Gendered Opportunities for Work

Effects on Employment in Later Life

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Gender differences in employment rates in later life, although still substantial, have narrowed dramatically in the past four decades. The authors hypothesize that some of the gender variation in employment rates results from gendered differences in the demand for labor independent of individuals' characteristics. The authors use multilevel models to investigate variation across local-area labor markets in gender differences in employment among 56- to 66-year-olds. The demand for female labor is measured as the degree to which the occupational structure of a local labor market is skewed toward typically female occupations. Areas with relatively more female occupations have lower gender differentials in full-time employment than areas where occupations are overwhelmingly male. This would suggest that some of the convergence in employment rates among the elderly in the past half century might be traced to the larger historical shift from traditionally male industrial employment to more typically female service and office employment.

PATTERNS IN OLDER WOMEN'S AND MEN'S WORK AND RETIREMENT

Older women's and men's labor force participation has converged markedly in the past several decades (Gendell and Siegel 1992).

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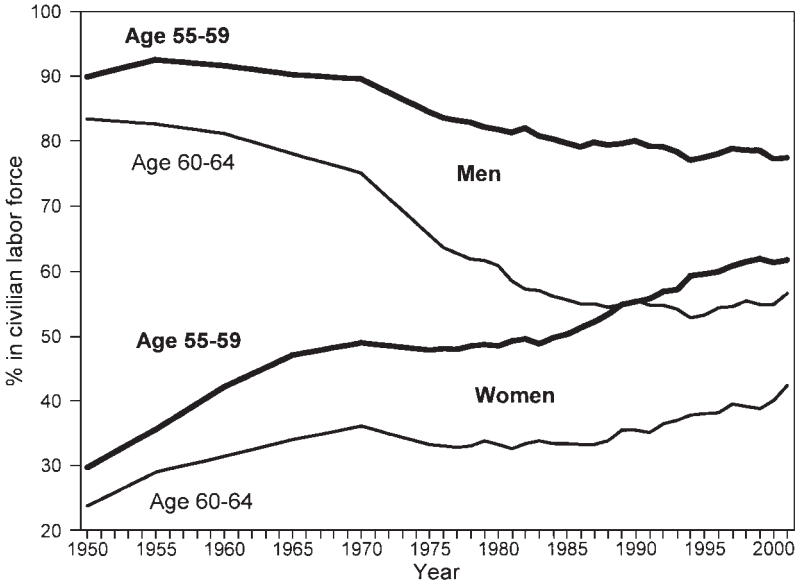

Figure 1: Labor Force Participation Rates by Age and Gender, 1950 to 2001
SOURCE: Gendell and Siegel (1992) and stats.bls.gov.

Figure 1 graphs the trends since 1950 separately for men and women aged 55 to 59 and 60 to 64. In 1950, the gender gaps in labor force participation for both age groups were about 60 percentage points. By 2000, the gaps had decreased to below 20 percentage points. The gender gap closed for those aged 55 to 59 because 55- to 59-year-old women were much more likely to be in the labor force in 2000 than in 1950. For the 60- to 64-year-old group, the gender gap closed primarily because men aged 60 to 64 reduced their labor force participation rates, whereas women aged 60 to 64 maintained or slightly increased theirs.

The reasons for this convergence may not be unique to the elderly. A convergence in labor force participation occurred for all ages during the past half century. Peracchi and Welch (1994) noted that the downward trends in the logged odds of male labor force participation were

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parallel for all ages and so recommend that "the search for explanations of trends . . . should primarily emphasize the larger question surrounding participation in general, and only secondarily should the peculiarities of advancing age be addressed" (p. 212). Similarly, the increase in labor force participation among mature women and the quite slow declines among older women suggest that the trends in older women's retirement may reflect the same larger structural forces that have driven up younger women's participation. Although some of these forces might be found in supply-side changes in women's characteristics (e.g., more education, fewer children), some of the convergence may have resulted from increasing opportunities for women's work, that is, from demand-side changes in the structure of the labor force. In particular, the shift from traditionally male industrial work to more typically female service work has pulled more women into the labor market and kept them there while reinforcing the opposite trend for men.

In this article, we apply a set of multilevel models across metropolitan areas (MAs) to examine how the gendered demand for labor affects the employment of women and men between the ages of 56 and 66. We have previously used these multilevel models to examine the characteristics of local labor markets that affect the labor force behavior of younger cohorts, and we expect that similar dynamics may operate for the elderly (Cotter, Hermsen, and Vanneman 2001).

GENDER DIFFERENCES IN RETIREMENT

Much research on labor force participation in later life focuses on the transition out of the labor force and into retirement. As is often noted, less is known about the retirement transition of women than of men. Over a decade ago, Hurd's (1990) review of retirement apologized for almost entirely excluding women, and 10 years later, Flippen and Tienda (2000) still complained that "the bulk of research on labor market withdrawal is based on the experiences of White, middle-class males" (p. 515; see also Smith 1994). Moreover, what we have learned about women's retirement does not help us understand the diverging trends very well. Many of the individual factors that affect male retirement appear to have quite similar effects on women (Lumsdaine, Stock, and Wise 1994). And the fact that couples tend to coordinate

retirement (O'Rand, Henretta, and Krecker 1992; Szinovacz and DeViney 2000) means that within couples, male and female retirement is positively correlated, even though the trends over time are negatively correlated.

There is some evidence that spouse characteristics affect one's own retirement in ways that reflect traditional gender ideologies; for example, men stay in the labor force to maintain status within the family, whereas women retire once the family financial situation warrants or if they are pressured by their husbands (Szinovac and DeViney 2000). The general decline in traditional gender ideologies (Erskine 1991; Mason and Lu 1988) may therefore be partly responsible for the convergence in retirement trends. Women have also traditionally assumed more of the responsibilities for caregiving (Spitze and Logan 1990; Fredriksen 1996), which reduces their labor force participation (Pavalko and Artis 1997), so the slow growth of more institutional and government support for elder care may have freed more women to work, although the demographic increase in the elderly requiring care would have reduced their labor force participation.

