Female Left Support". The information is roughly 95% consistent with the argument that high female labor force participation is causally sufficient for high left support from in-the-labor-force women. The causal sufficiency argument is 1.81 times more consistent with the graph's information than is a null association argument.

Figures 16 through 19 present results for different views of *feminization* of left support. Figure 16 provides results for general feminization of left support, and Figure 17 provides results for feminization of left support for those in the labor force. Feminization of left support is distinct from female left support because feminization refers to the contrast between female and male left support, while female support refers to support from women without regard to what men are doing. Thus, high (low) feminization of left support refers to women being more (less) left oriented than are men (see Appendices B and C for details on loglinear parameter estimates to obtain feminization measures). Figures 18 and 19 provide feminization results contrasting first, women in general with male manual labor, and second, women in the labor force with male manual labor. In effect, these last two graphs provide empirical information about movement away from the male manual labor base of support toward women in general and women in the labor force respectively.

All four feminization of left support graphs show less than 90% consistency with any causal argument, and examining scatter plots reveals fairly strong resemblance with an argument of null association. The only exception is perhaps in Figure 16, with general feminization of left support noticeably less consistent with an argument of null association than it is with the causal arguments.

To investigate feminization arguments further, we extended the general feminization argument to the center-left combined. Information in the graph in Figure 20 is 98.6% consistent with the argument that high female labor force participation is sufficient for high feminization of *center-left* support, suggesting that center parties may play a key role in feminization of political partisanship. We explore this further in our discussion section below.

Finally, we consider hypothesis 7—that high female labor force participation will create a contrast in support for the left by women in the labor force as compared to women at home. This is a "within female, labor force location contrast;" Figure 21 provides the fuzzy set graph for this relationship. Information in the graph is 91.2% consistent with an argument of causal necessity and it is almost 2.5 times more consistent with that argument than it is

with one of null association. In short, the evidence suggests that high female labor force participation is causally necessary to create an ILF/At-home labor force location split in left support among women, with women in the labor force showing higher levels of left support compared to women at home. Again, we specifically compared in-the-labor-force women to at-home women, because the not-in-the-labor-force location combines retired and in-school women with those at home, and thus is too heterogeneous a category (see Appendix B).

Summarizing results for the final link in our causal chain, these data suggest that high female labor force participation is:

1. Causally sufficient for a) High Left Support; b) High Female Left Support; c) High ILF-Female Left Support; and d) High Feminization of Center-Left Support.
2. Causally necessary for High ILF-Female Left Support as contrasted with At-Home Females
3. *Not* causally related to a) High Feminization of Left Support; b) High Feminization of ILF Left Support; c) High Feminization of Left Support as contrasted with Male Manual Labor; and d) High Feminization of ILF Left Support as contrasted with Male Manual Labor.

DISCUSSION

Figure 22 shows the full set of causal connections empirically supported on the full set of cases. High cumulative left cabinet incumbency is causally necessary, though not sufficient, for high civilian public sector size and high support for both types of public daycare. *Without* high cumulative left cabinet incumbency, high public sector size—itself encouraging both demand for and supply of female-specific labor—does not occur. That high left cabinet incumbency is not causally sufficient for high public sector size reminds us that other institutional factors may join left incumbency to produce public sector expansion.

Graphs for public sector size also revealed an anomaly relative to our theoretically postulated causal chain. In earlier years, France had higher public sector size than would be expected relative to its level of cumulative left government. This may reflect a longstanding "strong state" tradition that to some extent bridges from left to right of the political-cultural spectrum and dates back to Napoleon Bonaparte's efforts to rationalize and centralize the French state (e.g. Saffran 1998). Through the early 1990s, dominant parties on the French right were relatively immune to the strongest versions of neo-liberal market ideology, and though easily critical of all politicians and governments, the French expect much from the state and attach prestige to public service

(Safran 1998). Such legacies may help explain why France has a substantial public sector, despite relatively low cumulative left governance and correspondingly high cumulative secular-right governance (Huber, Ragin and Stephens 1997).

High civilian public sector size and high support for public daycare for children 0-2 and children 3 and older are causally sufficient to create high female labor force participation. These operate separately from each other, with each sufficient and neither necessary; each represents an alternative route to high female labor force participation. As well, there may be alternative routes to high female labor force participation that our data do not permit us to examine. A large low wage private sector, creating enhanced female-specific demand for labor, is one obvious candidate (Scharpf and Schmidt 2000a).

Absence of a causal relation between, on the one hand, cumulative left governance and family/child cash and tax benefits and, on the other hand, between family/child cash and tax benefits and female labor force participation is not so surprising, given that these benefits' purpose is "general family support" (Korpi 2000, 145) As Korpi (2000, p. 145) argued, the bulk of these benefits are "neutral with respect to [women's] labor force participation" and any "tax benefits…directed to housewives can be expected to encourage homemaking." Thus, such benefits could be expected to be equally or more characteristic of countries with high cumulative Christian democracy than they are of countries with high cumulative social democracy. As well, family/child cash and tax benefits are distinct from child care subsidies or tax benefits given either to employers or directly to employees, and only the latter should be expected to facilitate female labor force participation.

In short, our results finding no causal relationship between family/child cash and tax benefits and female labor force participation support Korpi's (2000, p. 144) contention that general family support and dual-earner support can be considered two distinct "ideal-typical models of gendered welfare state institutions." But our results finding no causal relationship between maternity benefits and female labor force participation suggest viewing maternity benefits as *family* support rather than including these as part of an ideal-typical set of institutions supporting female labor force participation and dual earning households (cf Korpi 2000).

With respect to political orientations, we found that high female labor force participation is causally sufficient, though not necessary, for high left support, high female left support, high in-the-labor-force female left support, and high feminization of center-left support. Thus, although high female labor force participation produces all these high left or left-center support phenomena,

there may be alternative ways to produce them as well. Our data do not support the argument that high female labor force participation is causally linked to feminization in left support, but we do observe the link to feminization when we combine center and left to examine all non-right political partisanship.

That high female labor force participation is *not* causally sufficient for high feminization of left support but *is* causally sufficient for high feminization of center-left support suggests the key role that center parties play in feminization of political partisanship. Coalition governments are the norm in Denmark, Belgium, Germany and Italy, and electoral alliances are the norm in France and Italy (Hancock et al 1998; Cook and Paxton 1998). Though center parties ordinarily are small relative to their dominant coalition partners, whether center parties orient their alliances right-ward or left-ward can be critical for right and left parties' chances to govern. Shifting governance fortunes of the Christian Democrats and Social Democrats in West Germany, consistent with the Free Democrats' shift from right (1949-57, 1961-65) to left (1969-82) and back again (1982-through the early 1990s), illustrates this principle. Likewise, our results indicate that left parties that want to obtain or remain in power by appealing to the "women's vote" could usefully appeal to center parties to form electoral alliances. Minding their relations with center parties to prevent center-right alliances should concern left parties on the continent as they attempt to capitalize on women's political orientations.

With respect to hypotheses presuming that gender gaps in political support are replacing class cleavages, we found *no* causal relationship between high female labor force participation and high feminization of left—or in-the-labor-force left—support as contrasted with male manual labor. This finding combined with observed relationships between female labor force participation and high left support, high female left support, and high in-the-labor-force female left support suggests that those who presumed the welfare state promotes gender cleavages at the expense of left parties' traditional male manual support base may have underestimated manual labor's loyalty to the left, at least in Denmark, Britain, France, Germany, Italy and Belgium. Further research in which we examine whether any subset of these countries exhibits the hypothesized replacement of the traditional class cleavage with a gender cleavage will help us consider how any change in class-based political orientations as a function of high female labor force participation might be conditioned by institutional context.

Finally, high female labor force participation is necessary, though not sufficient, to create a high in-the-labor-force vs. at-home left support gap among women. From 1977-94 in Britain, Denmark, Italy, France, Germany and Belgium, we do not find high in the-labor-force female left support as contrasted

with women at home, unless there also is high female labor force participation. *Without* high female labor force participation, in-the-labor-force women are not substantially more likely to support the left than are housewives. *With* high female labor force participation, a substantial left-oriented labor force location gap among women can emerge, but the absence of causal sufficiency tells us that it need not do so. Findings are consistent with our suggestion that *aggregate* women's labor force participation shapes political implications of gender-related caring ideologies.

Causal relations among cumulative left governance, welfare state institutions and female labor force participation are made stronger by excluding British cases. Figure 23 gives the most parsimonious empirically-supported path for the non-British cases. Since the part of the causal chain linking high female labor force participation to left support remains the same, we focus on the chain's initial two parts. Excluding Britain, high cumulative left cabinet incumbency is causally necessary and sufficient for high support of public daycare for children ages 3 to school age. High support for such daycare is causally necessary and sufficient for high female labor force participation.

But substantively, what does it mean to exclude Britain? Britain is considered a liberal-democratic welfare state regime (Scharpf and Schmidt 2000a; Huber and Stephens 2001). The United States and Britain "are the best exemplars [of imposing] maximum private responsibility" with respect to female labor supply (O, Connor, Orloff and Shaver 1999). Compared to other countries in our analysis, Britain tends to favor market solutions to welfare state problems. During most of 1977-1994, a powerful market-oriented movement spearheaded by Margaret Thatcher dominated British political discourse (Scharpf 2000; Schmidt 2000, pp. 238-244).

Because Britain's support for public daycare is effectively non-existent, British female labor force participation is linked more directly to the demand side—public sector jobs—than it is in our other countries. Excluding Britain, then, excludes cases that tend to be more market-oriented in welfare state solutions and especially that tend to allow female labor force participation to be a function solely of demand for female labor, assuming that female labor supply will emerge without state aid.

This is a type of scope condition on the theory linking cumulative left governance to public daycare and in turn to female labor force participation. The stronger "necessary and sufficient" version of results for the first three links in the causal chain, and thus a strongly stated "necessary and sufficient" version of theory predicting these links applies only when government attends to both supply and demand side concerns. The more general, unconditional version of

the theory is supported by the results in Figure 22. Here too hypothesized causal links from cumulative left governance to welfare state institutions, and in turn from these institutions to female labor force participation, are empirically supported, but some parts of the chain are linked by causal necessity and other parts are linked by causal sufficiency. Nowhere in the chain do we find links that are simultaneously those of necessity and sufficiency.

CONCLUSIONS

We began by specifying a causal chain linking: 1) cumulative left governance with 2) welfare state institutions promoting female-specific labor demand and supply, then to 3) female labor force participation, and in turn to 4) various specifications of political support for left parties. Empirical results were to large degree consistent with our hypotheses. We showed that high cumulative left governance is causally necessary to create an environment encouraging demand for and supply of female labor. Encouragement on both supply and demand sides then is causally sufficient to produce high female labor force participation. High female labor force participation is causally sufficient to produce general left support, female left support, and to produce gender gaps in center-left support. High female labor force participation is causally necessary to produce a substantial female left support gap across labor force locations, with in-the-labor-force women more likely to support the left than at-home women.

Because the link from female labor force participation to left party support is unchanged by presence or absence of the British cases, the theory's scope as it pertains to political implications of women's labor force participation is supported for countries classified in all three Esping-Andersen regime types. To the extent Italy is unlike other continental or Christian-Democratic contexts and instead represents a Southern European regime type, our theory is pertinent to that context as well.

However, the first three links in the chain are made tighter and more compelling by excluding British cases. Using only data from Denmark, France, Germany, Belgium and Italy, our results show that high cumulative left governance is causally necessary and sufficient for high support for public daycare for children 3 to school age and, in turn, that high support for this type of public daycare is causally necessary and sufficient for high female labor force participation. On the one hand, these are powerful, parsimonious links such as are rarely found in social science research. On the other hand, excluding Britain has consequences for the scope of our causal statements. Obtaining support for links that simultaneously represent causal necessity and sufficiency requires sacrificing applicability to contexts in which government presumes that adequate female labor supply can be obtained without state support, so that

female-specific labor demand—whether through expanding public sector or low wage private sector jobs—will be enough to promote female labor force participation.

Because welfare state and gender regime concepts helped us think about the scope of our strongest causal statements, our analysis reaffirms the utility of regime typologies to a point. However, our theory and analysis also show how important it is to unpack elements of regime types into a causal chain of reasoning, and then test that chain empirically. This allows better understanding of welfare state processes than is possible by focusing on the welfare state's "regime-ation" Understanding *how* observed outcomes emerge from the nexus of factors constituting observed welfare state institutions requires a causal theory linking specific institutions to specific outcomes, and then requires us to empirically examine that theory.

We also have shown that fuzzy-set methods (Ragin 2000) provide a powerful tool to assess causal reasoning through controlled comparison of cases. We extended these methods by accounting for measurement imprecision and by assessing distance of the information in a fuzzy-set graph from specific causal arguments and an argument of no association.

Finally, our study suggests fruitful avenues for future research. First, researchers should investigate further those factors that might—along with high female labor force participation—create a causally necessary and sufficient (rather than only sufficient) relation with high left support. Because we found a sufficient relation between left support and female labor force participation, these additional factors would *not* be expected to interact with female labor force participation in conjunctural fashion. Instead, we expect the union of such factors with, and operating independently of, female labor force participation, to help us uncover a necessary and sufficient causal relation.

Second, researchers should examine the role of confessional and secular right parties in similar manner as we examined causal chains triggered by cumulative left governance. Examining how Christian democratic governance, relative to all other governance contexts, affects gender gaps in political partisanship would tighten understanding of the causal chain from cumulative partisan governance to population partisanship. Considering religious institutions and their relationship to parties and to the nature of political space across our six countries would further illuminate how female support for diverse political parties and gender gaps in party support are related to institutional context.

Third, researchers must theoretically specify and empirically examine the roles of age, cohort, and religion and consider how these influence gender-role and political socialization processes that may condition how welfare states and party support are gendered. As Appendix B shows, labor force and class locations condition the gender character of left-center-right political party support. These locations undoubtedly interact with age, cohort, and religion, creating more refined "locations" with respect to gender role and political socialization. Further work is needed to specify how gender, class and labor force locations, age, cohort, and religion all may come together to create unique location effects on party support. Only further research will show whether such complex interaction effects are substantial enough empirically to warrant emphasis in a complete theory of the relationship between macro-level institutions and policies and micro-level patterns of partisanship.

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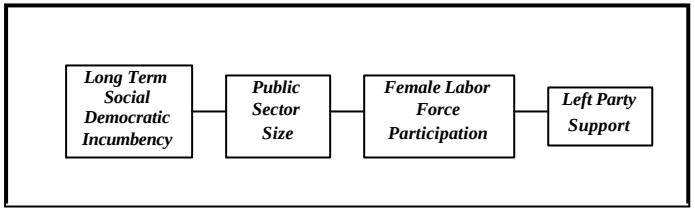


Figure 1. Theoretical causal chain linking governing parties, public sector expansion, female labor force participation and political party support.

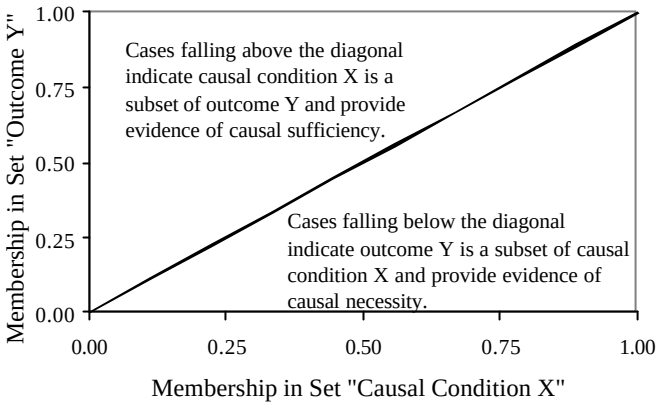
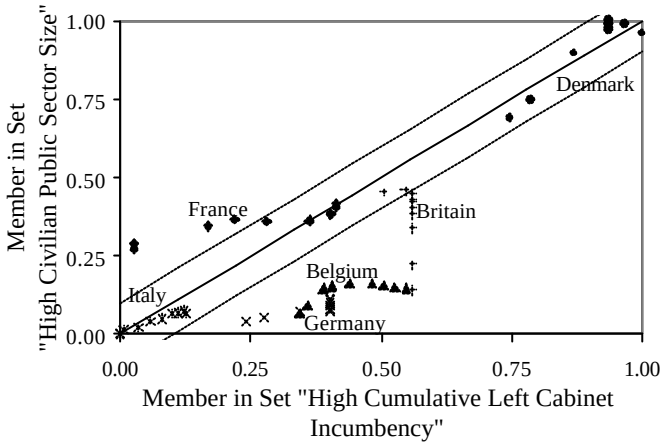


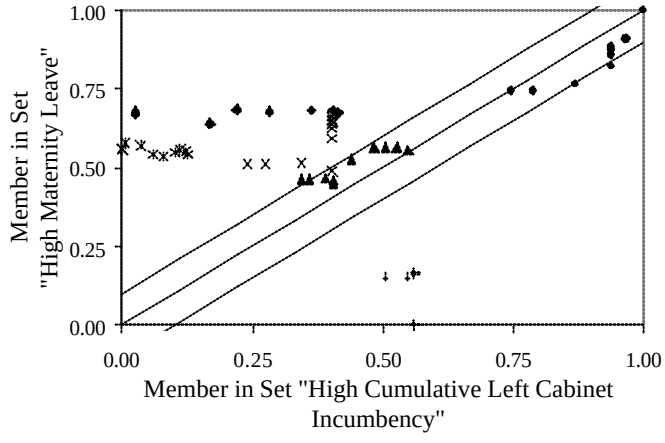
Figure 2. Fuzzy set graph showing relation of cases to diagonal and the causal arguments supported.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	5.67	12.77%	-----
Causal Necessity	0.15	97.64%	7.65
Causal Sufficiency	0.68	89.59%	7.02
Causal Nec & Suf	0.83	87.23%	6.83

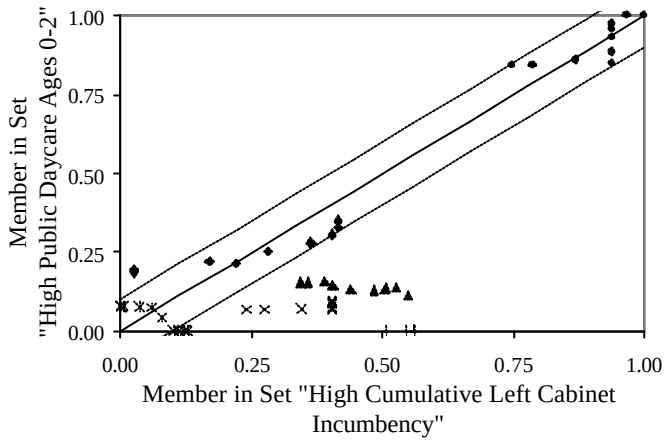
Figure 3. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Cumulative Left Cabinet Incumbency” and “High Civilian Public Sector Size”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	3.36	57.02%	-----
Causal Necessity	3.12	60.19%	1.06
Causal Sufficiency	1.35	82.79%	1.45
Causal Nec & Suf	4.46	42.98%	0.75

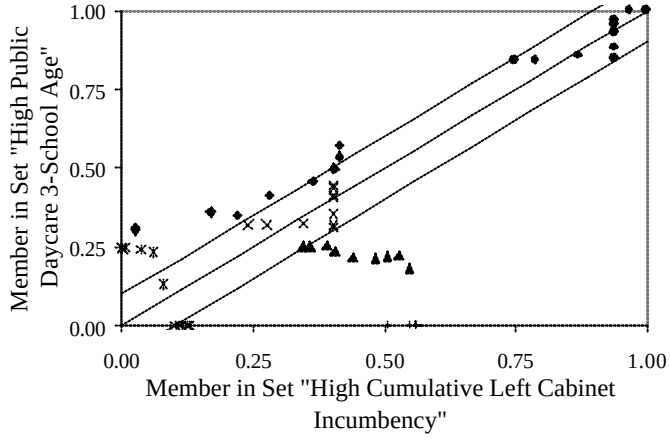
Figure 4. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Cumulative Left Cabinet Incumbency” and “High Maternity Leave”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	6.05	32.63%	-----
Causal Necessity	0.01	99.87%	3.06
Causal Sufficiency	2.92	67.49%	2.07
Causal Nec & Suf	2.93	67.37%	2.06

Figure 5. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Cumulative Left Cabinet Incumbency” and “High Public Daycare for Ages 0-2”.



