# **Online Appendix - Not For Publication**

### A Data Corrections

#### A.1 Classification Error Correction

Classification errors occur due to erroneous codification and/or misclassification of workers who are unemployed or non-participating. To address this issue, we use the methodology proposed by Elsby et al. (2015), which identifies and corrects streams of labor market states with unlikely reversals between unemployment and non-participation. For example, consider an individual who is recorded as being out of the labor force for two consecutive months, then appears unemployed in the third month, and is recorded again as out of the labor force in the fourth month. Elsby et al. (2015) consider the recording in the third month as an error and re-code the state of this individual as being out of the labor force for four consecutive months. Using this approach, we identify all reversal transitions between unemployment (U) and non-participation (N), such as N - U - N and U - N - U, and re-code them. In Table 14, we report all the re-coded transitions. The difference between the two estimates (with DeNUNing and without DeNUNing) is small. Elsby et al. (2015) note that this happens since there are approximately equal numbers of re-coding unemployment into non-participation and non-participation into unemployment. Thus, in the cross-section, these errors tend to cancel each other.

Data	Correction	Data	Correction					
NNUN	NNNN	UUNU	UUUU					
NUNN	NNNN	UNUU	UUUU					
ENUN	ENNN	EUNU	EUUU					
NUNE	NNNE	UNUE	UUUE					
.NUN	.NNN	.UNU	.UUU					
NUN.	NNN.	UNU.	UUU.					
Not Corrected								
NUNU	NUNU	UNUN	UNUN					

Table 14: Re-coding of Unemployment – Non-participation Reversals

#### A.2 Time-Aggregation-Bias Correction

The time aggregation bias, which only affects transitions (not stocks), is a consequence of the frequency with which the CPS collects the data. The CPS surveys the US population once a month. However, changes in labor market status can occur at any point in time between two surveys. Hence, if more than one transition occurs between the two surveys, those would not be reflected in the *raw* flows. A simple example would be a worker who is employed at time t, then loses her job, i.e., transits from employment to unemployment, and before the following survey, finds a new job, transiting back from unemployment to employment. At t+1, the worker would be recorded as employed; thus, her transition into unemployment and back to employment would not be considered. To address this issue, we follow Shimer (2012) and map the discrete transition rates computed using flows into continuous-time transition probabilities.

Let  $\Gamma_t$  be the discrete Markov matrix of transition rates across three possible labor market states that we calculate directly from the data. Let  $\Pi_t$  be its continuous-time counterpart. Since both continuous and discrete time transitions must generate the same steady state stocks, one can infer  $\Pi_t$  from  $\Gamma_t$ .<sup>12</sup>

Let  $s_t = (E, U, N)$  be the probability distribution over the three possible labor states. Then,  $s_t = \Gamma_t s_{t-1}$ , i.e.

$$\underbrace{\begin{pmatrix} E \\ U \\ N \end{pmatrix}_{t}}_{s_{t}} = \underbrace{\begin{pmatrix} \gamma_{EE} & \gamma_{EU} & \gamma_{EN} \\ \gamma_{UE} & \gamma_{UU} & \gamma_{NU} \\ \gamma_{NE} & \gamma_{NU} & \gamma_{NN} \end{pmatrix}_{t}}_{\Gamma_{t}} \times \underbrace{\begin{pmatrix} E \\ U \\ N \end{pmatrix}_{t-1}}_{s_{t-1}},$$

where  $\gamma_{ij}$  denotes the discrete transition probability from the state *i* to the state *j*, and

$$\gamma_{ii} = 1 - \sum_{i \neq j} \gamma_{ij}.$$

Taking into account that all the transitions in each row sum up to 1 by the construction of the transition matrix, as well as all the states sum up to 1 (E + U + N = 1 for each t, so that E, U, and N are interpreted as shares of the population) we can rewrite the system in the following way (substituting N state):

$$\underbrace{\begin{pmatrix} E \\ U \end{pmatrix}_{t}}_{s_{t}} = \underbrace{\begin{pmatrix} 1 - \gamma_{EU} - \gamma_{EN} - \gamma_{NE} & \gamma_{UE} - \gamma_{NE} \\ \gamma_{EU} - \gamma_{NU} & 1 - \gamma_{UE} - \gamma_{UN} - \gamma_{NU} \end{pmatrix}_{t}}_{\tilde{\Gamma}_{t}} \times \underbrace{\begin{pmatrix} E \\ U \end{pmatrix}_{t-1}}_{s_{t-1}} + \underbrace{\begin{pmatrix} \gamma_{NE} \\ \gamma_{NU} \end{pmatrix}_{t}}_{g_{t}}.$$

The analogous continuous-time equation to this Markov chain is  $\dot{s}_t = \Pi_t s_t + q_t$ , where  $q_t$  is the continuous-time version of  $g_t$ . From the discrete-time version,  $s_t = \Gamma_t s_{t-1} + g_t$ , we can find the steady state of the discrete Markov chain by  $\bar{s}_t = (I - \tilde{\Gamma}_t)^{-1}g_t$ . The steady state of the continuous-time analog is  $0 = \Pi_t s_t + q_t \implies \bar{s}_t = -\Pi^{-1}q_t$ . Thus, the steady state satisfies  $\bar{s}_t = (I - \tilde{\Gamma}_t)^{-1}g_t = -\Pi^{-1}q_t$ .

Now, let's calculate deviations from the steady state  $\psi = (s_t - \overline{s}_t)$ . We can apply this transformation to the discrete-time equation and get  $s_t - \overline{s}_t = \Gamma_t(s_{t-1} - \overline{s}_{t-1})$ , which is the same as  $\psi_t = \Gamma_t \psi_{t-1}$ . Analogously, for continuous time, we get  $\dot{\psi}_t = \Pi_t \psi_t$ .

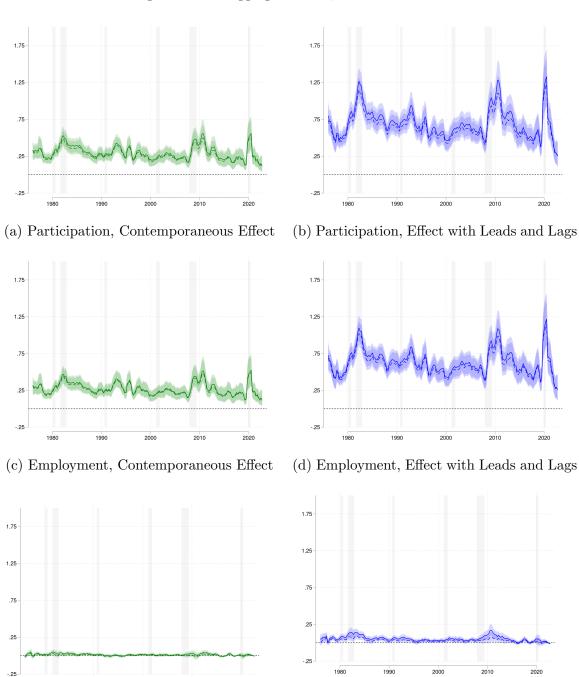
The latter differential equation has a solution  $\psi_t = \Omega_t \Lambda_t \Omega_t^{-1} \psi_{t-1}$ , where  $\Omega_t$  is a matrix of eigenvectors of the matrix  $\Pi_t$ , and  $\Lambda_t$  is a matrix, whose diagonal elements are equal to the exponent of eigenvalues of the matrix  $\Pi_t$ . It follows that  $\Gamma_t = \Omega_t \Lambda_t \Omega_t^{-1}$ . The latter implies that the eigenvectors of the matrix  $\Gamma_t$  are the same as those of  $\Pi_t$ , and that the eigenvalues of  $\Gamma_t$  are equal to the exponentiated eigenvalues of  $\Pi_t$ . Hence, given an estimate of  $\Gamma_t$  that we observe from the data, we can find the matrix of continuous transitions  $\Pi_t$  through the eigenvalue decomposition of the matrix  $\Gamma_t$ .

