# Online Appendices

Appendix A   Additional Tables and Figures

Appendix Table A1: Average Chronic Condition Rates by Condition Category and Race

	American Indian	Black	Hispanic	White
Mental Health Diseases	0.316	0.216	0.295	0.299
Cardiovascular Diseases	0.255	0.233	0.223	0.222
Other Diseases	0.536	0.447	0.493	0.490

Notes: 'Mental Health Diseases' include bipolar, schizophrenia, and depression. 'Cardiovascular Diseases' include congestive heart failure, ischemic heart disease, and hypertension. 'Other Diseases' include asthma, anemia, arthritis, COPD, diabetes, glaucoma, hyperthyroidism, lower back pain, macular degeneration, osteoporosis, Parkinson's, and seizures.

Appendix Figure A1: Number of Chronic Conditions vs Within-Firm Income Percentile
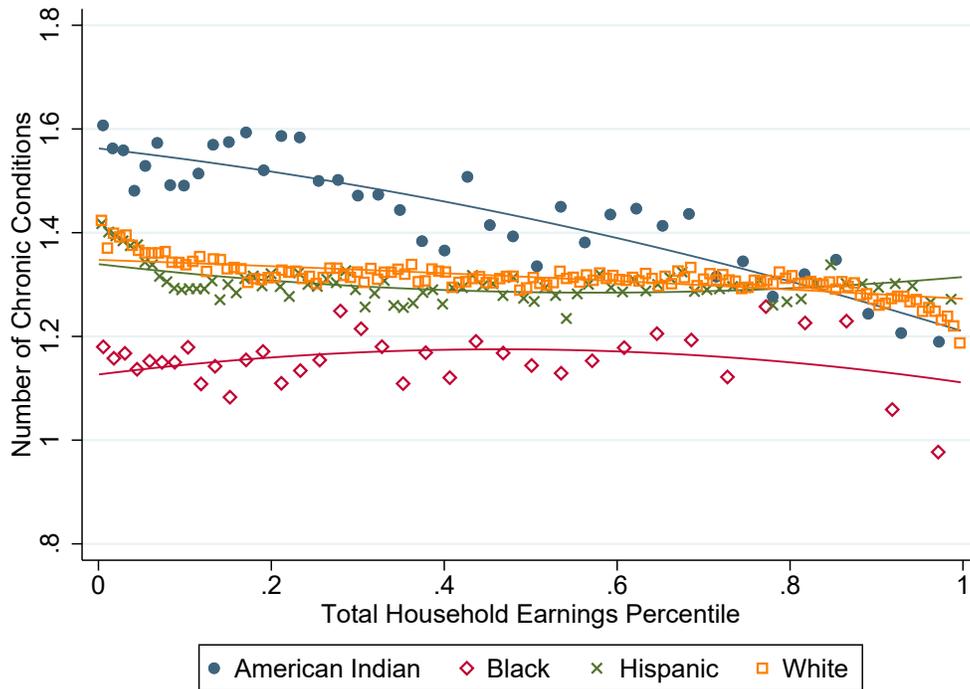Full Set of Controls, Individual Income Percentile Effects
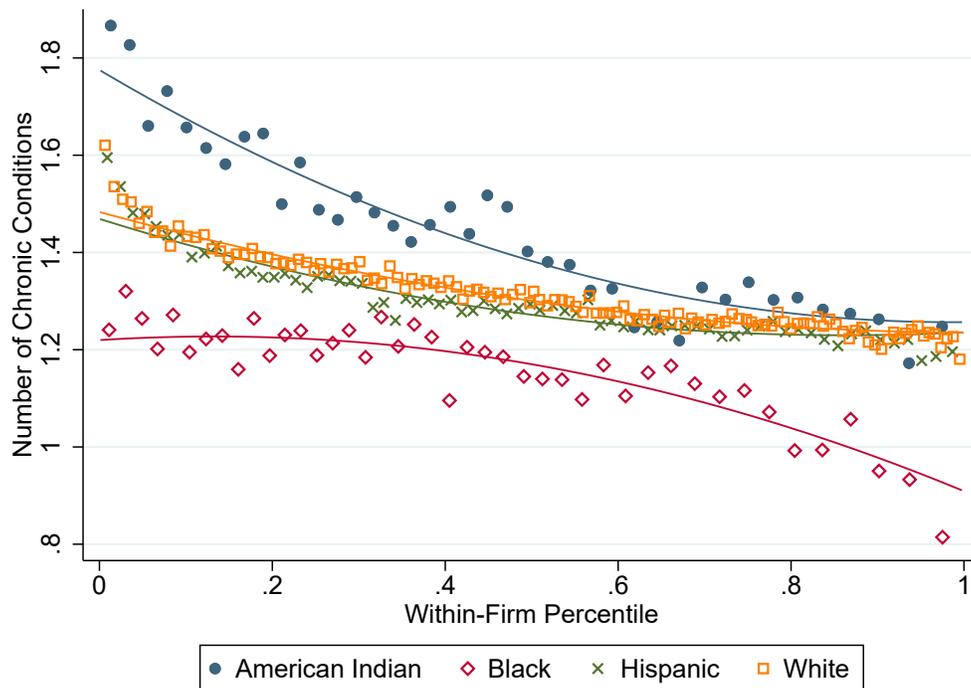
Notes: This figure shows the joint distribution of the number of chronic conditions workers have been diagnosed with and their percentile earnings rank within their primary employer. Each dot is the race-specific conditional mean chronic condition count in a given bin of within-firm ranks, controlling for fixed effects for each percentile of individual earnings, age × zip code fixed effects, gender, year, plan ID fixed effects, average firm size, and average tenure within a firm. The conditional means are constructed using the semiparametric partial linear regression approach developed in Cattaneo et al. (2023).

