

Supplement to:

Shen, Yifan. 2026. "Men's Labor-Market Decline and the Rising Correlation between Spouses' Earnings in the United States" Sociological Science 13: 1018-1045.

Online Appendix

Table S1. Two-way fixed effect models predicting spousal earnings correlation: full output

	Model 1 (1)
Male median annual earnings	-0.04** (0.01)
Female median annual earnings	-0.001 (0.001)
% Foreign born	0.04 (0.09)
% Blacks	0.14* (0.06)
% Hispanics	-0.15* (0.06)
Population density (1,000s per sq. km)	0.13** (0.05)
Mean age	0.004 (0.003)
Age heterogeneity	-0.01 (0.18)
% College graduates	0.20** (0.05)
Educational heterogeneity	-0.03 (0.02)
% Low-skilled immigrants	0.17 (0.17)
% Owner-occupied households	-0.08 (0.05)
Log mean house value	-0.01 (0.01)
Transfer income per capita (state)	-0.04* (0.02)
Social/cultural conservatism (state)	-0.04** (0.01)
Economic conservatism (state)	-0.01 (0.02)
Constant	0.79** (0.30)
CZ & year fixed effects	×
Time-varying controls	×
Observations	4,332
R-squared	0.90

Dependent variable: spousal earnings correlation, 10-year lead. Robust standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$. See main text for sample and variable definitions.
Source: IPUMS U.S. Census 1960-2000, American Community Survey 2008-2012, 2015-2019.
IPUMS sampling weights used.

Table S2. Two-way fixed effect models predicting spousal earnings correlation: sensitivity checks

	Model 1 (reference) (1)	Model 2 (2)	Model 3 (3)	Model 4 (4)	Model 5 (5)
Male median weekly earnings (among full-time workers)	-0.05* (0.02)	-0.24** (0.01)	-0.05** (0.02)	-0.05* (0.02)	-0.07** (0.03)
Male employment rate	-0.28** (0.10)	-0.42** (0.08)	-0.01 (0.05)	-0.27** (0.11)	-0.29** (0.11)
Female median weekly earnings (among full-time workers)	0.06** (0.02)	0.20** (0.02)	0.09** (0.01)	0.06* (0.02)	0.08** (0.03)
Female employment rate	0.09* (0.04)	-0.14** (0.03)	0.03 (0.03)	0.09* (0.04)	0.05 (0.04)
CZ & year fixed effects	×	×	×	×	×
Time-varying controls	×	×	×	×	×
Observations	4,332	5,054	4,332	4,332	4,332
R-squared	0.90	0.92	0.85	0.90	—

Robust standard errors in parentheses. * $p < 0.05$; ** $p < 0.01$. Model 1: baseline, reproduced from Model 4 in Table 1. Model 2: contemporaneous rather than lead SEC. Model 3: CZs weighted equally instead of by population. Model 4: adding CZ-specific linear trends. Model 5: fractional probit (Papke and Wooldridge 2008) with a correlated-random-effects control function for the bounded outcome; coefficients shown with standard errors from a 500-replication CZ-clustered bootstrap.

Source: IPUMS U.S. Census 1960-2000, American Community Survey 2008-2012, 2015-2019.

Table S3. Estimated effects of gender-specific trade shock on spousal earnings correlation by terciles of CZ net migration rate and among couples in which both spouses are noncollege-educated, 1990-2014: shift-share IV estimates

	Noncollege couples (1)	Bottom migration- rate tercile (2)	Top migration-rate tercile (3)
Δ Male-specific trade shock	0.05* (0.02)	0.04* (0.02)	0.05* (0.02)
Δ Female-specific trade shock	-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.02)
Observations	1,444	468	466
R-squared	0.28	0.19	0.19

All models include a dummy for the 2000-2014 period, indicators of census divisions, and a set of start-of-period CZ characteristics, and are weighted by the product of period length and CZ share of start-of-period U.S. mainland population of married couples. Robust standard errors in parentheses are clustered on state. * $p < 0.05$, ** $p < 0.01$. Instrument strength: the gender-specific instruments are strong in all columns, with a Sanderson-Windmeijer conditional first-stage F of at least 46 (male shock) and 27 (female shock) and a Kleibergen-Paap rk Wald F of at least 10, all far above the conventional weak-instrument threshold of 10; full first-stage estimates appear in the first-stage table. Sources: IPUMS U.S. Census 1990, 2000, American Community Survey 2013-2015.

Table S4. Two-way fixed-effect models predicting alternative measures of the spousal earnings correlation

	Baseline (CZ ranks, annual) (1)	National ranks, annual (2)	National ranks, weekly (3)	Log-linear model parameter (4)
Male median weekly earnings	-0.05* (0.02)	-0.03 (0.02)	-0.03* (0.02)	-0.02* (0.01)
Male employment rate	-0.28** (0.10)	-0.23* (0.09)	-0.23** (0.08)	-0.08* (0.04)
Female median weekly earnings	0.06** (0.02)	0.05* (0.02)	0.04 (0.02)	0.02* (0.01)
Female employment rate	0.09* (0.04)	0.01 (0.04)	-0.01 (0.03)	0.04** (0.01)
CZ & year fixed effects	×	×	×	×
Time-varying controls	×	×	×	×
Observations	4,332	4,332	4,332	4,332
R-squared	0.90	0.91	0.90	0.89

Dependent variable: the 10-year lead of the spousal earnings correlation (SEC), measured four ways. Column 1 reproduces Model 4 of Table 1 (gender-specific fractional-rank correlation within commuting zone, annual earnings). Columns 2 and 3 rank spouses nationally (within year) rather than within CZ, using annual and weekly earnings respectively. Column 4 is the linear-by-linear (uniform-association) log-linear parameter following Schwartz (2010), with a separate zero-earnings category for each spouse and quintiles for nonzero earners, scored by category number (0-5) and estimated on all couples with ties broken at random.