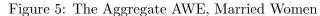
 $<sup>^{12}</sup>$ Our description closely follows the working paper version of Elsby, Hobijn, and Şahin (2013).

### A.3 Implications of the Classification Error Correction for the Main Results

Some papers, such as Kudlyak and Lange (2018), show that correcting for classification errors might create some problems. In this section, we show that this correction has a negligible effect on the results we present in the main body of the paper. Figure 5, analogously to Figure 4, presents the aggregate effect of the AWE on participation, employment, and unemployment. The solid lines in the Figure 5 are identical to those in Figure 4. The dashed lines present the aggregate AWE without applying the correction for classification errors described in Section A.1.

The results are virtually identical. For the impact of contemporaneous AWE on participation (Figure 5a), the average absolute difference between the corrected and uncorrected series is 0.022 p.p. For the employment rate (Figure 5c), it is 0.016, and for the unemployment rate (Figure 5e), it is 0.01 p.p. For the effect with leads and lags (Figures 5b, 5d, and 5f), the absolute differences are 0.06 p.p., 0.04, and 0.026, respectively.





(e) Unemployment, Contemporaneous Effect Lags

2010

2020

2000

1990

**Notes**: CPS 1976:Q1 to 2021:Q4. All values are the difference, in percentage points, between the steadystate approximation of the data and the counterfactual steady-state. In the counterfactual, added workers do not enter the labor market and remain classified as non-participants. We include all spouses who move from employment to unemployment. We seasonally adjust monthly estimates using a ratio to moving average. Solid lines are constructed with data that are corrected for classification errors as described in Appendix Section A.1. Dashed lines are constructed with non-corrected data. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps. The vertical gray areas are NBER recession periods.

(f) Unemployment, Effect with Leads and

### **B** Alternative Specifications to Compute the AWE

In this Appendix, we present robustness checks to the results of Section 3. We start in Tables 15 and 16, showing that the demographic composition of added workers does not drive the measurement of the AWE. In Tables 1 and 2 of the main text, we estimate the added worker effect,  $\alpha$  in Equation 1, while non-parametrically controlling for a rich set of observable variables of husbands and wives. In Tables 15 and 16, we do not use any control variables and obtain similar results.

In Tables 17, 18, and 19, we present the analogous analyses to those in Tables 1, 2, and 3 but now we restrict the transitions of the spouse moving from employment to unemployment to only include involunatry job losses, i.e., we exclude voluntary job quits. The magnitude of the added worker effect is virtually the same for both husbands, in Table 18, and wives, in Table 17 as those presented in Tables 1 and 2. The share of added worker wives when we exclude husbands' quits, in Table 19, is very close to that reported in Table 3. Taken together, these results indicate that whether the AWE measurements include all E to U transitions or only those associated with involuntary job losses does not significantly affect the measurement of the aggregate AWE.

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
Conten	nporaneous	Effect							
N to P	7.304	7.517	6.079	7.059	4.961	7.237	8.185	9.862	6.698
	(6.648, 7.961)	(6.797, 8.238)	(4.511, 7.648)	(5.179, 8.939)	(3.979, 5.943)	(5.789, 8.685)	(6.642, 9.727)	(8.104, 11.621)	(2.824, 10.571)
N to E	1.056	1.270	-0.151	0.496	-0.642	0.988	1.492	3.309	1.495
	(0.586, 1.527)	(0.750, 1.791)	(-1.207, 0.904)	(-0.771, 1.764)	(-1.304, 0.020)	(-0.062, 2.038)	(0.382, 2.601)	(2.000, 4.617)	(-1.287, 4.276)
N to U	6.248	6.247	6.231	6.562	5.603	6.249	6.693	6.554	5.203
	(5.746, 6.750)	(5.699,  6.795)	(4.984, 7.477)	(5.071, 8.054)	(4.828,  6.378)	(5.148, 7.350)	(5.514, 7.872)	(5.243, 7.864)	(2.276, 8.130)
Effect	with Leads a	and Lags							
N to P	4.912	5.139	3.652	4.054	3.254	5.308	5.229	6.698	5.137
	(4.457, 5.367)	(4.638, 5.640)	(2.581, 4.723)	(2.766, 5.343)	(2.559, 3.949)	(4.289,  6.326)	(4.187, 6.271)	(5.492, 7.903)	(2.345, 7.930)
N to E	0.398	0.540	-0.358	-0.294	-0.783	0.593	0.592	1.822	1.540
	(0.064, 0.731)	(0.171,  0.908)	(-1.126, 0.410)	(-1.191, 0.604)	(-1.276, -0.290)	(-0.166, 1.352)	(-0.179, 1.362)	(0.929, 2.714)	(-0.569, 3.650)
N to U	4.514	4.599	4.010	4.348	4.037	4.715	4.637	4.876	3.597
	(4.179, 4.850)	(4.231, 4.968)	(3.211, 4.808)	(3.367, 5.329)	(3.514, 4.560)	(3.970, 5.460)	(3.876, 5.399)	(3.992, 5.759)	(1.606, 5.589)

Table 15: The Added Worker Effect, Married Women, without Control Variables

**Notes:** CPS 1976 to 2021. Each cell reports the estimated coefficient  $\alpha$ , expressed in percentage points, from Equation 1. We include all spouses who move from employment to unemployment. We report 95% confidence intervals.

