

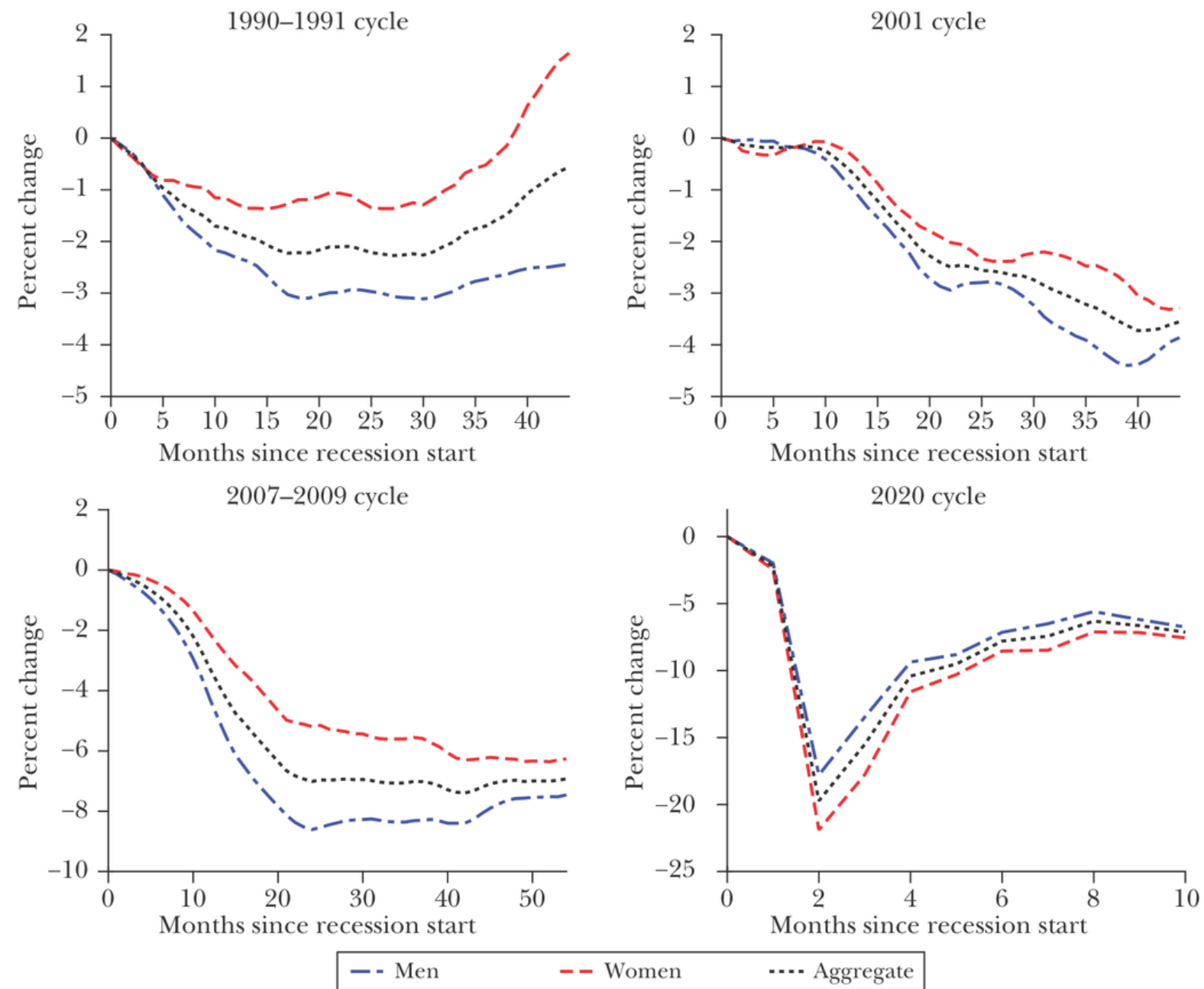
Effects
**OF THE COVID-19
RECESSION ON THE
US LABOR MARKET:**



—● Occupation, Family, Gender ●—



Introduction



Source: Authors' calculations based on Current Population Survey.

Note: Recession dates based on the National Bureau of Economic Research business cycle dates.

The covid-19 recession in the U.S. is associated with a largely employment drop for women than men.

Fig.1) Percentage Change in the Employment-to-Population Ratio since the start of each recession for the four most recent business cycles

Introduction

Due to the changes in the pattern of employment in both Demand- and Supply sides.