Women are also less likely to be covered by pension plans (Even and Macpherson 1994; Hardy and Shuey 2000), especially defined benefit plans that encourage retirement. But gender differences in pensions are declining over time (women are more likely to be covered, men less likely), so it is unlikely that changes in pension coverage explain why older women have increased their employment whereas older men have decreased theirs.

Although there have been myriad studies of changes in women's labor force participation, most of these focus on either "young" women of childbearing age or "prime-aged" workers. Because of the attention given to retirement processes and patterns, less is known about the labor force participation patterns of older women and even less about whether gender differences in labor force participation at later ages reflect the same gender differences in labor force participation at younger ages (for exceptions, see, e.g., Pienta, Burr, and Mutchler 1994; Pienta 1999). For instance, older women's sensitivity to their husbands' financial situations in making retirement decisions (Henretta and O'Rand 1983; Szinovacz and DeViney 2000) mirrors the importance of unearned income for discouraging younger women's labor force participation (Goldin 1990). Thus, the

explanation for the convergence in gender differences over time in labor force participation for older workers may have the same sources as the gender convergence in labor force participation rates that has occurred at other ages.

Most work and retirement studies have analyzed the characteristics of individuals. It is only recently that even spouses' or other family characteristics have been incorporated into the analysis (e.g., Henkens 1999; Szinovacz, DeViney, and Davey 2001). To explain the differential trends in labor force participation (and retirement), we believe that it is necessary to expand the scope even beyond the family. Gender differences, perhaps especially for the elderly, may be sensitive to the social and economic contexts that define the expected pattern of labor force behavior. These contextual determinants are largely missing from the individual-level studies that have predominated in the literature.

A FOCUS ON LOCAL LABOR MARKETS

Work and retirement decisions do not occur in a vacuum. Rather, they are made in the context of opportunity structures, including opportunities for employment and leisure. To some extent, these opportunity structures are gendered: In some times and places, "female" occupations are abundant, so the demand for female labor is persistent. In other times and places, the job structure is dominated by more traditionally male occupations, and so the demand for female labor is slack.

We conceptualize the demand for female labor as the degree to which the occupational structure is skewed toward traditionally female or traditionally male occupations. If a labor market has a high proportion of nurses and office clerks, the many women's jobs will change the climate for women's work, holding more women in the labor market and pushing women's employment rates to converge with men's. However, if the labor market has a high proportion of construction workers, metal machine operators, and truck drivers, then labor demand will reflect that most jobs are traditionally male, and we can expect a larger gap between older men's and older women's labor force participation.

The important consequence of a labor market with many female occupations may not be so much the direct effect of these female jobs

themselves. Research for the past two decades has documented the low earnings of female-dominated occupations (Treiman and Hartmann 1981; England et al. 1988), so it seems unlikely that these traditionally female occupations will retain women in the labor force. But when a labor market develops a disproportionate share of female occupations, the demand for female labor sets in motion a series of broad changes that can help retain older women in the labor market. When there is more demand for female labor, employers will have to pay higher wages in those traditionally female occupations, and the higher earnings should keep more women in those jobs. As women are more often employed and paid better wages, expectations of women's roles in society will change. Women will expect more from their work, and employers will expect more from their female employees. Local norms and customs will shift to accommodate women's labor force participation, and those places may become more amenable to work among older women.

These differences in norms and organizations change the climate for female labor for all women living in these labor markets, regardless of whether they happen to work in traditionally female jobs or not. It is these contextual changes that draw in and keep more women in the labor force. This is a conventional sociological perspective: Context matters, not merely the context of a person's own job and family but the context of the entire social system that shapes the rewards, expectations, and organizations that determine labor force participation.

The context we use to study these processes is the local labor market. MAs are the natural geographic units for studying labor market processes, although they differ from the definition of community used in many studies. MAs provide both a larger context than traditional neighborhood studies and a smaller context than national or time-series analyses. We believe that MAs offer advantages that recommend them as an appropriate areal unit for studying these "community" effects. Neighborhoods would not be a reasonable choice for studying labor market processes, because few people work within their neighborhoods, but most do work within their MAs.[1] National-level contextual studies offer too few units or too little variation for empirical analyses. MAs offer both substantial variation in the outcomes being studied and large enough samples to study contextual effects meaningfully.

We are not the first to point to the demand for female labor as a crucial component of gender equality. The demand for female labor was first used to explain the increase in women's labor force participation in Oppenheimer's (1970, 1973) analyses of the consequences of the changing occupational structure in the post–World War II United States. Oppenheimer (1973:189) argued that the rapid increase in the demand for female labor from 1950 to 1969 resulted from women workers dominating occupations that "were destined to expand enormously with the industrial growth of our society," such as nurses, teachers, librarians, and so forth. Together with a sharp decline in the usual pool of female labor (young, single women), the rising demand for female labor pulled older and married women into the labor market.

The importance of the demand for female labor has also been promoted by gender theorists (Dunn, Almquist, and Chafetz 1993; Blumberg 1978, 1984; Chafetz 1984, 1990; Collins et al. 1993; Huber 1990). Despite considerable variation from one theorist to another, most treat women's relative economic power as critical to gender equality and the overall demand for female labor as the important determinant of that economic power. For example, Blumberg (1978) asserted that "it has been the *demand* for their labor, rather than a sudden upsurge in the supply of women wanting to enter the labor force that has been the [most important] factor in explaining U.S. women's rising labor force participation" (p. 101). Similarly, Chafetz (1984) argued that gender equality is greater when women produce those things that are highly valued in their societies and when their work is not easily replaced.