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
Conten	nporaneous l	Effect							
N to P	7.995	7.900	8.768	2.381	6.554	8.397	8.448	8.387	5.950
	(5.672, 10.317)	(5.440, 10.360)	(1.721, 15.815)	(-6.230, 10.991)	(1.830, 11.278)	(3.474, 13.320)	(3.857, 13.039)	(3.764, 13.010)	(-6.106, 18.006)
N to E	1.616	1.364	3.763	-5.713	-0.706	1.089	2.354	3.432	4.199
	(-0.145, 3.377)	(-0.478, 3.206)	(-2.099, 9.625)	(-10.238, -1.188)	(-3.905, 2.493)	(-2.415, 4.594)	(-1.233, 5.942)	(-0.278, 7.143)	(-6.413, 14.812)
N to U	6.379	6.536	5.005	8.094	7.259	7.308	6.093	4.955	1.751
	(4.583, 8.174)	(4.616, 8.455)	(0.012, 9.999)	(0.381, 15.807)	(3.324, 11.194)	(3.245, 11.370)	(2.638, 9.549)	(1.627, 8.283)	(-5.692, 9.194)
Effect v	with Leads a	nd Lags							
N to P	4.757	4.848	3.973	2.869	5.084	5.354	4.481	4.126	5.878
	(3.083, 6.431)	(3.068,  6.628)	(-0.938, 8.884)	(-3.737, 9.475)	(1.567, 8.600)	(1.760, 8.947)	(1.229, 7.733)	(0.820, 7.432)	(-3.002, 14.758)
N to E	0.066	0.028	0.406	-5.547	-1.073	0.505	0.334	0.660	1.287
	(-1.194, 1.326)	(-1.303, 1.360)	(-3.493, 4.305)	(-8.989, -2.106)	(-3.505, 1.360)	(-2.180, 3.189)	(-2.192, 2.861)	(-1.894, 3.213)	(-5.664, 8.238)
N to U	4.691	4.820	3.567	8.416	6.156	4.849	4.146	3.466	4.591
	(3.423, 5.960)	(3.463, 6.177)	(0.037, 7.098)	(2.477, 14.355)	(3.279, 9.034)	(2.059, 7.639)	(1.766, 6.527)	(1.061, 5.872)	(-2.107, 11.290)

Table 16: The Added Worker Effect, Married Men, without Control Variables

**Notes:** CPS 1976 to 2021. Each cell reports the estimated coefficient  $\alpha$ , expressed in percentage points, from Equation 1. We include all spouses who move from employment to unemployment. We report 95% confidence intervals.

Table 17: The Added Worker Effect	t, Married Women	, Excluding Husbands'	Quits
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	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019	P		1979	1989	1999	2009	2019	2021
Conten	nporaneous 1	Effect							
N to P	5.385	5.445	5.258	6.104	4.054	5.219	5.497	6.701	3.096
	(4.741,  6.029)	(4.738, 6.152)	(3.708, 6.809)	(4.174, 8.034)	(3.062, 5.045)	(3.753, 6.686)	(4.047,  6.947)	(5.081, 8.320)	(-0.414, 6.607)
N to E	0.262	0.354	-0.006	0.162	-0.426	0.324	-0.207	1.713	-1.385
	(-0.217, 0.741)	(-0.176, 0.883)	(-1.112, 1.099)	(-1.155, 1.478)	(-1.109, 0.256)	(-0.792, 1.441)	(-1.295, 0.881)	(0.431, 2.995)	(-4.009, 1.240)
N to U	5.123	5.092	5.265	5.942	4.480	4.895	5.704	4.988	4.481
	(4.600, 5.646)	(4.520, 5.663)	(3.970, 6.560)	(4.326, 7.559)	(3.673, 5.287)	(3.729, 6.062)	(4.479,  6.930)	(3.680, 6.295)	(1.552, 7.410)
Effect	with Leads a	and Lags							
N to P	3.278	3.366	3.034	3.196	2.427	3.438	3.275	3.907	1.956
	(2.828, 3.729)	(2.869, 3.862)	(1.967, 4.102)	(1.849, 4.544)	(1.719, 3.134)	(2.406, 4.470)	(2.275, 4.276)	(2.782, 5.032)	(-0.625, 4.536)
N to E	-0.256	-0.226	-0.165	-0.728	-0.531	-0.180	-0.483	0.377	-0.796
	(-0.600, 0.087)	(-0.605, 0.153)	(-0.965, 0.636)	(-1.668, 0.212)	(-1.046, -0.015)	(-0.977, 0.618)	(-1.262, 0.297)	(-0.504, 1.258)	(-2.858, 1.266)
N to U	3.535	3.591	3.199	3.925	2.957	3.618	3.758	3.530	2.751
	(3.185, 3.884)	(3.207, 3.976)	(2.365, 4.033)	(2.843, 5.007)	(2.416, 3.499)	(2.828, 4.408)	(2.966, 4.550)	(2.648, 4.413)	(0.764, 4.739)

**Notes:** CPS 1976 to 2021. Each cell reports the estimated coefficient  $\alpha$ , expressed in percentage points, from Equation 1. We include spouses who move from employment to unemployment and do not report quitting as the reason for unemployment. We report 95% confidence intervals. We use dummies to non-parametrically control for each category of age, education, race, occupation, industry, and own children in the household of both spouses.