Classified occupations based on flexibility of ability to work remotely,



DEMAND - SIDE

Gender differences in the occupation distribution

- Men: Production Occupations
- Women: Service Occupations

Because of the drop in the demand for services, causes women's employment decreases

SUPPLY - SIDE

During the pandemic, the limited availability of in-person childcare and schooling options led many parents to exit the labor force.

Objective



Focus on the differences in supply-side employment responses of men and women during business cycle

- Comparison between the Great Recession and the pandemic recession
- Occupational differences influenced employment for men and women
 - Classify occupations based on contact intensity and ability to work remotely

Explore the relative importance of the supply-side and demand-side employments

- A regression approach to analyse the employment changes of women and men during the pandemic
 - Focus on differences in family status
- Gross flows of labor
 - The flow from employment to unemployment can be viewed as a supply-side withdrawal from the labor market as well as driven from the demand-side

EMPLOYMENTS

by Gender & Family Status

Shore (2010),

- Examines risk sharing within marriage over the business cycle
- Find the correlation in incomes of husbands and wives are less positive during the recessions

At the macroeconomic level

Ellieroth (2019),

- Married women are less likely to leave the labor force in a recession

=> The form of precautionary labor supply in response to the higher threat of job loss experienced by their husband

The Supply side of the labor market

"Added-worker" Effect

... The mechanism of when one partner is at risk of earnings loss or unemployment, the other partner increases their labor supply



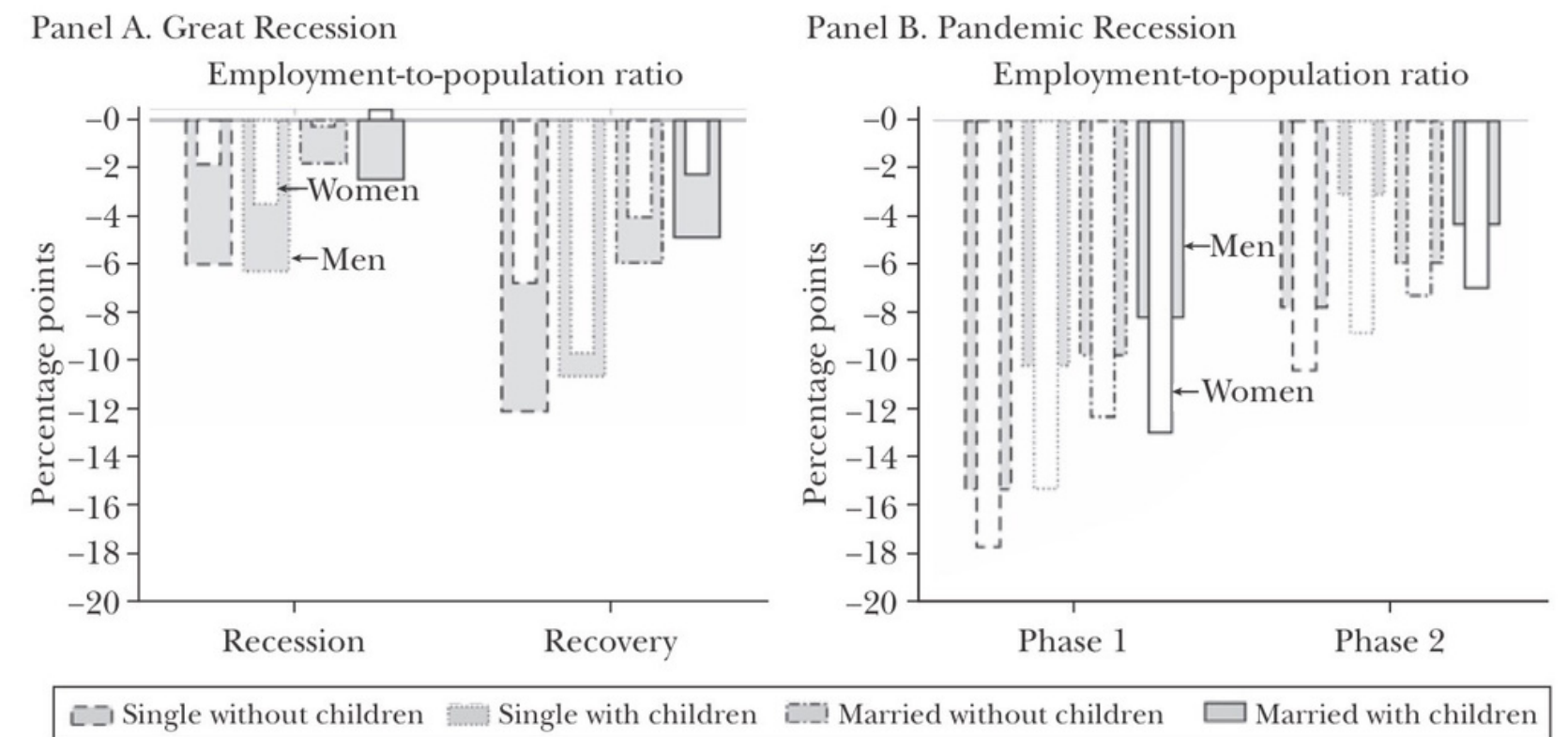
Employment Declines in the Pandemic and the Great Recession

