An Exploratory Empirical Note on the Relationship between Local Labor Market Freedom and the Female Labor Force Participation Rate in US Metropolitan Areas

Crystal Wong
Department of Economics, National Tsing Hua University of Taiwan
Hsinchu City, Taiwan

Dean Stansel*
Cox School of Business, Southern Methodist University
Dallas, TX 75033, USA

Abstract: Using a new local-level index of economic freedom, we provide the first examination of the relationship between labor market freedom (LMF) and the female labor force participation rate (FLFPR) that focuses on local labor markets, where there are fewer unmeasurable differences between jurisdictions, rather than nations or states. Our results indicate that the relationship between the LMF and FLFPR is positive and statistically significant across multiple specifications. A one-standard deviation increase in the LMF was associated with a 1.2-2.0 percent increase in the FLFPR. These findings imply that women may be disproportionately harmed by government interventions in labor markets.

Keywords: Economic Freedom, Labor Market Freedom, Female Labor Force Participation Rate, Female Earnings Opportunities

JEL Classification Number: J21; J22; P19

1. Introduction

The female labor force participation rate (FLFPR) in the United States has experienced a secular increase over time, rising from about 60% in 1970 to a peak of 67% in 2000 (BLS, 2014). Economic freedom in the U.S. was also increasing over that period, rising from a score of 7.6 in 1970 to a peak of 8.65 in 2000 (Gwartney et al., 2014). It is only a recent phenomenon that female labor force participation has begun to level off or even decline (Hotchkiss, 2006). Economic freedom has also declined in the U.S. since 2000. This paper examines whether there is an empirical relationship between economic freedom and the FLFPR.

Traditionally women have often specialized in home production and men in market work. Throughout history women have thus often been in a disadvantaged position in the labor...
market relative to men as a result of the long-rooted gender roles in households.¹ That
typical gender division of labor within households has resulted in married women often
accumulating more household skills that may not translate well to labor market
opportunities, but less human capital of high value in labor markets. In the context of labor
market freedom, one key factor that reduces freedom is the enforcement of minimum
wage laws. A well-known consequence of the minimum wage is that it increases
unemployment of low-skilled and non-unionized workers. When employers can be more
selective in employment as a result of the excess supply of labor under more restrictive
minimum wage laws and other labor policies, women may be less likely to be employed
relative to men given their lower quantity of human capital. This could discourage female
labor force participation. Conversely, an increase in labor market freedom (LMF), for
example through a reduction or repeal of the minimum wage, would be expected to have
the opposite effect.

This study is motivated by a concern that women may be disproportionately harmed by
government interventions in labor markets. Cebula and Alexander (2014) provided the
first examination of the relationship between LMF and the FLFPR. Using data for U.S.
states, they found a statistically significant positive relationship. We build on that initial
framework by using data for local labor markets (U.S. metropolitan areas) and by
expanding the number of control variables. The advantage of using local data (compared
to states and nations) is that metropolitan area borders are less arbitrary, there are fewer
differences across jurisdictions that are difficult to quantify, and there is a larger sample
size. Our results also indicate a positive relationship between LMF and FLFPR, suggesting
that reducing government interventions in labor markets may have a positive impact on
women.

2. Methods

Following Cebula and Alexander (2014), we perform the regression model as:

\[
\ln FLFPR_{m,r} = \beta' \ln LMF_{m,r} + \alpha' X_{m,r} + \gamma_r + \epsilon_{m,r}
\]

(1)

where \(\ln FLFPR_{m,r}\) denotes the natural logarithm of the female labor force participation
rate in metropolitan area \(m\) in region \(r\). \(\ln LMF_{m,r}\) is the natural logarithm of the labor
market freedom index. \(X_{m,r}\) is a vector of our metropolitan area demographic controls
described in the next section, \(\gamma_r\) denotes the regional division fixed effect, and \(\epsilon_{m,r}\) is an
iid error term.

¹ Some point to the substantial gender wage gap and alleged discrimination against women in the
labor market as evidence of this (see for example Goldin, 1986; Blau & Ferber, 1987; Lazear &
3. Data

Cebula and Alexander (2014) used a state-level index of economic freedom (see Stansel et al., 2014 for most recent edition). That measure contains three components: 1) size of government, 2) takings and discriminatory taxation, and 3) labor market freedom. Because their dependent variable relates to labor markets, Cebula and Alexander (2014) focus exclusively on the third area. We follow that same approach, using a local index of economic freedom (Stansel, 2013), which contains those same three components. Our hypothesis is that when labor market freedom increases, female workers will face fewer obstacles in the labor market, therefore the female labor force participation rate will increase. Since our LMF data is for 2002, we use FLFPR data for 2003 (thereby employing a one-year lag, as did Cebula and Alexander (2003)).