1976			1976	1980	1990	2000	2010	2020
to	Expansions	Recessions	to	to	to	to	to	to
2019			1979	1989	1999	2009	2019	2021
nporaneous I	Effect							
4.838	5.053	3.378	8.023	3.034	6.018	4.525	4.347	1.330
(2.476, 7.201)	(2.551, 7.554)	(-3.732, 10.488)	(-1.691, 17.737)	(-2.368, 8.436)	(0.913, 11.124)	(0.097, 8.953)	(-0.144, 8.839)	(-8.783, 11.442)
-0.909	-0.614	-2.544	-0.788	-4.277	-0.515	-1.093	0.618	4.152
(-2.743, 0.926)	(-2.575, 1.346)	(-7.627, 2.538)	(-7.330, 5.754)	(-7.733, -0.822)	(-4.189, 3.159)	(-4.595, 2.409)	(-3.142, 4.378)	(-6.133, 14.438)
5.747	5.667	5.923	8.811	7.311	6.533	5.618	3.730	-2.823
(3.733, 7.761)	(3.539, 7.795)	(-0.199, 12.044)	(-0.434, 18.055)	(2.549, 12.074)	(1.871, 11.196)	(1.755, 9.481)	(0.242, 7.217)	(-9.270, 3.625)
with Leads a	nd Lags							
1.929	2.076	1.000	10.064	0.455	2.873	1.674	1.327	1.135
(0.222, 3.636)	(0.261, 3.892)	(-4.009, 6.010)	(1.904, 18.225)	(-3.439, 4.350)	(-0.841, 6.587)	(-1.427, 4.776)	(-1.998, 4.653)	(-6.186, 8.455)
-2.043	-1.859	-2.822	-0.604	-4.534	-0.855	-2.235	-1.243	0.826
(-3.361, -0.724)	(-3.274, -0.445)	(-6.363, 0.719)	(-5.690, 4.483)	(-7.090, -1.978)	(-3.803, 2.094)	(-4.663, 0.194)	(-3.919, 1.433)	(-5.963, 7.615)
3.972	3.936	3.822	10.668	4.989	3.728	3.909	2.571	0.309
(2.571, 5.372)	(2.451, 5.420)	(-0.418, 8.063)	(2.904, 18.432)	(1.613, 8.366)	(0.688, 6.768)	(1.302, 6.515)	(-0.011, 5.152)	(-5.553, 6.170)
	to 2019 hporaneous I 4.838 (2.476, 7.201) -0.909 (-2.743, 0.926) 5.747 (3.733, 7.761) with Leads a 1.929 (0.222, 3.636) -2.043 (-3.361, -0.724) 3.972	to 2019  Expansions    aporaneous Effect    4.838  5.053    (2.476, 7.201)  (2.551, 7.554)    -0.909  -0.614    (-2.743, 0.926)  (-2.575, 1.346)    5.747  5.667    (3.733, 7.761)  (3.539, 7.795)    with Leads and Lags  1.929    (0.222, 3.636)  (0.261, 3.892)    -2.043  -1.859    (-3.361, -0.724)  (-3.274, -0.445)    3.972  3.936	to  Expansions  Recessions    2019  Recessions  Recessions    absolute  State  State    4.838  5.053  3.378    (2.476, 7.201)  (2.551, 7.554)  (-3.732, 10.488)    -0.909  -0.614  -2.544    (-2.743, 0.926)  (-2.575, 1.346)  (-7.627, 2.538)    5.747  5.667  5.923    (3.733, 7.761)  (3.539, 7.795)  (-0.199, 12.044)    with Leads  Lags  1.000    (0.222, 3.636)  (0.261, 3.892)  (-4.009, 6.010)    -2.043  -1.859  -2.822    (-3.361, -0.724)  (-3.274, -0.445)  (-6.363, 0.719)    3.972  3.936  3.822	to  Expansions  Recessions  to    2019  1979 <b>hporaneous Effect</b> 4.838  5.053  3.378  8.023    (2.476, 7.201)  (2.551, 7.554)  (-3.732, 10.488)  (-1.691, 17.737)    -0.909  -0.614  -2.544  -0.788    (-2.743, 0.926)  (-2.575, 1.346)  (-7.627, 2.538)  (-7.330, 5.754)    5.747  5.667  5.923  8.811    (3.733, 7.761)  (3.539, 7.795)  (-0.199, 12.044)  (-0.434, 18.055)    with Leads and Lags    1.929  2.076  1.000  10.064    (0.222, 3.636)  (0.261, 3.892)  (-4.009, 6.010)  (1.904, 18.225)    -2.043  -1.859  -2.822  -0.604    (-3.361, -0.724)  (-3.274, -0.445)  (-6.363, 0.719)  (-5.690, 4.483)    3.972  3.936  3.822  10.668	to  Expansions  Recessions  to  to    2019  1979  1989    hporaneous Effect	to  Expansions  Recessions  to  to  to  to    2019  1979  1989  1999    poraneous Effect    4.838  5.053  3.378  8.023  3.034  6.018    (2.476, 7.201)  (2.551, 7.554)  (-3.732, 10.488)  (-1.691, 17.737)  (-2.368, 8.436)  (0.913, 11.124)    -0.909  -0.614  -2.544  -0.788  -4.277  -0.515    (-2.743, 0.926)  (-2.575, 1.346)  (-7.627, 2.538)  (-7.330, 5.754)  (-7.733, -0.822)  (-4.189, 3.159)    5.747  5.667  5.923  8.811  7.311  6.533    (3.733, 7.761)  (3.539, 7.795)  (-0.199, 12.044)  (-0.434, 18.055)  (2.549, 12.074)  (1.871, 11.196)    vith Leads  Lags  (-0.199, 12.044)  (1.0064  0.455  2.873    (0.222, 3.636)  (0.261, 3.892)  (-4.009, 6.010)  (1.904, 18.225)  (-3.439, 4.350)  (-0.841, 6.587)    -2.043  -1.859  -2.822  -0.604  -4.534  -0.855    (-3.361	to 2019ExpansionsRecessionsto to 1979to 1989to to 1999to to 2009poraneous Effect4.8385.0533.3788.0233.0346.0184.525(2.476, 7.201)(2.551, 7.554)(-3.732, 10.488)(-1.691, 17.737)(-2.368, 8.436)(0.913, 11.124)(0.097, 8.953)-0.909-0.614-2.544-0.788-4.277-0.515-1.093(-2.743, 0.926)(-2.575, 1.346)(-7.627, 2.538)(-7.330, 5.754)(-7.733, -0.822)(-4.189, 3.159)(-4.595, 2.409)5.7475.6675.9238.8117.3116.5335.618(3.733, 7.761)(3.539, 7.795)(-0.199, 12.044)(-0.434, 18.055)(2.549, 12.074)(1.871, 11.196)(1.755, 9.481)theads and Lags1.9292.0761.00010.0640.4552.8731.674(.222, 3.636)(0.261, 3.892)(-4.009, 6.010)(1.904, 18.225)(-3.439, 4.350)(-0.841, 6.587)(-1.427, 4.776)-2.043-1.859-2.822-0.604-4.534-0.855-2.235(-3.61, -0.724)(-3.274, -0.445)(-6.363, 0.719)(-5.690, 4.483)(-7.090, -1.978)(-3.803, 2.094)(-4.663, 0.194)3.9723.9363.82210.6684.9893.7283.909	to 2019ExpansionsRecessionsto 1979to 1989to toto to 1999to 2009to 2019 <b>toom to to and to an analysis of the toom to and the toom to analysis of </b>

Table 18: The Added Worker Effect, Married Men, Excluding Wives' Quits

**Notes:** CPS 1976 to 2021. Each cell reports the estimated coefficient  $\alpha$ , expressed in percentage points, from Equation 1. We include spouses who move from employment to unemployment and do not report quitting as the reason for unemployment. We report 95% confidence intervals. We use dummies to non-parametrically control for each category of age, education, race, occupation, industry, and own children in the household of both spouses.

1976			1976	1980	1990	2000	2010	2020			
to	Expansions	Recessions	to	to	to	to	to	to			
2019			1979	1989	1999	2009	2019	2021			
Share of No	n-participant	s among Ma	rried								
29.736	29.564	31.231	45.119	34.481	25.863	26.160	26.964	26.134			
(29.655, 29.819)	(29.478, 29.643)	(31.017, 31.428)	(44.864, 45.383)	(34.328, 34.624)	(25.689, 26.009)	(26.004, 26.342)	(26.773, 27.163)	(25.710, 26.538)			
Share of N to P among Non-participants											
7.905	7.906	7.885	6.785	8.064	8.607	8.128	7.234	7.902			
(7.853, 7.957)	(7.852, 7.961)	(7.739, 8.031)	(6.644, 6.911)	(7.972, 8.153)	(8.497, 8.719)	(8.000, 8.244)	(7.126, 7.349)	(7.593, 8.235)			
Share of Ad	ded Workers	among N to	Р								
Contemporan	eous Effect										
1.162	1.108	1.634	0.831	1.318	1.182	1.170	1.092	1.672			
(1.091, 1.229)	(1.034, 1.178)	(1.392, 1.884)	(0.677, 1.011)	(1.195, 1.447)	(1.044, 1.324)	(1.017, 1.329)	(0.925, 1.255)	(1.135, 2.266)			
Effect With I	leads And Lags	5									
2.848	2.745	3.720	1.914	3.199	2.722	2.886	2.890	4.344			
(2.729, 2.961)	(2.627, 2.860)	(3.347, 4.056)	(1.659, 2.187)	(3.002, 3.399)	(2.510, 2.963)	(2.622, 3.150)	(2.639, 3.196)	(3.499, 5.343)			
		1									

**Notes**: CPS 1976 to 2021. Each cell reports a share in percentage. We include spouses who move from employment to unemployment and do not report quitting as the reason for unemployment. We report 95% confidence intervals from 1,000 bootstraps.