All columns are two-way (CZ and year) fixed-effect models weighted by CZ couple-population share, with robust standard errors clustered on CZ in parentheses. * $p < 0.05$, ** $p < 0.01$. Predictors are CZ male and female median weekly earnings (among full-time workers) and employment rates; time-varying CZ controls are included as in Table 1.

Source: IPUMS U.S. Census 1960-2000, American Community Survey 2008-2012, 2015-2019. IPUMS sampling weights used.

Table S5. Estimated effects of the gender-specific trade shock on alternative measures of the spousal earnings correlation, 1990-2014: shift-share IV estimates

	Baseline (CZ ranks, annual)	National ranks, annual	National ranks, weekly	Log-linear (quintile scores)
	(1)	(2)	(3)	(4)
Δ Male-specific trade shock	0.04** (0.02)	0.04* (0.02)	0.03* (0.02)	0.02** (0.01)
Δ Female-specific trade shock	-0.014 (0.011)	-0.008 (0.011)	-0.007 (0.011)	-0.005 (0.004)
Observations	1,444	1,444	1,444	1,444
R-squared	0.18	0.16	0.11	0.20

Dependent variable: the change in the spousal earnings correlation (SEC), measured four ways. Column 1 reproduces the all-couples estimate of Table 4 (gender-specific fractional-rank correlation within CZ, annual earnings). Columns 2 and 3 rank spouses nationally (within year) rather than within CZ, using annual and weekly earnings respectively. Column 4 is the linear-by-linear (uniform-association) log-linear parameter following Schwartz (2010), with a separate zero-earnings category for each spouse and quintiles for positive earners, scored by category number (0-5) and estimated on all couples with ties broken at random; because the scores are ordinal rather than cardinal in dollars, the measure is margin-free like the rank-based measures.

All columns include a dummy for the 2000-2014 period, indicators of census divisions, and start-of-period CZ characteristics, and are weighted by the product of period length and CZ share of the start-of-period U.S. mainland married-couple population. Robust standard errors clustered on state in parentheses. * $p < 0.05$, ** $p < 0.01$.

Instrument strength: the gender-specific instruments are strong in all columns, with a Sanderson-Windmeijer conditional first-stage F of at least 117 (male shock) and 127 (female shock) and a Kleibergen-Paap rk Wald F of at least 64, all far above the conventional weak-instrument threshold of 10; full first-stage estimates appear in the first-stage table.

Sources: IPUMS U.S. Census 1990, 2000, American Community Survey 2013-2015; trade data as in Autor, Dorn, and Hanson (2013).

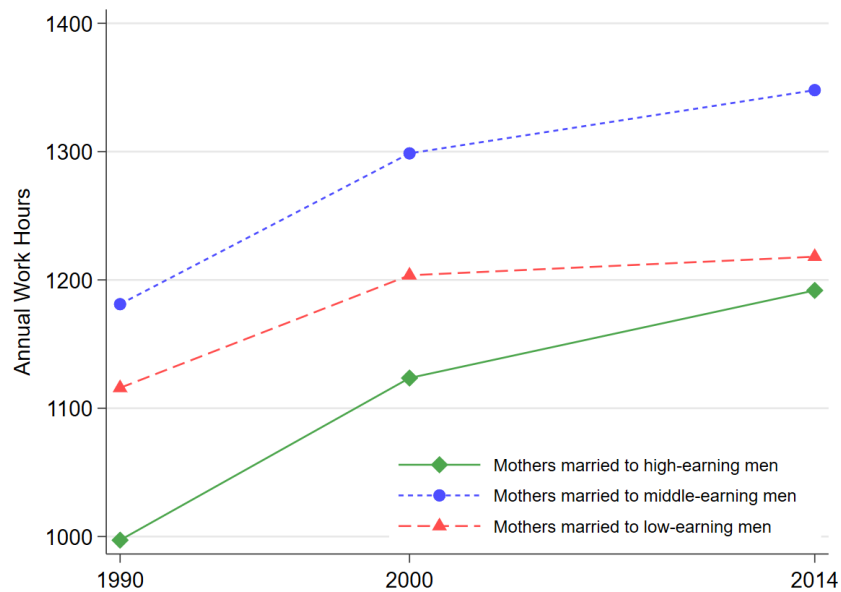


Figure S1. Trends in wives' average work hours by husbands' earnings tercile among couples with dependent children. Work hours (for each tercile) are averaged across commuting zones, weighted by commuting-zone population share.

Sources: IPUMS U.S. Census 1990, 2000, American Community Survey 2013-2015.