To illustrate how the employment losses of men and women during the pandemic recession differed from earlier recessions, we compare the pandemic recession to the Great Recession

- **The Great Recession:** The decline in women's employment is sizably smaller than men's for every family group
- **The Pandemic Recession:** The decline in employment is larger for women than for men in every family group in both comparisons

Figure 2

Change in the Employment-to-Population Ratio Relative to Pre-Recession during the Great Recession and the Pandemic Recession by Gender and Family Status

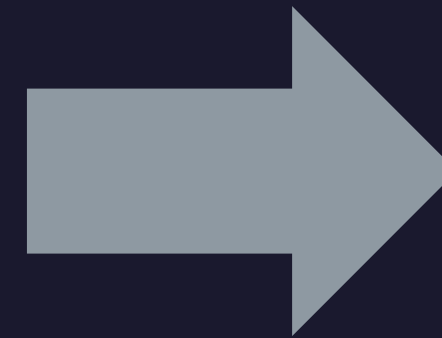


Source: Author's calculations from CPS.

Note: For the Great Recession, pre-recession corresponds to March–November 2007, Recession to December 2007–June 2009, and Recovery to July 2009–July 2012. For the pandemic recession, pre-recession corresponds to February 2020, Phase 1 to March–May 2020 and Phase 2 to June–November 2020.

Discussion

During 2020, women experienced a substantial reduction in employment compared to men, contrary to the pattern that prevailed in previous recessions.



Both labor demand and supply factors likely contributed to this behavior

Women are more likely to be employed in service-providing industries and service occupations.



Another unique factor associated with the pandemic recession was the increased childcare needs associated with the disruptions to school activities, which may have contributed to a reduction in labor supply of parents



EXPOSURE TO THE COVID-19 RECESSION BY OCCUPATION

Table 1

Occupation Classification

	<i>Flexible</i>	<i>Inflexible</i>
High-contact	Education, Training, and Library	Healthcare Practitioners and Technical Healthcare Support Food Preparation and Serving Personal Care and Service
Low-contact	Management Business Computer and Mathematical Architecture and Engineering Life, Physical, and Social Science Community and Social Services Legal Arts, Design, Entertainment, Sports, and Media Sales and Related Office and Administrative	Protective Service Building and Grounds Cleaning and Maintenance Farming, Fishing, and Forestry Construction Trades, Extraction Installation, Maintenance, and Repair Production Transportation and Material Moving

- Two dimensions to classify occupations
 - Flexibility : whether the occupation can be carried out remotely
 - Contact intensity: workers' physical proximity to customers or coworkers while on the job.