## C Alternative Specifications, Married Women

## C.1 Added-Workers Have the Same Likelihood of Entering the Labor Market as Non-Added Workers

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
$\mathbf{SS}$	66.379	66.607	64.454	51.883	61.682	70.715	69.904	68.404	68.501
	(66.207, 66.548)	(66.435,  66.774)	(64.016, 64.885)	(51.330, 52.499)	(61.373, 62.001)	(70.406, 71.022)	(69.577, 70.248)	(68.008, 68.788)	(67.564, 69.445)
Conte	emporaneous	Effect							
Mean	0.101	0.098	0.128	0.077	0.098	0.120	0.094	0.099	0.169
	(0.084, 0.116)	(0.081, 0.113)	(0.079, 0.180)	(0.035, 0.122)	(0.068, 0.127)	(0.089, 0.150)	(0.063, 0.127)	(0.060, 0.137)	(0.043, 0.314)
Max	0.630	0.614	0.441	0.277	0.384	0.489	0.456	0.586	0.809
	(0.460, 0.992)	(0.449,  0.992)	(0.268, 0.712)	(0.168, 0.475)	(0.269, 0.600)	(0.347, 0.726)	(0.296, 0.712)	(0.383, 0.992)	(0.277, 1.639)
P25	0.005	0.001	0.028	0.012	0.020	0.008	0.002	-0.018	-0.027
	(-0.015, 0.026)	(-0.017, 0.021)	(-0.031, 0.091)	(-0.046, 0.066)	(-0.014, 0.056)	(-0.028, 0.044)	(-0.039, 0.043)	(-0.058, 0.025)	(-0.098, 0.054)
P75	0.177	0.175	0.211	0.147	0.164	0.218	0.168	0.184	0.247
	(0.148, 0.203)	(0.146,  0.201)	(0.133, 0.315)	(0.082, 0.220)	(0.118, 0.211)	(0.163, 0.279)	(0.120,  0.221)	(0.116, 0.244)	(0.090, 0.465)
Effect	with Leads a	and Lags							
Mean	0.198	0.200	0.194	0.134	0.194	0.198	0.187	0.240	0.430
	(0.175, 0.224)	(0.175, 0.226)	(0.113, 0.267)	(0.071, 0.200)	(0.150, 0.238)	(0.152, 0.241)	(0.136, 0.236)	(0.180, 0.303)	(0.116, 0.660)
Max	1.002	0.989	0.619	0.441	0.716	0.780	0.691	0.935	1.248
	(0.768, 1.447)	(0.761, 1.447)	(0.396, 1.043)	(0.272, 0.730)	(0.500, 1.037)	(0.542, 1.249)	(0.498, 1.064)	(0.649, 1.419)	(0.701, 2.383)
P25	0.050	0.048	0.045	0.031	0.052	0.048	0.047	0.057	0.062
	(0.019, 0.081)	(0.016,  0.081)	(-0.059, 0.134)	(-0.057, 0.111)	(-0.014, 0.116)	(-0.014, 0.107)	(-0.019, 0.111)	(-0.017, 0.129)	(-0.114, 0.225)
P75	0.320	0.322	0.324	0.232	0.310	0.320	0.313	0.392	0.725
	(0.283, 0.364)	(0.282, 0.368)	(0.204, 0.446)	(0.141, 0.351)	(0.244, 0.389)	(0.249, 0.401)	(0.236, 0.398)	(0.292, 0.505)	(0.412, 1.091)

# Table 20: The Aggregate AWE, Married Women, Employment(Added Workers Enter the Labor Force with the same Probability as Non-Added Workers)

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers enter the labor market with the same probability as non-added workers. We include all spouses who move from employment to unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.

Table 21: The Aggregate AWE, Married Women, Unemployment	
(Added Workers Enter the Labor Force with the same Probability as Non-Added Workers	)

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
$\mathbf{SS}$	3.815	3.705	4.767	4.697	4.713	3.410	3.229	3.590	4.270
	(3.773, 3.864)	(3.659, 3.753)	(4.619, 4.913)	(4.525, 4.879)	(4.606, 4.811)	(3.330, 3.491)	(3.140, 3.318)	(3.492,  3.690)	(4.011, 4.564)
Conte	mporaneous	Effect	1	1	L	L	1		
Mean	0.017	0.016	0.022	0.022	0.027	0.008	0.013	0.016	0.004
	(0.013, 0.020)	(0.012, 0.019)	(0.009, 0.037)	(0.009, 0.039)	(0.020, 0.036)	(0.002, 0.014)	(0.007, 0.020)	(0.007, 0.025)	(-0.023, 0.031)
Max	0.143	0.139	0.102	0.106	0.120	0.071	0.085	0.119	0.063
	(0.106, 0.234)	(0.099, 0.234)	(0.055, 0.167)	(0.055, 0.223)	(0.083, 0.181)	(0.046, 0.125)	(0.054, 0.152)	(0.072, 0.203)	(0.017, 0.141)
P25	-0.005	-0.006	-0.003	-0.006	0.003	-0.008	-0.005	-0.008	-0.014
	(-0.008, -0.002)	(-0.009, -0.002)	(-0.015, 0.011)	(-0.022, 0.009)	(-0.006, 0.013)	(-0.015, -0.002)	(-0.010, 0.001)	(-0.014, -0.003)	(-0.031, -0.001)
P75	0.034	0.033	0.041	0.046	0.049	0.023	0.027	0.035	0.027
	(0.028, 0.040)	(0.027, 0.040)	(0.021, 0.068)	(0.024, 0.074)	(0.036, 0.065)	(0.014, 0.035)	(0.016, 0.038)	(0.021, 0.052)	(0.000, 0.067)
Effect	with Leads	and Lags	1	1	L	L	I		
Mean	0.060	0.057	0.088	0.060	0.088	0.045	0.049	0.059	0.028
	(0.055, 0.066)	(0.051, 0.063)	(0.065, 0.111)	(0.037, 0.083)	(0.074, 0.102)	(0.036, 0.056)	(0.038, 0.061)	(0.044,  0.075)	(-0.015, 0.081)
Max	0.323	0.303	0.245	0.181	0.261	0.151	0.189	0.299	0.115
	(0.231, 0.456)	(0.222, 0.438)	(0.163, 0.411)	(0.110, 0.297)	(0.186, 0.411)	(0.105, 0.240)	(0.135, 0.274)	(0.194,  0.437)	(0.043, 0.523)
P25	0.018	0.016	0.038	0.016	0.043	0.016	0.015	0.005	-0.010
	(0.011, 0.025)	(0.009, 0.023)	(0.012, 0.066)	(-0.012, 0.042)	(0.027, 0.058)	(0.004, 0.029)	(0.002, 0.026)	(-0.009, 0.019)	(-0.049, 0.025)
P75	0.091	0.088	0.126	0.099	0.122	0.071	0.075	0.095	0.057
	(0.081, 0.102)	(0.077, 0.099)	(0.087, 0.172)	(0.064, 0.145)	(0.099, 0.147)	(0.056, 0.088)	(0.058, 0.096)	(0.068, 0.125)	(0.019, 0.113)

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers enter the labor market with the same probability as non-added workers. We include all spouses who move from employment to unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.