There is some macro-level evidence that the labor force patterns of older workers are influenced by these gendered opportunity structures. DeViney and O'Rand (1988), in a 1951 to 1984 time-series analysis of labor force participation, provided evidence that

> the growth of bureaucratic structures and the expansion of the service sector have created a demand for the occupations and skills that are more likely to be held by women. Hence this change in occupational distribution provides a structure that leads older males to withdraw from the labor force and serves as a means of attracting and retaining women in the labor force. (P. 536)

Elman (1999), using 1910 census data, reported that older men are more likely to remain in the labor force in counties with greater production opportunities.

Other analyses have tested the female labor demand hypothesis among prime-aged workers (Cotter et al. 1998) and using multilevel methods on a cohort of young adults using the National Longitudinal Study of Youth (Cotter et al. 2001). Both studies found that women's labor force participation rates are higher and the gender difference in rates is smaller in local labor markets where occupational structures are skewed toward women's jobs. We anticipate a similar pattern of results for older adults.

We test the applicability of these theories to gender differences in employment among older workers using multilevel data across MA labor markets. We begin with an operational definition of the gendered occupational structure. We use this measure to test whether it explains MA differences in rates of employment among 56- to 66-year-old residents using data from U.S. Census Bureau Public-Use Microdata Samples (PUMS).

Data, Measures, and Methods

OPERATIONALIZING THE DEMAND FOR FEMALE LABOR

Following Oppenheimer (1970, 1994), we measure the demand for female labor as the extent to which the occupational structure is skewed toward predominantly female occupations. In this analysis, we focus on a relative measure of female versus male occupations:

$$Opportunity_a = \sum_{i=1}^{501} p_i . E_{ia} / \sum_{i=1}^{501} E_{ia}, \quad (1)$$

where $Opportunity_a$ = the degree to which occupations are weighted toward traditionally female occupations in MA a, p_i· = the female share of occupation i for the entire country, and E_{ia} = the number of workers (both men and women) in occupation i in MA a.

This statistic measures the expected share of women in the labor force given an MA's occupational structure but assuming that the female share of each occupation reflects the (constant) national average. It is a measure of the occupational structure of the MA, not of labor force participation rates, which reflect both demand and supply forces.

Our measure of gendered opportunity ranges across 1990 MAs from a low of 39.0 percent in Houma, Louisiana, to a high of 50.4 percent in Columbia, Missouri (where there are slightly more expected jobs for women than men). Houma is a petroleum and shipping center; it has a high proportion of welders, oil drillers, and ship officers and crew members. All of these occupations are nationally over 95 percent male. Columbia is an educational and health center; it has a high percentage of nurses, laboratory and health technicians, and educational administrators, predominantly female occupations throughout the country. If a gendered occupational structure is an important part of local opportunity, then the employment rate for women will be higher in Columbia than in Houma.

A female occupational structure is correlated with many other characteristics of MAs. MAs in the Northeast tend to have more female occupational structures ($M = 47.6$ percent),[2] whereas MAs in the West have more male occupational structures ($M = 45.6$ percent). Larger MAs tend to have somewhat more female occupational structures (correlation = +.38 with the logarithm of labor force size), but there are many smaller MAs that also have more female occupational structures (e.g., Columbia). Besides having more female occupational structures, large labor markets in the Northeast also pay better, so it is not surprising that women's average hourly wages are higher where the opportunity structure is better (correlation = +.49), but so are men's average wages (correlation = +.38). However, there is no substantial relationship between a female opportunity structure and the proportion of the population aged 65 and over (correlation = +.04).

These correlations provide a descriptive idea of the types of labor markets where women's opportunities may be better: older, large, Northeastern cities with high average earnings. The correlations also suggest variables that must be controlled in the multivariate analyses testing for gendered opportunity effects.

Instrumental Variable

Local labor markets with large financial services sectors have more typically female occupations (correlation = +.62), whereas MAs with large durable manufacturing sectors are less favorable to women's opportunities (correlation = –.40). The industrial structure of an area is likely to drive the gender composition of its occupational structure. These relationships permit an instrumental variables approach to analyzing the causal impact of a female occupational structure. Although we believe that our measure of female opportunity structure is primarily an effect of gendered labor demand, there remains a possible supply interpretation of the occupational structure. If women in an area are more likely to enter the labor market for whatever reason (e.g., unmeasured attitudes toward work), because of occupational segregation, these women will more likely enter female occupations, thus "distorting" the occupational structure toward female occupations. Thus, our original measure of occupational structure may reflect to some extent supply-side consequences of women's propensity to enter the labor market.

To help correct for this endogeneity, we calculate an instrumental variable whereby an MA's industrial distribution is used to predict its occupational structure. Specifically, the measure of female occupational structure was regressed on 12 variables measuring an MA's industrial distribution. The resulting predicted value of the occupational structure correlated +.94 with the actual measure of the occupational structure (detailed results available on request). Because the instrumental variable is less likely to be affected by supply-side characteristics of the women in the area, we use this instrumental variable as our primary MA characteristic of interest.

MULTILEVEL METHODS

The female labor demand hypothesis is a macro-level explanation for gender inequalities. Yet much of the empirical research on gender inequality (as on retirement) has been micro-level research, with individuals as the units of analysis. In the past decade, there has been substantial progress in the development of multilevel statistics (Bryk and Raudenbush 1992; Goldstein 1995), which can bridge the gap

between macro-level and micro-level data. We see the micro and macro causes of employment as distinct phenomena. The familiar question, What causes employment?, hides within it two separate but related questions: What causes employment rates to be high or low (in a particular area or at a particular point in time)? and What causes individuals to work? Our research has sought to disentangle these questions by using multilevel models to address both questions simultaneously.

