

# Man-cessions, Fiscal Policy, and the Gender Composition of Employment\*

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## Abstract

Recessions are man-cessions, as men are disproportionately exposed to cyclical employment fluctuations. We provide evidence that fiscal expansions stimulate predominantly female employment implying a further destabilization of the gender composition of employment in recessions. Our findings can be understood as a consequence of differences in the industry-occupation mix of employment by gender.

**Keywords:** Fiscal Policy, Composition of Employment, Gender, Industries, Occupations

**JEL classification:** J21, J16, E62, E32

## 1 Introduction

Men are disproportionately exposed to cyclical employment fluctuations as they tend to work in cyclical industries like manufacturing and construction (e.g., Hoynes et al., 2012). This phenomenon received considerable attention in the Great Recession when around three of four jobs lost in the U.S. were held by men and the term “man-cession” was coined (Perry, 2010). Investigating the gender composition of employment over the cycle is important, as, e.g., the distribution of consumption within the household is strongly affected by spouses’ relative earnings (Lise and Seitz, 2011; Mazzocco, 2007) and even social problems such as domestic violence have been shown to interact with the relative (un-)employment status of men and women (Anderberg et al., 2015).

Against this background, we analyze how fiscal policy affects the gender composition of employment. The assessment of countercyclical stabilization measures likely depends on how effectively it helps people affected by the initial downturn, e.g., whether it creates employment possibilities for those most strongly exposed to cyclical job losses. In fact, policy-makers are quite explicit

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about the distributional aims of fiscal stimulus. For example, the statement of purpose of the 2008 ARRA stimulus stated as the bill’s goal “to create jobs” and “to assist those most impacted by the recession”. As recessions are “man-cessions”, the latter goal brings about a gender dimension of fiscal policy. In fact, some commentators criticized ARRA for the supposed gender composition of the jobs created and, interestingly, both directions of gender inequity have been discussed.<sup>1</sup>

To jointly investigate man-cessions and the effects of fiscal policy on the gender composition of employment, we estimate vector-autoregressive models (VARs) and identify fiscal shocks and non-fiscal (business-cycle) shocks using sign restrictions following Pappa (2009). Our main result is that fiscal expansions stimulate female employment disproportionately.<sup>2</sup> Quantitatively, female employment growth accounts for more than 80% of total employment growth after fiscal expansions. By contrast, (non-fiscal) business-cycle shocks affect male employment disproportionately, consistent with the evidence on man-cessions. Taken together, our results imply that, in recessions, a fiscal stimulus amplifies relative male employment losses, thereby further destabilizing the gender composition of employment.

We then show that the gender-specific employment dynamics can be explained as a consequence of gender differences in the industry-occupation mix which translate heterogenous employment dynamics across industries and occupations into heterogenous dynamics across genders. In line with previous evidence, we corroborate that man-cessions are mainly driven by industry effects. By contrast, we show that occupation-specific employment effects are important for understanding the disproportionate effect of fiscal policy on female employment.

## 2 Gender-specific employment effects

We estimate fiscal VARs using quarterly U.S. data on the government’s primary deficit, tax receipts, government spending, GDP, the real interest rate, aggregate employment, and the share of male employment in total employment. We account for linear trends, include a constant and four lags, and use Bayesian estimation techniques with Minnesota priors. The sample period is 1983.1-2016.4 where the starting date is restricted by availability of consistent data on employment by occupation

<sup>1</sup>See, e.g., the columns of Christina Hoff Sommers (Weekly Standard, 2009/06/29) and Bryce Covert (Huffington Post, 2010/09/24).

<sup>2</sup>Broadly in line with this, Giavazzi and McMahon (2013) show that specific fiscal shocks (military spending expansions) increase hours worked disproportionately in households with female heads.

and industry. The appendix provides detailed information on data and methodology.

To identify fiscal and non-fiscal (business-cycle) shocks, we use sign restrictions. Following Pappa (2009), we impose (on impact and in the subsequent quarter) that fiscal stimulus (a spending increase, a tax cut, or a combination of both) raises output and the deficit while other drivers of the business cycle, summarized as a generic “business-cycle shock”, induce a negative co-movement of these variables. This identification approach is particularly suitable for our purposes as it allows us to investigate the gender-specific employment effects of fiscal policy while simultaneously identifying the composite of all other drivers of the business cycle that is likely associated with man-cessions in the first place.