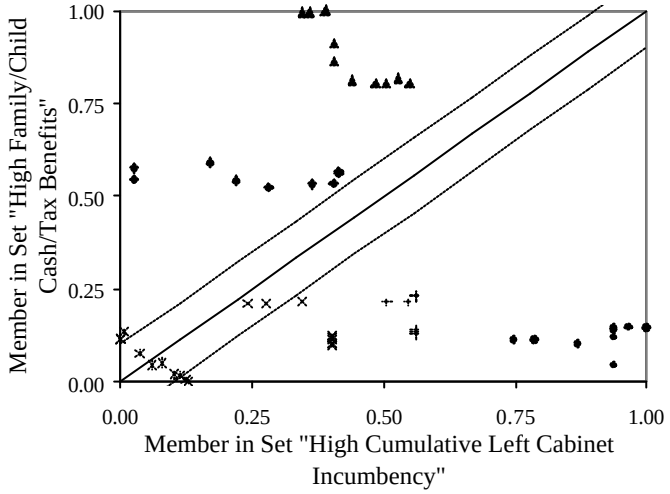
Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	5.42	31.14%	-----
Causal Necessity	0.19	97.58%	3.13
Causal Sufficiency	2.26	71.28%	2.29
Causal Nec & Suf	2.45	68.86%	2.21

Analysis of Graphical Type Excluding Britain

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	4.01	8.95%	-----
Causal Necessity	0.19	95.68%	10.69
Causal Sufficiency	0.20	95.37%	10.66
Causal Nec & Suf	0.39	91.05%	10.18

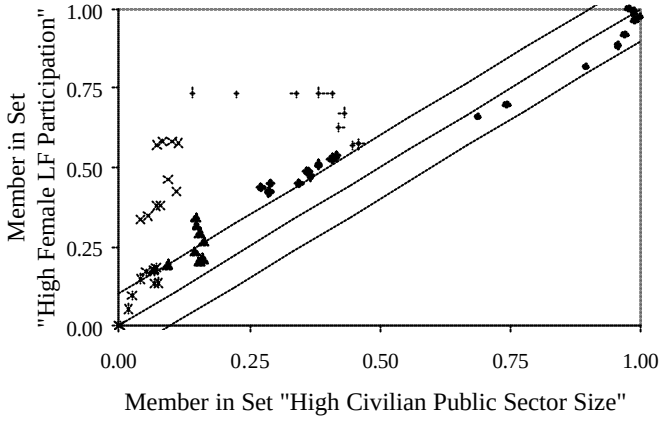
Figure 6. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Cumulative Left Cabinet Incumbency” and “High Public Daycare for Ages 3 - School Age”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	5.48	58.88%	-----
Causal Necessity	2.10	84.24%	1.43
Causal Sufficiency	5.75	56.88%	0.97
Causal Nec & Suf	7.85	41.12%	0.70

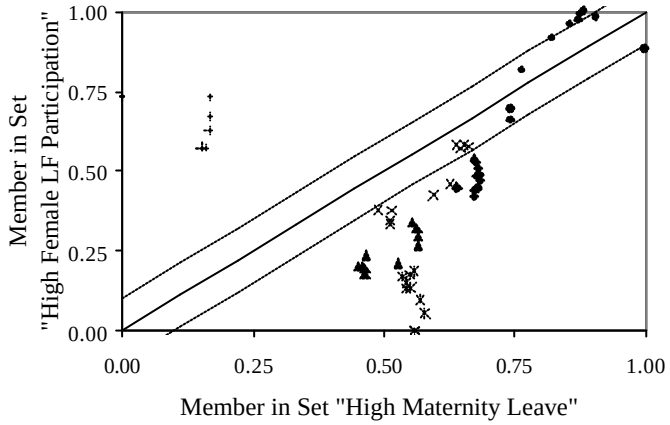
Figure 7. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Cumulative Left Cabinet Incumbency” and “High Family/Child Cash & Tax Benefits”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	4.39	26.04%	-----
Causal Necessity	1.55	73.96%	2.84
Causal Sufficiency	0.00	100.00%	3.84
Causal Nec & Suf	1.55	73.96%	2.84

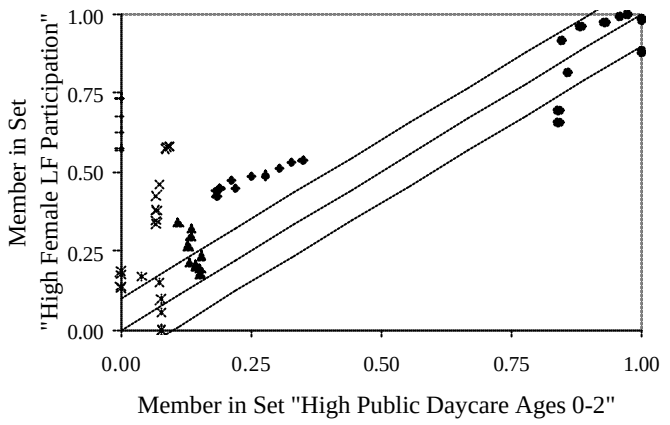
Figure 8. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Civilian Public Sector Size” and “High Female Labor Force Participation”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	4.39	48.08%	-----
Causal Necessity	2.43	71.31%	1.48
Causal Sufficiency	1.64	80.61%	1.68
Causal Nec & Suf	4.07	51.92%	1.08

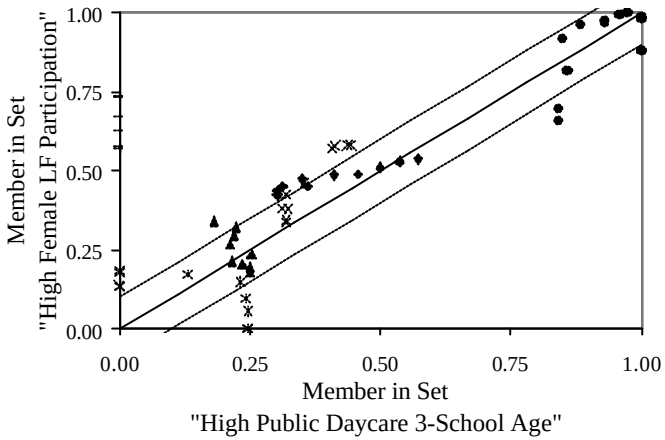
Figure 9. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Maternity Leave” and “High Female Labor Force Participation”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	4.39	50.08%	-----
Causal Necessity	4.40	50.03%	1.00
Causal Sufficiency	0.01	99.89%	1.99
Causal Nec & Suf	4.41	49.92%	1.00

Figure 10. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Public Daycare for Ages 0-2” and “High Female Labor Force Participation”.



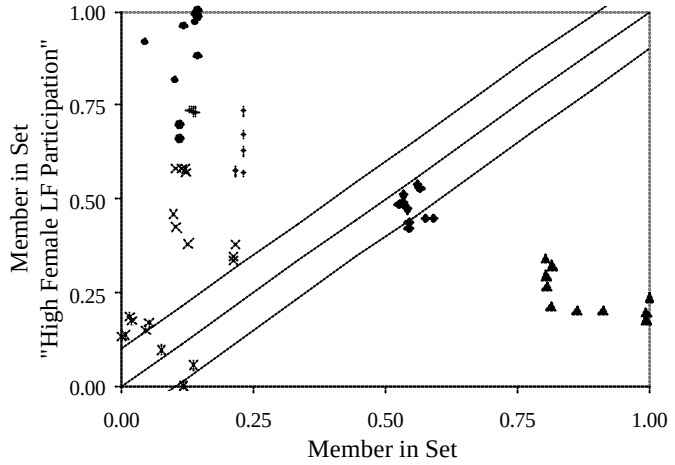
Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	4.39	43.51%	-----
Causal Necessity	3.32	57.28%	1.32
Causal Sufficiency	0.06	99.21%	2.28
Causal Nec & Suf	3.39	56.49%	1.30

Analysis of Graphical Type Excluding Britain

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	3.90	2.40%	-----
Causal Necessity	0.03	99.14%	41.28
Causal Sufficiency	0.06	98.46%	41.00
Causal Nec & Suf	0.10	97.60%	40.64

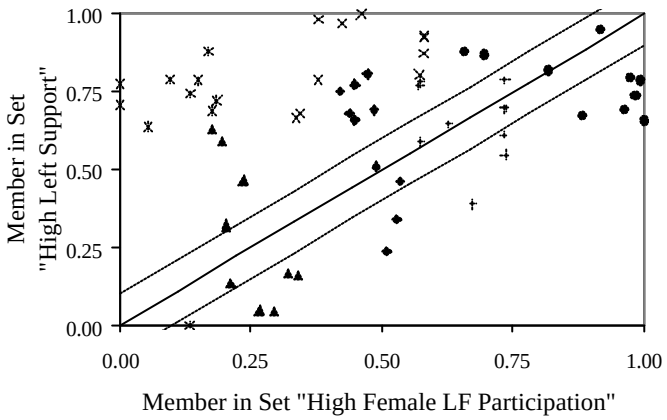
Figure 11. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Public Daycare for Ages 3—School Age” and “High Female Labor Force Participation”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	4.39	69.19%	-----
Causal Necessity	6.84	52.03%	0.75
Causal Sufficiency	3.03	78.78%	1.14
Causal Nec & Suf	9.87	30.81%	0.45

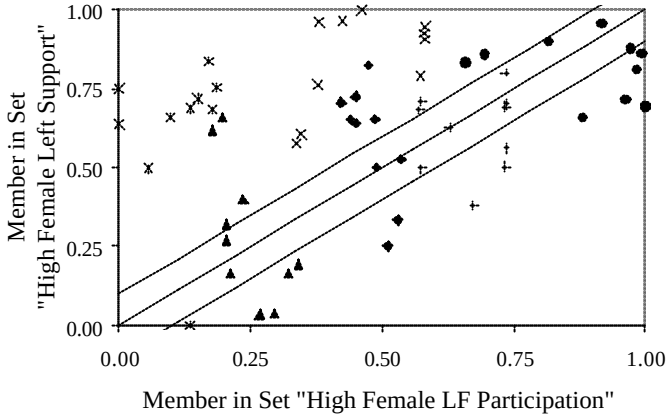
Figure 12. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Family/ Child Cash & Tax Benefits” and “High Female Labor Force Participation”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	3.70	54.70%	-----
Causal Necessity	4.20	48.52%	0.89
Causal Sufficiency	0.26	96.79%	1.77
Causal Nec & Suf	4.46	45.30%	0.83

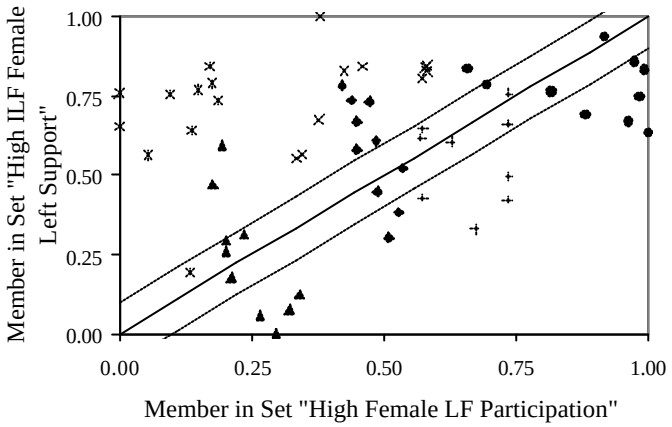
Figure 13. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High Left Support”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	3.75	50.19%	-----
Causal Necessity	3.55	52.83%	1.05
Causal Sufficiency	0.23	96.98%	1.93
Causal Nec & Suf	3.78	49.81%	0.99

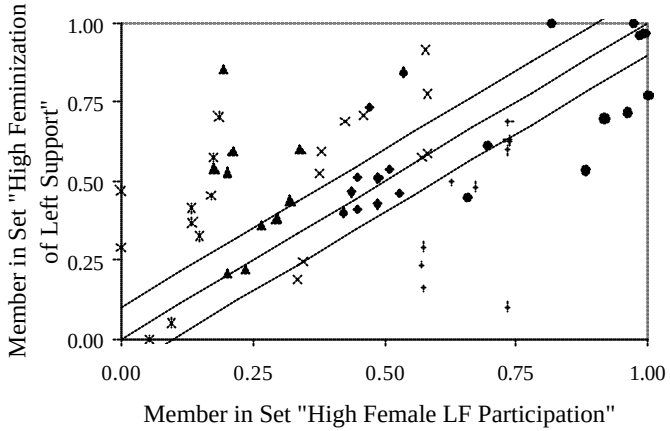
Figure 14. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High Female Left Support”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	3.36	52.37%	-----
Causal Necessity	3.34	52.73%	1.01
Causal Sufficiency	0.36	94.90%	1.81
Causal Nec & Suf	3.70	47.63%	0.91

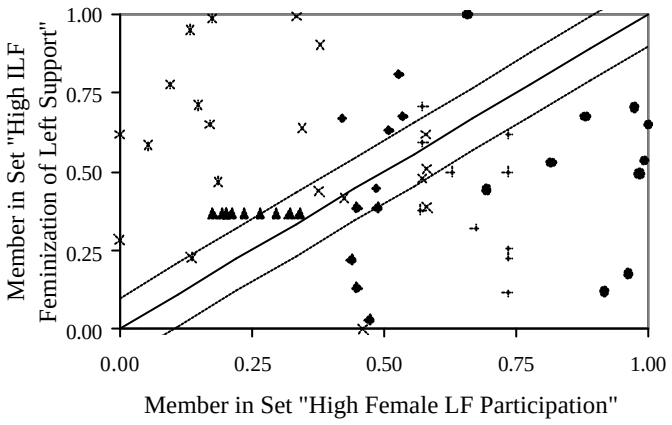
Figure 15. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High In-The-Labor-Force Female Left Support”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	3.24	36.61%	-----
Causal Necessity	1.26	75.27%	2.06
Causal Sufficiency	0.61	88.12%	2.41
Causal Nec & Suf	1.87	63.39%	1.73

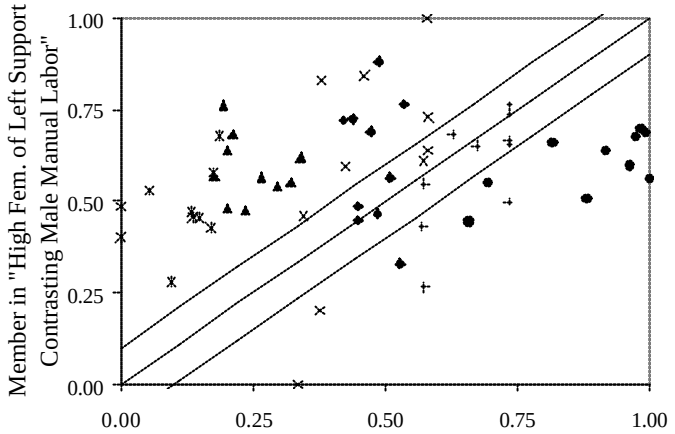
Figure 16. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High Feminization of Left Support”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	3.28	61.66%	-----
Causal Necessity	2.89	66.18%	1.07
Causal Sufficiency	2.38	72.17%	1.17
Causal Nec & Suf	5.28	38.34%	0.62

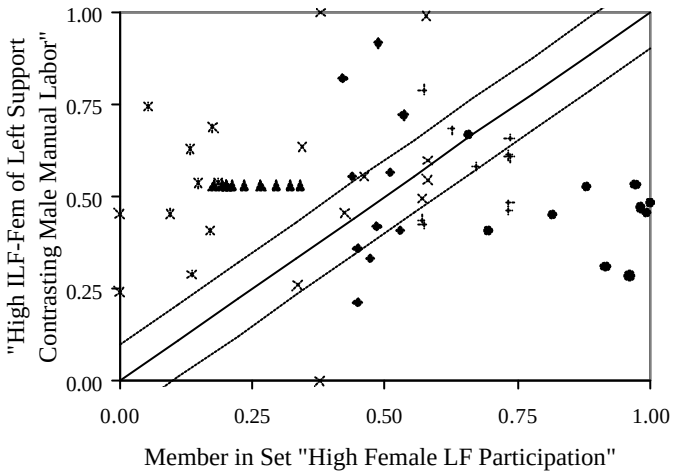
Figure 17. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High In-The-Labor-Force Feminization of Left Support”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	1.70	60.24%	-----
Causal Necessity	2.02	52.75%	0.88
Causal Sufficiency	0.56	87.01%	1.44
Causal Nec & Suf	2.58	39.76%	0.66

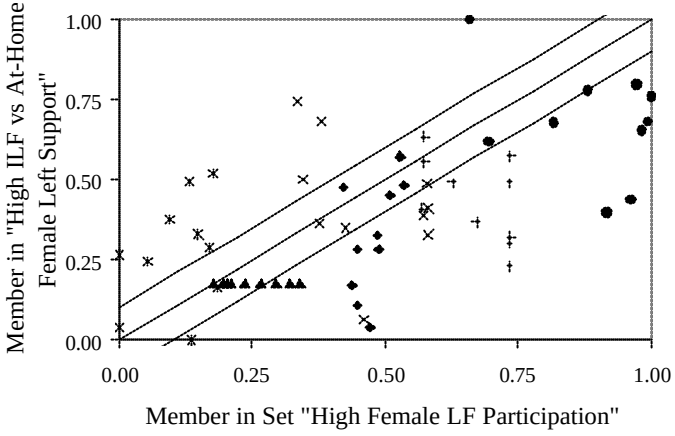
Figure 18. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High Feminization of Left Support Constrasting Male Manual Labor”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	1.86	65.99%	-----
Causal Necessity	2.06	62.36%	0.94
Causal Sufficiency	1.55	71.65%	1.09
Causal Nec & Suf	3.62	34.01%	0.52

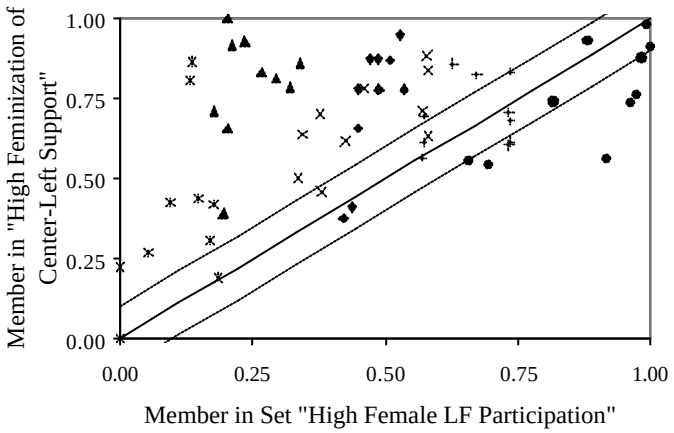
Figure 19. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High In-The-Labor-Force Feminization of Left Support Constrasting Male Manual Labor”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	2.88	36.62%	-----
Causal Necessity	0.40	91.24%	2.49
Causal Sufficiency	1.27	72.14%	1.97
Causal Nec & Suf	1.66	63.38%	1.73

Figure 20. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High In-The-Labor-Force versus At-Home Female Left Support”.



Analysis of Graphical Type

Graph Type	Sum Sq Dist	% Consist	Odds
Null Association	2.86	57.62%	-----
Causal Necessity	3.80	43.79%	0.76
Causal Sufficiency	0.10	98.59%	1.71
Causal Nec & Suf	3.89	42.38%	0.74

Figure 21. Fuzzy set graph, sum of squared distances (Sum Sq Dist), and percent consistency (% Consist) and odds of each causal argument relative to the null association argument for the fuzzy set relation between sets “High Female Labor Force Participation” and “High Feminization of Center-Left Support”.

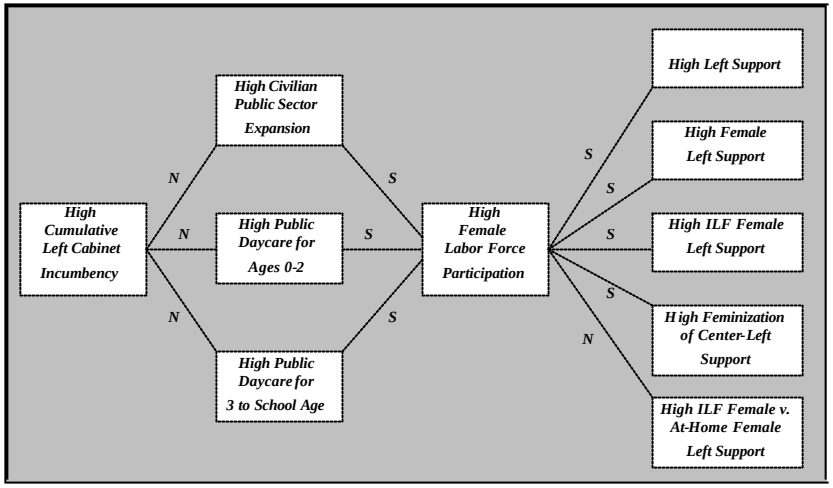


Figure 22. Empirically Supported Causal Chain—Full Set of Causal Connections from Full Set of Data. ***N*** refers to a *Causally Necessary* Relation, ***S*** refers to a *Causally Sufficient* Relation, and ***N&S*** refer to a *Causally Necessary and Sufficient* Relation.

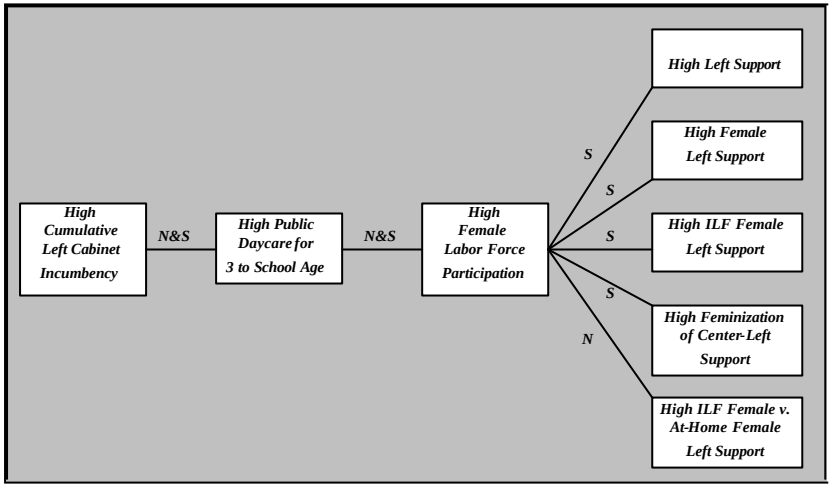


Figure 23. Most Parsimonious Empirically Supported Causal Path for Non-British Cases. ***N*** refers to a *Causally Necessary* Relation, ***S*** refers to a *Causally Sufficient* Relation, and ***N&S*** refer to a *Causally Necessary and Sufficient* Relation.

APPENDIX A:
Recoding of Political Partisanship into Left-Center-Right Categorization, Based on Party Choices Available and Chosen in One or More Eurobarometer Surveys, from 1977-1994 in Belgium, Britain, Denmark, Germany, France and Italy

For the individual level micro-analysis we consistently use the variable in the individual Eurobarometer surveys asking the respondent to indicate the party that the respondent would support if there were a general election held tomorrow. The responses indicating the full range of possible parties for a given country at a given time period. We recoded the political parties as left, center, or right after collecting information on each party for each country in each time period. time period from all of the various sources discussed in the main body of the paper. The general logic underlying this coding and the way we used each of our coding sources is explicated in the paper itself. Here, we provide the resulting coding scheme, some additional information on the emergence and lineage of diverse parties, and specific justification for particularly difficult coding decisions.

BELGIUM

Left
Communist Party (PCB).
Socialist Party French (PSP or PS).
Walloon Union (Rassemblement Walloon or RW, disappears as separate party choice code in 1984 Eurobarometer survey).

Center
Ecologists (ECOLO).
AGALEV (some surveys list only AGALEV, some only ECOLO, and some list the two environmental parties together. AGALEV founded in 1981).
Francophone Front (Francophone Democratic Front or FDF) [disappears as separate code in 1984 survey, thereafter FDF-RW appears as a merged party choice code, from 1977-81, there always are substantially more respondents intending to vote FDF than RW].
FDF-RW, when merged into one party choice code (from 1984 survey on).

Right
Christian Socialists or Christian Social, French (PSC).
Christian Socialists or Christian Social, Flemish (CVP, also known as Christian People's Party).
Liberal Party French (PL) [Walloon Party of Reforms and Liberty (PRLW), also known as the Party of Reforms and Liberty and as the Parti Reformateur Liberal

and as the Francophone Liberal Reformation Party (PRL) are all the same party as the PL].
Liberal Party Flemish (PVV)[PVV stands for Partij voor Vriheid en Vooruitgang, or Party for Freedom and Progress, in 1993 the party changes its name to Vlaamse Liberalen en Democraten, so VLD appears starting with 1993 surveys].
Respect voor Arbeid en Democratie/Union pour la Democratie et le Respect du Travail (RAD/UDRT).
People's Union (Volksunie).
Vlaams Blok (VB or VLB, Flemish Block).
Liberal Democrats (PLDP, in 1977-1980 surveys only).
National Front (founded in 1988).

BRITAIN

Left
Labor Party.
Social Democratic Party (1981 splinter from Labor Party).
Greens[includes Ecology Party, Ecologists. Although founded in 1973, Ecology first appears as choice in 1981 survey, since 1985 name is Green Party].
Plaid Cymru.
Scottish National Party[(in Eurobarometer surveys through 1989, Plaid Cymru and Scottish Nationalist Party were coded together as Scottish and Welsh Nationalis t Parties; in 1990 and thereafter, the two appeared as separate party choices].