Appendix Table A2: Impacts of Control Variables on the 90-10 Percentile Gap in Chronic Conditions

	American Indians	Black	Hispanic	White
Baseline 90-10 Gap (Figure 1):	0.449	0.303	0.370	0.271
Location	-0.037	-0.011	0.002	-0.012
Social and Demographic Controls	-0.021	-0.022	-0.068	-0.046
Health Insurance Policy FE	0.013	-0.010	-0.027	0.014
Firm/Job Characteristics	0.018	0.001	-0.001	0.001
Fully Conditional 90-10 Gap (Figure 2):	0.422	0.262	0.277	0.229

Notes: This table reports differences in chronic disease rates between the 90th and 10th percentiles of employment rank by race. 'Baseline' estimates condition on age effects and household income percentile effects. The 'Location' row reports to average marginal impact on the 90-10 gap of adding zip code effects. 'Social and Demographic Controls' include gender and year effects. 'Health Insurance Policy FE' includes controls for group policy ID effects. 'Firm/Job Characteristics' includes average firm size and firm average tenure. Each of these four rows report average marginal effects of adding the respective controls, where the average is taken over all possible sequential orderings of the sets of controls. 'Fully Conditional 90-10 Gap' corresponds to Figure 1, and reports the 90-10 percentile gap including all sets of controls.

Appendix Figure A2: Number of Chronic Conditions vs Total Earnings Percentile

Notes: This figure shows the joint distribution of the number of chronic conditions workers have been diagnosed with and their percentile in the distribution of household earnings in Utah. Each dot is the race-specific conditional mean chronic condition count in a given bin of household earnings, controlling for within-firm ranks, age × zip code fixed effects, gender, year, plan ID fixed effects, average firm size, and average tenure within a firm. The conditional means are constructed using the semiparametric partial linear regression approach developed in Cattaneo et al. (2023).

Appendix Table A3: Strength of Relationships between Work Outcomes and Health Status, by Race

	American Indians	Black	Hispanic	White
Total HH Earnings	-0.066	-0.040	-0.035	-0.126
	(0.038)	(0.040)	(0.012)	(0.007)
Within-Firm Rank	-0.544	-0.252	-0.342	-0.238
	(0.035)	(0.036)	(0.010)	(0.006)
Within-Firm Gini	0.364	0.036	0.247	-0.051
	(0.071)	(0.076)	(0.021)	(0.012)

Notes: This table reports estimates from Equation 1, as shown in Figure 4.