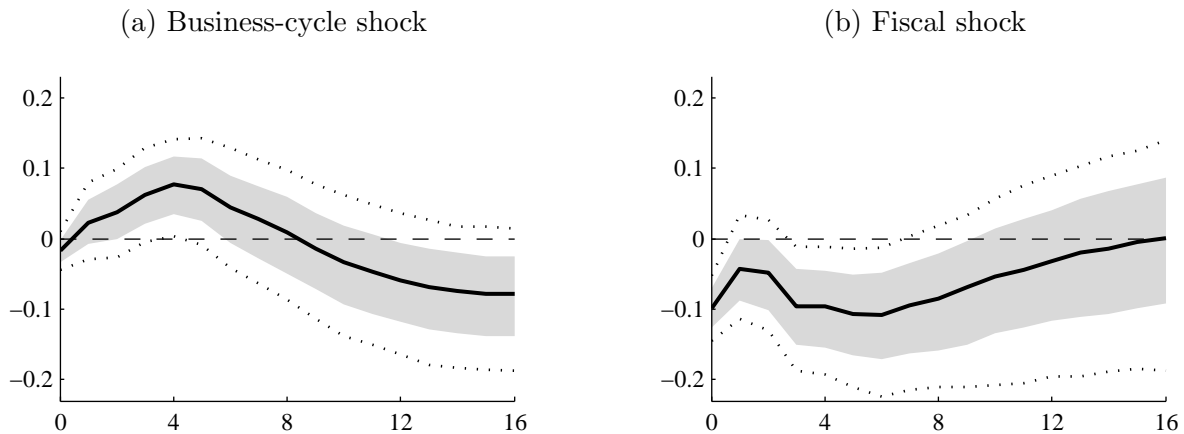
First, we briefly summarize the responses of macroeconomic aggregates included in the VAR (see appendix for details). After the fiscal shock, government spending rises and tax receipts fall. Hence, the fiscal shock is a deficit-financed combination of tax cuts and spending boosts. This stimulus causes output and aggregate employment to rise. On impact, a \$1 rise in the deficit is associated with a \$0.6 increase in output. Expansionary business-cycle shocks cause long-lasting surges in output and employment.

We now turn to gender-specific employment effects by considering the responses of the male employment share. Figure 1(a) corroborates that man-cessions are an important characteristic of business cycles. In response to business-cycle shocks (note that, as usual, we show the response to a positive innovation), the male employment share increases significantly implying that male employment fluctuates more heavily with the business cycle than female employment.

Strikingly, and contrary to (non-fiscal) business-cycle shocks, we find that, in response to fiscal expansions, the male employment share falls, see Figure 1(b). Hence, our analysis shows that men profit less than proportionately from job growth induced by fiscal stimulus. The median responses imply that, after three years, the cumulated employment effect of a fiscal stimulus that raises GDP by 1% on impact levels off at about 350,000 additional job years. Of this number, almost 300,000 job years or more than 80% accrue to women.

Taken together, our results imply a policy trade-off: A contractionary business-cycle shock causes a man-cession. If fiscal policy reacts to this and boosts economic activity, substantially more women than men are brought into jobs which accelerates, rather than dampens, the relative

**Figure 1:** Response of male employment share.



*Notes:* Solid lines: median responses, shaded areas: 16th-84th percentiles, dotted lines: 5th-95th percentiles. Horizontal axes: quarters. Responses scaled to a median impact response of output of 1%.

male employment loss.

The appendix presents a number of robustness checks including estimating the VARs in first differences and distinguishing between tax cuts and spending boosts. In addition, we identify government spending shocks by a Cholesky decomposition with government spending ordered first, also controlling for fiscal foresight. Finally, we consider identification exploiting cross-sectional variation across U.S. states. In all specifications, we find male employment to respond less than proportionately to fiscal stimulus.

### 3 Industry and occupation mix

Hoynes et al. (2012) have documented that the industry-occupation mix is key to understanding the differential employment dynamics of demographic groups during the Great Recession. To analyze the role of the industry-occupation mix for our results, we estimate additional VARs where we replace the actual male employment share by the share predicted by employment in 12 major industries (excluding agriculture) and/or ten major occupation groups according to the 2002 Census classification. To investigate the importance of industry effects, we estimate gender-specific regressions

$$emp_{g,t} = \beta_g \cdot ind_t + \varepsilon_{g,t}$$

and, to investigate the combined effects of industries and occupations, we estimate