Center
Liberal Party [in 1988, the splinter Social Democratic Party merges with the Liberals to become the Social and Liberal Democrats].
Liberal and Social Democratic Alliance, [also labeled Liberal and Social Democrats in Eurobarometer, appears as a choice in survey years from 1986-1989 as a function of mid-1980s electoral alliances between liberals and social democrats].

Right
Conservative Party.

DENMARK

Left
Communist Workers Party (in 1984 Eurobarometer survey).
International Socialist Workers Party (in 1987 Eurobarometer survey).
Communist Party (disappears as separate party choice in 1993 surveys).
Socialist Left (or Left Socialist) Party.
Socialist People's Party.
Social Democrats.
Greens (beginning with 1986 Eurobarometer survey).
Faelles Kur (Common Course, beginning with 1988 Eurobarometer survey).
Enhedslisten -De Rod-Gronne (United Red Green List, beginning in 1992 Eurobarometer survey).
Pensioner's Party (disappears with 1986 Eurobarometer survey).

Center
Center Democrats.
Radical Liberals (Radikale Venstre).
Single-Taxers (Retsforbundet).
Slesvig Party (a center, rather than right party during this time period, disappears with 1986 Eurobarometer survey).

Right
Progress Party.
Liberal Party.
Conservative Party.
Christian People's Party.

FRANCE

Left
Communist Party (PCF).
Parti Socialiste Unifie (PSU) (in some surveys listed separately, in others listed as Extreme Left/PSU).
Extreme Left (in some surveys listed with PSU and/or Lutte Ouvriere as a party choice).
Socialist Party (PS).
Rural Party (appears in 1980 survey only).

Center
Left Radicals (MRG).
Green Parties (including Ecologists, sometimes labeled in Eurobarometer surveys as Ecologists/les verts; in the early 1990s, the Greens split into Les

Verts and Generation Ecologie—in some EB surveys the various Green parties are listed separately and in others together).
Radicals (UDG, appears as separate party choice in 1978 Eurobarometer survey only).
Center for Democratic Progress (in some EB surveys, listed as a separate party but in others listed together with the Reformists, disappears with 1980 Eurobarometer survey.
Reformists/Center for Democratic Progress (in 1977 Eurobarometer surveys).
Reformists/Social Democratic Center (in 1978 Eurobarometer surveys).
Centre National des Independents (CNI, beginning with 1993 survey).
Hunting, Fishing, Nature Party (beginning with 1993 survey).

Right
Union for Democratic Reform (UDR, Gaullist Party, disappears under this name after 1977 surveys, takes on new name, RPR).
Rally for the Republic (RPR, previously the UDR, sometimes listed as RPR/Gaullist, first appears in 1977 survey).
Independent Republicans (RI, split from UDR in 1960s, disappears under this label after the 1977 survey, to be reconstituted as UDF.
Union for French Democracy (UDF, first appears in 1978 survey) [in some survey years the UDF is listed as one party choice, in other years it is split into three tendencies: UDF-CDS, Union for French Democracy—Democratic; UDF-RAD, Union for French Democracy-Radical; and UDF-PR, Union for French Democracy, Right, all UDF tendencies coded right].*
Union pour la France (appears in 1993 and 1994 Eurobarometer surveys)[this is loose umbrella confederation of RPR and UDF, the two separate parties running separate candidates continue to exist].
Front National (FN, appears beginning with 1984 survey, in some surveys listed as FN/Extreme Droite)**

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* In one 1993 survey for France, the PR and CDS tendencies of the UDF are listed as separate choices outside of the UDF. This corresponds to temporary reconstitution of these tendencies as separate parliamentary units, but always formally remaining components of the UDF.

**The National Front was formed in 1972. However, the Eurobarometer surveys offered it as a separate choice only after municipal elections in 1983, in which it achieved a 17% vote share in an urban area near Paris.

(WEST) GERMANY

Left
Communist Party (DKP, disappears as party choice with the 1992 Eurobarometer survey).
Party of Democratic Socialism (PDS, first appears in 1992 survey, legacy of East German state socialism replacing now defunct DKP after German unification.
Social Democratic Party (SPD).
Green Party (first appears in 1978 Eurobarometer survey, includes Green factions such as Green Action Future for survey years in which these exist).
Bunte Liste (Rainbow List, regional electoral alliance, first appears in 1978 Eurobarometer survey and later merges with Greens).
Alternative List (regional electoral alliance, first appears in 1981 Eurobarometer survey and later merges into Greens).

Center
Free Democratic Party (FDP).

Right
Christian Democratic Party (CDU or combined CDU-CSU).
Christian Social Union (CSU).
National Democratic Party (NPD).
Die Republikaner (appears for first time as party choice in 1980 Eurobarometer survey).
Deutsche Volksunion (DVU, appears for first time as party choice in Oct.-Nov. 1992 Eurobarometer survey, when it is chosen by only 3 respondents, in March-April 1993 it is chosen by only 2 respondents.

ITALY

Left
Party of Democratic Proletarian Unity (PDUP, appears in 1978 survey).
Democrazia Proletaria (DP—replaces PDUP in early 1980s).
Communist Party (PCI, disappears in 1992).
Socialist Party (PSI).
Radical Party (PR, from 1978 until fall 1992 Eurobarometer survey).
Greens (includes all Verdi and Lista Verdi parties, from 1988).
La Rete (beginning with 1992 survey, sometimes surveys list as La Rete-Movement per la Democrazia, this is a non-communist anti-corruption party).
Sinistra Independente (beginning with 1990 survey).
Partito Sardo d'Azione (beginning with 1992 survey).
Refounded Communists (beginning with 1992 survey).

Partito Democratico della Sinistra (Democratic Party of the Left, from 1992).

Center
Social Democrats (PSDI).
Republican Party (PRI).
Polo Laico (combined list from 1993).
Partito Populare Italiano (PPI, in 1994 Eurobarometer, formed in wake of break-up of Christian Democrats).
Democratic Alliance (in 1994 Eurobarometer).
Social Democrazia per la Liberta (in 1994 Eurobarometer).
Progressisti.*

Right
Movimento Sociale (MSI, sometimes surveys list as MSI/Destra Nationale (National Right).
National Democracy (DN, 1978-80).
Christian Democrats (DC), in 1994 Eurobarometer there is a right oriented splinter group formed from the break up of the Italian Christian Democratic Party—it is labeled, confusingly, Christian Democratic Center.**
Lega Nord (Lombard League, beginning with 1990 Eurobarometer survey).
Liberal Party (PLI).
Suedtiroler Volkspartei (beginning with 1992 Eurobarometer survey).
Forza Italia (in 1994 Eurobarometer).
Alleanza Nationale (in 1994 Eurobarometer, reconstituted extreme right, absorbed MSI).
Lista Panella (in 1994 Eurobarometer, in coalition with Berlusconi and Forza Italia for that election, though List formed by former PR leader Panella.

* The Progressisti are listed in only one of two 1994 Eurobarometer surveys for Italy. At the same time, all of the specific parties that formed the Progressive Alliance for the 1994 elections also are listed. These include the Democratic Party of the Left, the Refounded Communists, the Greens, the Rete, the Socialists and the Democratic Alliance. Since the bulk of the votes for the Progressive Alliance in the 1994 Italian national elections came from voters who chose the Democratic Party of the Left and very secondarily from voters who chose the Refounded Communists (McCarthy 1999, Cook and Preston 1998), the Progressive Alliance as a whole would be coded left in the absence of any mention of the specific political parties that entered into it. However, given that all these parties *were* listed as possible choices for respondents, respondents who chose the Progressisti instead of one of these more specific parties likely were thinking of Progressisti leader Romano Prodi, i.e., the moderate or center most part of the center-left Progressive Alliance.

** Though in comparative perspective, the Italian Christian Democrats (DC) were the most center-oriented Christian-Democratic party in Europe, Laver and Hunt's (1992) analysis demonstrates that the DC must be coded in Italian political space in the same category as the MSI, universally acknowledged to be a right or extreme right party. On a 20 step scale, on religious and moral policy, the DC is rated very close to the MSI and quite far away from parties that we have coded either Left or Center. Laver and Hunt's principal components analysis suggests that Italian political space has one interpretable global, left-libertarian vs. right-authoritarian ,dimension. The factors that especially distinguish the DC as a right party clustering close to the MSI—anti-clericalism vs. pro-clericalism and anti-vs. pro-permissive moral policy—load on this single global dimension *together with* the traditional socialist-capitalist public ownership and distributive/redistributive factors on which the DC looks closer to the middle of the political spectrum but at the same time maintains a *non-distinctive* political identity. (In contrast, for example, the Italian Communists and Liberals have distinctive political identities that are especially well captured by their ratings on the traditional socialist-capitalist redistributive and public ownership factors.) Thus, when Laver and Hunt show how Italian political parties cluster in a space constructed by cross-classifying ratings on the anti- vs. pro-clerical and anti-vs. pro-permissive moral policy factors with the redistributive factor of raising taxes to increase services (vs. cutting services to decrease taxation), the DC unmistakably clusters tightly with the MSI (Laver and Hunt 1992, p. 241).

APPENDIX B:
Details for the Individual-Level Analysis of Political Party Preference.

The individual-level political orientation variables for the fuzzy-set analysis described in the text take on a number of different forms all having to do with the association among labor force and class locations, gender, and political party preferences for each of our six countries over the ten time periods. The fuzzy-set membership scores for these variables are based on parameters from loglinear models of this association estimated on data from the Eurbarometer surveys discussed in the text, separately for each country. In this appendix we provide details of this analysis. For more general discussions of loglinear models and the properties of maximum likelihood estimates for the parameters in loglinear relevant to the discussion in this appendix, see Goodman (1968, 1971), Bishop, Fienberg, and Holland (1975), Haberman (1978, 1979), Fienberg (1980), Clogg and Eliason (1987), Agresti (1990), Sobel (1995), and Powers and Xie (2000). For uses of loglinear, and related, models (such as log-multiplicative association models and logistic regression models) in the context of the political orientation and voting literature see, for example, Brooks and Manza (1997), Evans and Whitefield (1999), Goldthorpe (1999), Hout, Brooks, and Manza (1995), Hout, Manza, and Brooks (1999), Manza, Hout, and Brooks (1995), Mateju, Rehakova, and Evans (1999), Müller (1999), Ringdall and Hines (1999), Weakliem (1991), and Weakliem and Heath (1999a, 1999b).

Our loglinear analysis is perhaps best understood in our context from the standpoint of the joint probabilities, within each country, of left-center-right political party support, gender, labor force and class locations, and time. First recall, as discussed in the text, the nested labor force and class locations. Figure B.1 gives these nested locations, moving from more general levels to more detailed levels of the nest as you move from left to right. These locations relate to the following labor force/class contrasts included in the models,

1. in the labor force (ILF) versus not in the labor force (NILF) contrast,
2. within NILF contrasts—
   a. student versus retired,
   b. student versus at-home,
3. within ILF contrast—working versus unemployed,
4. within working contrast—self-employed versus employed-by-someone-else,
5. within self-employed contrast—business versus professional,
6. within employed-by-someone-else contrast—manager versus non-manager,
7. within non-manager contrast—nonmanual versus manual labor.

Each of these eight (nested) contrasts may be thought of heuristically as eight separate variables capturing labor force and class distinctions measured at different points along the nested labor force and class locations. From the loglinear model standpoint, then, these variables, along with gender and time period categories, come together with left, center, and right political preference categories to form a joint probability distribution characterizing the association among all of these factors.

More precisely, the joint probability of support for political party i (i=1,2,3 representing left, center, right respectively) by gender j (j=1,2 representing female, male respectively) in labor force/class location k (with k indexing specific labor force and class locations) at time period t (t=1,…,10 time periods as described in the text) can be written in log-linear form

$$\log\left[\Pr(\text{party } i, \text{gender } j, \text{class/lf location } k, \text{time } t \mid \text{country } l)\right] =$$

$$\lambda^{P}_{i(l)} + \lambda^{PG}_{ij(l)} + \lambda^{PC}_{ik(l)} + \lambda^{PT}_{it(l)} + \lambda^{PGC}_{ijk(l)} + \lambda^{PGT}_{ijt(l)} + \lambda^{PCT}_{ikt(l)} + \lambda^{PGCT}_{ijkt(l)}$$

$$+ (\text{set of parameters to fit the gender by class/lf location by time distribution})$$

where the set of parameters referred to in the parentheses is of no importance in the current context (except to ensure that the referred to marginal is fitted by the model), and where

1. $\lambda^{P}_{i(l)}$ is a main effect capturing the overall support for party i in country l,
2. $\lambda^{PG}_{ij(l)}$ gives gender j's deviation from overall support for party i in country l,
3. $\lambda^{PC}_{ik(l)}$ gives labor force/class location k's deviation from overall support for party i in country l,
4. $\lambda^{PT}_{it(l)}$ gives time period t's deviation from overall support for party i in country l,
5. $\lambda^{PGC}_{ijk(l)}$ gives the set of interactions for gender and labor force/class location, capturing the labor force/class variation in the gender gap in support for party i in country l, and

6. λ^{PGT}_{ijtl} gives the set of interactions for gender and time capturing the over-time variation in the gender gap in support for party i in country l,
7. λ^{PCT}_{iktl} gives the set of interactions for labor force/class locations and time periods capturing the over-time variation in the labor force/class location differences in support for party i in country l,
8. λ^{PGCT}_{ijktl} gives the set of interactions of gender and labor force/class location and time capturing the over-time differences in the labor force/class variation in the gender gap in support for party i in country l.

When all parameters are freely estimated, giving the saturated model, the expected probabilities from the model equal the actual observed probabilities in the data, completely reproducing the associations among the set of variables observed in the data. It is in this sense that we say that the saturated model provides a perfect fit to the data. Much of the variability, however, in that observed association, and thus the variability in the parameter estimates capturing that observed association, may be due to sampling error. Goodness-of-fit chi-square tests and partitioning of the relevant likelihood ratio chi-squares may be used to reveal which parameter estimates are not significantly different from zero relative to sampling error, and, in that sense, which parameters may be safely ignored in reproducing the probability distributions in the data. We make use of these chi-square tests for this purpose, and also for the purpose of revealing substantively significant empirical variation in political party preferences along gender, class, and temporal lines.

Importantly, for the justification to create fuzzy set membership scores from the relevant loglinear model parameter estimates, under a good fitting model as indicated by the goodness-of-fit tests and partitioning of the likelihood ratio chi-squares, the loglinear model parameter estimates capture all of the information about the corresponding association in the table. (For related remarks see Goodman 1968, 1971; Bishop, Fienberg, and Holland 1975; Haberman 1978, 1979; Fienberg 1980; Agresti 1990; and Sobel 1995.).

For example, assume for the sake of argument that the four-way interaction λ^{PGCT}_{ijktl} (given in 8 above) may be safely ignored. That is, the set of terms in the four-way interaction λ^{PGCT}_{ijktl} is considered not different from zero,

relative to sampling error, according to the chi-square tests. Given that, maximum likelihood estimates of the λ^{PGC}_{ijkl} interaction, for example, would contain all of the information in the data about the labor force/class location conditioning of the gender gap in political party preferences in country l. Calculating relevant fuzzy-set membership scores based on these parameters, then, ensures that those membership scores also exhibit the property of containing all of the information in the data about the labor force/class location conditioning of the gender gap in political party preferences in country l. It is this strategy—to use goodness-of-fit tests and partitioning of the likelihood ratio statistics to reveal the sufficient set of parameters necessary to well-reproduce the distributions in the data relative to sampling error and then to use the parameter estimates from the final estimated model to construct relevant fuzzy-set membership scores—that we use to construct membership scores for the fuzzy-set analysis described in the text. (The actual construction of the membership scores, based on the uniform distribution coding logic, is discussed in the text.)

Also of importance is that these parameter estimates exhibit the property of being independent of the marginal distributions, a property shared by all loglinear model parameter estimates referring to the log-odds ratios in the table (Bishop, Fienberg, and Holland 1975; Sobel 1995; Lang and Eliason 1997.) What this means in our context is that the parameter estimates capture the effect of, say, the in-the-labor-force location on the *association between* gender and party support that is *independent of* the proportion of men and women in the sample, the proportion of those in the labor force in the sample, and the proportion of left, center, and right preferences in the sample. In essence, this is a desirable property in that the loglinear model parameter estimates are unaffected by sampling plans that, more or less explicitly, over or under sample based on some marginal distribution (say gender). Moreover, insofar as we would like to measure, say, the over-time change in the *feminization of left support* (that is, the over-time change in the ratio of women to men in the support of left parties), as distinct from the over-time change in *overall left support*, this "independence of marginal distributions" property becomes all the more important. See Bishop, Fienberg, and Holland (1975), Sobel (1995), and Lang and Eliason (1997) for useful insights into the independence-of-marginals properties of log-odds ratios, the corresponding loglinear model parameters, and their maximum likelihood estimates.

Table B.1 gives the results of the chi-square goodness-of-fit tests and the partitions of the likelihood ratio chi-squares. Details regarding the analysis can be found in Stryker and Eliason (2002). Here we provide only brief discussion

of these results pertinent to the current paper, and focus on the gender gap parameters (that is, those parameters including gender). The general strategy we employed to determine the best fitting model in the context of examining the gender gap in political preferences is to start with the saturated model, where the expected probabilities for the model and the observed probabilities from the data are the same. From the saturated model, we move up through the nest of the labor force and class locations, peeling away each level of detail and asking (1) does the gender gap in political preferences as conditioned at that level of labor force/class location detail vary over time for a specific country and, if not, (2) is there a significant time-stationary gender gap in political preferences at that level of labor force/class location detail for a specific country. To answer these two questions, at each step we ask two other questions: (1) does the model fit the data as indicated by the chi-square test and (2) can the deleted interactions/effects be considered not different from zero as indicated by the partitioning of the likelihood ratio statistics. If the answer is yes to both of these questions, we then proceed to the next higher, more general, level of the labor force/class nest. If the answer is no to either question, we then stop and consider that model to be the best fitting model. The only judgment used on our parts to deviate from this strategy was in consideration for the descriptive level of significance of the test. Generally in this respect we were conservative to ensure that parameter estimates that showed some sign of being important, that is, being non-zero, *were not deleted* from the final model.

Table B.1 is segmented into two primary parts. The top portion of the table (under the heading *Models*) gives the chi-square fit statistics for the models with various contrasts *omitted from* the saturated model. The bottom portion (under the heading *Chi-Square Tests*) gives the likelihood ratio chi-square partitions, testing specific interactions pertaining to the gender gap in political preferences. The first part of this bottom section (under the heading *Tests for Changes over Time in Gender Preferences*) gives statistics testing for the presence of changes over time in the various labor force/class contrasts hypothesized to condition gender gaps in political preferences. That is, these tests tell us if the gender gap in political preferences for a specific labor force/class location contrast change over time or, equivalent, whether the corresponding components of the $\lambda^{PGCT}_{ijk(tl)}$ interaction are significantly different from zero.

For example, the first row in this portion of the table tests if differences in the political preference gender gap across the NILF detailed categories of student, at-home, and retired change over time. A p-value below the 0.05 level is generally considered significant, and thus would indicate that these differences

do indeed change over time. For France, for example, the likelihood ratio chi-square test statistic of 37.26 on 36 degrees of freedom has a p-value of 0.4106, above the 0.05 level. This indicates that for France, the differences in the political preference gender gap across the NILF detailed categories of student, at-home, and retired *do not change over time*.

If, for a specific labor force/class location contrast, the over-time tests reveal that there is no over-time change in the gender gap in political preferences, the next question to ask, and answer, is whether that specific labor force/class location contrast is important at all in conditioning the gender gap in political preferences. This is equivalent to testing whether the corresponding components of the $\lambda^{PGC}_{ijk(l)}$ interaction are different from zero (though only if the first test reveals that the related components of the $\lambda^{PGCT}_{ijk(tl)}$ interaction are *not* significantly different from zero).

The second part of this section of Table B.1 (under the heading *Tests for Time-Invariant Differences in Gender Preferences*) gives test statistics to answer that question, reflecting whether or not each labor force and class location contrast has a *time invariant* effect on the gender gap in political preferences. Continuing with our example for France, the first row under the *Tests for Time-Invariant Differences* section of Table B.1 shows a likelihood ratio chi-square test statistic of 17.18 on 4 degrees of freedom, giving a p-value of 0.0018, well below the 0.05 level. This indicates that the (time stationary) gender gap in political preferences is indeed different across the NILF detailed categories of student, at-home, and retired. Putting this together with the first test, we now have the result that, in France, the gender gap in political preferences differs across the NILF detailed categories of student, at-home, and retired (as indicated by the second test), and that this difference does not change over time (as indicated by the first test). (This means, incidentally that it makes little sense to talk of an "NILF effect" on conditioning the gender gap in political preferences, as those not in the labor force in France do not exhibit a homogeneous gender gap in political preferences, but rather that gap takes on a different character depending on the student, at-home, and retired classifications.)

Using this procedure for the remaining contrasts for the French case, the results in Table B.1 show that, not only does the difference in the political preference gender gap between self-employed professionals and business not change over time ($L^2 = 15.06$, $df = 18$, $p = 0.6575$), there is also no difference in that gender gap between self-employed professionals and business ($L^2 = 1.25$, $df = 2$, $p = 0.5352$). For the nonmanual and manual labor contrast, the results show

that there is a shift over time in the difference in the political preference gender gap across these two class locations ($L^2 = 30.65, df = 18, p = 0.0316$). Note that, in the context of a significant change over time in that difference, the statistic for the time invariant test ($L^2 = 4.89, df = 2, p = 0.0869$) is meaningless. (Recall that that test depends on the assumption that the first test for changes over time indicates a non-significant result.)

Moreover, given that we have obtained a significant result in a specific location of the nested set of labor force/class locations, testing at more general levels of the nest are also meaningless, or, worse, misleading. This is because the statistical tests at more general levels of the nest depend on non-significant results at more detailed levels along the nest. This also makes sense from a logical standpoint in that to argue that there are no differences at some more general level of the nest presumes that no differences are found at some more specific level. Or, more misleading, is that the result of "no differences" at some more general level of the nest, in the context of differences having been found at a more detailed level of the nest, in fact *mask those differences at the more detailed level.* Both the statistical and logical viewpoints therefore dictate our stopping rule for the set of tests.

Results for France

In comparison to the general Figure B.1, Figure B.2 summarizes the empirical results for France, showing where the data indicate significant differences in the political preference gender gap. Also indicated in the figure are whether these significant differences are time varying, as indicated by the "*TV*," or time stationary, as indicated by the "*TS*." Notice that the self-employed detailed locations of business and professional are deleted from Figure B.2 (reference their location in Figure B.1 for comparison), as these locations show no significant impact on the gender gap in political preferences in France.