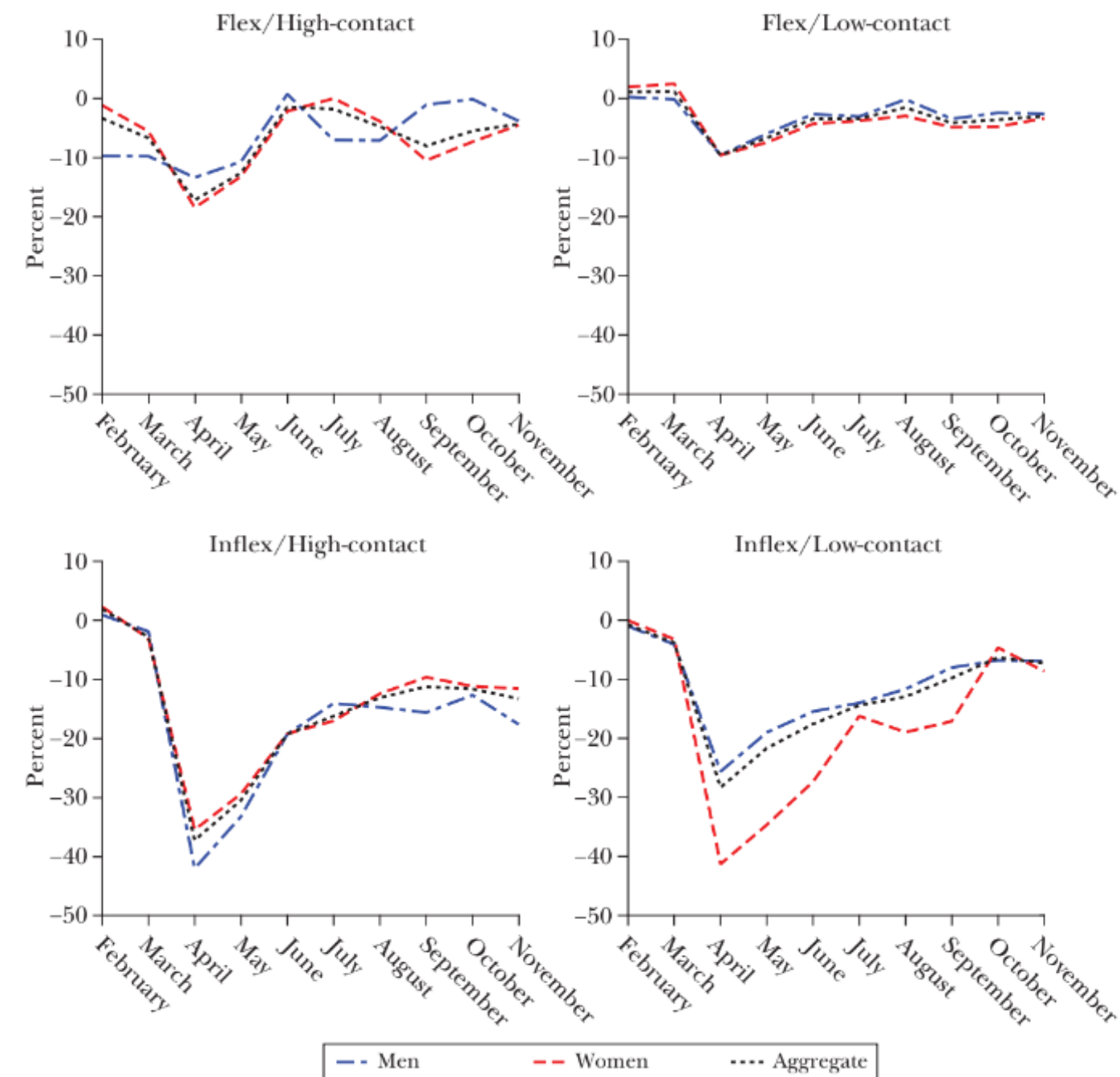
- The inflexible/high-contact occupations are the most vulnerable to the COVID-19 shock and are dominated by female workers.
- Flexible/low-contact occupations are the largest category, accounting for 51 % of overall employment, specifically 53 % of female employment and 48 % of male employment, with a female share of 50 %

Table 2
Occupational Distribution by Gender

<i>Group</i>	<i>Employed women</i>	<i>Employed men</i>	<i>Total employed</i>	<i>Female share</i>
Flexible, High-contact	10	3	6	76
Flexible, Low-contact	53	48	51	50
Inflexible, High-contact	26	9	17	73
Inflexible, Low-contact	11	40	26	19



Figure 3
Percentage Change in the Employment-to-Population Ratio from One Year Prior in 2020



- Inflexible/high-contact occupations show the largest overall decline in employment. Men's employment fell by 8 percentage points more in April compared to women.
- Inflexible/low-contact occupations are the second worst hit. women's employment dropped to 42 % relative to one year prior in April, much larger than the 25 % fall for men.
- Employment in flexible/high-contact occupations dropped to a low of -17 % relative to one year prior in April 2020 but recovered rapidly.
- Flexible/low-contact occupations, which account for the biggest share of employment, were the least impacted.



Two patterns emerge from these results.

- First, for flexible/low-contact occupations, the recovery in employment was more minor for women.
- Second, for inflexible occupations, workers with the lowest representation by gender lost more jobs. This pattern may arise due to the negative selection of male workers into female-dominated inflexible/high-contact occupations and female workers into male-dominated inflexible/low-contact occupations.



DEMAND & SUPPLY EFFECTS

A COMPAIRISON

Employment was greatly impacted during the pandemic and was driven by a combination of demand and supply factors, all individually influenced by gender, age, education, and the presence of children. The research of this paper found that the effects can be disentangled in two ways.