$$emp_{g,t} = \gamma_g^i \cdot ind_t + \gamma_g^o \cdot occ_t + \eta_{g,t},$$

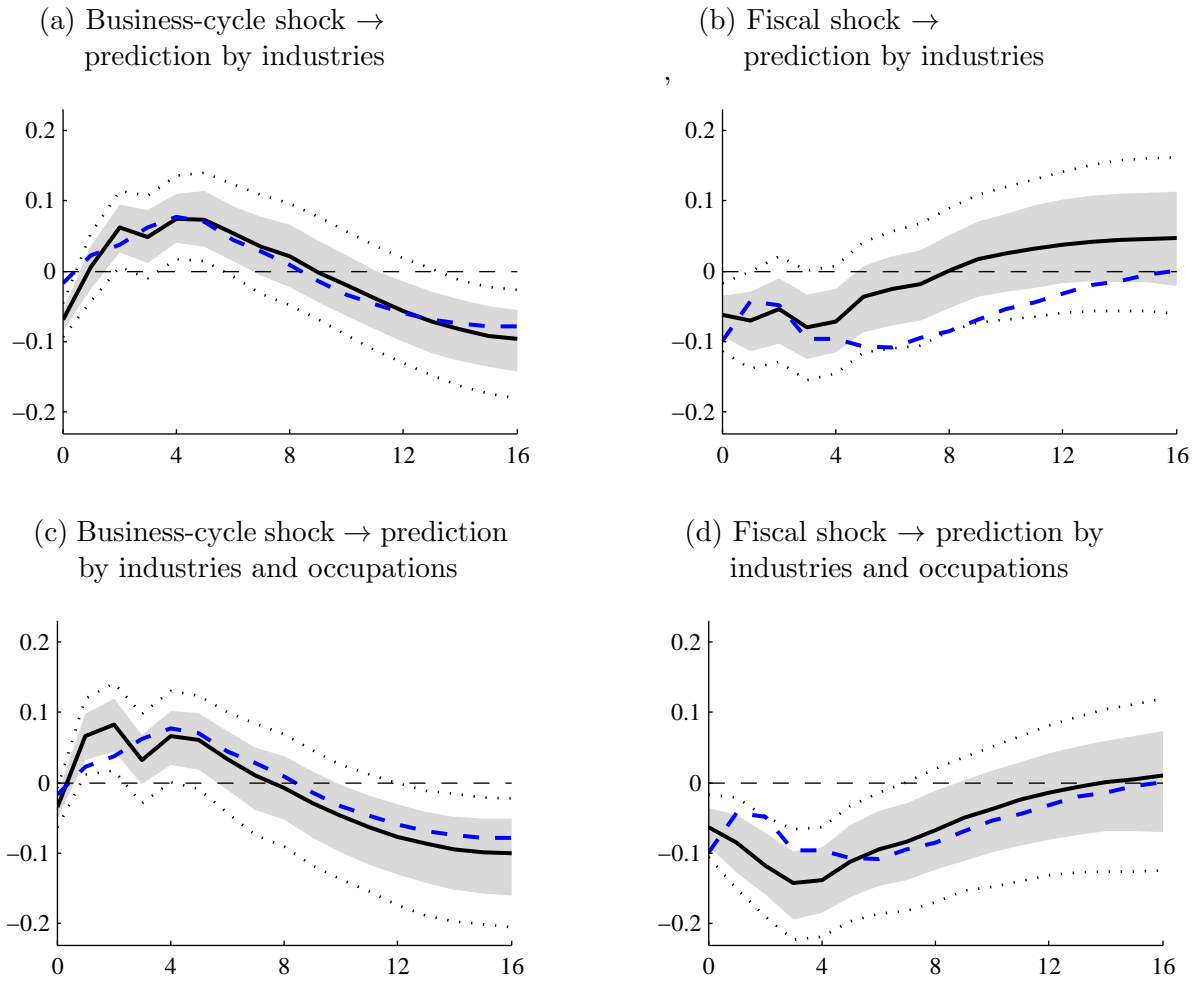
where  $emp_{g,t}$  is gender-specific employment and  $ind_t$  and  $occ_t$  are vectors of industry-specific and occupational employment levels. The residuals,  $\varepsilon_{g,t}$  and  $\eta_{g,t}$ , reflect fluctuations in gender-specific employment unrelated to industries and/or occupations. We use the predicted values of the regressions to calculate the male employment share implied by industry-specific and/or occupational employment.

Figure 2 shows the impulse responses from VARs where we replaced actual by predicted male employment shares. The dashed blue line repeats the median response of the actual male employment share from Figure 1 for comparison. The differences between solid and dashed lines reflect dynamics in the gender composition of employment unrelated to industries and/or occupations.

Figure 2(a) shows that, for business-cycle shocks, the male employment share implied by industry-specific dynamics behaves very similar to the actual male employment share. Thus, the fact that men are hit hardest by recessions can be understood as a consequence of the disproportionate share of male employment in disproportionately cyclical industries. By contrast, Figure 2(b) shows that the gender-specific effects of fiscal shocks cannot be fully understood by industry effects alone. The actual male employment share falls more strongly than predicted by industry dynamics. If we take into account occupations in addition to industries, the predicted decline in relative male employment is more pronounced, see Figure 2(d). Hence, our results show that, in particular for the fiscal shock, occupations play an important role for understanding gender-specific employment dynamics.

In a companion paper (Bredemeier et al., 2017), we propose evidence as well as a theoretical explanation for employment effects of government spending hikes being concentrated in service, sales, and office occupations. This helps understanding the results presented here since women are overrepresented in these occupations. The similarity between actual and predicted employment dynamics by gender, documented above, implies that responses to shocks are well described by a scenario of constant gender shares within industry-occupation cells. Put differently, our evidence indicates that switches between these cells are limited suggesting that cross-sectoral and cross-

**Figure 2:** Response of predicted male employment shares.



*Notes:* See Figure 1. Dashed blue lines are responses of the actual male employment share.

occupational barriers are pronounced. This finding underscores the importance of industry-specific or occupational employment dynamics for individual workers' employment possibilities.

## 4 Conclusion

We documented that fiscal expansions foster predominantly female employment growth. This is particularly remarkable since male employment is more strongly exposed to cyclical fluctuations in general. Our results apply to the average fiscal stimulus while specific policy measures may well affect the employment composition differently. To stabilize the gender composition of employment in recessions, policy-makers could more strongly rely on policy measures targeted at male-dominated industries.

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