Table B.2 gives the baseline odds for left, center, and right political preferences, multiplicative gender effects and gender gap measures, given as the female to male ratio of the multiplicative effects, for select labor force and class locations and the years 1977, 1987/88, and 1994, representing the beginning, middle and end of our series. (The full set of parameter estimates are available from the authors upon request.) These baseline odds and multiplicative effects are functions of the exponentiated form of the loglinear model parameters discussed above. The gender gap measures used here are the female to male ratios of the related multiplicative effects, which is equivalent to exponentiating the differences in the relevant loglinear model parameters. The magnitudes of these contrasts in the loglinear parameter estimate form are often difficult to interpret, as they refer to changes in the log-odds. The measures used here are

more readily interpretable in terms of the percentage change in the odds due to the difference in the male and female multiplicative effects. For the multiplicative effects, the gender gap measures based on them, and the baseline odds, a value of 1 indicates the null relationship, that is, no multiplicative effect, no gender gap, or equal odds respectively.

The overall decline of the left from 1977 through 1994 in France is evidenced here by the shift in the baseline odds of support. In 1977, the left enjoyed a strong hold in France, with the average individual being over three times more likely to go left than center (3.17=1.69/0.53) and over one and a half times more likely to go left over the right (1.52=1.69/1.11). By 1994, though the left still enjoyed a substantial margin over the center (2.30=1.30/0.57), the average individual was about equally likely to go left as opposed to right (0.97=1.30/1.35).

Against this backdrop of overall decline in the support for the left in France, the main (unconditional) gender gap clearly shows that the base of support for the left to be shifting from males to females. In 1977, females in general were 6% less likely to be left than their male counterparts (0.94 = 0.97/1.03). At the same time, however, females in general were 25% more likely to be right than their male counterparts (1.25 = 1.12/0.90). By 1994 this relationship was reversed, with females being 16% more likely to be left than men (1.16 = 1.08/0.93) and 4% less likely to be right (0.96=0.98/1.02).

Relative to the general gender effects, moving into the labor force in 1977 had the tendency to move both females and males stronger to the left (compare the 1.23 ILF effect to 0.97 main effect and the 1.36 ILF effect to the 1.03 main effect for females and males respectively). The gender differences in the rate of change in these effects due to moving into the labor force is about nil. This is indicated in that, as both males and females in the labor force 1977 move closer to the left (relative to the main effect), the gender gap remains about the same (compare ILF left gender gap of 0.91 to main left gender gap of 0.94 for the). This gap indicates that males in the labor force remained slightly more left-leaning than females in the labor force in 1977.

By 1994 the in-the-labor-force location effect on left support for both females and males essentially vanishes (compare the 1.08 ILF effect to 1.08 main effect and the 0.98 ILF effect to the 0.93 main effect for females and males respectively). Not only does the ILF location effect on left support essentially disappear, but females in the labor force are now, like their more general counterparts, more left than are men in the labor force, reversing the relationship found in 1977. Putting this information together means that, while in France

women are becoming more left relative to men, that trend cannot be attributed in these data to an in-the-labor-force location effect.

This general notion is supported further by comparison of the main/ILF effect gender trends and gaps in support of the right. In 1977, the ILF location effect was such that it moved females further away from the right than it did for males (compare the 0.80 ILF effect to 1.12 main effect and the 0.86 ILF effect to the 0.90 main effect for females and males respectively). The gender gap of 0.94 for the ILF right effect compared to 1.25 for the main right effect indicates further a cross-over in the relative gender support for the right, with the ILF male being more right than the ILF female. As with the left support measures, however, these sizable differences are greatly diminished by 1994, showing the diminished impact of the ILF location on right support as well.

This diminished location effect on left support can also be found in the more specific class location of manual labor. In 1977 the manual labor class location had the effect of moving both men and women strongly to the left. The manual labor class location in 1977 France also had an homogenizing impact in that the gender gap essentially vanishes. By 1994, however, there is effectively no impact on moving females to the left, and the male effect is greatly diminished.

The not-in-the-labor-force effect are simply the inverse of the in-the-labor-force effects. Generally, being not in the labor force in 1977 has the impact of moving both men and women to the right and center. By 1994, there is still a modest impact on moving both men and women to the right. However the NILF location effect on the center, though weak positive for females, is noticeably negative for males.

Finally, recall that the at-home location effect (as with the student and retired effects) on the gender gap in political support is constant over time in France. Importantly, while this means that the at-home gender differences in party support remain constant (as indicated by the constant at-home gender gap measures), female and male support for the left, center, or right may still change over time. What is held constant is the gender difference in that change. Here the important contrasts are the relative right-orientation of the at-home female compared to the at-home male, and the strong center-orientation of the at-home male compared to the at-home female. These across gender comparisons require caution, though, in the interpretation of the relative within gender party support comparisons. Notice that, while the at-home male is consistently more center than left or right, the at-home female *is not* consistently more right than left or center. In fact, the at-home female in France through this time period is never more right than left. Thus, contrary to some prior characterizations of the at-

home female being more conservative, these data suggest that that is not true in France from1977 to 1994.

There are at least three general findings worth emphasizing in these data for France from 1977 to 1994. First, support for the left moves from a male base in 1977 to a female base in 1994, suggesting that the base of support for the left is becoming feminized. Second, the labor force and class location effects on support for the left have diminished substantially from 1977 to 1994. Finally, and as we mentioned in the previous paragraph, these data are not consistent with the image of the at-home female being more right-leaning relative to a left-orientation.

Results for Belgium

Rather than discuss the details of the likelihood ratio chi-square tests for each country in this appendix, we use figures similar to Figure B.2 for France to highlight the results for the remaining countries. Figure B.3 highlights the results of the likelihood ratio tests for Belgium. Belgium is remarkable for its over-time stability in the labor force and class location conditioning of the political preference gender gap. The results for Belgium show that the labor force and class location conditioning of the political preference gender gap is a *completely time stationary process* from 1977 to 1994. This, along with the self-employed professionals and business differently shaping the political preference gender gap, makes Belgium stand out relative to the other countries in our sample. Also for Belgium, the nonmanual/manual labor contrast is not significant, indicating that the gender gap in political preferences is homogeneous for nonmanagement labor.

Table B.3 gives the baseline odds for left, center, and right political preferences, multiplicative gender effects and gender gap measures for select labor force and class locations and the years 1977, 1987/88, and 1994. Overall, Belgium is the most right-oriented country of the six countries in our sample, but it is moving toward the center. At first, women are moving toward the center faster, so that by 1987/88 we see a substantial gender gap in center support. By 1994, this gender gap diminishes substantially, indicating little difference between the main effects for men and women. Throughout this time frame, the left in Belgium continues to lose both men and women, but after 1987/88 the right's losses appear to stabilize.

The labor force location effect that gives rise to the biggest gender gap is for those not in the labor force who are at home. Here, the at-home male effect moves men noticeably more to the center relative to the main male effect (compare the at-home male center effects to the main male center effects for

each time period) and also relative to the in the labor force male effect (compare the at-home male center effects to the ILF male center effects for each time period). For 1977 and 1994, the at-home female effect moves women more to the right than center or left, and more to the right than does the main female effect. In 1987/88, however the at-home female effect is more uniformly distributed across left, center, and right political preferences. What happens over time is that the at-home female effect begins to move women at home toward the center in 1987-88. But then by 1994, that effect is such that it moves that at-home female back to the right.

The female nonmanager (both manual and nonmanual labor combined) effect moves women away from the left and toward the center over this time period. And, although it pushes women more to the left than right in 1977 and 1987/88, the effect is consistently stronger right than the male nonmanager effect, giving the strong gender gap in right orientation for nonmanagers. The male nonmanager effect has the impact of also moving men toward the center over time, but still by 1994 the cross-preference comparison in the male nonmanager effect shows an overall left leaning character.

Results for West Germany

Figure B.4 highlights the results of the likelihood ratio tests for West Germany. The structure of West Germany's labor force and class locations significantly conditioning the political preference gender gap are the same as those found in France. The only non-significant location is found in the self-employed detailed level, distinguishing professionals from business self-employed. All of the remaining (significant) labor force and class locations, moreover, have a time-varying impact on the gender gap in political preferences.

Table B.4 gives the odds and the multiplicative effects for Germany. Germany is the only country of our six trending toward the left during this time period. The main effect for females moves women to the to the left, and generally away from the right. The main male effect, on the other hand, moves men away from the left and toward the right. The result of these trends on the main gender gap is that a crossover occurs in both the right and left orientation gender gaps. At the outset of the period, in 1977, men are more left relative to women and women are more right relative to men. By 1994, however, women are more left than men and men are more right than women.

Distinctly different gendered political orientations emerge as a result of distinctly different effects due to the in-the-labor-force and manual labor locations. In 1977 the in-the-labor-force location effect moves females toward the left and away from the right, and males toward the center and away from the

left. In 1987/88, there is practically no ILF impact on the male effects, whereas for females the ILF effect moves women toward the center and away from the left and right. By 1994, while the effect for women is about the same as was the case in 1987/88, for men the ILF effect moves them to the left relative to the main effect. These patterns play out in the ILF gender gap measure, with women being more left and less center than men in 1977, and more center and less right than men in 1987/88 and 1994.

The more detailed manual labor location effects shifts the gender character of political alignments in ways distinctly different than the ILF effects. While the manual labor effect consistently moves men toward the left and away from the center (relative to the main effects), it only does so for women in 1977 and 1987/88. Moreover, in 1987/88 there is a strong shift in the female manual labor effect toward the right, compared to the main female effect. This gives a strong manual labor gender gap on the right during this period, in favor of females. A strong gender gap in the manual labor effect can be found as well in the center in 1977, also favoring females. However, no sizable gender gap in the manual labor effect is evident in 1994.

Aside from the general trend toward the left, the most consistency found in the German trends over this time frame occurs in the at-home effects, which indicated a time-stationary gender gap (see Figure B.4). Here, the at-home female effect is consistently more right than the at-home male effect. But, as was the case with other countries, this does not mean that the at-home female effect in Germany over this time period operates to move females more to the right than the main effect, nor does it mean that the at-home right effect is stronger than the at-home left or center effect. Indeed, in 1987/88, though more right than the male at-home effect, the female at-home left effect is actually stronger than the at-home right effect. This indicates that, while the at-home female in 1987/88 Germany was more likely to be right than the at-home male, she was less likely to be right-oriented than left-oriented.

Results for Italy

Figure B.5 shows that Italy exhibits a substantial amount of time stationarity in the labor force and class location conditioning of the political preference gender gap. It is not until we reach the fairly general labor force locations contrasting those working and unemployed do we see a time varying location effect on the gender gap. In fact, this characterization of the gender gap in political preferences—that working/unemployed exhibits a time varying effect, while more detailed levels exhibit time stationary effects—is unique to Italy when compared to the other countries in our sample. Also important here is that, while it is necessary to distinguish between manual and nonmanual labor in accurately

portraying the gender gap in Italy, as with most of the other countries in our sample, the professional/business self-employed distinction is not important. This indicates, again, that the self employed effect on the political preference gender gap operates in a homogeneous fashion; no further detail is required in that respect to well-understand that gap.

Table B.5 shows the baseline odds of left-center-right political preferences, as well as multiplicative gender effects and gender gap measures for select labor force and class locations in Italy, for 1977, 1987/88 and 1993. (Note that 1993 is reported instead of 1994 because of the significant amount of political restructuring that occurred in Italy in 1994, thus creating a unique break in the time series.) These figures show that the odds for left-center-right preferences were remarkably stable in Italy from 1977 to 1993, with the left enjoying a slight edge in the middle and the right enjoying a slight edge at the ends of this time frame. (Again, 1994 is an entirely other matter. Details are available from the authors upon request.)

What is perhaps most notable about the main effect gender differences in party support is the shift of females from the right to the center, and the slight move of males from the center to the right with the left effect remaining remarkably steady, from 1977 to 1993. This change in main effects plays out distinctly in the related gender gaps. In 1977 females were overwhelmingly right-oriented, while males were split between the center and left. This pattern for the most part holds for 1987/88. By 1993, however, the gender gap in the main effects shifts noticeably to females being overwhelmingly center oriented relative to males, and males being slightly more left and right than there female counterparts.

The in-the-labor-force location effect for females moves women noticeably away from the right and towards the left and center, to varying degrees, throughout this time frame. For males, there is little impact coming from the in-the-labor-force effect until 1993, when there is a noticeable effect moving men away from the right and toward the left and center. Again, changes in the ILF gender gaps are functions of changes in these effects. For 1977 and 1987/88, the in-the-labor-force effect tends to move women more to the left than it does for men. By 1993, however, the effect moves women more to the center than it does for men.

By the time we reach the manual labor class location, the gender gaps remain constant over time, as can be seen in Table B.5. Throughout this time period, the right preference effect due to the manual labor class location is always stronger for females, while the left preference effect is always stronger for males. The center effect is about equal for the two genders.

The manual labor location, relative to the ILF location, has the effect of shifting men more to the left relative to women, and women to the right relative to men. Relative to the main gender effects, and the main effect gender gap, for 1977, 1987/88, and 1993 the manual labor location has the effect of moving both men and women toward the left and away from the center, though the impact is weaker in 1993 compared to the earlier years. However the manual labor location effect impacts differently male and female shifts toward or away from the right in 1977. At that time point, while the manual labor location effect moves females away from the right (relative to the main effect), it moves males toward the right. By 1987/88, however, the impact shifts both males and females toward the right, indicating a homogeneous manual labor effect on that right shift. By 1993, this homogeneous manual labor shift to the right becomes even stronger. Putting all of these pieces together shows clearly the change in the political preference character of the Italian manual laborer, from a left orientation to a right orientation. For males, the shift to the left in 1977 is about the same magnitude as the shift toward the right in 1993 (compare the 1977 male left effects of 1.08 and 1.35 to 1993 male right effects of 1.05 and 1.37, for main and manual labor respectively in both years). For females, however, the shift to the right in 1993 is about 26% stronger than the shift to the left in 1977 (compare the 1977 female left effects of 0.92 and 1.16 to 1993 female right effects of 0.95 and 1.52, for main and manual labor respectively in both years).

Finally, the at-home male effect acts to always move men more to the center, relative to other at-home political preferences, relative to the at-home female, and relative to the main male effects. The at-home female effect, on the other hand, has a varying impact on political preferences—moving women more to left than center and right in 1977, more to the right in 1987/88, and more to the center, though weakly so, in 1993—when comparing across the at-home political preference effects. Compared with the female ILF location effect, however, the at-home effect moves women more to the right in each time period, away from the center in each time period, and away from the left in 1993. On top of all of this is a time-stationary at-home gender gap whereby the at-home female effect constantly moves women more to the left and to the right, relative to the at-home male effect, though more so to the right than left. Whereas, the at-home male effect constantly moves men more to the center relative to the at-home female effect.

Results for Denmark

Figure B.6 gives the labor force and class locations that significantly impact the political preference gender gap in Denmark from 1977 to 1994. As with many of the other countries, the self-employed detailed professional and business

locations do not provide significant impacts on the gender gap in Denmark over and above the self-employed location effect. Moreover, all the remaining locations exhibit time-stationary impacts in Denmark, exhibit for the most general ILF/NILF locations. Next to Belgium, Denmark is the second most stable country with respect to the effects of labor force and class locations on the gender gap.

As is shown in Table B.6, Denmark exhibits a fairly high degree of left orientation, though the Danish left is losing to the right throughout this time period, as is the center. In fact, these data show that it is the right in Denmark alone that is gaining ground from 1977-1994. The main effects gender gap in Denmark show that, while there is little trend with respect to the left, women are becoming less right and more center oriented from 1977 to 1994.

Recall that the in-the-labor-force/not-in-the-labor-force location effects on the political preference gender gap are the only time-varying effects on that gap in Denmark. Accordingly, the 1977 ILF location effect is such that it moves women considerably closer to the left and away from the right, relative to that for men and the main female effect as well. In 1987/88, however, the ILF effect moves men more to the left and away from the right, relative to that for women. By 1994 the ILF effect moves both men and women away from the center and toward to the left and right both, while creating a gender gap reminiscent of the 1977 pattern in gender gaps.

The manual labor location effects, by comparison, have a time-stationary impact on the political preference gender gap in Denmark over this time period. These effects are such that, while the manual labor location effect is to move both men and women closer to the left when compared to their general counterparts, the male manual labor left effect is always stronger than that for females.

By far the biggest gender gap in political preferences is in the right orientation of the at-home female compared to the at-home male in Denmark. Moreover, and unlike some of the other countries where this gap exists, in Denmark the at-home female is more right-oriented than left or center-oriented throughout this time period. At the same time, the at-home male effect moves men more to the center in 1977 and 1987/88, but more to the left in 1994. Also in 1994, we see an increase in the effect to move the at-home female to the left as well (though not to the point of being larger than the right effect).

Results for Britain

Figure B.7 gives the labor force and class locations that significantly impact the political preference gender gap in Britain from 1977 to 1994. As with Belgium, nonmanagers are homogeneous with respect to the political preference gender gap in Britain over this time period. That is, the manual/nonmanual labor distinctions do not differently shape the political preference gender gap in Britain. Different from Belgium, but like the other countries in our sample, the self-employed professional/business locations do not differently shape the political preference gender gap in Britain. These two characteristics are what give Britain its unique quality with respect to the labor force and class locations conditioning the political preference gender gap. Also for Britain, the not-in-the-labor-force student/at-home/retired detailed locations and the manager/nonmanager locations have time stationary impacts on these gender gaps.

Also making Britain unique in these data is the decline of the right-orientation baseline odds throughout this time frame, as shown in Table B.7. Against this backdrop of the right's decline, the main gender gap measures show women becoming more left and less center oriented relative to men. In terms of the right effects, women are more right than men in 1977 and 1994, but men are more right than women in 1987/88. These shifts around the right are only slight, however, hovering around the null value of one throughout for both genders.

The in-the-labor-force location has the impact in 1977 of moving women to the left, slightly to the center, and away from the right, relative to the main effect. By 1987/88, the ILF location effect for females essentially disappears, re-emerging in 1994 with the same tendencies as found for 1977, though weaker in the shift to the left. The ILF location effect in 1977 moves men, however, strongly to the center, and then disappears in 1987/88 and 1994. These patterns give a time-varying ILF location effect on the political preference gender gap, where the biggest gaps are found with males being 11% (1.11 = 1.23/1.11 = 1/0.90) more center in 1977, females 11% (1.11 = 1.05/0.94 [difference due to rounding]) more center in 1987/88, and males 11% (1.11 = 0.97/0.88 = 1/0.90 [difference due to rounding]) more center in 1994.

Layered on top of this in-the-labor-force time-varying impact on the gender gap is the time-stationary nonmanager location effect on the political preference gender gap. The nonmanager location effect consistently moves women 22% more to the right and 11% more to the center compared to men, and men 35% more to the left compared to women. Moreover, the impact of the nonmanager location when compared to the main effects, while modest in 1987/88, is substantial in 1977 and 1994. In 1977, the nonmanager location effect operates to move men 43% (1.43 = 1.60/1.12) more, and women 33%

(1.33 = 1.18/0.89) more, to the left when compared to their respective main effects. In 1994 these numbers are an astonishingly high 172% for men and 99% for women. These numbers for 1977 and 1994 indicate the tendency of the nonmanager location in Britain to have a very strong impact shaping the political preferences of both men and women, moving them substantially to the left. Compared to the other countries in our sample, this gives Britain a very unique character in terms of shaping of the political preference gender gap by the nonmanager class location.

Though this location effect is by far the largest we see in these data, for Britain the biggest gender gap in political preferences can be found in the right orientation of the at-home female compared to the at-home male. Moreover, the at-home female is more right-oriented than left or center-oriented throughout this time period. This makes Britain's at-home gender gaps and female effects similar to those found in Denmark. The at-home male in Britain, on the other hand, moves between a center-left preference, and a non-preference for the right. Specifically in this regard, in 1987/88 at-home males in Britain were more likely to be center and less likely to be right and in 1994 they were more likely to be left and less likely to be right.

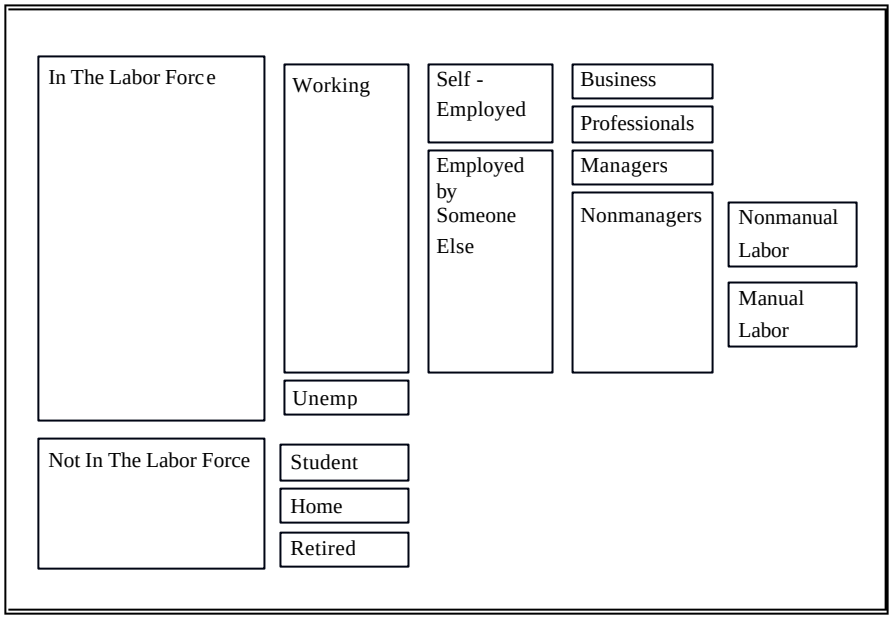

Figure B.1. Nested Labor Force and Class Locations Used to Examine the Conditioning of Political Preference Gender Gaps

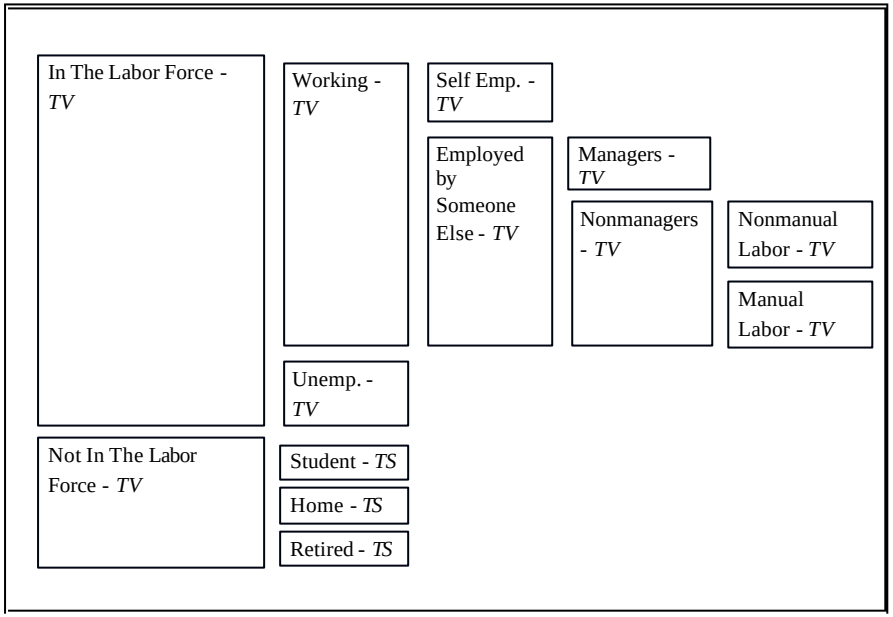

Figure B.2. Labor Force and Class Locations Conditioning Political Preference Gender Gap in France