Appendix Figure A3: Event Study Robustness: Borusyak et al. (2024) Model
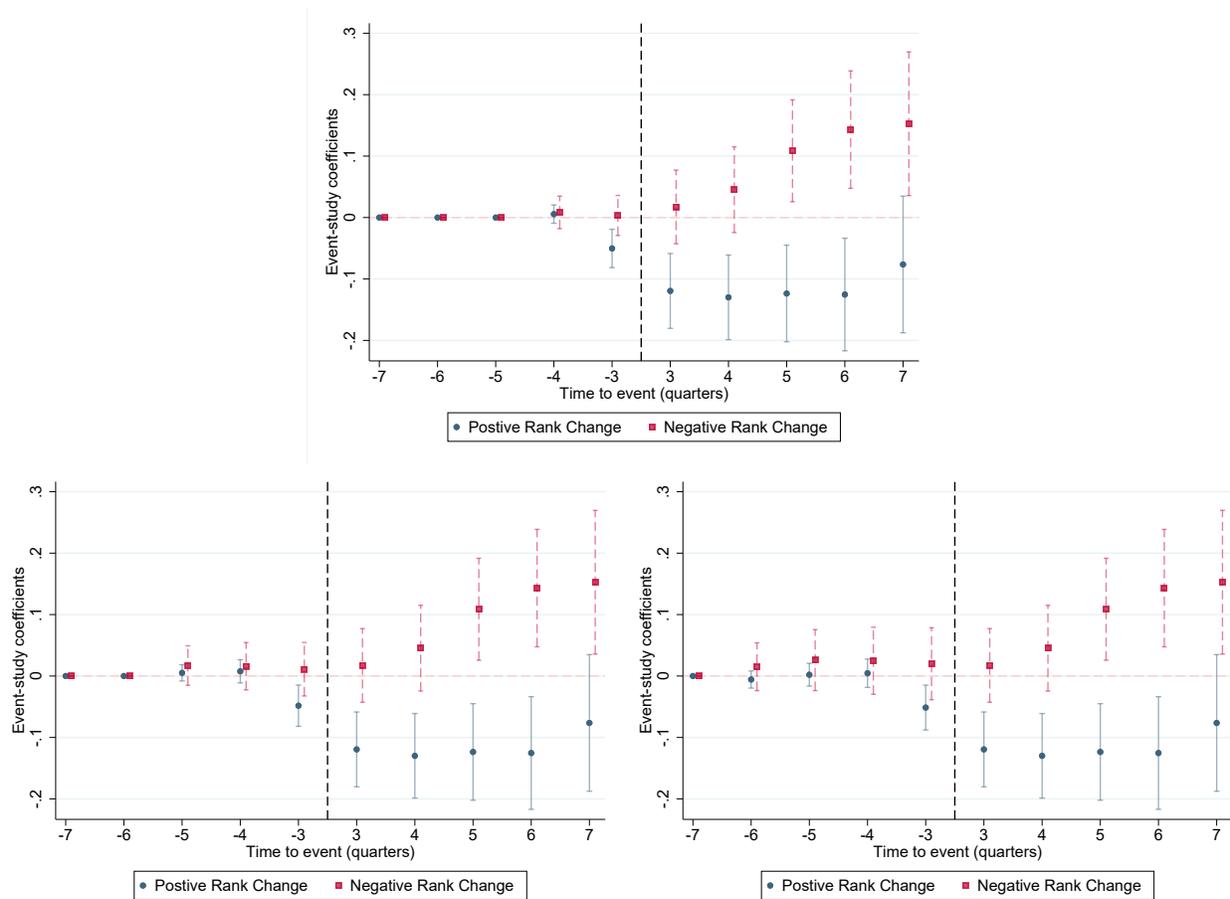
Notes: This figure is similar to Figure 7a but is estimated using the imputation model developed in Borusyak et al. (2024) under different normalization assumptions. Standard errors are clustered at the individual level.