Method #1

The first is to examine the data on employment through the lens of marital status early on, as well as ask how much variation would be eliminated by adding control variables for occupation.

Method #2

The second strategy looks at the relationships between participation, unemployment, and employment flows.

Overall Lesson

The main takeaway is that, while both supply-side and demand-side effects contribute to the reduction in the employment-to-population ratio for women during the pandemic recession, supply-side factors related to marriage and having children account for roughly two-thirds of the shift and occupational changes account for the remaining one-third.

Regression Framework

This research estimates the subsequent regression to look at the employment patterns in 2020:

$$Y_{i,t} = \alpha + \sum_{\tau=1}^2 \beta_{\tau} \times I(\tau) + \gamma I^i(f) + \delta I^i(m) + \eta I^i(c) + \nu X_t^i + \epsilon_{i,t}$$

This study focuses on the disparities in employment between men and women in each pandemic phase relative to February 2020, as determined by the shift in each demographic group weighted by the appropriate population shares for that month. The following figures demonstrate further their findings.

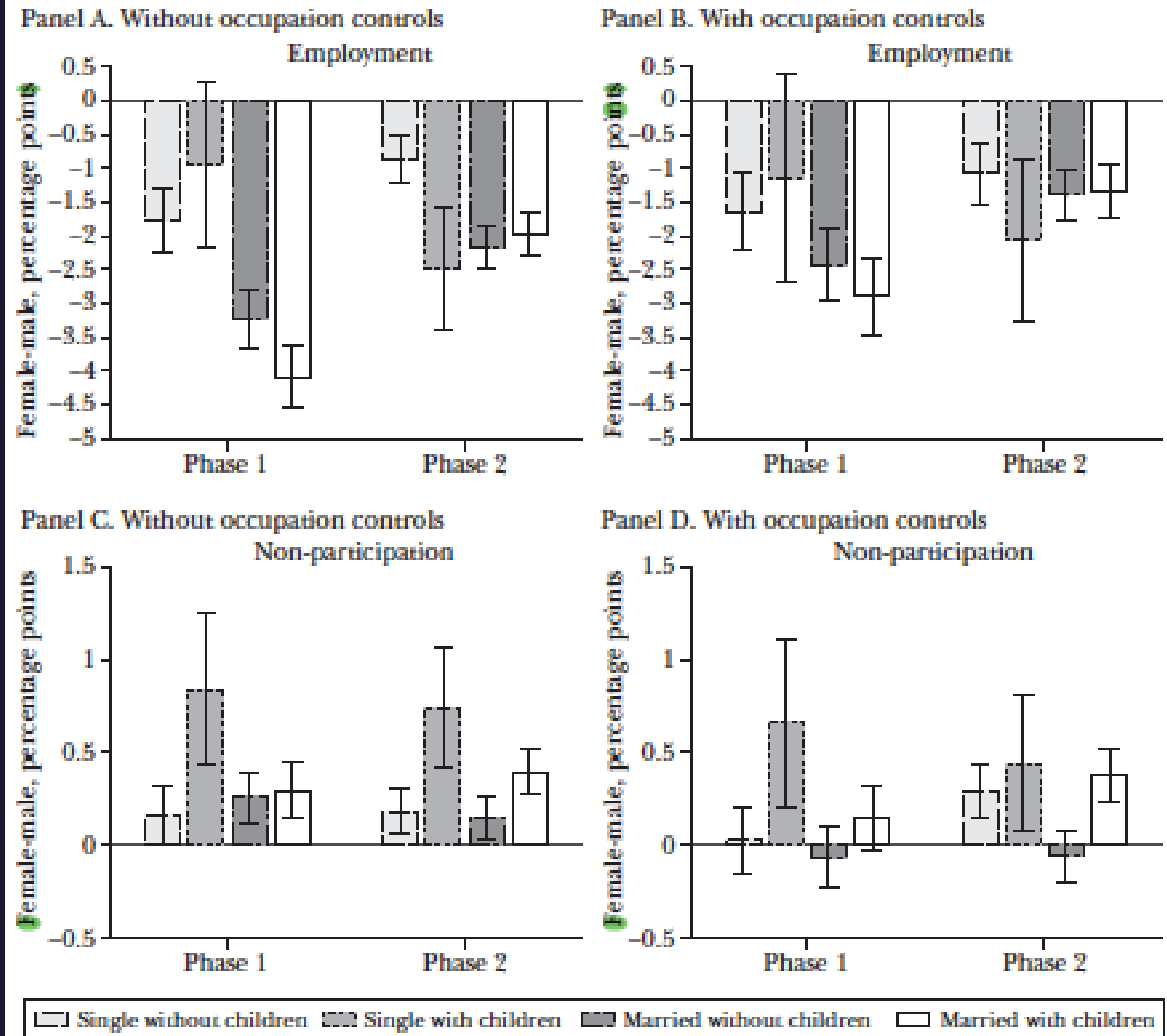
Change in Employment, Unemployment, Nonparticipation by Demographic Groups