Note. *TS* indicates a time-stationary effect. *TV* indicates a time-varying effect

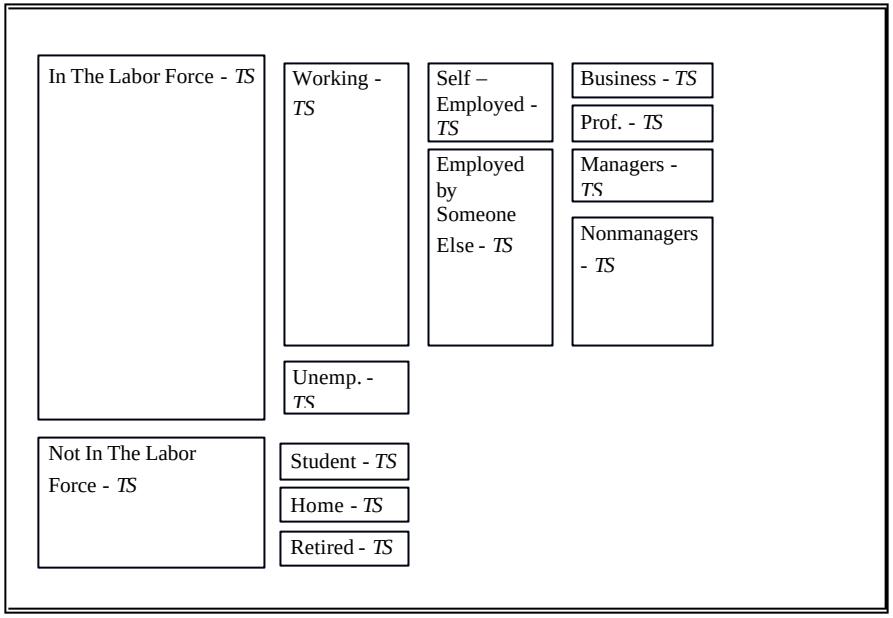

Figure B.3. Labor Force and Class Locations Conditioning Political Preference Gender Gap in Belgium

Note. *TS* indicates a time-stationary effect. *TV* indicates a time-varying effect

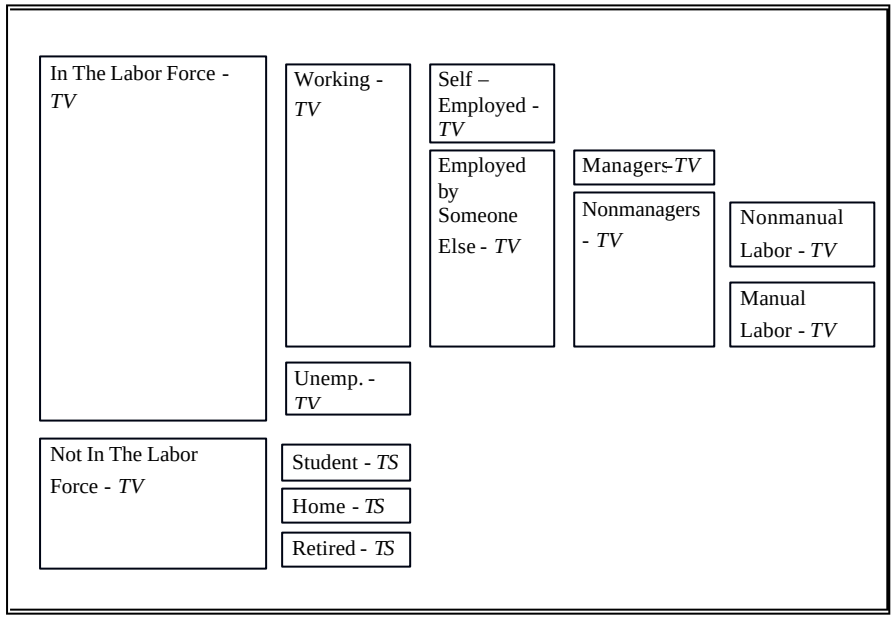

Figure B.4. Labor Force and Class Locations Conditioning Political Preference Gender Gap in Germany

Note. *TS* indicates a time-stationary effect. *TV* indicates a time-varying effect

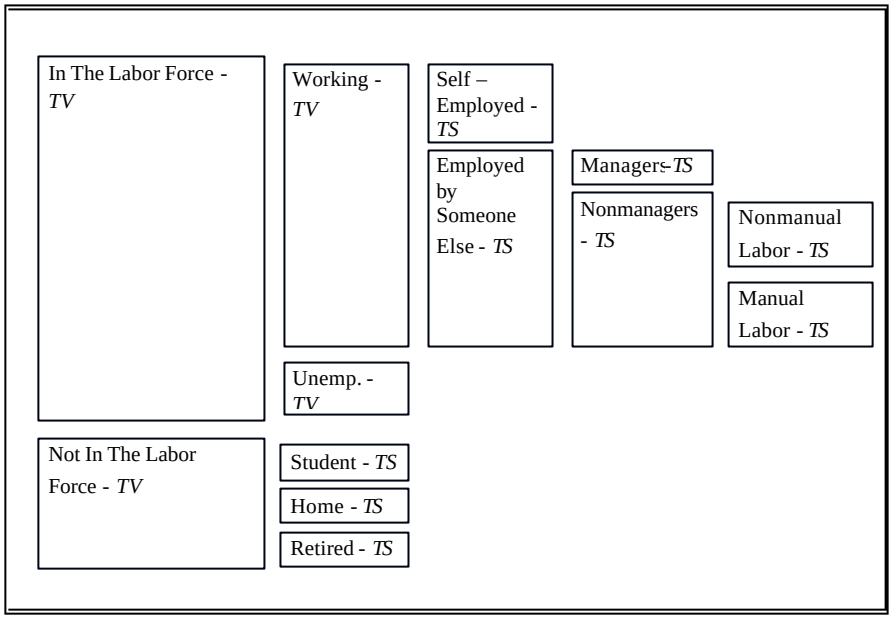

Figure B.5. Labor Force and Class Locations Conditioning Political Preference Gender Gap in Italy

Note. *TS* indicates a time-stationary effect. *TV* indicates a time-varying effect

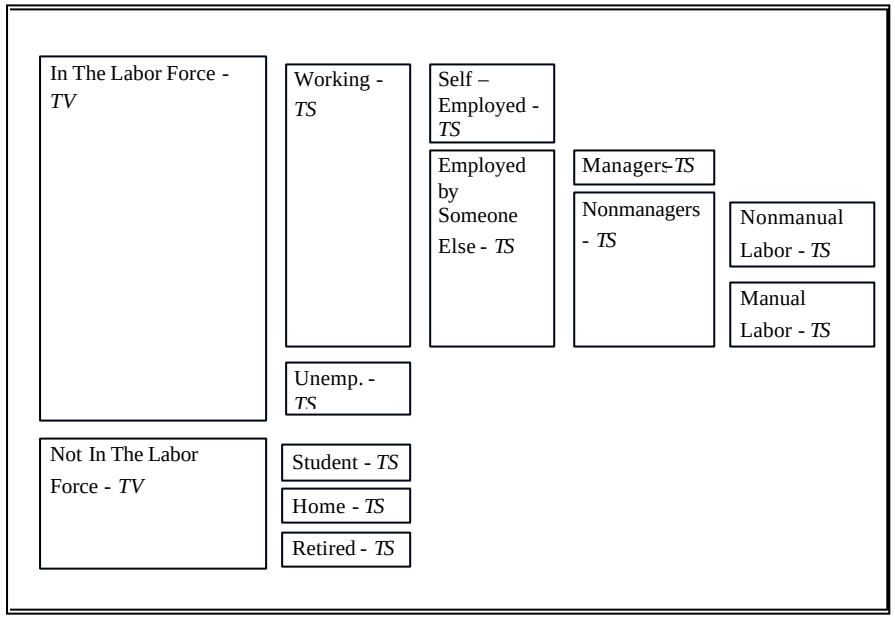

Figure B.6. Labor Force and Class Locations Conditioning Political Preference Gender Gap in Denmark

Note. *TS* indicates a time-stationary effect. *TV* indicates a time-varying effect

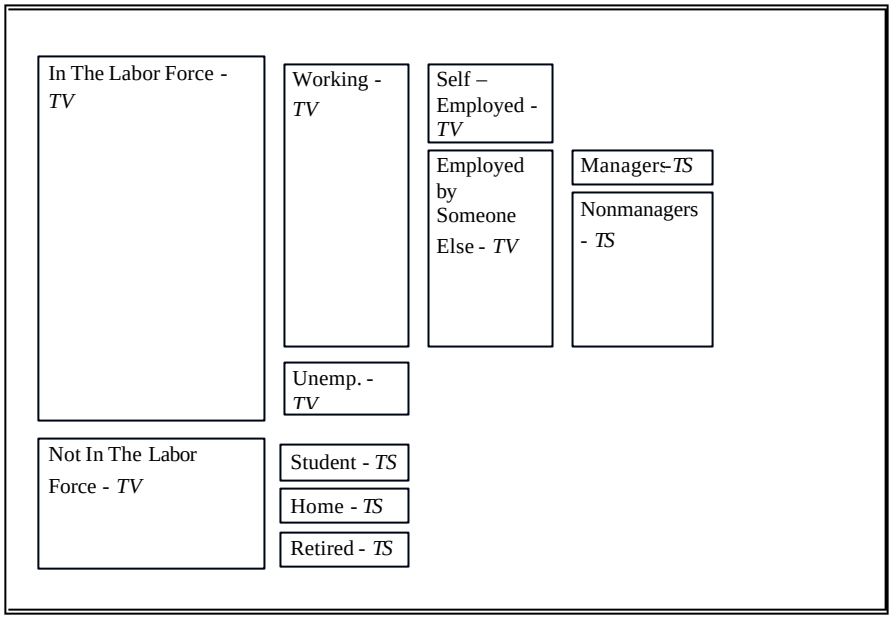

Figure B.7. Labor Force and Class Locations Conditioning Political Preference Gender Gap in Britain

Note. *TS* indicates a time-stationary effect. *TV* indicates a time-varying effect.

Table B.1 Goodness-of-Fit Statistics and Chi-Square Tests for Labor Force and Class Conditioning of the Political Preference Gender Gap (continued on next page)

		France			Belgium			Germany		
#	**Models**	L-Square	DF	P-Value	L-Square	DF	P-Value	L-Square	DF	P-Value
	Time Varying Models									
1	NILF Detail Omitted	37.26	36	0.4108	45.63	36	0.1305	42.15	36	0.2221
2	Nonmanual/Manual Omitted	30.65	18	0.0316	23.50	18	0.1720	36.30	18	0.0065
3	#2 + Manager/Nonmanager Omitted	51.55	36	0.0449	35.45	36	0.4945	57.31	36	0.0134
4	Professional/Business Omitted	15.06	18	0.6575	21.19	18	0.2701	18.89	18	0.3985
5	No Detail Below Self/Else Employed	66.62	54	0.1163	56.64	54	0.3768	76.20	54	0.0249
6	#2,3,4 + Self/Else Employed Omitted	88.64	72	0.0890	67.71	72	0.6212	104.36	72	0.0076
7	#6 + Working/Unemployed Omitted	100.06	90	0.2199	83.30	90	0.6781	117.68	90	0.0267
8	No Detail Below ILF/NILF	137.32	126	0.2314	128.93	126	0.4110	159.84	126	0.0224
	Time Stationary Models									
9	No Change in Gender Pref by Class/LF	159.10	144	0.1842	148.23	144	0.3873	184.73	144	0.0124
10	NILF Detail Omitted	176.28	148	0.0562	167.91	148	0.1256	196.70	148	0.0046
11	Nonmanual/Manual Omitted	163.99	146	0.1467	148.88	146	0.4182	186.53	146	0.0132
12	#11 + Manager/Nonmanager Omitted	164.74	148	0.1643	154.61	148	0.3384	191.56	148	0.0092
13	Professional/Business Omitted	160.35	146	0.1970	152.86	146	0.3321	185.77	146	0.0145
14	No Detail Below Self/Else Employed	166.00	150	0.1760	159.22	150	0.2878	192.59	150	0.0108
15	#11,12,13 + Self/Else Employed Omitted	171.00	152	0.1389	160.61	152	0.3006	194.92	152	0.0107
16	#15 + Working/Unemployed Omitted	173.98	154	0.1292	165.70	154	0.2457	196.52	154	0.0117
17	No Detail Below ILF/NILF	191.17	158	0.0370	185.45	158	0.0668	208.43	158	0.0044
18	No Gender by Class Interaction	210.97	160	0.0043	190.54	160	0.0499	221.02	160	0.0010
19	No Change in Gender Pref Over Time	245.43	178	0.0006	213.44	178	0.0358	248.31	178	0.0004
20	No Change in Class/LF Pref Over Time	449.92	304	0.0000	401.58	304	0.0001	407.93	304	0.0001
21	Main Effects Model	492.80	322	0.0000	420.20	322	0.0002	440.83	322	0.0000

#	Models	Italy L-Square	Italy DF	Italy P-Value	Denmark L-Square	Denmark DF	Denmark P-Value	Britain L-Square	Britain DF	Britain P-Value
Time Varying Models										
1	NILF Detail Omitted	27.08	36	0.8585	21.07	36	0.9775	29.02	36	0.7890
2	Nonmanual/Manual Omitted	22.74	18	0.2010	15.55	18	0.6239	19.96	18	0.3350
3	#2 + Manager/Nonmanager Omitted	33.28	36	0.5989	22.08	36	0.9669	33.82	36	0.5727
4	Professional/Business Omitted	20.66	18	0.2969	7.61	18	0.9838	16.73	18	0.5418
5	No Detail Below Self/Else Employed	53.94	54	0.4769	29.69	54	0.9971	50.55	54	0.6083
6	#2,3,4 + Self/Else Employed Omitted	68.33	72	0.6008	46.87	72	0.9905	78.36	72	0.2841
7	#6 + Working/Unemployed Omitted	99.32	90	0.2353	65.59	90	0.9753	94.31	90	0.3572
8	No Detail Below ILF/NILF	126.40	126	0.4733	86.66	126	0.9970	123.33	126	0.5506
Time Stationary Models										
9	No Change in Gender Pref by Class/LF	149.93	144	0.3505	113.46	144	0.9716	156.33	144	0.2280
10	NILF Detail Omitted	183.61	148	0.0249	134.74	148	0.7751	175.08	148	0.0636
11	Nonmanual/Manual Omitted	161.31	146	0.1827	123.70	146	0.9096	158.85	146	0.2207
12	#11 + Manager/Nonmanager Omitted	164.84	148	0.1630	124.38	148	0.9214	166.05	148	0.1474
13	Professional/Business Omitted	152.23	146	0.3453	114.19	146	0.9760	158.18	146	0.2320
14	No Detail Below Self/Else Employed	167.09	150	0.1611	125.10	150	0.9315	167.91	150	0.1506
15	#11,12,13 + Self/Else Employed Omitted	171.37	152	0.1346	125.72	152	0.9412	169.38	152	0.1589
16	#15 + Working/Unemployed Omitted	173.81	154	0.1311	127.59	154	0.9408	170.12	154	0.1773
17	No Detail Below ILF/NILF	207.26	158	0.0052	148.90	158	0.6860	188.73	158	0.0480
18	No Gender by Class Interaction	221.86	160	0.0009	149.49	160	0.7134	190.83	160	0.0484
19	No Change in Gender Pref Over Time	260.01	178	0.0001	171.43	178	0.6245	221.88	178	0.0142
20	No Change in Class/LF Pref Over Time	398.04	304	0.0002	371.76	304	0.0048	364.80	304	0.0095
21	Main Effects Model	443.76	322	0.0000	396.14	322	0.0030	398.47	322	0.0023

Table B.1 continued

#'s	Chi-Square Tests	France L-Square	France DF	France P-Value	Belgium L-Square	Belgium DF	Belgium P-Value	Germany L-Square	Germany DF	Germany P-Value
Tests of Changes over Time in Gender Preferences										
#1	Home/Retired/Student Contrast	37.26	36	0.4108	45.63	36	0.1305	42.15	36	0.2221
#4	Professional/Business Contrast	15.06	18	0.6575	21.19	18	0.2701	18.89	18	0.3985
#2	Nonmanual/Manual Contrast	30.65	18	0.0316	23.50	18	0.1720	36.30	18	0.0065
#3 - #2	Manager/Nonmanager Contrast	20.91	18	0.2841	11.95	18	0.8498	21.01	18	0.2790
#5 - #2	All Contrasts Below Self/Else Emp	35.97	36	0.4700	33.14	36	0.6055	39.90	36	0.3008
#6 - #5	Self/Else Employed Contrast	22.02	18	0.2309	11.08	18	0.8911	28.16	18	0.0596
#7 - #6	Working/Unemployed Contrast	11.41	18	0.8760	15.59	18	0.6214	13.32	18	0.7723
#8	All Contrasts Below ILF/NILF	137.32	126	0.2314	128.93	126	0.4110	159.84	126	0.0224
#9 - #8	ILF/NILF Contrast	21.78	18	0.2418	19.31	18	0.3732	24.89	18	0.1280
#9	Some Change in Gender Preferences by Class/LF	159.10	144	0.1842	148.23	144	0.3873	184.73	144	0.0124
Tests of Time-Invariant Differences in Gender Preferences										
#10 - #9	Home/Retired/Student Contrast	17.18	4	0.0018	19.68	4	0.0006	11.97	4	0.0175
#13 - #9	Professional/Business Contrast	1.25	2	0.5352	4.62	2	0.0990	1.04	2	0.5942
#11 - #9	Nonmanual/Manual Contrast	4.89	2	0.0869	0.65	2	0.7228	1.81	2	0.4053
#12 - #11	Manager/Nonmanager Contrast	0.75	2	0.6859	5.72	2	0.0572	5.03	2	0.0808
#14 - #11	All Contrasts Below Self/Else Emp	2.01	4	0.7339	10.33	4	0.0352	6.06	4	0.1949
#15 - #14	Self/Else Employed Contrast	5.00	2	0.0820	1.39	2	0.4992	2.33	2	0.3126
#16 - #15	Working/Unemployed Contrast	2.98	2	0.2255	5.09	2	0.0784	1.60	2	0.4488
#17 - #9	All Contrasts Below ILF/NILF	32.07	14	0.0039	37.21	14	0.0007	23.70	14	0.0498
#18 - #17	ILF/NILF Contrast	19.80	2	0.0001	5.09	2	0.0785	12.59	2	0.0018
#18 - #9	Some Class/LF Contrast in Gender Preferences	51.87	16	0.0000	42.30	16	0.0004	36.29	16	0.0026

Table B.1 continued

#'s	Chi-Square Tests	Italy L-Square	Italy DF	Italy P-Value	Denmark L-Square	Denmark DF	Denmark P-Value	Britain L-Square	Britain DF	Britain P-Value
Tests of Changes over Time in Gender Preferences										
#1	Home/Retired/Student Contrast	27.08	36	0.8585	21.07	36	0.9775	29.02	36	0.7890
#4	Professional/Business Contrast	20.66	18	0.2969	7.61	18	0.9838	16.73	18	0.5418
#2	Nonmanual/Manual Contrast	22.74	18	0.2010	15.55	18	0.6239	19.96	18	0.3350
#3 - #2	Manager/Nonmanager Contrast	10.54	18	0.9128	6.53	18	0.9936	13.86	18	0.7383
#5 - #2	All Contrasts Below Self/Else Emp	31.20	36	0.6962	14.14	36	0.9996	30.59	36	0.7235
#6 - #5	Self/Else Employed Contrast	14.39	18	0.7031	17.18	18	0.5107	27.82	18	0.0649
#7 - #6	Working/Unemployed Contrast	30.99	18	0.0289	18.72	18	0.4093	15.95	18	0.5961
#8	All Contrasts Below ILF/NILF	126.40	126	0.4733	86.66	126	0.9970	123.33	126	0.5506
#9 - #8	ILF/NILF Contrast	23.54	18	0.1708	26.79	18	0.0830	32.99	18	0.0167
#9	Some Change in Gender Preferences by Class/LF	149.93	144	0.3505	113.46	144	0.9716	156.33	144	0.2280
Tests of Time-Invariant Differences in Gender Preferences										
#10 - #9	Home/Retired/Student Contrast	33.68	4	0.0000	21.29	4	0.0003	18.75	4	0.0009
#13 - #9	Professional/Business Contrast	2.29	2	0.3178	0.73	2	0.6930	1.85	2	0.3965
#11 - #9	Nonmanual/Manual Contrast	11.38	2	0.0034	10.25	2	0.0060	2.53	2	0.2827
#12 - #11	Manager/Nonmanager Contrast	3.53	2	0.1711	0.67	2	0.7138	7.20	2	0.0273
#14 - #11	All Contrasts Below Self/Else Emp	5.78	4	0.2158	1.39	4	0.8454	9.06	4	0.0596
#15 - #14	Self/Else Employed Contrast	4.28	2	0.1179	0.63	2	0.7300	1.46	2	0.4814
#16 - #15	Working/Unemployed Contrast	2.44	2	0.2951	1.87	2	0.3929	0.74	2	0.6899
#17 - #9	All Contrasts Below ILF/NILF	57.33	14	0.0000	35.44	14	0.0013	32.41	14	0.0035
#18 - #17	ILF/NILF Contrast	14.59	2	0.0007	0.59	2	0.7446	2.09	2	0.3508
#18 - #9	Some Class/LF Contrast in Gender Preferences	71.92	16	0.0000	36.03	16	0.0029	34.50	16	0.0046

Table B.2 Multiplicative Gender Effects and Gender Gap Measures for Select Labor Force and Class Locations. France– 1977, 1987/88, 1994

	1977			1987/88			1994		
	Left	Center	Right	Left	Center	Right	Left	Center	Right
Baseline Odds	1.69	0.53	1.11	1.96	0.39	1.32	1.30	0.57	1.35
Main Gender Effect									
Females	0.97	0.92	1.12	1.05	1.01	0.95	1.08	0.95	0.98
Males	1.03	1.08	0.90	0.96	0.99	1.06	0.93	1.06	1.02
Gender Gap (F/M)	*0.94*	*0.85*	*1.25*	*1.09*	*1.02*	*0.90*	*1.16*	*0.90*	*0.96*
In The Labor Force Effect									
Females	1.23	1.01	0.80	0.99	1.23	0.82	1.08	1.01	0.92
Males	1.36	0.86	0.86	1.19	0.87	0.97	0.98	1.15	0.89
Gender Gap (F/M)	*0.91*	*1.18*	*0.94*	*0.83*	*1.41*	*0.85*	*1.11*	*0.88*	*1.03*
Manual Labor Effect									
Females	1.28	0.79	0.99	0.97	1.16	0.89	1.09	1.09	0.84
Males	1.23	0.83	0.98	1.07	0.99	0.94	1.15	0.89	0.97
Gender Gap (F/M)	*1.04*	*0.95*	*1.01*	*0.90*	*1.17*	*0.95*	*0.94*	*1.23*	*0.86*
Not In The Labor Force Effect									
Females	0.81	0.99	1.24	1.01	0.81	1.22	0.93	0.99	1.09
Males	0.74	1.17	1.16	0.84	1.15	1.03	1.03	0.87	1.12
Gender Gap (F/M)	*1.10*	*0.85*	*1.07*	*1.20*	*0.71*	*1.18*	*0.90*	*1.14*	*0.97*
At Home Effect									
Females	1.06	0.94	1.00	1.12	0.97	0.93	1.03	0.94	1.03
Males	1.02	1.31	0.75	1.07	1.35	0.69	0.99	1.32	0.77
Gender Gap (F/M)	*1.04*	*0.71*	*1.35*	*1.04*	*0.71*	*1.35*	*1.04*	*0.71*	*1.35*