We use data from the IPUMS Current Population Survey in 2003 to construct all of the control variables that Cebula and Alexander (2014) used: average annual earnings of employed females age 16 and over, percentage of female population 16 and over that are married, percentage of females age 16 and over that have at least a high school diploma, female unemployment rate, and the percentage of the female population age 65 and over. We replicate their state-level analysis with our local-level data. Then we expand on that by including two additional controls (also from IPUMS): the average annual spousal income of married women and the percentage of population that is African-American, as well as regional dummy variables.2

Female earnings and female labor force participation rate are likely to be simultaneously determined, which would lead to biased estimates. Therefore, instead of controlling for the average annual real earnings of employed females age 16 and over, as in Cebula and Alexander (2014), we control for the average annual spousal income of married women.3 The African-American population share is included because the labor supply responses of African Americans exhibit quite different patterns from their white counterparts. For instance, the effect of the presence of children on the labor supply of African-American women is much less pronounced than for white mothers (Bell, 1974; Lehrer, 1992). We include regional dummies to capture regional-level characteristics that affect FLFPR but are difficult to measure.

2 The regional divisions are: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific Division.
3 However, our results do not change very much when we use this alternative variable.
4. Results

The first column in Table 1 provides the estimate using Cebula and Alexander (2014)’s specification. We find a positive and statistically significant relationship between LMF and FLFPR, as we do in columns (2) and (3) where we include additional control variables. Considering that the mean and standard deviation of the LMF index are 6.67 and 1.248 respectively, a one-standard deviation increase in the LMF from the mean, which corresponds to a 18.7 percent increase, would increase FLFPR by 1.2-2.0 percent. Our results for the control variables used by Cebula and Alexander (2014) largely confirm their findings. The two exceptions are that we find the average annual earnings of employed females to be negatively and statistically insignificantly associated with the FLFPR (as opposed to positive and highly significant) and the female unemployment rate to be positive and insignificant (rather than negative and weakly significant). We also find that

<table>
<thead>
<tr>
<th>Table 1: Economic Freedom and Female Labor Force Participation Rate</th>
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<tbody>
<tr>
<td><strong>Independent Variables:</strong></td>
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<tr>
<td>ln(labor mkt. freedom)</td>
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<tr>
<td>ln(average annual earnings of employed females 16 and over)</td>
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<tr>
<td>ln(% of females 16 and over that are married)</td>
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<tr>
<td>ln(% of females 16 and over with at least a high school diploma)</td>
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<tr>
<td>Female unemployment rate</td>
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<tr>
<td>ln(% of females who are age 65 and over)</td>
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<tr>
<td>ln(average spousal income of married women)</td>
</tr>
<tr>
<td>African-American population share</td>
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<td>Regional Division Dummies</td>
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<tr>
<td>Constant</td>
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<td>R²</td>
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</tbody>
</table>

Notes: N = 222. ***,, ** and * indicate statistical significance at 1%, 5% and 10% levels respectively. The regressions are weighted by the metropolitan area population.

4 All the variables are in logarithm forms except for two controls: the female unemployment rate and the African-American population share, which are zero for some small metropolitan areas. Using logarithm forms of these variables would reduce our sample size. However, the results are insensitive to using the original form or logarithm forms of these variables.
5 Stated differently, a 1% increase in local LMF was found to be associated with a 0.063-0.105 percent increase in the FLFPR, which is somewhat smaller than the increase found by Cebula and Alexander (2014) with state-level data.
6 We do find weak statistical significance when the regional dummies are included.
the percentage of females over 65 was highly statistically significant rather than not significant (we both found a negative relationship). Neither of our new control variables -- spousal income of married women and African-American population share -- were found to have a statistically significant relationship with FLFPR. The results for the former are consistent with empirical studies that suggest a sharp decline in the cross wage elasticity of the labor supply of married women in recent decades (see Blau and Kahn 2005).

5. Concluding Remarks

Results indicate that the positive relationship between LMF and FLFPR found by Cebula and Alexander (2014) is robust to a change in the unit of analysis from state to metro area as well as to the inclusion of additional demographic controls and regional dummies. Our findings imply that women may be disproportionately harmed by government interventions in labor markets. This has important implications for contemporary public policy debates.

References