We incorporate MA-level data with micro-data from the PUMS to compute these multilevel (or random-effects) models. These methods allow us to model individual-level employment outcomes as functions of gender and other individual and household characteristics separately for each MA; we then use the macro-level variables to predict variation in the gender coefficient across MAs. Although any of the individual-level coefficients can be modeled at the MA level, the central coefficients in the analyses are the intercept and the gender difference in employment for each MA (the gender coefficient).[3] The full multilevel model is as follows:

$$\log\frac{p_{ia}}{1-p_{ia}} = \beta_{0a} + \beta_{1a} \times Gender_{ia} + \sum \beta_{ja} \times (X_{jia} - \overline{X}_{j..}) + \sum \beta_{ka} \times Gender_{ia} \times (X_{kia} - \overline{X}_{k..}) + r_{ia}, \tag{2a}$$

$$\beta_{0a} = \gamma_{00} + \gamma_{01} \times Opportunity_{a} + \Sigma\gamma_{0m} \times (\mathbf{Z_{ma}} - \overline{\mathbf{Z}}_{\mathbf{m.}}) + u_0 a, \tag{2b}$$

$$\beta_{1a} = \gamma_{10} + \gamma_{11} \times Opportunity_{a} + \Sigma\gamma_{1m} \times (\mathbf{Z_{ma}} - \overline{\mathbf{Z}}_{\mathbf{m.}}) + u_{1a}, \tag{2c}$$

$$\beta_{ja} = \gamma_{j0}, \tag{2d}$$

where $\log[p_{ia}/(1-p_{ia})]$ = the 1990 log odds of employment for individual i living in MA a in 1985, β_{0a} = the intercept for MA a = the log odds of employment for the average female living in MA a in 1985, β_{1a} = the gender difference in employment in MA a, $Gender_{ia}$ = the gender of individual i in MA a (0 = female, 1 = male), β_{ja} = a vector of individual-level coefficients for variables $\boldsymbol{X}_{jia}$ in MA a, $\boldsymbol{X}_{jia}$ = a vector of j individual-level variables (e.g., marital status) describing individual i in MA a, $\overline{\boldsymbol{X}}_{j..}$ = a vector of j grand means of the individual-level variables, β_{ka} = a vector of k individual-level coefficients for the interaction of *Gender* with variables $\boldsymbol{X}_{kia}$ in MA a, r_{ia} = the individual-level

error term for individual i in MA a, γ_{j1} = the effects of female labor demand on β_{ja}, $Opportunity_a$ = the instrumental variable for the gendered opportunity structure in MA a, γ_{jm} = a vector of m macro-level coefficients for the effects of $\mathbf{Z}_{ma}$ on the micro-level coefficients β_{ja}, $\mathbf{Z}_{ma}$ = a vector of m macro-level variables (e.g., region) describing MA a, $\overline{\mathbf{Z}}_{m.}$ = a vector of m grand means of the macro-level variables, and u_{ja} = the macro-level error term for coefficient β_{ja} in MA a.

The central coefficient in the analyses is β_{1a}, the gender difference in employment for each MA controlling for other observed characteristics of these men and women. We are especially interested in the size of γ_{11}, the effect of the MA-level female opportunity structures on these gender differentials. The opportunity structure can affect gender differentials either because it increases women's employment or because it lowers men's employment. Thus, we also disaggregate the MA effects on the gender difference into the effects on men and women separately. The MA effects on women alone are estimated by γ_{01}, the effects on the intercept (because we define the gender variable as women = 0).

SAMPLE

The individual-level data in this analysis are drawn from the five percent PUMS of the 1990 census. The PUMS data offer advantages and disadvantages for studying labor market effects on employment. Because of the large sample, the PUMS data provide the most reliable estimates of employment in each MA. We are especially interested in whether the demand for female labor affects the persistence of employment for those who are of typical retirement age. In other words, we explore whether a high demand for female labor increases the likelihood that women remain employed, even though they are nearing the typical age of retirement. The census asked people not currently working when they last worked. If they worked within the past five years, their previous occupations and industries were also recorded. We restrict the sample to only those who had worked in the past five years (since 1985) and were either employed or not employed by 1990 (N = 636,747). The census also identified each person's residence in 1985, that is, while they were still employed. We use the 1985

residence to investigate whether the occupational structure of the worker's 1985 labor market affected employment outcomes in 1990.[4]

With a sample this large, almost all individual-level coefficients are statistically significant. Our focus is on the MA-level coefficients, however, for which the sample size is 261. Although we report tests of statistical significance on the basis of this sample, it should be noted that this is the total population of 1990 MAs, so there is no actual larger population to which we are generalizing.

DEPENDENT VARIABLE

We focus on full-time employment (35 or more hours of work per week) in 1990 as the principal outcome of interest (1 = employed, 0 = not employed). Past research has noted that part-time employment is often a "bridge" to retirement for older workers (Peracchi and Welch 1994), so we concentrate on gender differences in full-time employment.

CONTROL VARIABLES

Macro-Level

The MA-level data set we use contains a broad array of indicators from a wide variety of sources. At its core are a large number of economic and demographic variables constructed from the 1990 census summary tape, PUMS, Equal Employment Office, and county migration files. The basic analysis controls for five MA-level variables noted above in the discussion of correlates of a gendered occupational structure: size of MA, three dummy variables for region, and the percentage of the population aged 65 and over. Although the latter variable is not correlated with the occupational structure of an MA, the age structure of an MA is expected to be associated with retirement rates. MAs with large proportions of residents above age 65 are well-known retirement communities (e.g., Punta Gorda and Sarasota, Florida) with substantial leisure opportunities. We expect retirement transitions to be more common in those areas.

Micro-Level

In the micro-level model, we control for variables that are standard in models of labor force participation: race-ethnicity, age, education, disability, other family income in 1989 (total family income less the respondent's own earnings), marital status, the number of related children in the household, and immigrant status. Because each of these factors may affect men's and women's employment differently, we also include interactions of gender with each micro-level variable. Our interest here is not so much to investigate these effects on employment as it is to hold constant the composition of the population across MAs to detect the area contextual effects. The individual-level results are presented in the Appendix, but are not commented on further.