Table B.3 Multiplicative Gender Effects and Gender Gap Measures for Select Labor Force and Class Locations. Belgium – 1977, 1987/88, 1994

	1977			1987/88			1994		
	Left	Center	Right	Left	Center	Right	Left	Center	Right
Baseline Odds	1.59	0.20	3.10	1.11	0.45	1.98	0.92	0.51	2.16
Main Gender Effect									
Females	0.99	1.01	1.00	0.90	1.22	0.91	1.01	1.04	0.95
Males	1.01	0.99	1.00	1.11	0.82	1.10	0.99	0.96	1.05
Gender Gap (F/M)	*0.98*	*1.01*	*1.01*	*0.82*	*1.49*	*0.82*	*1.01*	*1.09*	*0.91*
In The Labor Force Effect									
Females	0.92	1.11	0.98	1.01	1.19	0.83	0.92	1.22	0.90
Males	0.95	1.00	1.05	1.05	1.07	0.89	0.95	1.10	0.96
Gender Gap (F/M)	*0.97*	*1.11*	*0.93*	*0.97*	*1.11*	*0.93*	*0.97*	*1.11*	*0.93*
Nonmanager Effect									
Females	1.32	0.81	0.94	1.38	0.76	0.95	1.09	1.08	0.85
Males	1.65	0.80	0.76	1.73	0.75	0.77	1.37	1.06	0.69
Gender Gap (F/M)	*0.80*	*1.02*	*1.24*	*0.80*	*1.02*	*1.24*	*0.80*	*1.02*	*1.24*
Not In The Labor Force Effect									
Females	1.09	0.90	1.02	0.99	0.84	1.20	1.09	0.82	1.12
Males	1.05	1.00	0.95	0.96	0.93	1.12	1.06	0.91	1.04
Gender Gap (F/M)	*1.03*	*0.90*	*1.07*	*1.03*	*0.90*	*1.07*	*1.03*	*0.90*	*1.07*
At Home Effect									
Females	0.87	0.97	1.19	1.00	1.09	0.91	1.07	0.80	1.17
Males	0.74	1.49	0.91	0.85	1.68	0.70	0.91	1.22	0.89
Gender Gap (F/M)	*1.17*	*0.65*	*1.31*	*1.17*	*0.65*	*1.31*	*1.17*	*0.65*	*1.31*

Table B.4 Multiplicative Gender Effects and Gender Gap Measures for Select Labor Force and Class Locations. Germany – 1977, 1987/88, 1994

	1977			1987/88			1994		
	Left	Center	Right	Left	Center	Right	Left	Center	Right
Baseline Odds	1.66	0.32	1.88	2.37	0.22	1.94	2.26	0.23	1.89
Main Gender Effect									
Females	0.90	1.03	1.08	1.03	0.93	1.04	1.06	0.99	0.96
Males	1.11	0.97	0.93	0.97	1.07	0.96	0.95	1.01	1.04
Gender Gap (F/M)	*0.81*	*1.06*	*1.17*	*1.06*	*0.87*	*1.08*	*1.12*	*0.97*	*0.92*
In The Labor Force Effect									
Females	1.04	1.06	0.91	0.96	1.27	0.81	1.00	1.25	0.80
Males	0.82	1.34	0.91	0.98	1.07	0.96	1.03	0.96	1.02
Gender Gap (F/M)	*1.27*	*0.79*	*1.00*	*0.99*	*1.19*	*0.85*	*0.98*	*1.30*	*0.79*
Manual Labor Effect									
Females	1.14	0.98	0.90	1.12	0.65	1.38	1.01	1.00	0.99
Males	1.66	0.53	1.13	1.19	0.87	0.96	1.02	0.95	1.03
Gender Gap (F/M)	*0.69*	*1.84*	*0.79*	*0.94*	*0.74*	*1.43*	*0.98*	*1.05*	*0.97*
Not In The Labor Force Effect									
Females	0.96	0.95	1.10	1.04	0.78	1.23	1.00	0.80	1.25
Males	1.22	0.75	1.10	1.03	0.93	1.04	0.97	1.04	0.98
Gender Gap (F/M)	*0.79*	*1.27*	*1.00*	*1.01*	*0.84*	*1.18*	*1.03*	*0.77*	*1.27*
At Home Effect									
Females	0.89	0.89	1.26	1.20	0.80	1.04	0.85	0.95	1.25
Males	0.91	1.18	0.93	1.22	1.07	0.77	0.86	1.26	0.92
Gender Gap (F/M)	*0.98*	*0.75*	*1.36*	*0.98*	*0.75*	*1.36*	*0.98*	*0.75*	*1.36*

Table B.5 Multiplicative Gender Effects and Gender Gap Measures for Select Labor Force and Class Locations. Italy – 1977, 1987/88, 1993*

	1977			1987/88			1994		
	Left	Center	Right	Left	Center	Right	Left	Center	Right
Baseline Odds	1.74	0.31	1.88	1.91	0.31	1.67	1.82	0.27	2.01
Main Gender Effect									
Females	0.92	0.91	1.19	0.93	0.97	1.11	0.94	1.11	0.95
Males	1.08	1.10	0.84	1.07	1.03	0.90	1.06	0.90	1.05
Gender Gap (F/M)	*0.85*	*0.82*	*1.42*	*0.87*	*0.94*	*1.22*	*0.89*	*1.24*	*0.90*
In The Labor Force Effect									
Females	1.11	1.12	0.81	1.17	1.06	0.81	1.01	1.37	0.72
Males	1.03	1.08	0.91	1.04	1.14	0.85	1.11	1.04	0.86
Gender Gap (F/M)	*1.08*	*1.04*	*0.89*	*1.12*	*0.93*	*0.95*	*0.91*	*1.31*	*0.84*
Manual Labor Effect									
Females	1.16	0.86	1.01	1.00	0.77	1.29	0.96	0.68	1.52
Males	1.35	0.82	0.90	1.17	0.74	1.16	1.12	0.65	1.37
Gender Gap (F/M)	*0.86*	*1.05*	*1.11*	*0.86*	*1.05*	*1.11*	*0.86*	*1.05*	*1.11*
Not In The Labor Force Effect									
Females	0.90	0.89	1.24	0.86	0.94	1.24	0.99	0.73	1.38
Males	0.98	0.93	1.10	0.96	0.88	1.18	0.90	0.96	1.16
Gender Gap (F/M)	*0.93*	*0.96*	*1.12*	*0.89*	*1.07*	*1.05*	*1.10*	*0.76*	*1.20*
At Home Effect									
Females	1.13	0.85	1.04	1.19	0.58	1.45	0.90	1.07	1.04
Males	0.86	1.79	0.65	0.91	1.22	0.90	0.69	2.25	0.64
Gender Gap (F/M)	*1.30*	*0.48*	*1.61*	*1.30*	*0.48*	*1.61*	*1.30*	*0.48*	*1.61*

*Note. In Italy, 1993 is reported instead of 1994 because of the significant amount of political restructuring that occurred in 1994, thus creating a unique break in the time series.

Table B.6 Multiplicative Gender Effects and Gender Gap Measures for Select Labor Force and Class Locations. Denmark – 1977, 1987/88, 1994

	1977			1987/88			1994		
	Left	Center	Right	Left	Center	Right	Left	Center	Right
Baseline Odds	2.13	0.41	1.13	1.71	0.40	1.45	1.67	0.30	2.00
Main Gender Effect									
Females	0.97	0.98	1.06	1.04	0.97	0.99	0.99	1.09	0.93
Males	1.04	1.02	0.94	0.96	1.03	1.01	1.01	0.92	1.08
Gender Gap (F/M)	*0.93*	*0.96*	*1.12*	*1.08*	*0.93*	*0.99*	*0.98*	*1.19*	*0.86*
In The Labor Force Effect									
Females	1.13	1.19	0.75	1.07	1.01	0.93	1.18	0.81	1.05
Males	0.88	1.19	0.95	1.20	0.92	0.91	1.07	0.84	1.12
Gender Gap (F/M)	*1.27*	*1.00*	*0.78*	*0.89*	*1.09*	*1.03*	*1.11*	*0.97*	*0.94*
Manual Labor Effect									
Females	1.29	0.84	0.93	1.22	0.89	0.92	1.21	0.88	0.94
Males	1.42	0.82	0.85	1.35	0.87	0.85	1.34	0.87	0.86
Gender Gap (F/M)	*0.91*	*1.02*	*1.09*	*0.91*	*1.02*	*1.09*	*0.91*	*1.02*	*1.09*
Not In The Labor Force Effect									
Females	0.89	0.84	1.34	0.94	0.99	1.07	0.85	1.24	0.96
Males	1.13	0.84	1.05	0.83	1.09	1.10	0.94	1.19	0.89
Gender Gap (F/M)	*0.78*	*1.00*	*1.27*	*1.12*	*0.91*	*0.97*	*0.90*	*1.04*	*1.07*
At Home Effect									
Females	0.66	1.06	1.44	0.71	0.99	1.43	1.35	0.48	1.54
Males	0.92	1.46	0.75	0.99	1.36	0.74	1.89	0.66	0.80
Gender Gap (F/M)	*0.71*	*0.73*	*1.92*	*0.71*	*0.73*	*1.92*	*0.71*	*0.73*	*1.92*

Table B.7 Multiplicative Gender Effects and Gender Gap Measures for Select Labor Force and Class Locations. Britain– 1977, 1987/88, 1994

	1977			1987/88			1994		
	Left	Center	Right	Left	Center	Right	Left	Center	Right
Baseline Odds	1.51	0.36	1.82	1.20	0.53	1.59	1.72	0.67	0.87
Main Gender Effect									
Females	0.89	1.08	1.04	0.97	1.07	0.96	1.01	0.97	1.01
Males	1.12	0.93	0.96	1.03	0.94	1.04	0.99	1.03	0.99
Gender Gap (F/M)	*0.79*	*1.17*	*1.08*	*0.95*	*1.13*	*0.93*	*1.03*	*0.95*	*1.03*
In The Labor Force Effect									
Females	0.98	1.11	0.92	0.98	1.05	0.97	1.05	1.09	0.88
Males	0.91	1.23	0.89	1.04	0.94	1.02	0.97	1.06	0.97
Gender Gap (F/M)	*1.07*	*0.90*	*1.04*	*0.95*	*1.11*	*0.95*	*1.08*	*1.03*	*0.90*
Nonmanager Effect									
Females	1.18	0.87	0.97	0.86	1.04	1.11	2.00	0.66	0.76
Males	1.60	0.79	0.79	1.16	0.94	0.91	2.70	0.60	0.62
Gender Gap (F/M)	*0.74*	*1.11*	*1.22*	*0.74*	*1.11*	*1.22*	*0.74*	*1.11*	*1.22*
Not In The Labor Force Effect									
Females	1.03	0.90	1.08	1.02	0.95	1.03	0.95	0.92	1.14
Males	1.09	0.81	1.13	0.96	1.06	0.98	1.03	0.94	1.03
Gender Gap (F/M)	*0.94*	*1.11*	*0.96*	*1.06*	*0.90*	*1.05*	*0.93*	*0.97*	*1.11*
At Home Effect									
Females	0.93	0.89	1.20	0.90	0.99	1.12	0.98	0.91	1.12
Males	1.06	1.01	0.93	1.02	1.12	0.88	1.11	1.03	0.87
Gender Gap (F/M)	*0.88*	*0.88*	*1.28*	*0.88*	*0.88*	*1.28*	*0.88*	*0.88*	*1.28*

APPENDIX C:
Distributions of Aggregate and Party Preference Measures and FuzzySet Membership Scores Used in the Analysis, By Country and Time Periods

Aggregate and Party Preference Measures for France

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	3.09	3.09	3.09	6.59	7.84	9.34	11.34	12.34	12.59	12.59
Civilian Government Employment	11.31	11.53	11.56	12.35	12.66	12.56	12.60	12.88	13.23	13.35
Maternity Leave Index	0.53	0.53	0.54	0.51	0.54	0.54	0.54	0.54	0.54	0.53
Pub Day Care Index for Ages 0-2	0.18	0.18	0.19	0.22	0.21	0.25	0.27	0.30	0.32	0.34
Pub Day Care Index for Ages 3 to School Age	0.40	0.40	0.41	0.47	0.46	0.54	0.60	0.65	0.70	0.75
Family/Child Cash & Tax Benefit Index	0.47	0.47	0.49	0.50	0.47	0.45	0.46	0.46	0.48	0.48
Female Labor Force Participation	55.50	54.80	55.95	55.95	56.95	57.50	57.60	58.50	59.30	59.60
Left Support Variables										
General Left Support	0.52	0.61	0.63	0.50	0.67	0.54	0.32	0.00	0.12	0.27
Female Left Support	0.50	0.56	0.59	0.48	0.71	0.50	0.31	-0.01	0.10	0.34
In-The-Labor-Force (ILF) Female Left Support	0.72	0.79	0.63	0.50	0.72	0.54	0.31	0.10	0.22	0.42
Nonmanual Labor Female Left Support	0.65	0.71	0.62	0.54	0.79	0.66	0.20	0.19	0.40	0.44
ILF vs. At-Home Female Left Support	-0.12	0.08	-0.16	-0.05	-0.20	-0.02	-0.05	0.06	0.14	0.08
Feminization of Left Support	-0.06	-0.10	-0.09	-0.04	0.09	-0.08	-0.04	-0.02	-0.06	0.15
Feminization of ILF Left Support	-0.10	0.10	-0.14	-0.03	-0.18	0.00	-0.03	0.08	0.16	0.10

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Feminization of Left Support - Move from Traditional Manual Labor Base of Support	0.07	0.07	-0.12	-0.09	0.05	-0.10	0.18	-0.04	-0.20	0.10
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.00	0.13	-0.17	-0.10	-0.11	-0.07	0.18	0.01	-0.07	0.08
Center/Left Support Variables										
General Center/Left Support	-0.10	-0.02	0.04	-0.45	-0.28	-0.20	-0.13	-0.19	-0.42	-0.30
Female Center/Left Support	-0.21	-0.13	0.02	-0.43	-0.23	-0.15	-0.11	-0.14	-0.34	-0.28
Feminization of Center/Left Support	-0.22	-0.25	-0.05	0.04	0.11	0.11	0.04	0.10	0.16	0.04

Coding Note. The maternity leave index is measured as a multiplicative function of the wage replacement rate, number of weeks of paid maternity leave as a proportion of one year, proportion of employed women covered and the public expenditures for paid maternity leave as a percentage of GDP. The public day care index for services for children ages 0 to 2 years is a multiplicative function of the proportion of children 0 to 2 years old in public daycare and the public expenditures for daycare as a percentage of GDP. Similarly, the public day care index for services for children ages 3 to school age is a multiplicative function of the proportion of children 3 to schoolage in public daycare and the public expenditures for daycare as a percentage of GDP. The family/child cash and tax benefits index is an additive function of the child care tax relief ranking, the family allowance for children as a percentage of GDP, and the family support benefits as a percentage of GDP.

Aggregate and Party Preference Measures for Belgium

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	10.87	11.23	11.98	12.37	12.37	13.20	14.28	14.81	15.34	15.87
Civilian Government Employment	8.37	8.76	9.52	9.62	9.64	9.73	9.74	9.64	9.55	9.52
Maternity Leave Index	0.37	0.37	0.37	0.36	0.36	0.42	0.45	0.45	0.45	0.44
Pub Day Care Index for Ages 0-2	0.15	0.15	0.15	0.14	0.14	0.13	0.13	0.13	0.13	0.11
Pub Day Care Index for Ages 3 to School Age	0.33	0.33	0.33	0.31	0.31	0.28	0.28	0.29	0.29	0.24
Family/Child Cash & Tax Benefit Index	0.81	0.81	0.81	0.75	0.71	0.67	0.67	0.66	0.67	0.66
Female Labor Force Participation	44.53	45.28	47.00	45.60	45.60	46.00	48.30	49.50	50.60	51.40
Left Support Variables										
General Left Support	0.46	0.42	0.27	0.09	0.11	-0.12	-0.22	-0.22	-0.08	-0.09
Female Left Support	0.45	0.51	0.18	0.08	0.02	-0.11	-0.28	-0.27	-0.12	-0.08
In-The-Labor-Force (ILF) Female Left Support	0.35	0.52	0.12	0.09	0.04	-0.08	-0.26	-0.34	-0.23	-0.16
Nonmanual Labor Female Left Support	0.24	0.15	0.11	0.20	-0.03	-0.18	-0.42	-0.24	-0.40	-0.33
ILF vs. At-Home Female Left Support	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11
Feminization of Left Support	-0.02	0.15	-0.20	-0.03	-0.20	0.01	-0.12	-0.11	-0.08	0.01
Feminization of ILF Left Support	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03

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Feminization of Left Support - Move from Traditional Manual Labor Base of Support	-0.03	0.10	-0.10	0.02	-0.09	0.04	-0.04	-0.05	-0.05	0.00
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Center/Left Support Variables										
General Center/Left Support	-1.13	-1.11	-0.81	-0.66	-0.68	-0.63	-0.68	-0.58	-0.68	-0.77
Female Center/Left Support	-1.13	-1.24	-0.75	-0.69	-0.60	-0.57	-0.65	-0.55	-0.66	-0.72
Feminization of Center/Left Support	-0.01	-0.23	0.15	-0.05	0.20	0.14	0.08	0.07	0.05	0.10

Coding Note. The maternity leave index is measured as a multiplicative function of the wage replacement rate, number of weeks of paid maternity leave as a proportion of one year, proportion of employed women covered and the public expenditures for paid matern ity leave as a percentage of GDP. The public day care index for services for children ages 0 to 2 years is a multiplicative function of the proportion of children 0 to 2 years old in public daycare and the public expenditures for daycare as a percentage of GDP. Similarly, the public day care index for services for children ages 3 to school age is a multiplicative function of the proportion of children 3 to schoolage in public daycare and the public expenditures for daycare as a percentage of GDP. The family/child cash and tax benefits index is an additive function of the child care tax relief ranking, the family allowance for children as a percentage of GDP, and the family support benefits as a percentage of GDP.

Aggregate and Party Preference Measures for Germany

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	8.35	9.20	10.89	12.31	12.31	12.31	12.31	12.31	12.31	12.31
Civilian Government Employment	8.03	8.22	8.47	8.56	8.99	8.77	8.47	9.05	8.87	8.61
Maternity Leave Index	0.41	0.41	0.41	0.39	0.47	0.50	0.51	0.52	0.52	0.51
Pub Day Care Index for Ages 0-2	0.07	0.07	0.07	0.07	0.07	0.07	0.09	0.09	0.09	0.09
Pub Day Care Index for Ages 3 to School Age	0.42	0.42	0.42	0.41	0.42	0.46	0.53	0.54	0.58	0.57
Family/Child Cash & Tax Benefit Index	0.22	0.22	0.22	0.15	0.13	0.13	0.15	0.15	0.14	0.13
Female Labor Force Participation	51.20	51.60	52.95	53.05	54.95	56.45	61.10	61.40	61.50	61.50
Left Support Variables										
General Left Support	0.51	0.52	0.65	0.88	0.86	0.90	0.67	0.75	0.81	0.81
Female Left Support	0.40	0.44	0.64	0.88	0.89	0.93	0.67	0.84	0.82	0.87
In-The-Labor-Force (ILF) Female Left Support	0.46	0.48	0.64	1.11	0.86	0.88	0.83	0.88	0.86	0.89
Nonmanual Labor Female Left Support	0.52	0.59	0.76	1.17	0.84	0.82	0.88	0.75	0.87	1.00
ILF vs. At-Home Female Left Support	0.25	0.09	0.01	0.21	0.00	-0.19	0.02	0.08	0.04	-0.02
Feminization of Left Support	-0.21	-0.18	-0.03	0.01	0.06	0.07	0.00	0.19	0.01	0.11
Feminization of ILF Left Support	0.24	0.09	0.00	0.20	-0.01	-0.19	0.01	0.08	0.03	-0.02

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Feminization of Left Support - Move from Traditional Manual Labor Base of Support	-0.43	-0.11	-0.29	0.15	-0.01	0.16	-0.01	0.26	0.02	0.08
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	-0.15	0.04	-0.28	0.22	-0.05	0.00	-0.03	0.22	0.02	0.00
Center/Left Support Variables										
General Center/Left Support	-0.63	-0.64	-0.61	-0.57	-0.66	-0.54	-0.44	-0.57	-0.57	-0.63
Female Center/Left Support	-0.71	-0.66	-0.62	-0.65	-0.70	-0.52	-0.44	-0.52	-0.60	-0.59
Feminization of Center/Left Support	-0.15	-0.06	-0.01	-0.19	-0.07	0.04	-0.01	0.12	-0.06	0.08

Coding Note. The maternity leave index is measured as a multiplicative function of the wage replacement rate, number of weeks of paid maternity leave as a proportion of one year, proportion of employed women covered and the public expenditures for paid maternity leave as a percentage of GDP. The public day care index for services for children ages 0 to 2 years is a multiplicative function of the proportion of children 0 to 2 years old in public daycare and the public expenditures for daycare as a percentage of GDP. Similarly, the public day care index for services for children ages 3 to school age is a multiplicative function of the proportion of children 3 to schoolage in public daycare and the public expenditures for daycare as a percentage of GDP. The family/child cash and tax benefits index is an additive function of the child care tax relief ranking, the fa mily allowance for children as a percentage of GDP, and the family support benefits as a percentage of GDP.