Appendix Figure A4: Event Study Estimates without Donut Hole
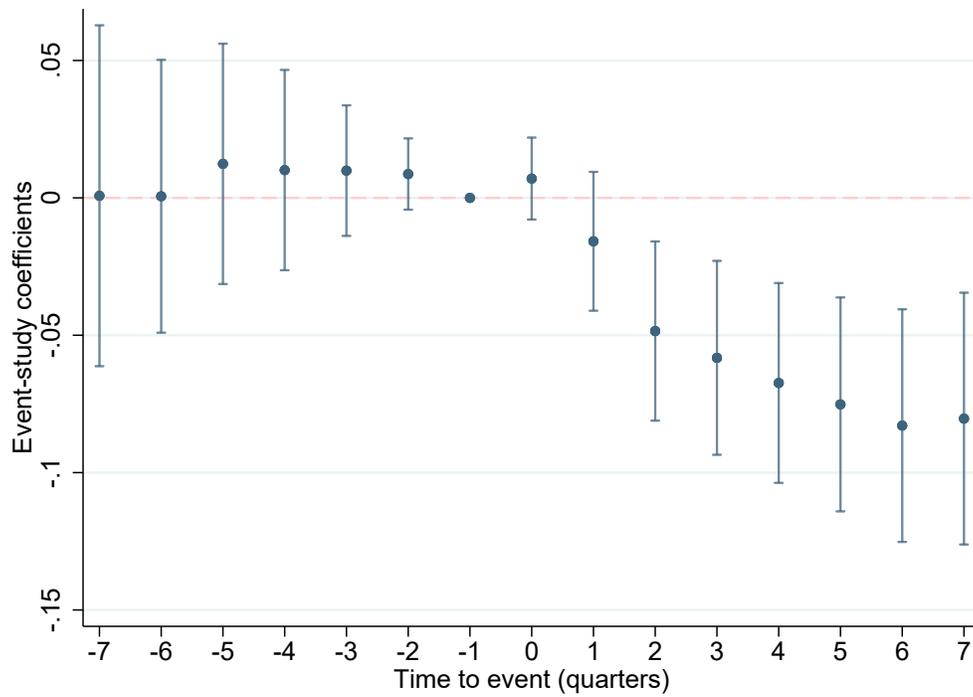
Notes: This figure shows estimates of $\widehat{\beta_k}$ from Equation 3, and is similar to Figure 6 but without a donut hole around the time of the job move. Standard errors are clustered at the individual level.
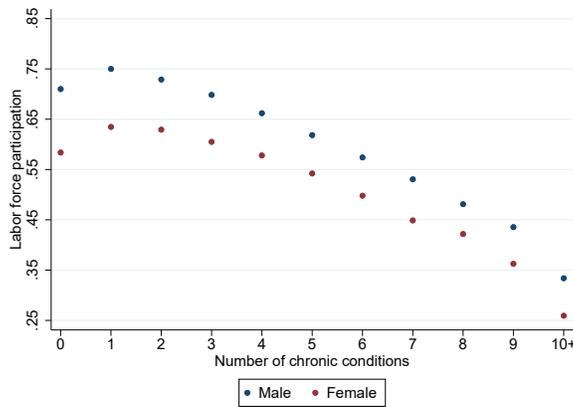
Appendix Figure A5: Slope of the Workplace Rank-Health Gradient by Rank Quintile
By Age in Decades, By Gender
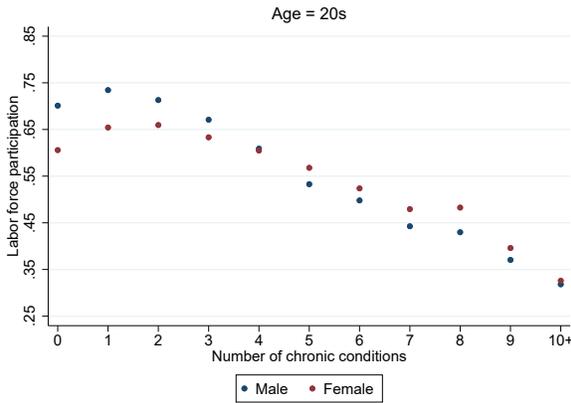
(a) Men

(b) Women
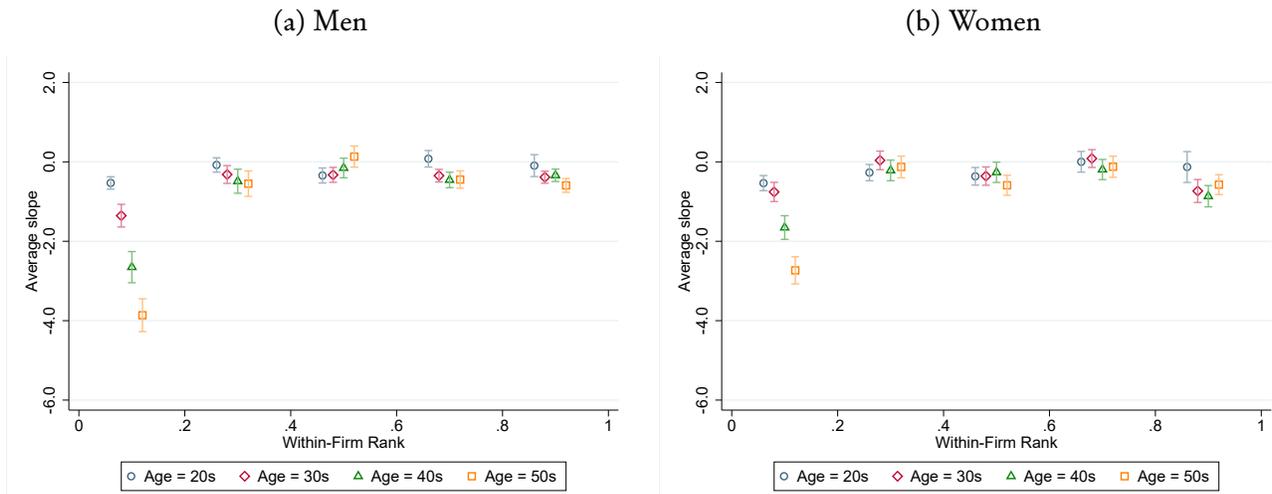
Notes: The figures show how the average marginal effect of workplace rank on health by gender, race, and quintile of the workplace rank distribution.