ALTERNATIVE MODELS OF THE GENDERED OPPORTUNITY EFFECTS

The main analysis we present focuses on the relationship between the demand for female labor and the gender gap in employment for workers aged 56 to 66. In addition to this analysis, we present findings from six alternative model specifications. These additional analyses are extensions or refinements of the basic model and allow us to test the robustness of the findings of the main analysis. The findings for the additional analyses should be compared to the findings of the original model. The alternative specifications include (1) adding a micro-level control for the gender composition of own occupation; (2) adding additional macro-level controls; (3) exploring Gender × Race gaps, not just gender gaps, in employment; (4) separate analyses by age group (56 to 60 years and 61 to 66 years); (5) a comparison of full-time employment to not in the labor force, unemployed, and part-time employment; and (6) a cross-sectional analysis of 1990 employment not restricted to those employed in 1985. We present only the demand coefficients, although the full models are available on request.

TABLE 1
Gender Variation in Employment,
Ages 56 to 66, Across 261 Metropolitan Areas

		Percentage in Labor Force	
	Difference	*Women*	*Men*
Largest gender differences in employment rates			
Elkhart-Goshen, IN	.312	41.6	61.8
Merced, CA	.293	15.5	41.4
Lancaster, PA	.289	26.6	55.6
Smallest gender differences in employment rates			
Pueblo, CO	.097	17.1	26.8
Punta Gorda, FL	.058	13.0	18.8
Anchorage, AK	.044	49.2	44.8

SOURCE: U.S. Census Bureau 1990 5% Public-Use Microdata Sample, ages 56 to 66, employed in past five years, living in metropolitan area in 1985.

Results

VARIATION IN EMPLOYMENT RATES ACROSS MAs

Older women's and men's full-time employment rates vary substantially across MAs. As shown in Table 1, gender differences vary from over 31 percentage points in Elkhart-Goshen, Indiana, to just 4.4 percentage points in Anchorage, Alaska. The table also illustrates that large gender difference in full-time employment can result from either older women's low employment rates (e.g., Merced, California, an agricultural center) or older men's high employment rates (e.g., Elkhart-Goshen, a manufacturing center). Similarly, small gender differences in full-time employment can result from either older women's high employment rates (e.g., Anchorage) or older men's low employment rates (e.g., Punta Gorda). Indeed, despite Elkhart-Goshen having high gender differentials, older women's employment rates there are higher than in either Punta Gorda or Pueblo, Colorado, where gender differences are quite small. The weak relationship between gender differences and women's absolute employment rates makes it important to investigate both outcomes separately in the analyses that follow.

TABLE 2
Multilevel Analyses of Effects of Gendered Opportunity Structure on Full-Time Employment, by Gender

	Intercept	*Gender Difference*
Metropolitan area–level models		
Intercept	–.52	.66
Female opportunity	2.61***	–2.14***
Percentage age 65 or over	–.64***	–.89
Size (log of labor force)	.03	.00
Region: North Central	.07**	–.07**
Region: South	.22	–.13
Region: West	.04	–.10***
Random effects		
Chi-square	1149.4	414.1
Variance	.019	.005

SOURCE: U.S. Census Bureau 1990 5% Public-Use Microdata Sample, ages 56 to 66, employed in past five years, living in metropolitan area in 1985 (N = 636,747).
**p < .05. ***p < .01.

MULTILEVEL ANALYSIS OF GENDER DIFFERENCES IN EMPLOYMENT

Table 2 presents the MA-level results from the multilevel analysis. The second column of coefficients reports the association of the six MA variables with the gender gaps in employment persistence, adjusting for the individual-level variables. As expected, older women's rates of full-time employment are closer to older men's rates in labor markets where there are more jobs in traditionally female occupations. In the average MA, the gender coefficient is positive (γ_{10} = 0.66), indicating that men are more likely to be employed full-time than women. As the occupational structure becomes more favorable to women, this coefficient becomes less positive (γ_{11} = –2.14). Our hypothesis is supported: Older women in labor markets with more female occupations have a smaller full-time employment gap with men than women living in labor markets with a less female occupational structure.

The effect of the occupational structure on reducing the gender gap is entirely a consequence of the effect on women's full-time employment, not on men's. This can be seen in the intercept column in Table 2, which estimates the effects of the MA variables on older

women's full-time employment. A female occupational structure strongly raises the full-time employment of women (γ_{01} = 2.61). In fact, the effect of a female occupational structure on older men, which can be calculated by adding the coefficients for the intercept and for the gender difference, is slightly positive (+0.48), the opposite of the expectation.[5]

These area differences in full-time employment are substantively meaningful. In MAs where the occupational structure is most "male" (female opportunity = 0.39), 34 percent of older women who had worked in the past five years would be expected to be working full-time in 1990, about 19 percentage points below the rate for older men (53 percent).[6] But in MAs where the occupational structure is most "female" (opportunity = 0.51), 41 percent of older women would be expected to be employed full-time, compared to 54 percent of men in those MAs. The gender gap in full-time employment remains, but in MAs with more opportunity for women, the gap has shrunk to 13 percentage points from 19 percentage points.

Gender differences in employment are also small in MAs with high proportions of older people (γ_{21} = –0.89). Older women were less likely to be working full-time if they lived in these MAs in 1985 (γ_{20} = –0.64), but older men's rates are even lower, so the gender gap in employment rates shrinks. Punta Gorda is an example of this phenomenon in Table 1. In addition, gender gaps in employment are similar in all sizes of MAs (γ_{31} = 0.00) because both older men and older women are equally more likely to be working full-time in the larger MAs (γ_{30} = 0.03). Finally, the gender gap in employment is largest in the Northeast (the omitted region in Table 2) and smallest in the South.

ALTERNATIVE MODELS OF THE GENDERED OPPORTUNITY EFFECTS

Table 3 presents results for several alternative models that test theoretical questions about the effect of female labor demand and the robustness of that effect across subsamples and alternative specifications. For brevity, only the coefficients for the MA opportunity structure are presented (more detailed results are available on request).