<i>Change since February 2020</i>	<i>Employment</i>		<i>Unemployment</i>		<i>Nonparticipation</i>	
	<i>Phase 1</i>	<i>Phase 2</i>	<i>Phase 1</i>	<i>Phase 2</i>	<i>Phase 1</i>	<i>Phase 2</i>
	Average without occupation controls	-5.8	-8.8	5.0	3.5	0.3
Share women	64.8	62.2	68.7	61.1	72.7	78.0
Average with occupation controls	-3.6	-3.1	3.5	3.0	0.1	0.1
Share women	65.9	61.6	65.8	60.0	69.5	121.6

Figure 3



Figure 4 - Female–Male Difference in Changes in Employment since February 2020, Estimated with and without Occupation Controls



EVIDENCE FROM GROSS LABOR FLOWS

To explore the role of labor demand and supply during the pandemic we have to look at the gross labor markets flows between employment, unemployment and labor force participation.

1. Employment - to - unemployment
2. Unemployment - to - employment
3. Employment-to-nonparticipation
4. Unemployment-to-nonparticipation



EVIDENCE FROM GROSS LABOR FLOWS

Table 4

Change in Gross Labor Flows by Demographic Groups

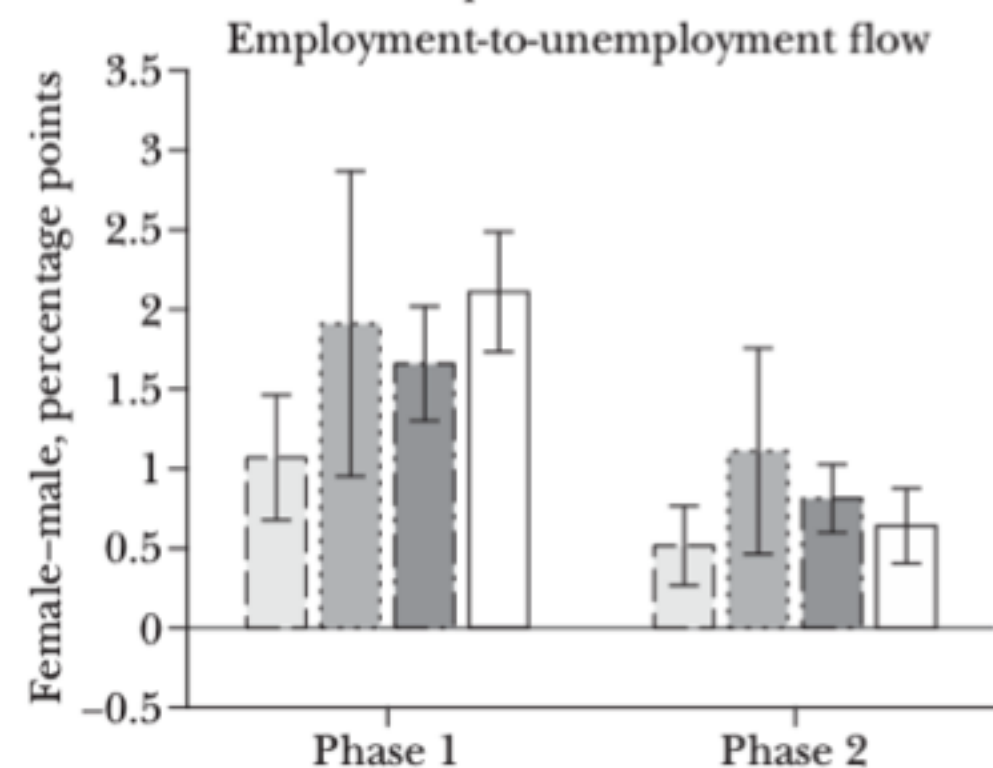
<i>Change since February 2020</i>	<i>EU</i>		<i>UE</i>		<i>EN</i>		<i>UN</i>	
	<i>Phase 1</i>	<i>Phase 2</i>	<i>Phase 1</i>	<i>Phase 2</i>	<i>Phase 1</i>	<i>Phase 2</i>	<i>Phase 1</i>	<i>Phase 2</i>
Average without occupation controls	2.9	1.2	-0.4	-0.6	0.2	0.1	0.1	0.1
Share women	65.1	66.6	57.6	62.1	68.7	68.0	71.0	61.0
Average with occupation controls	1.8	1.1	-0.4	-0.4	0.2	0.1	0.01	0.04
Share women	66.8	58.5	72.4	86.2	55.4	85.0	120.2	76.2