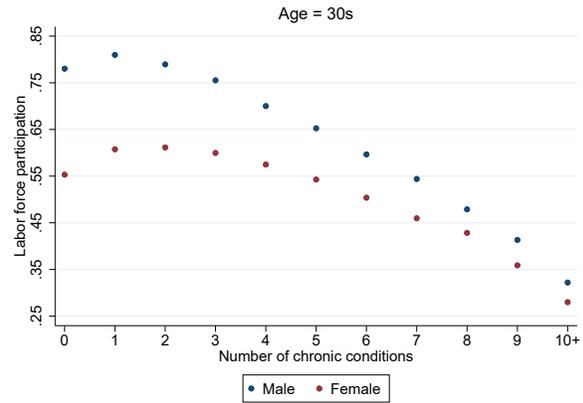## Appendix Figure A6: Labor Force Participation and Health
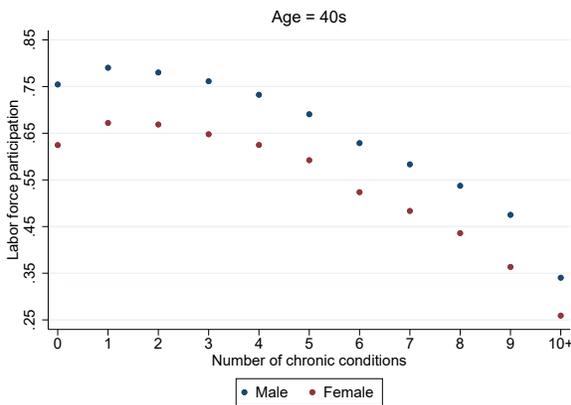
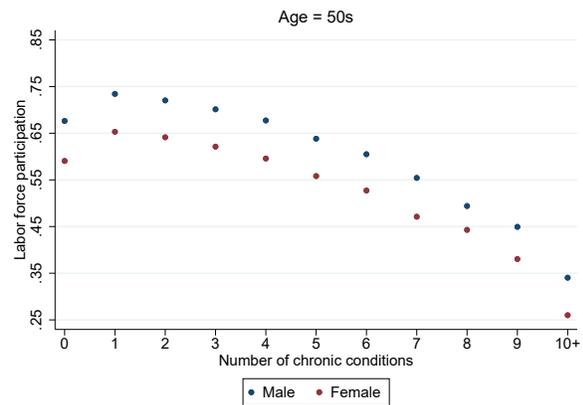### (a) Overall