TABLE 3
Effects of Opportunity Structure on Gender Coefficients in Alternative Multilevel Models of Full-Time Employment

	Effect of Gendered Opportunity Structure on Full-Time Employment	
Analysis	*Intercept (women)*	*Gender Coefficient*
1. Original relationship (from Table 2)	2.61***	–2.14***
2. Controls for gender composition of individual's own occupation	2.71***	–2.26***
3. Controls for average earnings and unemployment rate in MA	1.66**	–1.92***
4. Separate MA models for each race and gender group[a]		
White women	2.14**	NA
African American women	NA	2.27
Latina women	NA	7.14**
White men	NA	–1.50**
African American men	NA	–2.14
Latino men	NA	–4.74*
5. Separate analyses by age		
Ages 56 to 60	3.06***	–3.03***
Ages 61 to 66	1.91**	–1.12
6. Multinomial logit analysis comparing full-time with each labor force type		
Versus not in the labor force	2.48**	–1.54**
Versus unemployed	5.73***	–3.02**
Versus part-time employed	2.34***	–3.57
7. Sample: all people aged 56 to 66 living in MA in 1990 (N = 886,058)	2.42**	–2.45

NOTE: MA = metropolitan area; NA = not applicable. Besides female opportunity, MA-level models include controls for region, population size, and percentage of the population aged 65 or over.
a. The comparison group for the gender difference column is always White women.
*$p < .10$. **$p < .05$. ***$p < .01$.

Controls for the Person's Own Occupation

The first model adds controls at the individual level for the gender composition of the individual's own occupation. Women working in labor markets with more female occupations are, almost by definition, more likely to be working in typically female occupations themselves. It is possible that it is this type of work that keeps women in the labor

force and explains why the gender gap in employment is smaller in these labor markets. In fact, just the opposite is the case. Women working in female occupations over the past five years were less likely to be employed full-time in 1990 ($\beta = -.24$), whereas men working in female occupations were more likely to be employed full-time in 1990 ($\beta = +.10$). Thus, the gender compositional effect of the individual's own occupation tends to drive apart the gender gap in employment in labor markets where there are many female occupations. The result is that when the person's own occupation is held constant, the contextual effect of female labor demand is even stronger than in Table 2 ($\gamma_{11} = -2.26$; Table 3, row 2).

This result means that we should think about the effects of traditionally female occupations in two distinct ways. At the individual level, having a typically female occupation tends to reinforce the usual gender gap in employment rates. Women appear to continue employment less often and men more often when they hold female occupations. But working in a labor market where there are more of these gender-typical occupations tends to have the opposite effect: Women in labor markets where there are many female occupations (and thus many other female workers) tend to retire less often, thus reducing the gender gap in employment among older workers.

Controls for the Mediating Effects of Wage Levels and Unemployment

Some of the effect of greater demand for female employment should be mediated by higher average earnings for women (relative to men's earnings) and their relatively lower unemployment rates. Adding MA-level controls for average men's and women's earnings and men's and women's unemployment rates to the basic model does reduce the opportunity effect on the gender difference in full-time employment somewhat (from –2.14 to –1.92) (Table 3, row 3). Moreover, the labor market opportunity effect on only older women is even more substantially reduced by the controls for average MA earnings and unemployment (from 2.61 to 1.66). A major reason that older women are more likely to be employed full-time in labor markets with more female occupational structures is that those labor markets pay women relatively more and have lower female unemployment rates.

This is consistent with the interpretation of the occupational structure effect as an effect of the demand for female labor.

The effect of the MA occupational structure is not fully explained by these economic differences alone. We believe that there are many other consequences of a high demand for female labor (e.g., changed expectations about women's roles, organizations better adapted to women employees) that increase women's labor supply and retain older women in full-time employment. Unfortunately, we do not have adequate MA-level or individual-level measures of these normative and other consequences to test this interpretation.

Racial-Ethnic and Age Subgroups

It is important to ask whether the general effect attributed to female labor demand is felt broadly across all racial-ethnic (Flippen and Tienda 2000) and age groups. The results in Table 3 show that the female opportunity effect is quite consistent across racial-ethnic groups and may be even more important for the employment of older minority women than of older White women. When separate race and gender dummy variables are substituted for the gender variable in equations 2a and 2c, the estimated effect of the MA opportunity structure on African American women's full-time employment ($\gamma = 4.41$) is larger than on White women's ($\gamma = 2.14$, but this difference does not reach conventional significance levels), and the effect of the occupational structure on Latinas' full-time employment ($\gamma = 9.28$) is significantly greater than on White women's.

The next set of coefficients reports the results of dividing the original 56- to 66-year-old sample into two age ranges and computing the same analyses as in Table 2 separately for both age subsamples. Female opportunity affects gender differences in full-time employment primarily for people in their late 50s ($\gamma_{11} = -3.03$) but less so for people in their early 60s ($\gamma_{11} = -1.12$). Similarly, a female occupational structure pulls more 56- to 60-year-old women into full-time employment ($\gamma_{01} = 3.06$) than 61- to 66-year-old women ($\gamma_{01} = 1.91$). In other words, although local economic opportunities are important for promoting older women's persistent employment, once women reach their 60s, the local labor market is less consequential in determining employment decisions.

Comparisons With Part-Time Work and Unemployment

The outcome in the previous analyses compared older workers working full-time with all other older people who had worked in the past five years. That comparison aggregates people who have left the labor force entirely with people who continue with part-time work and with the temporarily unemployed who continue to look for work. Although aggregating these three groups together simplifies the analysis considerably, it is also of interest whether the effect of local female labor demand distinguishes the full-time employed from each of these groups separately. A multinomial logit analysis unpacks the three comparisons into separate analyses (see Flippen and Tienda 2000 for a similar approach). The findings confirm that areas with more female occupational structures have smaller gender gaps in the ratios of older people working full-time relative to those not in the labor force, relative to those who are unemployed, and relative to those who are working part-time. These effects on the gender gap arise primarily because of the effect on keeping more women in full-time employment (see column 1, Table 3). Thus, the basic results reported in Table 2 also apply to each of these comparisons separately.