Aggregate and Party Preference Measures for Italy

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	2.47	2.47	2.60	3.33	3.90	4.40	4.92	5.19	5.47	5.57
Civilian Government Employment	7.46	7.44	7.69	7.77	8.02	8.16	8.38	8.43	8.51	8.40
Maternity Leave Index	0.44	0.44	0.46	0.45	0.43	0.42	0.43	0.44	0.44	0.43
Pub Day Care Index for Ages 0-2	0.08	0.08	0.08	0.08	0.07	0.04	0.00	0.00	0.00	0.00
Pub Day Care Index for Ages 3 to School Age	0.32	0.32	0.32	0.32	0.30	0.17	0.00	0.00	0.00	0.00
Family/Child Cash & Tax Benefit Index	0.14	0.14	0.16	0.11	0.09	0.09	0.07	0.07	0.06	0.06
Female Labor Force Participation	37.10	37.10	39.40	41.15	43.35	44.25	44.50	44.90	42.80	42.70
Left Support Variables										
General Left Support	0.56	0.63	0.47	0.65	0.65	0.76	0.53	0.57	0.60	-0.28
Female Left Support	0.48	0.62	0.30	0.51	0.58	0.73	0.54	0.62	0.54	-0.32
In-The-Labor-Force (ILF) Female Left Support	0.61	0.76	0.48	0.76	0.78	0.88	0.81	0.72	0.59	-0.06
Nonmanual Labor Female Left Support	0.53	0.67	0.21	0.69	0.78	0.87	0.88	0.76	0.67	0.07
ILF vs. At-Home Female Left Support	-0.06	-0.20	-0.07	0.01	-0.02	-0.04	0.10	-0.12	-0.23	0.09
Feminization of Left Support	-0.16	-0.06	-0.32	-0.29	-0.14	-0.07	0.00	0.07	-0.11	-0.09
Feminization of ILF Left Support	0.08	-0.07	0.06	0.15	0.12	0.09	0.24	0.01	-0.09	0.22

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Feminization of Left Support - Move from Traditional Manual Labor Base of Support	-0.15	-0.09	-0.06	-0.23	-0.11	-0.13	-0.03	0.04	-0.11	-0.10
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	-0.05	-0.15	0.09	-0.05	-0.01	-0.07	0.07	-0.01	-0.13	0.04
Center/Left Support Variables										
General Center/Left Support	-0.63	-0.74	-0.61	-0.41	-0.51	-0.63	-0.75	-0.67	-0.70	-0.63
Female Center/Left Support	-0.80	-1.01	-0.77	-0.51	-0.61	-0.78	-0.86	-0.88	-0.65	-0.60
Feminization of Center/Left Support	-0.35	-0.51	-0.32	-0.21	-0.20	-0.29	-0.21	-0.38	0.10	0.06

Coding Note. The maternity leave index is measured as a multiplicative function of the wage replacement rate, number of weeks of paid maternity leave as a proportion of one year, proportion of employed women covered and the public expenditures for paid maternity leave as a percentage of GDP. The public day care index for services for children ages 0 to 2 years is a multiplicative function of the proportion of children 0 to 2 years old in public daycare and the public expenditures for daycare as a percentage of GDP. Similarly, the public day care index for services for children ages 3 to school age is a multiplicative function of the proportion of children 3 to schoolage in public daycare and the public expenditures for daycare as a percentage of GDP. The family/child cash and tax benefits index is an additive function of the child care tax relief ranking, the family allowance for children as a percentage of GDP, and the family support benefits as a percentage of GDP.

Aggregate and Party Preference Measures for Denmark

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	20.72	21.72	23.72	25.39	25.39	25.39	25.39	25.39	26.11	26.91
Civilian Government Employment	17.24	18.03	20.17	21.23	21.52	21.66	21.49	21.36	21.48	21.06
Maternity Leave Index	0.59	0.59	0.60	0.65	0.68	0.69	0.69	0.70	0.72	0.79
Pub Day Care Index for Ages 0-2	0.83	0.83	0.84	0.83	0.87	0.91	0.94	0.95	0.98	0.98
Pub Day Care Index for Ages 3 to School Age	1.10	1.10	1.12	1.11	1.15	1.21	1.25	1.27	1.31	1.31
Family/Child Cash & Tax Benefit Index	0.14	0.14	0.13	0.09	0.14	0.16	0.16	0.16	0.17	0.16
Female Labor Force Participation	64.73	66.28	71.39	75.60	77.50	77.95	78.80	79.10	78.40	74.10
Left Support Variables										
General Left Support	0.76	0.74	0.69	0.84	0.54	0.66	0.65	0.50	0.59	0.51
Female Left Support	0.72	0.76	0.81	0.88	0.58	0.78	0.76	0.55	0.70	0.50
In-The-Labor-Force (ILF) Female Left Support	0.87	0.80	0.77	1.02	0.63	0.90	0.87	0.58	0.74	0.66
Nonmanual Labor Female Left Support	0.76	0.74	0.62	0.99	0.56	0.79	0.72	0.40	0.70	0.59
ILF vs. At-Home Female Left Support	0.41	0.17	0.21	0.03	0.05	0.28	0.21	0.26	0.19	0.27
Feminization of Left Support	-0.07	0.02	0.24	0.07	0.08	0.24	0.22	0.11	0.21	-0.02

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Feminization of ILF Left Support	0.24	0.00	0.04	-0.14	-0.12	0.11	0.04	0.09	0.02	0.10
Feminization of Left Support - Move from Traditional Manual Labor Base of Support	-0.12	-0.04	0.03	0.02	-0.01	0.04	0.05	-0.04	0.06	-0.07
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.06	-0.07	-0.05	-0.12	-0.13	-0.01	-0.05	-0.04	-0.04	-0.01
Center/Left Support Variables										
General Center/Left Support	-0.12	-0.34	-0.30	-0.48	-0.37	-0.44	-0.69	-0.53	-0.60	-0.70
Female Center/Left Support	-0.18	-0.40	-0.30	-0.54	-0.37	-0.43	-0.59	-0.46	-0.55	-0.62
Feminization of Center/Left Support	-0.12	-0.13	0.01	-0.11	0.01	0.03	0.19	0.14	0.11	0.15

Coding Note. The maternity leave index is measured as a multiplicative function of the wage replacement rate, number of weeks of paid maternity leave as a proportion of one year, proportion of employed women covered and the public expenditures for paid maternity leave as a percentage of GDP. The public day care index for services for children ages 0 to 2 years is a multiplicative function of the proportion of children 0 to 2 years old in public daycare and the public expenditures for daycare as a percentage of GDP. Similarly, the public day care index for services for children ages 3 to school age is a multiplicative function of the proportion of children 3 to schoolage in public daycare and the public expenditures for daycare as a percentage of GDP. The family/child cash and tax benefits index is an additive function of the child care tax relief ranking, the family allowance for children as a percentage of GDP, and the family support benefits as a percentage of GDP.

Aggregate and Party Preference Measures for Britain

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	14.83	15.83	16.16	16.16	16.16	16.16	16.16	16.16	16.16	16.16
Civilian Government Employment	13.93	13.98	13.81	13.44	13.56	13.23	12.89	12.24	10.62	9.44
Maternity Leave Index	0.12	0.12	0.13	0.13	0.13	0.13	0.00	0.00	0.00	0.00
Pub Day Care Index for Ages 0-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pub Day Care Index for Ages 3 to School Age	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Family/Child Cash & Tax Benefit Index	0.22	0.22	0.23	0.23	0.23	0.23	0.15	0.16	0.16	0.15
Female Labor Force Participation	61.20	61.20	61.05	63.45	65.35	67.95	68.00	67.90	67.90	68.00
Left Support Variables										
General Left Support	0.41	0.64	0.63	0.48	0.18	0.65	0.37	0.44	0.54	0.54
Female Left Support	0.30	0.57	0.54	0.46	0.16	0.68	0.38	0.31	0.55	0.56
In-The-Labor-Force (ILF) Female Left Support	0.28	0.60	0.55	0.54	0.14	0.76	0.38	0.27	0.62	0.62
Nonmanual Labor Female Left Support	0.09	0.34	0.33	0.33	0.05	0.62	0.24	0.08	0.53	0.47
ILF vs. At-Home Female Left Support	0.13	0.18	0.03	0.09	0.01	-0.03	-0.02	-0.08	0.09	0.14
Feminization of Left Support	-0.23	-0.16	-0.19	-0.04	-0.05	0.06	0.03	-0.26	0.01	0.03

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Feminization of ILF Left Support	0.06	0.11	-0.03	0.02	-0.05	-0.10	-0.08	-0.14	0.02	0.08
Feminization of Left Support - Move from Traditional Manual Labor Base of Support	-0.24	-0.05	-0.13	0.04	0.02	0.08	0.10	-0.08	0.03	0.03
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	-0.06	0.12	-0.06	0.06	0.01	-0.03	0.03	-0.05	0.03	0.05
Center/Left Support Variables										
General Center/Left Support	-0.60	-0.60	-0.21	-0.33	-0.46	-0.30	-0.34	-0.22	-0.02	0.14
Female Center/Left Support	-0.64	-0.61	-0.27	-0.29	-0.43	-0.26	-0.38	-0.26	-0.02	0.13
Feminization of Center/Left Support	-0.08	-0.02	-0.11	0.10	0.08	0.08	-0.08	-0.08	-0.01	-0.03

Coding Note. The maternity leave index is measured as a multiplicative function of the wage replacement rate, number of weeks of paid maternity leave as a proportion of one year, proportion of employed women covered and the public expenditures for paid maternity leave as a percentage of GDP. The public day care index for services for children ages 0 to 2 years is a multiplicative function of the proportion of children 0 to 2 years old in public daycare and the public expenditures for daycare as a percentage of GDP. Similarly, the public day care index for services for children ages 3 to school age is a multiplicative function of the proportion of children 3 to schoolage in public daycare and the public expenditures for daycare as a percentage of GDP. The family/child cash and tax benefits index is an additive function of the child care tax relief ranking, the family allowance for children as a percentage of GDP, and the family support benefits as a percentage of GDP.

Fuzzy-Set Scores for France

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	0.03	0.03	0.03	0.17	0.22	0.28	0.36	0.40	0.41	0.41
Civilian Government Employment	0.27	0.29	0.29	0.35	0.37	0.36	0.36	0.38	0.41	0.42
Maternity Leave Index	0.66	0.66	0.67	0.63	0.68	0.67	0.67	0.67	0.67	0.66
Pub Day Care Index for Ages 0-2	0.18	0.18	0.19	0.22	0.21	0.25	0.28	0.30	0.32	0.35
Pub Day Care Index for Ages 3 to School Age	0.30	0.30	0.31	0.36	0.35	0.41	0.45	0.49	0.53	0.57
Family/Child Cash & Tax Benefit Index	0.54	0.54	0.57	0.58	0.53	0.52	0.53	0.53	0.56	0.55
Female Labor Force Participation	0.44	0.42	0.45	0.45	0.47	0.49	0.49	0.51	0.53	0.54
Left Support Variables										
General Left Support	0.68	0.75	0.77	0.65	0.80	0.69	0.51	0.23	0.34	0.46
Female Left Support	0.65	0.70	0.72	0.63	0.82	0.65	0.50	0.25	0.33	0.52
In-The-Labor-Force (ILF) Female Left Support	0.73	0.78	0.66	0.58	0.73	0.60	0.45	0.30	0.38	0.52
Nonmanual Labor Female Left Support	0.67	0.70	0.65	0.60	0.75	0.68	0.39	0.38	0.51	0.54
ILF vs. At-Home Female Left Support	0.17	0.47	0.11	0.28	0.04	0.32	0.28	0.44	0.56	0.47
Feminization of Left Support	0.46	0.39	0.40	0.50	0.72	0.42	0.50	0.53	0.45	0.83
Feminization of ILF Left Support	0.22	0.65	0.13	0.38	0.03	0.44	0.38	0.62	0.79	0.66

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Feminization of Left Support - Move from Traditional Manual Labor Base of Support	0.71	0.71	0.44	0.48	0.68	0.46	0.87	0.56	0.33	0.75
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.54	0.81	0.21	0.35	0.33	0.41	0.90	0.56	0.40	0.71
Center/Left Support Variables										
General Center/Left Support	0.80	0.87	0.91	0.53	0.66	0.73	0.78	0.73	0.55	0.65
Female Center/Left Support	0.75	0.80	0.91	0.59	0.74	0.79	0.82	0.79	0.65	0.70
Feminization of Center/Left Support	0.40	0.37	0.65	0.77	0.86	0.86	0.77	0.86	0.94	0.77

Coding Note. See Appendix D for details on fuzzy-set score construction.

Fuzzy-Set Scores for Belgium

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	0.34	0.36	0.39	0.40	0.40	0.44	0.48	0.50	0.53	0.55
Civilian Government Employment	0.07	0.09	0.15	0.15	0.15	0.16	0.16	0.15	0.15	0.15
Maternity Leave Index	0.46	0.46	0.46	0.45	0.45	0.52	0.56	0.56	0.56	0.55
Pub Day Care Index for Ages 0-2	0.15	0.15	0.15	0.14	0.14	0.13	0.13	0.13	0.13	0.11
Pub Day Care Index for Ages 3 to School Age	0.25	0.25	0.25	0.23	0.23	0.21	0.21	0.22	0.22	0.18
Family/Child Cash & Tax Benefit Index	0.98	0.98	0.99	0.90	0.85	0.80	0.79	0.79	0.81	0.79
Female Labor Force Participation	0.18	0.19	0.24	0.20	0.20	0.21	0.27	0.30	0.32	0.34
Left Support Variables										
General Left Support	0.62	0.59	0.46	0.31	0.32	0.13	0.05	0.04	0.17	0.16
Female Left Support	0.61	0.65	0.40	0.32	0.27	0.16	0.03	0.04	0.16	0.19
In-The-Labor-Force (ILF) Female Left Support	0.47	0.59	0.31	0.29	0.26	0.18	0.06	0.00	0.07	0.12
Nonmanual Labor Female Left Support	0.41	0.35	0.33	0.39	0.24	0.15	0.00	0.11	0.01	0.05
ILF vs. At-Home Female Left Support	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Feminization of Left Support	0.53	0.84	0.22	0.52	0.20	0.58	0.35	0.37	0.43	0.59
Feminization of ILF Left Support	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36

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Feminization of Left Support - Move from Traditional Manual Labor Base of Support	0.56	0.75	0.47	0.63	0.47	0.67	0.56	0.53	0.54	0.61
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Center/Left Support Variables										
General Center/Left Support	0.00	0.01	0.25	0.36	0.35	0.39	0.35	0.43	0.35	0.28
Female Center/Left Support	0.07	0.00	0.36	0.40	0.46	0.48	0.43	0.50	0.42	0.38
Feminization of Center/Left Support	0.70	0.39	0.92	0.65	0.99	0.90	0.82	0.80	0.77	0.85

Coding Note. See Appendix D for details on fuzzy-set score construction.

Fuzzy-Set Scores for Germany

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	0.24	0.28	0.34	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Civilian Government Employment	0.04	0.05	0.07	0.08	0.11	0.09	0.07	0.11	0.10	0.08
Maternity Leave Index	0.51	0.51	0.51	0.48	0.59	0.62	0.64	0.65	0.64	0.63
Pub Day Care Index for Ages 0-2	0.07	0.07	0.07	0.07	0.07	0.07	0.09	0.09	0.09	0.09
Pub Day Care Index for Ages 3 to School Age	0.32	0.32	0.32	0.31	0.32	0.35	0.40	0.41	0.44	0.43
Family/Child Cash & Tax Benefit Index	0.21	0.21	0.21	0.12	0.10	0.10	0.12	0.12	0.11	0.10
Female Labor Force Participation	0.34	0.35	0.38	0.38	0.42	0.46	0.57	0.58	0.58	0.58
Left Support Variables										
General Left Support	0.66	0.68	0.78	0.97	0.96	0.99	0.80	0.87	0.92	0.92
Female Left Support	0.57	0.60	0.76	0.95	0.96	0.99	0.78	0.92	0.90	0.94
In-The-Labor-Force (ILF) Female Left Support	0.55	0.56	0.67	0.99	0.82	0.84	0.80	0.84	0.82	0.84
Nonmanual Labor Female Left Support	0.59	0.63	0.74	0.99	0.79	0.77	0.81	0.73	0.81	0.89
ILF vs. At-Home Female Left Support	0.73	0.49	0.36	0.67	0.34	0.06	0.38	0.48	0.41	0.32
Feminization of Left Support	0.19	0.24	0.52	0.58	0.67	0.69	0.56	0.90	0.58	0.76
Feminization of ILF Left Support	0.97	0.63	0.43	0.88	0.41	0.00	0.47	0.61	0.50	0.38

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Feminization of Left Support - Move from Traditional Manual Labor Base of Support	0.00	0.45	0.20	0.82	0.59	0.83	0.60	0.99	0.63	0.72
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.26	0.62	0.00	0.98	0.45	0.55	0.49	0.97	0.59	0.54
Center/Left Support Variables										
General Center/Left Support	0.39	0.39	0.41	0.44	0.37	0.46	0.54	0.43	0.44	0.39
Female Center/Left Support	0.39	0.42	0.45	0.42	0.39	0.52	0.58	0.52	0.46	0.47
Feminization of Center/Left Support	0.50	0.63	0.69	0.45	0.61	0.77	0.70	0.87	0.62	0.83

Coding Note. See Appendix D for details on fuzzy-set score construction.

Fuzzy-Set Scores for Italy

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	0.00	0.00	0.01	0.04	0.06	0.08	0.10	0.11	0.12	0.13
Civilian Government Employment	0.00	0.00	0.02	0.02	0.04	0.05	0.07	0.07	0.08	0.07
Maternity Leave Index	0.55	0.55	0.57	0.56	0.54	0.53	0.54	0.55	0.54	0.54
Pub Day Care Index for Ages 0-2	0.08	0.08	0.08	0.08	0.07	0.04	0.00	0.00	0.00	0.00
Pub Day Care Index for Ages 3 to School Age	0.24	0.24	0.24	0.24	0.23	0.13	0.00	0.00	0.00	0.00
Family/Child Cash & Tax Benefit Index	0.11	0.11	0.13	0.07	0.05	0.05	0.02	0.02	0.01	0.00
Female Labor Force Participation	0.00	0.00	0.05	0.10	0.15	0.17	0.18	0.19	0.14	0.13
Left Support Variables										
General Left Support	0.70	0.77	0.63	0.78	0.78	0.87	0.68	0.72	0.74	0.00
Female Left Support	0.63	0.75	0.49	0.66	0.71	0.83	0.68	0.75	0.68	0.00
In-The-Labor-Force (ILF) Female Left Support	0.65	0.75	0.56	0.75	0.77	0.84	0.79	0.73	0.64	0.19
Nonmanual Labor Female Left Support	0.59	0.68	0.39	0.69	0.75	0.80	0.81	0.74	0.68	0.31
ILF vs. At-Home Female Left Support	0.26	0.04	0.24	0.37	0.33	0.28	0.51	0.16	0.00	0.49
Feminization of Left Support	0.29	0.46	0.00	0.05	0.32	0.45	0.57	0.69	0.36	0.41
Feminization of ILF Left Support	0.60	0.28	0.57	0.76	0.69	0.63	0.96	0.46	0.22	0.93
Feminization of Left Support - Move from Traditional Manual Labor Base of Support	0.40	0.48	0.52	0.28	0.45	0.42	0.57	0.67	0.45	0.47

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Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.45	0.24	0.73	0.45	0.53	0.40	0.68	0.53	0.29	0.62
Center/Left Support Variables										
General Center/Left Support	0.39	0.30	0.41	0.56	0.48	0.39	0.30	0.36	0.34	0.39
Female Center/Left Support	0.31	0.17	0.34	0.53	0.45	0.33	0.27	0.26	0.43	0.46
Feminization of Center/Left Support	0.22	0.00	0.27	0.42	0.43	0.30	0.41	0.19	0.85	0.80

Coding Note. See Appendix D for details on fuzzy-set score construction.

Fuzzy-Set Scores for Denmark

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	0.75	0.79	0.87	0.94	0.94	0.94	0.94	0.94	0.97	1.00
Civilian Government Employment	0.69	0.74	0.89	0.97	0.99	1.00	0.99	0.98	0.99	0.96
Maternity Leave Index	0.73	0.73	0.75	0.81	0.84	0.86	0.86	0.87	0.90	0.99
Pub Day Care Index for Ages 0-2	0.83	0.83	0.85	0.84	0.87	0.92	0.95	0.96	0.99	0.99
Pub Day Care Index for Ages 3 to School Age	0.83	0.83	0.85	0.84	0.88	0.92	0.95	0.96	0.99	0.99
Family/Child Cash & Tax Benefit Index	0.11	0.11	0.10	0.04	0.12	0.14	0.14	0.14	0.14	0.14
Female Labor Force Participation	0.66	0.69	0.82	0.92	0.96	0.97	0.99	1.00	0.98	0.88
Left Support Variables										
General Left Support	0.87	0.86	0.81	0.94	0.69	0.79	0.78	0.65	0.73	0.67
Female Left Support	0.83	0.85	0.89	0.95	0.71	0.87	0.85	0.69	0.81	0.65
In-The-Labor-Force (ILF) Female Left Support	0.83	0.78	0.76	0.93	0.67	0.85	0.83	0.63	0.74	0.69
Nonmanual Labor Female Left Support	0.74	0.73	0.65	0.88	0.61	0.75	0.72	0.51	0.70	0.63
ILF vs. At-Home Female Left Support	0.98	0.61	0.67	0.39	0.43	0.79	0.67	0.75	0.64	0.77

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Feminization of Left Support	0.44	0.60	0.98	0.68	0.70	0.98	0.95	0.76	0.94	0.53
Feminization of ILF Left Support	0.98	0.43	0.52	0.12	0.17	0.69	0.52	0.63	0.48	0.66
Feminization of Left Support - Move from Traditional Manual Labor Base of Support	0.44	0.54	0.65	0.63	0.59	0.67	0.68	0.55	0.69	0.50
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.66	0.40	0.44	0.30	0.28	0.52	0.45	0.47	0.46	0.52
Center/Left Support Variables										
General Center/Left Support	0.79	0.62	0.65	0.51	0.59	0.54	0.34	0.47	0.41	0.34
Female Center/Left Support	0.77	0.61	0.68	0.51	0.63	0.59	0.47	0.57	0.50	0.45
Feminization of Center/Left Support	0.55	0.54	0.73	0.56	0.73	0.75	0.97	0.90	0.87	0.92

Coding Note. See Appendix D for details on fuzzy-set score construction.