EVIDENCE FROM GROSS LABOR FLOWS

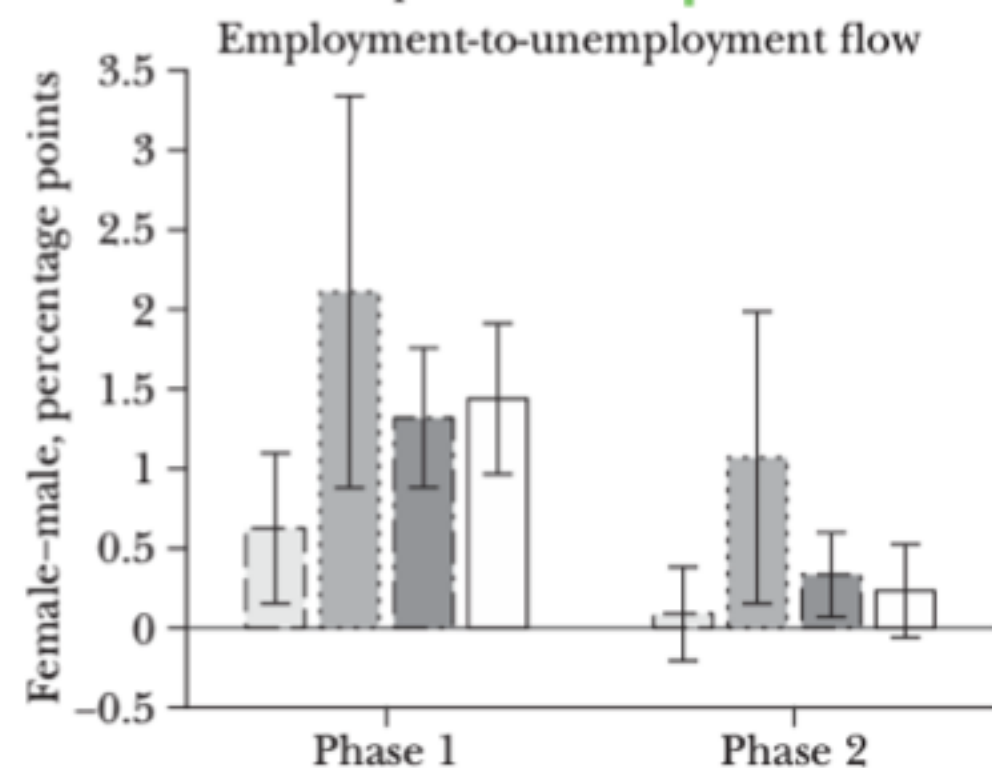
Figure 5

Female–Male Difference in Changes in EU Flows since February 2020, Estimated with and without Occupation Controls