Nevertheless, these results also show that local female labor demand reduces the gender gap in full-time employment relative to part-time employment more than it does relative to dropping out of the labor force entirely. One might expect that a strong local demand for female labor would keep more women working in part-time employment rather than dropping out of the labor force entirely. But in fact, part-time employment for older women appears to be especially uncommon in areas with a high demand for female labor. It is only full-time work in these areas that holds more women and reduces the gender gap in employment.

Cross-Sectional Analysis of 1990 Employment

The final row in Table 3 reports the results of an analysis of full-time employment for all men and women aged 56 to 66 in 1990 MAs, not just those who had worked in the past five years. This is a conventional cross-sectional labor supply analysis of employment. We should expect the effects of the female labor demand to be similar but

somewhat stronger in the cross-sectional analysis because the effects of high female labor demand would have been felt in having pulled more women into the labor force in 1985. The results confirm our expectation; the occupational structure effect on gender differences in full-time employment is –2.45 among the entire sample, as compared to –2.14 among those who had worked in the past five years.

Conclusion

This article offers further evidence that contextual effects need to be taken into account in understanding gender differences in later life labor force behavior. MAs differ both in the full-time employment rates for older women and men and in the gender differences in those employment rates. Our analyses suggest that these gender differences in employment are in part a consequence of the labor market opportunities in the area. MAs with more female occupations have smaller differences between older men and women in full-time employment, even holding constant all the measurable aspects of those individual men and women. These labor market opportunities would also help explain why over time, older men's and women's employment rates have converged. Our cross-sectional, MA-level results reinforce the time-series conclusions of DeViney and O'Rand (1988) about the importance of a gendered labor demand. As the national occupational structure has shifted toward female occupations, more opportunities for women have opened up, which have pulled women into the labor market and held them there at later ages.

Although contextual labor market effects have received limited attention in the work and retirement literature, we see these as a typically sociological concern. Situations matter (Mills 1959). Similar people will make different decisions when confronted with different local labor markets. Geographic mobility is not so perfect that we can assume that the arrays of individual preferences and of local opportunities settle out into a comfortable equilibrium with appropriate matches. Moreover, the existing differences among local labor markets can provide an important tool to better understand how national changes over time affect work and retirement behavior.

This analysis has been able to quantify one aspect of the local opportunity structure and demonstrate that the gender skew in the occupational structure is related to the employment of individuals living in those areas. Women remain employed in areas where there are many female occupations and are more likely to retire in areas with relatively few female occupations. The shift toward more female occupations is the same dimension that has been cited as explaining the convergence over time in women's and men's retirement patterns (DeViney and O'Rand 1988). But the role of demand-side factors has been understudied in the intervening years since those initial findings. Retirement research, especially research on gender differences in retirement, has shifted from a purely individualistic focus to include more characteristics of the individuals' spouses and family relations. Our results argue that the scope of research should widen further to include situational determinants in the labor market for older workers.

Nevertheless, this study is only one step in demonstrating contextual effects on later life labor force behavior. Much remains to be done to confirm this effect and to understand exactly how the area-level effect is mediated through differences in individual employers and employees. Better measures of individual resources such as pensions, retirement income, savings, and home ownership would help us examine the multiple and sometimes offsetting ways in which local labor markets affect work and retirement behavior. For example, areas where female labor demand is strong should also be areas where women enjoy more continuous work histories and may be better able to build up savings to support earlier retirement. Couples' joint retirement behavior also needs investigation because MAs with higher demand for female labor present both more opportunities for wives and fewer opportunities for husbands.

Understanding the mechanisms by which a high demand for female labor changes men's and women's later life labor force behavior will also require new data better suited to studying contextual effects. We reasoned in the introduction that areas with high female demand differ in many ways besides purely economic incentives. In particular, the expectations of older women about work and of others (employers, spouses) about older women will change where more women work. These expectations are likely to be an important mediator between labor market conditions and retirement behavior. Current surveys

include some measures of older people's expectations about retirement (e.g., Ekerdt, Kosloski, and DeViney 2000) and survival (see Hurd and McGarry 1995), but these are too often asocial versions of expectations. We learned from the Wisconsin studies that the important expectations for college attendance are what others expect of high school students (Sewell, Haller, Ohlendorf 1970). Retirement probably reflects a similar process, but current surveys usually do not measure others' expectations or even a respondent's own perception of others' expectations (for interesting exceptions, see Henkens 1999 and Smith and Moen 1998).

Similarly, we expect that organizations that employ more women will be different, and the broad institutional supports for working women will be more prevalent where (and when) there is a high demand for female labor. Eventually, firm-level data may be integrated with retirement surveys so that some of these organizational contexts might be examined (Abowd and Kramarz 1999). Better measures of these normative and institutional contexts would help test how the shift in occupational structures has affected retirement decisions. But such tests will require new data that are less individualistic and research designs that better recognize the role of contextual effects.

Truly longitudinal data also would offer several technical and conceptual advantages over these census data. First, an analysis with longitudinal data could better specify actual employment persistence (and, conversely, retirement transitions), which we can only approximate with the census data. Distinguishing voluntary and involuntary transitions out of the labor force would also be important for understanding gender differences in retirement (Flippen and Tienda 2000).

Second, longitudinal data would permit tests of two alternative interpretations of these MA-level differences. As with all cross-sectional contextual studies, we cannot be certain that the people living in more favorable employment areas are not in some unmeasured ways different from the people living in areas with less opportunity. The effects we have identified as area-level effects may in fact be proxies for the types of individuals living in those areas. Which types of women are likely to have moved to areas where female employment opportunities are high? And which types of women are likely to have remained in areas where female employment opportunities are low? It

seems likely that unmeasured characteristics of these women would have had some effect on these location decisions and would also have affected the probability of persistent full-time employment that we observe in our analysis. Similar area selection effects may operate also among men with similar consequences for our results. This area selection explanation is familiar to students of neighborhood effects, in which the even higher rates of geographic mobility across neighborhoods make the selection hypothesis an especially plausible alternative interpretation.