#### C.2 Only Using Husbands' Involuntary Job Losses

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019	Emponiono	100000010110	1979	1989	1999	2009	2019	2021
SS	68.971	69.132	67.610	54.425	64.695	73.203	72.235	70.934	71.530
	(68.805, 69.127)	(68.959, 69.300)	(67.181, 68.036)	(53.887, 55.014)	(64.384, 65.011)	(72.914, 73.512)	(71.900, 72.557)	(70.576, 71.333)	(70.545, 72.48)
Conte	mporaneous	Effect	1						1
Mean	0.241	0.229	0.344	0.198	0.287	0.240	0.232	0.222	0.367
	(0.227, 0.257)	(0.214, 0.246)	(0.296, 0.396)	(0.160, 0.241)	(0.260, 0.316)	(0.211, 0.271)	(0.202, 0.265)	(0.186, 0.257)	(0.240, 0.505)
Max	0.814	0.771	0.702	0.394	0.612	0.578	0.684	0.754	1.614
	(0.625, 1.230)	(0.574, 1.226)	(0.520, 1.013)	(0.288, 0.564)	(0.479, 0.838)	(0.448, 0.835)	(0.488, 1.013)	(0.513, 1.226)	(0.810, 2.571)
P25	0.135	0.127	0.223	0.130	0.190	0.139	0.123	0.097	0.072
	(0.116, 0.154)	(0.108, 0.147)	(0.162, 0.290)	(0.073, 0.178)	(0.158, 0.226)	(0.103, 0.177)	(0.090, 0.161)	(0.063, 0.139)	(0.011, 0.152)
P75	0.324	0.312	0.440	0.256	0.370	0.328	0.308	0.307	0.380
	(0.299, 0.352)	(0.284,  0.338)	(0.355, 0.546)	(0.200, 0.335)	(0.325, 0.427)	(0.275, 0.389)	(0.256, 0.370)	(0.246, 0.372)	(0.215, 0.627)
Effect	with Leads a	und Lags							
Mean	0.585	0.560	0.796	0.449	0.707	0.528	0.567	0.581	0.899
	(0.561, 0.611)	(0.536, 0.586)	(0.715, 0.879)	(0.389, 0.518)	(0.666, 0.754)	(0.485, 0.576)	(0.511, 0.620)	(0.527, 0.646)	(0.540, 1.149)
Max	1.639	1.570	1.424	0.820	1.353	1.056	1.343	1.557	2.962
	(1.318, 2.233)	(1.233, 2.233)	(1.145, 1.862)	(0.648, 1.139)	(1.125, 1.720)	(0.856, 1.445)	(0.995, 1.851)	(1.194, 2.233)	(1.733, 4.369)
P25	0.399	0.386	0.553	0.321	0.531	0.385	0.382	0.348	0.327
	(0.368, 0.432)	(0.354, 0.422)	(0.429, 0.686)	(0.211, 0.415)	(0.462, 0.594)	(0.332, 0.449)	(0.317, 0.441)	(0.268, 0.432)	(0.188, 0.502)
P75	0.733	0.704	1.019	0.575	0.859	0.653	0.716	0.749	1.118
	(0.688, 0.787)	(0.658, 0.756)	(0.883, 1.188)	(0.473, 0.694)	(0.779, 0.952)	(0.576, 0.747)	(0.623, 0.812)	(0.656, 0.873)	(0.752, 1.569)

#### Table 22: The Aggregate AWE, Married Women, Participation, Excluding Husbands' Quits

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers do not enter the labor market and remain classified as non-participants. We include spouses who move from employment to unemployment and do not report quitting as the reason for unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.

	10-0			1070	1000	1000			
	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
$\mathbf{SS}$	66.379	66.607	64.454	51.883	61.682	70.715	69.904	68.404	68.501
	(66.207,  66.548)	(66.435,  66.774)	(64.016,  64.885)	(51.330, 52.499)	(61.373,  62.001)	(70.406, 71.022)	(69.577, 70.248)	(68.008,  68.788)	(67.564, 69.445)
Conte	mporaneous	Effect							
Mean	0.221	0.211	0.313	0.178	0.259	0.226	0.215	0.201	0.336
	(0.207,  0.236)	(0.196,  0.226)	(0.264, 0.364)	(0.142, 0.218)	(0.233, 0.286)	(0.197, 0.256)	(0.186, 0.246)	(0.167, 0.235)	(0.215, 0.467)
Max	0.794	0.749	0.649	0.366	0.568	0.558	0.635	0.732	1.467
	(0.597, 1.219)	(0.550, 1.219)	(0.484, 0.961)	(0.268, 0.524)	(0.439, 0.791)	(0.426, 0.809)	(0.454, 0.961)	(0.489, 1.219)	(0.718, 2.360)
P25	0.121	0.114	0.201	0.111	0.171	0.126	0.111	0.084	0.063
	(0.103,  0.140)	(0.095,  0.131)	(0.148, 0.260)	(0.060, 0.157)	(0.137, 0.202)	(0.094, 0.161)	(0.080, 0.146)	(0.056, 0.121)	(0.010, 0.133)
P75	0.299	0.288	0.401	0.237	0.333	0.311	0.289	0.279	0.353
	(0.273,  0.324)	(0.262,  0.312)	(0.322, 0.502)	(0.185, 0.313)	(0.291, 0.385)	(0.259, 0.372)	(0.237,  0.347)	(0.219, 0.342)	(0.192,  0.601)
Effect	with Leads a	und Lags							
Mean	0.526	0.506	0.704	0.400	0.627	0.483	0.517	0.521	0.821
	(0.504,  0.550)	(0.483,  0.531)	(0.629, 0.779)	(0.346, 0.463)	(0.587, 0.670)	(0.441, 0.529)	(0.466, 0.568)	(0.468, 0.582)	(0.492, 1.045)
Max	1.443	1.372	1.267	0.733	1.192	0.991	1.212	1.352	2.570
	(1.168, 2.005)	(1.082,  1.995)	(0.998, 1.715)	(0.572, 1.041)	(0.985, 1.516)	(0.793, 1.372)	(0.884, 1.715)	(1.031, 1.995)	(1.559, 3.805)
P25	0.360	0.349	0.498	0.287	0.468	0.350	0.344	0.320	0.299
	(0.330, 0.391)	(0.319,  0.381)	(0.391, 0.615)	(0.186, 0.364)	(0.404, 0.526)	(0.296, 0.412)	(0.285, 0.405)	(0.248, 0.393)	(0.172, 0.463)
P75	0.663	0.638	0.894	0.520	0.765	0.598	0.659	0.674	1.058
	(0.620, 0.712)	(0.596,  0.688)	(0.770, 1.055)	(0.428, 0.633)	(0.694, 0.855)	(0.524, 0.680)	(0.570, 0.744)	(0.587, 0.790)	(0.716, 1.494)

Table 23: The Aggregate AWE, Married Women, Employment, Excluding Husbands' Quits