Panel A. Without occupation controls



Panel B. With occupation controls



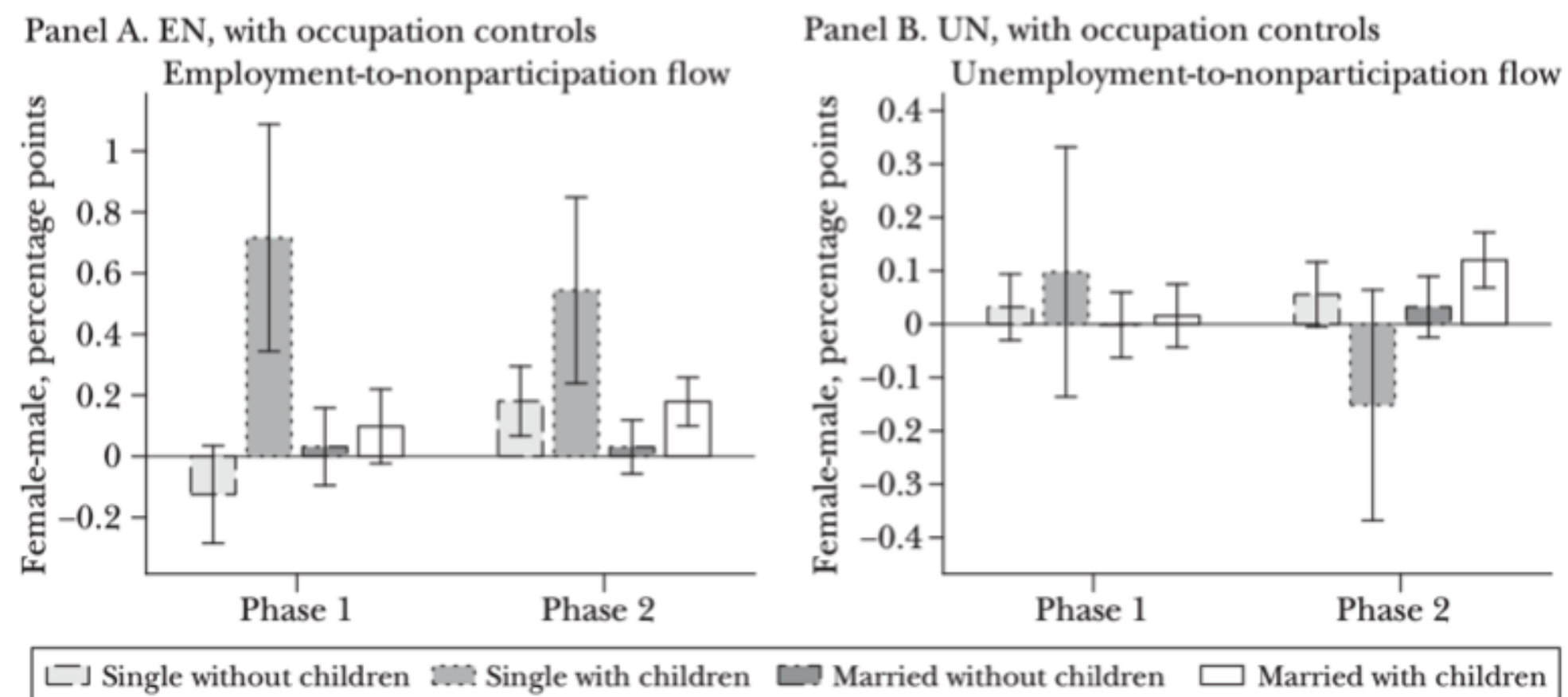
Single without children Single with children Married without children Married with children



EVIDENCE FROM GROSS LABOR FLOWS

Figure 6

Female–Male Difference in Changes in Employment-to-Nonparticipation and Unemployment-to-Nonparticipation Flows since February 2020, Estimated with Occupation Controls



CONTINUING IMPACTS

Will employment return to pre-pandemic levels? Will jobs that were lost be reinstated?



Since the **1990–1991 recession**, the US economy has experienced “**jobless recoveries**”

That is, even as GDP and aggregate demand rebound from the trough of the cycle, labor market indicators continue to stagnate and employment struggles to attain pre recession levels.

CONTINUING IMPACTS

When did employment levels reached its pre-recession levels after the recession ended?

**1990-1991
Recession**



February 1993

2001 Recession



October 2003

2009 Recession



May 2014

CAUSE

One of the causes might be that the slow and incomplete rebound of aggregate employment is due to structural change leading to a long-run decline in certain areas like manufacturing employment (Groshen and Potter 2003) and routine jobs (Jaimovich and Siu 2020).

Routine Task-Intensity (RTI)

Calculates the routine, manual, and abstract task inputs in each occupation based on job task requirements. Higher values of RTI correspond to higher susceptibility to automation.

The most automatable occupational category with 49 percent of employed in high-RTI jobs is the flexible/low-contact, as it includes Office and Administrative and Sales and Related occupations, which are cognitive and routine.

The least automatable group of occupations is flexible/high-contact, comprised of Education, Training and Library occupations, with 0.2 percent.

Table 5

Susceptibility to Automation by Occupation

<i>Occupation</i>	<i>Percent employed in High-RTI</i>
Flexible, High-contact	0.2
Flexible, Low-contact	49.0
Inflexible, High-contact	34.3
Inflexible, Low-contact	22.0

Impact on Women

Women's employment losses from the pandemic may have longer-term effects.

Barriers

Lack of flexibility has long been seen as a barrier to women's career advancement

Benefits

Increased ability to work remotely, which is expected to continue after the pandemic when child care needs are normalized

If it is mostly women who continue to take advantage of remote work arrangements, they may be stigmatized and miss out on career advancement opportunities, particularly in highly competitive professional and managerial occupations.



THANKS FOR WATCHING

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