Thus, the area-level relationships we have observed in the PUMS permit two possible causal interpretations. The MA relationships may be genuine contextual effects whereby all women in a local labor market, regardless of their personal characteristics and interests, are influenced to enter and maintain full-time employment. Or the area effects may be selection effects whereby the greater opportunities for women in some areas encourage migration to those areas (and discourage migration away from those areas) among women who are most interested in full-time employment. These two alternative interpretations might be distinguished better with fixed-effect models with longitudinal data, with which we could observe employment and retirement differences among women who move into and out of MAs with different gendered employment opportunities.

But the PUMS analysis does support the interpretation that local opportunities matter for understanding gender differences in later life employment. Where there are more female occupations, the gender gap in employment is smaller among older workers. We suspect that the smaller gender gaps arise from both enhanced opportunities that keep more women in those areas employed and the attraction of those opportunities for employment-oriented women to move to those areas. We also suspect that there are a wide range of intervening mechanisms that link contextual opportunities to individual employment and retirement decisions: wages; savings; institutional supports for women's work; and the expectations of employers, families, and peers. The results of the analyses reported here warrant more study of these contextual effects and a better balance of individual and situational factors in understanding retirement.

APPENDIX
Full Multilevel Model of Full-Time Employment

	Coefficient	*Standard Error*	t *Ratio*
Intercept (= female average)	–0.522	0.012	–44.813
Female opportunity	2.614	0.853	3.065***
% aged 16 to 24	–0.640	0.231	–2.769***
Labor market size (log)	0.030	0.008	3.738
North Central region	0.068	0.035	1.963**
South region	0.217	0.031	7.071
West region	0.038	0.037	1.032
Gender coefficient (average; 0 = female, 1 = male)	0.662	0.011	58.404
Female opportunity	–2.140	0.688	–3.109***
% aged 16 to 24	–0.885	0.240	–3.687
Labor market size (log)	–0.004	0.007	–0.601
North Central region	–0.068	0.028	–2.447**
South region	–0.128	0.026	–4.944
West region	–0.098	0.029	–3.430***
Individual-level controls			
Own children in household	0.075	0.010	7.557
Never married	0.264	0.027	9.680
Formerly married	0.234	0.022	10.766
African American	–0.060	0.046	–1.310
Latino	0.098	0.025	3.868
Years of education	0.064	0.004	16.746
Age 56	1.863	0.029	64.685
Age 57	1.805	0.026	68.814
Age 58	1.708	0.030	57.244
Age 59	1.628	0.030	53.605
Age 60	1.471	0.027	54.434
Age 61	1.326	0.027	49.787
Age 62	0.961	0.021	46.329
Age 63	0.754	0.025	30.674
Age 64	0.585	0.023	25.478
Age 65	0.230	0.033	6.951
Disability	–1.583	0.019	–84.421
Log of other family income	–0.278	0.014	–20.337
No other family income (vs. minimal)	–0.216	0.034	–6.274
Immigrant	0.142	0.034	4.169
Different MA in 1985	–0.910	0.082	–11.074
Male × Own Children in Household	0.076	0.010	7.642
Male × Never Married	–0.907	0.034	–26.988
Male × Formerly Married	–0.700	0.019	–37.546
Male × African American	–0.064	0.045	–1.436
Male × Latino	–0.064	0.036	–1.803*

(continued)

APPENDIX (continued)

	Coefficient	*Standard Error*	t *Ratio*
Male × Years of Education	0.008	0.003	2.813***
Male × Age 56	0.450	0.032	14.113
Male × Age 57	0.420	0.030	14.150
Male × Age 58	0.412	0.035	11.601
Male × Age 59	0.402	0.031	12.855
Male × Age 60	0.333	0.030	11.169
Male × Age 61	0.305	0.033	9.158
Male × Age 62	0.103	0.026	4.021
Male × Age 63	0.039	0.033	1.209
Male × Age 64	0.060	0.029	2.023**
Male × Age 65	–0.029	0.038	–0.764
Male × Disability	–0.043	0.020	–2.152**
Male × Log of Other Family Income	–0.091	0.009	–10.651
Male × No Other Family Income (vs. minimal)	–0.516	0.041	–12.518
Male × Immigrant	0.183	0.034	5.351
Male × Different MA in 1985	–0.092	0.031	–3.002***

NOTE: MA = metropolitan area.
*$p < .10$. **$p < .05$. ***$p < .01$.

NOTES

1. We suspect that many other processes also operate at a level well above the local neighborhood, which would make MAs useful units of analysis. Networks, even family relations, now usually extend beyond immediate neighborhoods but often still within local metropolitan regions. Local institutions—schools, places of worship, stores—are embedded within larger units—school districts, church dioceses, store chains—that determine their impacts on local residents. Local media are typically contained within MAs. The substantial residential mobility within MAs but across neighborhoods also suggests that for many social processes, MAs might be the most effective units of analysis.

2. All means and correlations across MAs have been weighted by the size of the labor force in the MA.

3. The gender coefficients in each MA estimate the gender differences in participation only when all other variables in the individual model (e.g., education) equal zero. As is common in multilevel designs, to make the coefficient for gender meaningful, all the individual-level variables (except gender) are centered at their grand (national) means. The gender coefficient then estimates the participation gap that would result if men and women in each MA had the grand mean on all the individual-level control variables.

4. Our MA measures of occupational structure are based on 1990 data, but occupational structures are quite stable over time, so the 1990-based measures are reasonable approximations of 1985 variations across labor markets.

5. In separate analyses by gender, not reported in detail here, this coefficient for men is not significantly different from zero.

6. An opportunity structure of 0.39 is 0.06 points below the average MA. The expected full-time employment rate of an average older woman in an MA with a .39 opportunity structure can be calculated as $\exp(-0.52 + -0.06 \times 2.61)/[1 + \exp(-0.52 + -0.06 \times 2.61)]$, about 34 percent.

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