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers do not enter the labor market and remain classified as non-participants. We include spouses who move from employment to unemployment and do not report quitting as the reason for unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
$\mathbf{SS}$	3.815	3.705	4.767	4.697	4.713	3.410	3.229	3.590	4.270
	(3.773, 3.864)	(3.659, 3.753)	(4.619, 4.913)	(4.525, 4.879)	(4.606, 4.811)	(3.330, 3.491)	(3.140, 3.318)	(3.492,  3.690)	(4.011, 4.564)
Conte	mporaneous	Effect					1		
Mean	0.015	0.014	0.021	0.019	0.022	0.007	0.013	0.015	0.002
	(0.011, 0.018)	(0.011, 0.018)	(0.009, 0.035)	(0.008, 0.034)	(0.015, 0.029)	(0.002, 0.013)	(0.006, 0.019)	(0.007, 0.023)	(-0.022, 0.028)
Max	0.134	0.131	0.097	0.104	0.104	0.068	0.086	0.110	0.060
	(0.094, 0.230)	(0.091, 0.230)	(0.055, 0.161)	(0.050, 0.226)	(0.075, 0.161)	(0.041, 0.122)	(0.052, 0.156)	(0.068, 0.173)	(0.019, 0.131)
P25	-0.005	-0.005	-0.002	-0.005	-0.000	-0.008	-0.004	-0.006	-0.014
	(-0.007, -0.002)	(-0.008, -0.003)	(-0.016, 0.010)	(-0.020, 0.008)	(-0.009, 0.007)	(-0.014, -0.003)	(-0.009, 0.001)	(-0.011, -0.002)	(-0.031, -0.000)
P75	0.030	0.029	0.039	0.036	0.041	0.021	0.025	0.033	0.028
	(0.024, 0.036)	(0.023, 0.036)	(0.020, 0.064)	(0.017, 0.063)	(0.029, 0.056)	(0.013, 0.031)	(0.015, 0.036)	(0.020, 0.047)	(0.003, 0.065)
Effect	with Leads	and Lags							
Mean	0.051	0.048	0.075	0.052	0.073	0.036	0.042	0.051	0.026
	(0.045, 0.057)	(0.042, 0.054)	(0.056, 0.097)	(0.032, 0.074)	(0.061, 0.086)	(0.028, 0.046)	(0.033, 0.054)	(0.036, 0.065)	(-0.018, 0.081)
Max	0.284	0.277	0.210	0.171	0.224	0.126	0.176	0.269	0.111
	(0.210, 0.422)	(0.202, 0.420)	(0.141, 0.323)	(0.099, 0.291)	(0.163, 0.328)	(0.087, 0.197)	(0.120, 0.268)	(0.179, 0.419)	(0.043, 0.545)
P25	0.012	0.009	0.032	0.010	0.033	0.009	0.009	0.001	-0.010
	(0.005, 0.018)	(0.003, 0.016)	(0.008, 0.055)	(-0.013, 0.034)	(0.019, 0.047)	(-0.001, 0.021)	(-0.003, 0.021)	(-0.011, 0.010)	(-0.041, 0.021)
P75	0.079	0.076	0.110	0.088	0.104	0.059	0.070	0.083	0.055
	(0.069,  0.088)	(0.066, 0.085)	(0.077, 0.153)	(0.052, 0.135)	(0.085, 0.130)	(0.046, 0.075)	(0.051, 0.090)	(0.057, 0.112)	(0.019, 0.107)

Table 24: The Aggregate AWE, Married Women, Unemployment, Excluding Husbands' Quits

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers do not enter the labor market and remain classified as non-participants. We include spouses who move from employment to unemployment and do not report quitting as the reason for unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.

# D The Aggregate AWE, Married Men

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
$\mathbf{SS}$	94.434	94.421	94.551	96.113	95.923	94.677	93.710	92.854	93.210
	(94.359, 94.507)	(94.337, 94.497)	(94.312, 94.767)	(95.901, 96.322)	(95.812, 96.037)	(94.525, 94.830)	(93.551, 93.867)	(92.650, 93.039)	(92.724, 93.662
Conte	mporaneous	Effect	1					1	
Mean	0.057	0.057	0.061	0.053	0.038	0.057	0.057	0.078	0.107
	(0.050, 0.065)	(0.048,  0.065)	(0.041, 0.087)	(0.029, 0.099)	(0.028, 0.049)	(0.045, 0.071)	(0.041,  0.071)	(0.055, 0.099)	(0.062, 0.162)
Max	0.377	0.374	0.218	0.227	0.204	0.231	0.223	0.305	0.346
	(0.247, 0.852)	(0.236, 0.852)	(0.130, 0.386)	(0.086, 0.842)	(0.114, 0.420)	(0.146, 0.407)	(0.146, 0.363)	(0.205, 0.568)	(0.174, 0.642)
P25	0.011	0.011	0.014	0.009	0.006	0.013	0.013	0.020	0.012
	(0.006, 0.017)	(0.005,  0.016)	(0.003, 0.034)	(-0.001, 0.028)	(0.000, 0.013)	(0.004, 0.023)	(0.004, 0.027)	(0.006, 0.038)	(-0.004, 0.045)
P75	0.083	0.084	0.086	0.066	0.053	0.085	0.087	0.118	0.161
	(0.071, 0.097)	(0.070,  0.099)	(0.052, 0.143)	(0.036, 0.117)	(0.038, 0.074)	(0.061, 0.114)	(0.064, 0.115)	(0.088, 0.155)	(0.082, 0.282)
Effect	with Leads a	and Lags				1			
Mean	0.147	0.144	0.176	0.096	0.108	0.151	0.163	0.184	0.174
	(0.135, 0.160)	(0.130,  0.156)	(0.140, 0.219)	(0.063, 0.149)	(0.091, 0.130)	(0.125, 0.177)	(0.134, 0.189)	(0.149, 0.216)	(0.108, 0.248)
Max	0.646	0.624	0.472	0.286	0.348	0.456	0.506	0.574	0.541
	(0.472, 1.059)	(0.448, 1.036)	(0.317, 0.825)	(0.145, 0.876)	(0.232, 0.642)	(0.304, 0.758)	(0.357, 0.825)	(0.401, 0.960)	(0.293, 0.955)
P25	0.063	0.060	0.091	0.035	0.054	0.069	0.077	0.075	0.046
	(0.051, 0.074)	(0.049,  0.072)	(0.055, 0.134)	(0.011, 0.062)	(0.035, 0.072)	(0.045, 0.100)	(0.052, 0.104)	(0.045, 0.106)	(0.003, 0.108)
P75	0.203	0.201	0.228	0.129	0.144	0.207	0.226	0.268	0.240
	(0.183, 0.226)	(0.179, 0.226)	(0.167, 0.307)	(0.085, 0.198)	(0.117, 0.179)	(0.166, 0.259)	(0.181, 0.279)	(0.216, 0.323)	(0.127, 0.404)

#### Table 25: The Aggregate AWE, Married Men, Participation

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers do not enter the labor market and remain classified as non-participants. We include all spouses who move from employment to unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.