Fuzzy-Set Scores for Britain

	1977	*1978*	*80/81*	*84/86*	*87/88*	*89/90*	*1991*	*1992*	*1993*	*1994*
Macro Variables										
Cumulative Left Cabinet Incumbency	0.51	0.55	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Civilian Government Employment	0.46	0.46	0.45	0.42	0.43	0.41	0.38	0.34	0.22	0.14
Maternity Leave Index	0.15	0.15	0.16	0.16	0.17	0.17	0.00	0.00	0.00	0.00
Pub Day Care Index for Ages 0-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pub Day Care Index for Ages 3 to School Age	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Family/Child Cash & Tax Benefit Index	0.21	0.21	0.23	0.23	0.23	0.23	0.13	0.14	0.14	0.13
Female Labor Force Participation	0.57	0.57	0.57	0.63	0.67	0.73	0.74	0.73	0.73	0.74
Left Support Variables										
General Left Support	0.58	0.77	0.76	0.64	0.39	0.78	0.54	0.61	0.69	0.69
Female Left Support	0.49	0.70	0.68	0.62	0.38	0.79	0.56	0.50	0.69	0.70
In-The-Labor-Force (ILF) Female Left Support	0.42	0.64	0.61	0.60	0.33	0.75	0.49	0.42	0.66	0.65
Nonmanual Labor Female Left Support	0.32	0.48	0.47	0.47	0.29	0.65	0.41	0.31	0.59	0.55
ILF vs. At-Home Female Left Support	0.55	0.62	0.40	0.48	0.36	0.30	0.32	0.23	0.48	0.56
Feminization of Left Support	0.16	0.29	0.23	0.49	0.47	0.68	0.62	0.10	0.59	0.62

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Feminization of ILF Left Support	0.58	0.69	0.37	0.49	0.31	0.22	0.25	0.12	0.49	0.61
Feminization of Left Support - Move from Traditional Manual Labor Base of Support	0.26	0.54	0.43	0.67	0.64	0.73	0.75	0.49	0.65	0.65
Feminization of ILF Left Support - Move from Traditional Manual Labor Base of Support	0.42	0.78	0.43	0.67	0.57	0.48	0.60	0.45	0.60	0.65
Center/Left Support Variables										
General Center/Left Support	0.41	0.42	0.71	0.62	0.52	0.64	0.62	0.71	0.87	0.99
Female Center/Left Support	0.44	0.46	0.70	0.69	0.59	0.71	0.63	0.71	0.88	0.99
Feminization of Center/Left Support	0.61	0.68	0.55	0.85	0.82	0.82	0.61	0.60	0.70	0.67

Coding Note. See Appendix D for details on fuzzy-set score construction.

APPENDIX D: Fuzzy-Set Coding and Analysis Details

In this appendix we first address how to assess the empirical relation between some hypothesized cause and outcome from the logic of a fuzzy-set analysis. We then turn to the logic and process of coding fuzzy-set membership scores for cases in our data.

Assessing the Empirical Content of a Fuzzy-Set Graph

To assess the causal relationship between variables in the framework of a fuzzy-set analysis, we examine the fuzzy-set membership scores graphically by way of an *xy* scatterplot, or bi-plot. Generally, as in crisp-set oriented QCA methods, the empirical content of a fuzzy-set graph is assessed by the subset principle. In a strict adherence to this logic, we would compare the degree of belongingness to the cause and to the outcome to establish if, in general, one may be considered a subset of the other for all cases in the sample.

If all cases are such that the degree of belongingness to the outcome is a subset of the degree of belongingness to the cause, indicating that the outcome is in general a subset of the cause, then the data provide evidence that the cause is necessary, but not sufficient, to observe the outcome. As shown in Figure 2 in the main body of this manuscript, a fuzzy-set graph under a causally necessary relation would have all of the cases (points) *below* the main diagonal. Though not entirely consistent with a fuzzy-set logic, a useful way to think about this is probabilistically. That is, we can consider the degree-of-belongingness measures as indexing the likelihood of observing the cause and outcome. For a causally necessary, but not sufficient, cause/outcome relationship, the likelihood of observing the cause must be as high as, or higher than, the likelihood of observing the outcome. Under this scenario, for any one randomly drawn case in the sample, we may observe the cause while not observing the outcome, but we are unlikely to observe the outcome while not observing the cause. Mapping these likelihoods (that is, fuzzy-set membership scores) in an *xy* scatterplot would produce the lower-diagonal pattern mentioned above.

If, on the other hand, all cases are such that the degree of belongingness to the cause is a subset of the degree of belongingness to the outcome, indicating that the cause is in general a subset of the outcome, then the data provide evidence that the cause is sufficient, but not necessary, to observe the outcome. As shown in Figure 2, a fuzzy-set graph under a causally sufficient relation would have all of the cases (points) *above* the main diagonal. Using the probabilistic way of looking at a sufficient, but not necessary, cause/outcome relation, the likelihood of observing the outcome must be as high as, or higher than, the likelihood of observing the cause. Here, for any one randomly drawn

case in the sample, we may observe the outcome while not observing the cause, but we are unlikely to observe the cause while not observing the outcome as well.

Finally, if all cases are such that the degree of belongingness to the cause is equal to the degree of belongingness to the outcome, then the data provide evidence that the cause is necessary and sufficient to observe the outcome. In this case all of the cases (points) in the graph would line up precisely on the main diagonal in an *xy* plot of the membership scores for cause and outcome. Again, from a probabilistic point of view, this would indicate that the likelihood of observing the cause and outcome jointly for any one case is exactly equal. Moreover, knowing the probability of observing the cause would tells us precisely the probability of observing the outcome. That is, the cause tells us everything about observing the outcome, probabilistically speaking.

Often times, however, we may wish to consider cases that do not fall precisely on one side of the main diagonal or the other, but are close to the diagonal, as evidence *not against* the subset assessment needed to establish some causal relation. The degree of imprecision in the subset assessment may be due to imprecision in the information used to code membership scores, variability in procedures used to measure degree of membership, and/or other measurement and coding considerations. There are a number of useful ways in which a researcher may deal with this lack of precision in the measurement of fuzzy-set membership scores, and the impact it has on the subset assessment. Here we use two strategies that allow for adjustments to account for these measurement issues in slightly different ways. Both strategies hinge on a probabilistic notion of the causal relation or, to put it slightly differently, the degree to which the data are consistent with a causal argument of necessity, sufficiency, or necessity and sufficiency.

First we incorporate a small constant adjustment factor, *c*, allowing cases that deviate from the diagonal by *c* to *not be counted as evidence against* a specific causal argument. This type of adjustment for measurement imprecision is unique to a fuzzy-set approach to causal relations and has no analogue in the crisp-set QCA methods. Using the subset principle combined with the adjustment for measurement imprecision, if all of the cases fall *below* the line given by *the diagonal plus c*, then we have evidence that the data are completely consistent with a causal necessity argument *up to a measurement imprecision adjustment factor of c*. (Although some may find the difference rather miniscule, we purposefully have chosen to use the term "measurement imprecision" instead of "measurement error" here because the idea of *imprecision*, rather than *error*, better captures the issues surrounding measurement of fuzzy set memberships.) If, on the other hand, all of the cases fall *above* the line given by *the diagonal*

minus c, then we have evidence that the data are completely consistent with a causal sufficiency argument *up to a measurement imprecision adjustment factor of c*. Finally, if all of the cases fall *between* the lines given by *the diagonal plus and minus c*, then we have evidence that the data are completely consistent with a causally necessary and sufficient argument *up to a measurement imprecision adjustment factor of c*.

Second, to further assess the degree to which the graph is consistent with some causal statement, we consider the distance of the graph from what would be expected if some causal statement were indeed true, relative to the distance of the graph from that expected under a null relationship between the hypothesized cause and effect. To understand this idea, first consider what the graph should look like were it completely consistent with a causally necessary and sufficient argument. Ignoring for the moment any adjustment for measurement imprecision, under complete consistency of the graph with causal necessity and sufficiency, all cases in the data should line up along the diagonal, with absolutely no deviations off of the diagonal. In that case we would say that the distance of the graph from that expected under causal necessity and sufficiency is zero. Any deviation away from the diagonal counts as evidence *against* causal necessity and sufficiency, and measuring the distance of the points away from the diagonal tells us the distance of the graph from the argument of causal necessity and sufficiency.

Next consider what a graph should look like were it completely consistent with a null relationship between the cause and the outcome. Essentially, to argue that there is no relationship between the cause and outcome is to say that information about the cause does not help us to better understand the outcome. Or, to think about this in terms of the distribution of points in the graph, to argue no relation between cause and outcome is to argue that the distribution in the graph of the fuzzy set membership scores on the outcome should not be affected by the membership scores on the cause. In other words, that distribution of scores on the outcome should be the same everywhere you look relative to membership scores on the cause. If that pattern were observed in the graph, we would then say that the distance of the graph from that expected under a null relation is zero. Any deviation of the points away from that expected under a null association provides evidence *against* a null association, and measuring that distance tells us the distance of the graph from the null association argument.[12]

In-between these two extremes are considerations for a causally sufficient argument and a causally necessary argument, respectively. The minimum requirement for a graph to be completely consistent with a causally necessary argument is that all of the cases must fall below the main diagonal. (Again, we are for the moment ignoring the adjustment for measurement imprecision

discussed above.) If that pattern were observed in the graph, we would then say that the distance of the graph from that expected under a causally necessary argument is zero. Any deviation of the points away from this pattern (or equivalently any points that fall *above* the main diagonal) provides evidence *against* a causally necessary argument, and measuring that distance tells us the distance of the graph from a causally necessary argument.

Finally, the minimum requirement for a graph to be completely consistent with a causally sufficient argument is that all of the cases must fall above the main diagonal. If that pattern were observed in the graph, we would then say that the distance of the graph from that expected under a causally sufficient argument is zero. Any deviation of the points away from this pattern (or equivalently any points that fall *below* the main diagonal) provides evidence *against* a causally sufficient argument, and measuring that distance tells us the distance of the graph from a causally sufficient argument.

From this, we can obtain a precise measure of the distance of the graph from a null association, from causal sufficiency, from causal necessity, and from causal necessity and sufficiency combined. What we then seek to know, from these measures, is the *relative distance* of the graph, comparing these four informative outcomes. That is, we wish to know if the graph is more consistent with a null association relation, a causally sufficient relation, a causally necessary relation, or a causally necessary and sufficient relation. Or, to put it in slightly different words, are the data more consistent with one of these relations compared to the others, and, if so, to what degree are the data consistent with that relation?

To obtain the precise measures of distance and relative distance, we now bring back into consideration the adjustment for measurement imprecision discussed above. As above, let c be the small adjustment factor for measurement imprecision. Further, let y_i be the fuzzy-set membership score on the outcome of interest for case i, and let x_i be the fuzzy-set membership score on the hypothesized cause for case i. Finally, let d_i be an indicator (dummy) variable taking on the values 1 and 0, where

$$d_i = \begin{cases} 1 & \text{if } \; y_i > x_i + c \\ 0 & \text{if } \; y_i \leq x_i - c \end{cases}$$

Using this notation and these relations, the squared distance of an *xy* biplot of N (x_i , y_i) pairs may now be defined:

Squared distance from a null association:

$$D_{null} = \sum_{i=1}^{N} \left[y_i - E\left(Y_i \mid \text{null XY assocation } \right) \right]^2$$

Squared distance from causal necessity:

$$D_{nec} = \sum_{i=1}^{N} d_i \left[y_i - \left(x_i + c \right) \right]^2$$

Squared distance from causal sufficiency:

$$D_{suf} = \sum_{i=1}^{N} \left(1 - d_i\right) \left[y_i - \left(x_i - c \right) \right]^2$$

Squared distance from causal necessity and sufficiency:

$$D_{(nec+suf)} = \sum_{i=1}^{N} d_i \left[y_i - \left(x_i + c \right) \right]^2 + \sum_{i=1}^{N} \left(1 - d_i\right) \left[y_i - \left(x_i - c \right) \right]^2 = D_{nec} + D_{suf}$$

where $E\left(Y_i \mid \text{null XY assocation } \right)$ is the expected value of the outcome membership score for case *i* given a null association between the hypothesized cause and the outcome.

These cumulative distance measures are the sum of squared Euclidean distances of each case from that expected under a specific argument. When squared Euclidean distances are used, as we do here, then substituting the sample mean of Y for $E\left(Y_i \mid \text{null XY assocation } \right)$ gives the minimum distance of the graph from null association.[13]

Also, $\left(x_i + c \right)$ gives the minimum-distance expected value of Y under the argument of causal necessity, and only cases such that $y_i > x_i + c$ are included in the calculation. Whereas, $\left(x_i - c \right)$ gives the minimum-distance expected value of Y under the argument of causal necessity, and only cases such that $y_i \leq x_i + c$ are included in the calculation. Finally, it can be seen that the squared distance of the graph from causal necessity and sufficiency can be written as the sum of the squared distances from necessity and from sufficiency.

To obtain the proportional distance of the graph *relative to* the total, we take the ratio of the distance from one specific argument relative to the combined distances. Specifically,

Relative distance from a null association:

$$D^*_{null} = \frac{D_{null}}{\left(D_{null} + D_{nec} + D_{suf}\right)}$$

Relative distance from causal necessity:

$$D^*_{nec} = \frac{D_{nec}}{\left(D_{null} + D_{nec} + D_{suf}\right)}$$

Relative distance from causal sufficiency:

$$D^*_{suf} = \frac{D_{suf}}{\left(D_{null} + D_{nec} + D_{suf}\right)}$$

Relative distance from causal necessity and sufficiency:

$$D^*_{(nec+suf)} = \frac{D_{nec} + D_{suf}}{\left(D_{null} + D_{nec} + D_{suf}\right)} = D^*_{nec} + D^*_{suf}$$

And finally, to obtain the relative proportional consistency of the information in the graph with any one argument,

Relative consistency with a null association: $R_{null} = 1 - D^*_{null}$

Relative consistency with causal necessity: $R_{nec} = 1 - D^*_{nec}$

Relative consistency with causal sufficiency: $R_{suf} = 1 - D^*_{suf}$

Relative consistency with causal necessity and sufficiency: $R_{(nec+suf)} = 1 - D^*_{(nec+suf)}$

These measures give the relative "closeness" of the graph to some argument, or, in relating to the empirical information in the graph, *R* gives the proportion of information in the graph consistent with a specific argument. When *R* equals the maximum value of 1, the corresponding D^* equals the minimum of 0, indicating that the relative distance of the information in the graph from the corresponding argument is zero. Thus, an $R = 1$ for some specific argument means that the information in the graph is completely consistent with the corresponding argument. When *R* equals the minimum value of 0, on the other hand, the corresponding D^* equals a maximum of 1, indicating that the total dispersion of empirical information in the graph is *away from*, or *inconsistent with*, the corresponding argument. Another way to think of this is that when $R = 0$ for some specific argument, one of the other *R*'s must be equal to 1. Generally, then, an $R = 0$ for some specific argument means that there is no

empirical information in the graph to support that argument. Between these two extremes *R* may be interpreted as the proportion of information, relative to the set of arguments considered (null association, causal necessity, causal sufficiency, and causal necessity and sufficiency combined), in the graph consistent with the corresponding argument. Including the measurement adjustment factor, for example, R_{nec} can be interpreted as "the data are $100(R_{nec})$% consistent with a causal necessity argument up to a constant measurement adjustment factor of *c*." Similar interpretations are obtained for the other relative consistency measures.

Coding Fuzzy-Set Membership Scores

Coding fuzzy-set membership scores is essentially a process of coding each case as to its degree of belongingness to some set characterized by some attribute of theoretical interest to the researcher. Fuzzy-set membership scores behave much like probabilities, and it does no damage to the logic of the analysis to think of these scores in terms of the probability that some attribute is present. Importantly, fuzzy-set analysis is very sensitive to the choice of measurement in this respect. Considerable care is therefore warranted in the coding phase of the analysis. It is crucial to establish a reasonable logic underlying the measurement of the degree to which cases belong to some set. Generally, there are two primary considerations to which any researcher engaging in a fuzzy-set analysis must successfully attend. The first is the logic in establishing both the minimum and maximum belongingness scores. The second is then the logic underlying the distribution of the cases between the minimum and maximum. There are a number of informed choices that can be made for each.

In the current analysis, we use what may be called a *Min/Max Uniform Distribution Coding*. The underlying logic for this approach depends on a continuous distribution of scores on the original information measuring the attribute of interest, and from which corresponding fuzzy-set membership scores are calculated. A case in the data that has the *maximum score* on the measure for some attribute of interest is coded as *definitely belonging* to the set and pertaining to that attribute, giving a membership score of 1. A case that has the *minimum score* on the measure for some attribute of interest is coded as *definitely not belonging* to that corresponding set, giving a membership score of 0.

All other degrees of belongingness are measured based on a uniform distribution *relative to the range given by [min, max] on the original information.* Other distributions, or none for that matter, may be used to distribute cases across the range given by the min and max. Using *no reference distribution* exposes the coding of the fuzzy-set membership scores, and thus the

analysis, too much to the known and unknown vagaries of the individual researcher, leaving the validity of the analysis in question. Using a more complex reference distribution, without a compelling reason to do so, can induce results from the fuzzy-set analysis that are simply artifacts of the complexity of the distribution chosen.

Using a simple uniform distribution alleviates both of these concerns, distributing cases uniformly across the range [min, max] in terms of their belongingness to some set. The essential property of the uniform distribution is that it gives no unequal weight to cases that are in some specific sub-range (say, for example, the upper or lower portions of the distribution) on the original range of information. If the researcher has compelling information to suggest that certain ranges of the original information should indeed be differently weighted, then s/he may wish to use some other reference distribution (such as the normal, exponential, beta, or gamma for example) that accurately reflects this non-uniform weighting of information. For the uniform distribution on the range [min, max], then, a case with score x_i on the original information or variable is given a fuzzy-set membership score, indicating the relative degree of belongingness, using the form,

$$s_x = \frac{x_i - \min(X)}{\max(X) - \min(X)}$$

For example, the case(s) in our data that has(have) the maximum score on the measure "Cumulative Left Cabinet Incumbency" (1994 Denmark) is measured as belonging to the set "High Cumulative Left Cabinet Governance" with probability 1. Similarly, the case(s) in our data that have the minimum score on the measure "Cumulative Left Cabinet Incumbency" (1977 and 1978 Italy) is measured as belonging to the set "High Cumulative Left Cabinet Governance" with probability 0. All other cases are then measured relative to that maximum.

An analysis based on a *Min/Max Uniform Distribution Coding* logic as described above gives results consistent for the data at hand. That is, results are certain to have internal validity. In other words, our results hold for the data we do actually use.

External validity and moving off the support of the data to draw inferences to, in our case, other countries and time points, depends on the degree to which our data points (countries at specific time periods) represent other data points (other countries at specific time periods) *with respect to all of the variables used in the analysis*. This italicized phrase is important for two reasons. First, results of our analysis may be extended to those country-periods not used in the analysis, insofar as these country-periods exhibit the same (or to

a high degree similar) distributions on the observed factors used in the analysis. Secondly, the attempt to move off the support of the data to infer results to country-periods not used in our analysis *does not depend* on unobserved factors. That is, in our case, other countries at specific time periods will of course be different on a wide range of factors. However it is only on those *factors used in our analysis* that country-periods not used in the analysis should resemble those country-periods that we do in fact use, for inferences to be reasonably drawn for those country-periods not used in the analysis.

ENDNOTES

[1] Przeworksi and Sprague (1986) specify and empirically examine mathematical models of trade-offs between non-working class and working class support for left parties over multiple elections. Their modeling rests on assumptions about reciprocal effects between class-based support for political parties and party strategies and appeals, but they examine only associations between worker and non-worker left support. They do not measure policies created by governing parties, nor do they consider how associations between social democratic and other left parties *and the creation of welfare state institutions* will affect class or non-class bases for left party support.

[2] Ironically, careful thinking about causal chains was more a hallmark of welfare state research conducted *before* the regime concept became so fashionable than it is today (see e.g. Korpi 1989; Huber, Stephens and Ragin 1993; Pampel and Williamson 1989).

[3] Differences between Anglo-American market-oriented countries and Scandinavian public sector-oriented countries in gender gaps in earnings and processes leading to these gaps are beyond this paper's scope (For an introduction to this issue, see e.g. Rosenfeld and Kalleberg 1990, 1991, Blau and Kahn 1992; Gornick and Jacobs 1998; Gornick 1999). Essential here is the transnational character of the matching process, in which women are disproportionately matched to nurturing and people-oriented service tasks, whether these are publicly provided, provided through markets, or indeed—as is traditional for child care and elder care—provided by [women in] the family (see e.g. Grusky and Charles 2001).

[4] Although generous paternity leaves also should increase female labor force participation, there is insufficient over time variation in paternity leave policies in our time-country sample to test the empirical impact of paternity leaves. With respect to labor supply incentives and disincentives of tax structures, we have information on both cash and tax benefits for child care across countries and over time, but we lack systematic information for income tax features such as requirements or options for joint or single taxation, and tax splitting.

[5] We also would expect greater feminization of the public sector, when public sectors are larger, but we do not have data to test for public sector feminization at the aggregate level over time and across countries.

[6] Though there always is more work to be done, basic time-related and country-related patterns of variation are much clearer for empirical relationships between class or occupation and political party support than

they are for those between gender and party support. Prior research tested hypotheses related to *cross-national* differences in class-based political preferences more thoroughly than it has investigated these with respect to gender and partisanship (see e.g. Manza, Hout and Brooks 1995; Evans 1999). As well, much research investigating gender-based political preferences—especially that which undertakes cross-national comparisons—has serious shortcomings of method. For methodologically exemplary micro-level research on the association between gender and political partisanship in one country over time, see e.g. Mueller 1999 (for Germany) and Manza and Brooks 1998 (for the United States).

[7] Whereas attitudes toward expenditures were available for 1981, 1986 and 1992, attitudes toward public delivery and financing of services were available for 1986 and 1992 only.

[8] Because we found errors in coding occupation and religion in the cumulative data file, and because our coding of left-center-right preferences differed substantially from the pre-coded left-center-right variable in the cumulative Eurobarometer, we constructed substantively appropriate codings and re-cumulated individual surveys.

[9] Because religion may help shape the relationship between gender and partisanship, it would have been ideal to condition gender gaps simultaneously on religiosity and class/ labor force location. The data do not permit us to do this, consistent with maintaining adequate cell size to achieve meaningful empirical results for differences in gender gaps across class/labor force locations, countries and time. Thus, because gender gap differences by country, time and class/labor force location are central to the hypotheses we examine through aggregate-level fuzzy set analysis, we have not explicitly incorporated religion as a variable in this analysis. We *do* remain sensitive to the different roles that religion and confessional parties have played in the politics of each country when we interpret our empirical results. And we are conducting separate micro-level analyses of associations among gender, religion and political partisanship, and of how age, period and cohort affect the relationship between gender and partisanship.

[10] Strictly speaking, the proper concept in fuzzy-set methods tends to be one of "possibility" as distinct from a formal notion of probability. The distinction is important in some contexts, but here it does no damage to think of degrees of belongingess in terms of informal notions of probabilities.

[11] Korpi distinguishes maternity leave and public daycare for children ages 0-2 as providing support for dual-earners, and public daycare for children 3 to school age and family/child cash benefits as providing support for families in general. We do not disagree with trying to distinguish general family from

dual-earner support. But we view each variable we analyze as providing support in different ways for female labor supply, with the degree to which each is causally linked to female labor force participation an empirical question to be answered by our analyses.

[12] Note that even though this logic is used in linear statistical models to establish the so-called null model, it is also used in nonlinear statistical models to do the same, and in other nonlinear systems analyses as well. Here, fuzzy-set analysis, as well as QCA, and the causal analysis of sufficiency and necessity in general, may be considered a very general nonparametric "model" of a general nonlinear system Moreover, although this logic to establish the null relation is used in linear models, there is nothing inherently "linear" about this logic.

[13] Note that other distances may be of interest, such as the sum of absolute deviations for example. However, the Euclidean distance provides the actual unit distance between any two points on an *xy* biplot as is used in fuzzy set analyses, and is thus a natural choice to measure the collective distance of the points in the plot from that expected under some argument. We use and report the squared Euclidean distances as these provide the component information for the relative distance measures used in the analysis.