	1070			1050	1000	1000	2000		
	1976	_		1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
$\mathbf{SS}$	91.249	91.376	90.150	93.505	91.873	91.681	90.804	89.852	89.952
	(91.163, 91.334)	(91.286, 91.462)	(89.884, 90.402)	(93.266, 93.762)	(91.746, 92.011)	(91.517, 91.848)	(90.624,  91.001)	(89.624, 90.058)	(89.454, 90.498
Conte	emporaneous	Effect							
Mean	0.055	0.055	0.056	0.052	0.036	0.054	0.055	0.075	0.109
	(0.048, 0.063)	(0.047,  0.063)	(0.036, 0.080)	(0.028, 0.093)	(0.026, 0.049)	(0.041, 0.068)	(0.040,  0.070)	(0.055, 0.097)	(0.061, 0.166)
Max	0.361	0.356	0.208	0.210	0.212	0.222	0.219	0.301	0.353
	(0.239, 0.779)	(0.231, 0.779)	(0.118, 0.378)	(0.090, 0.689)	(0.116, 0.445)	(0.141, 0.407)	(0.144,  0.365)	(0.200, 0.598)	(0.177, 0.654)
P25	0.010	0.010	0.012	0.007	0.005	0.013	0.012	0.019	0.012
	(0.005, 0.015)	(0.005, 0.015)	(0.003, 0.029)	(-0.001, 0.026)	(-0.000, 0.011)	(0.003, 0.022)	(0.003, 0.026)	(0.006, 0.036)	(-0.004, 0.046
P75	0.079	0.081	0.080	0.069	0.048	0.079	0.085	0.111	0.168
	(0.067, 0.094)	(0.067,  0.096)	(0.043, 0.135)	(0.037, 0.124)	(0.033, 0.068)	(0.057, 0.108)	(0.060, 0.114)	(0.082, 0.152)	(0.083, 0.294)
Effect	with Leads a	and Lags							
Mean	0.135	0.133	0.158	0.090	0.099	0.140	0.150	0.169	0.168
	(0.123, 0.147)	(0.121, 0.145)	(0.123, 0.200)	(0.060, 0.136)	(0.082, 0.121)	(0.115, 0.164)	(0.124, 0.177)	(0.137, 0.202)	(0.100, 0.244)
Max	0.599	0.572	0.453	0.262	0.332	0.427	0.482	0.512	0.520
	(0.434, 0.955)	(0.412, 0.953)	(0.287, 0.772)	(0.142, 0.725)	(0.220, 0.643)	(0.294, 0.731)	(0.334, 0.772)	(0.363, 0.891)	(0.277, 0.918)
P25	0.058	0.056	0.074	0.032	0.049	0.063	0.070	0.070	0.041
	(0.048, 0.068)	(0.044,  0.066)	(0.045, 0.112)	(0.007, 0.062)	(0.033, 0.065)	(0.041, 0.091)	(0.048,  0.092)	(0.043, 0.102)	(0.004, 0.098)
P75	0.187	0.186	0.210	0.124	0.130	0.191	0.206	0.245	0.241
	(0.167, 0.212)	(0.165, 0.211)	(0.144, 0.287)	(0.080, 0.186)	(0.103, 0.164)	(0.152, 0.241)	(0.169, 0.255)	(0.194, 0.300)	(0.126, 0.403)

Table 26: The Aggregate AWE, Married Men, Employment

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers do not enter the labor market and remain classified as non-participants. We include all spouses who move from employment to unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.

	1976			1976	1980	1990	2000	2010	2020
	to	Expansions	Recessions	to	to	to	to	to	to
	2019			1979	1989	1999	2009	2019	2021
SS	3.373	3.224	4.648	2.709	4.220	3.160	3.100	3.237	3.493
	(3.334, 3.411)	(3.187, 3.265)	(4.516, 4.775)	(2.598, 2.811)	(4.141, 4.303)	(3.087, 3.236)	(3.024, 3.181)	(3.147, 3.320)	(3.299, 3.713)
Conte	mporaneous	Effect							
Mean	0.000	-0.000	0.003	-0.000	0.000	0.001	-0.000	0.000	-0.009
	(-0.002, 0.002)	(-0.002, 0.002)	(-0.001, 0.008)	(-0.006, 0.009)	(-0.002, 0.002)	(-0.001, 0.004)	(-0.004, 0.002)	(-0.008, 0.005)	(-0.019, 0.001)
Max	0.070	0.070	0.029	0.027	0.026	0.034	0.039	0.061	0.010
	(0.038, 0.183)	(0.037, 0.183)	(0.014, 0.064)	(0.006, 0.169)	(0.014, 0.047)	(0.017, 0.067)	(0.018,  0.072)	(0.029, 0.137)	(0.000, 0.044)
P25	-0.005	-0.006	-0.004	-0.006	-0.004	-0.005	-0.006	-0.008	-0.016
	(-0.007, -0.004)	(-0.007, -0.004)	(-0.009, -0.000)	(-0.012, -0.003)	(-0.006, -0.002)	(-0.007, -0.003)	(-0.009, -0.004)	(-0.012, -0.004)	(-0.033, -0.004)
P75	0.003	0.003	0.009	0.001	0.004	0.004	0.003	0.003	0.002
	(0.001, 0.005)	(0.001, 0.005)	(0.003, 0.018)	(-0.001, 0.009)	(0.001, 0.007)	(0.001, 0.010)	(0.000, 0.008)	(0.000, 0.011)	(-0.003, 0.011)
Effect	with Leads	and Lags							
Mean	0.007	0.006	0.010	0.003	0.004	0.007	0.008	0.009	-0.003
	(0.004, 0.010)	(0.003, 0.010)	(0.001, 0.019)	(-0.003, 0.015)	(0.000, 0.009)	(0.001, 0.013)	(0.001, 0.015)	(-0.002, 0.018)	(-0.017, 0.013)
Max	0.130	0.129	0.061	0.034	0.056	0.060	0.084	0.115	0.034
	(0.079, 0.247)	(0.078, 0.243)	(0.034, 0.110)	(0.012, 0.168)	(0.031, 0.100)	(0.035, 0.109)	(0.048, 0.205)	(0.065, 0.230)	(0.010, 0.088)
P25	-0.007	-0.007	-0.005	-0.006	-0.006	-0.006	-0.007	-0.009	-0.016
	(-0.009, -0.005)	(-0.009, -0.005)	(-0.015, 0.003)	(-0.012, -0.001)	(-0.011, -0.003)	(-0.010, -0.002)	(-0.012, -0.002)	(-0.015, -0.005)	(-0.037, -0.003)
P75	0.016	0.015	0.024	0.009	0.014	0.017	0.019	0.022	0.012
	(0.012, 0.021)	(0.011, 0.021)	(0.013, 0.039)	(0.001, 0.022)	(0.007, 0.021)	(0.010, 0.028)	(0.011, 0.029)	(0.009, 0.037)	(-0.001, 0.036)

Table 27: The Aggregate AWE, Married Men, Unemployment

**Notes:** CPS 1976 to 2021. All values are the difference, in percentage points, between the steady-state approximation of the data and the counterfactual steady-state. In the counterfactual, added workers do not enter the labor market and remain classified as non-participants. We include all spouses who move from employment to unemployment. We seasonally adjust monthly estimates using a ratio to moving average. The data is corrected for classification errors as described in Appendix Section A.1. Probabilities are corrected for time-aggregation bias as described in Appendix Section A.2. We report 95% confidence intervals from 1,000 bootstraps.