(b) Age 20s

(c) Age 30s
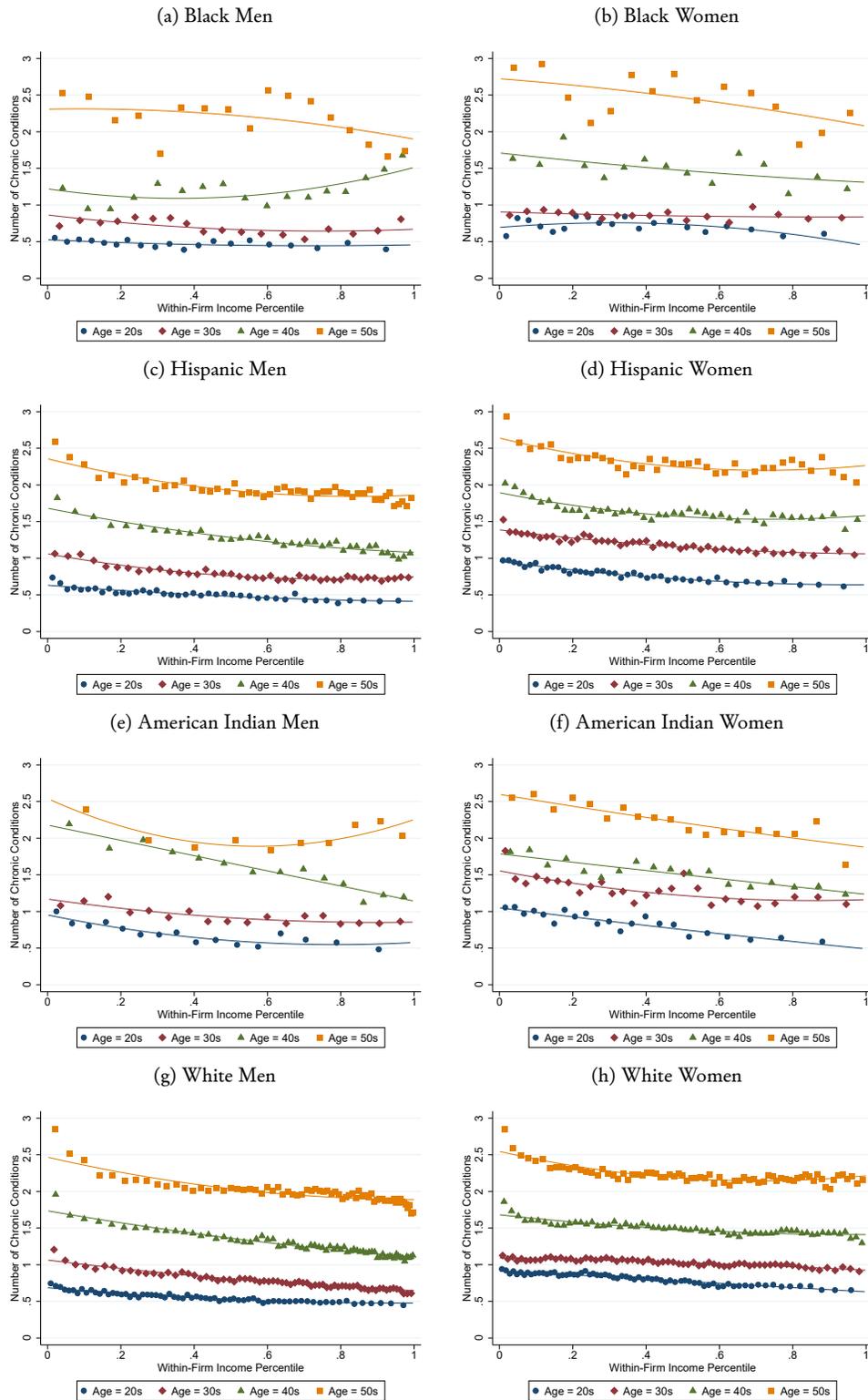

(d) Age 40s

(e) Age 50s

Notes: These figures report labor force participation rates by sex, health status, and age. Labor force participation is defined as the quarterly share of workers with any positive earnings, conditional on the individual being between ages 18 and 65 in the quarter and having health insurance coverage at any point between 2013 and 2015. Subfigure A6a shows the overall labor force participation rate, and subfigures A6b through A6d show rates by age categories.
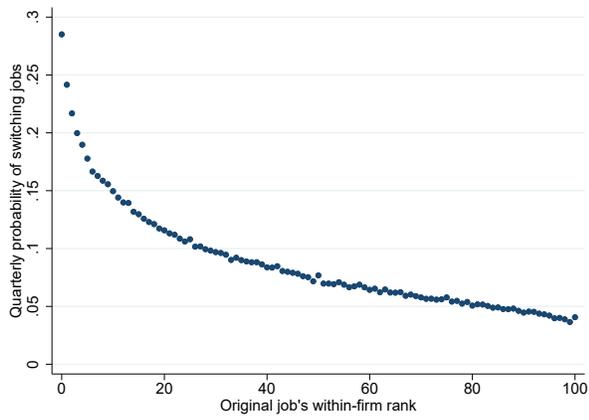
Appendix Figure A7: Number of Chronic Conditions vs Within-Firm Income Percentile By Age in Decades, By Race-Gender


(a) Black Men

(b) Black Women

(c) Hispanic Men

(d) Hispanic Women

(e) American Indian Men

(f) American Indian Women

(g) White Men

(h) White Women

Notes: We conduct the same semiparametric method used in Figure 2 by age categories, where we control for fixed household income percentile effects, age × zip code effects, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 4th-order polynomials.

Appendix Figure A8: Quarterly Probability of Switching Jobs by Origin Job Within-firm Rank and Earnings Percentile
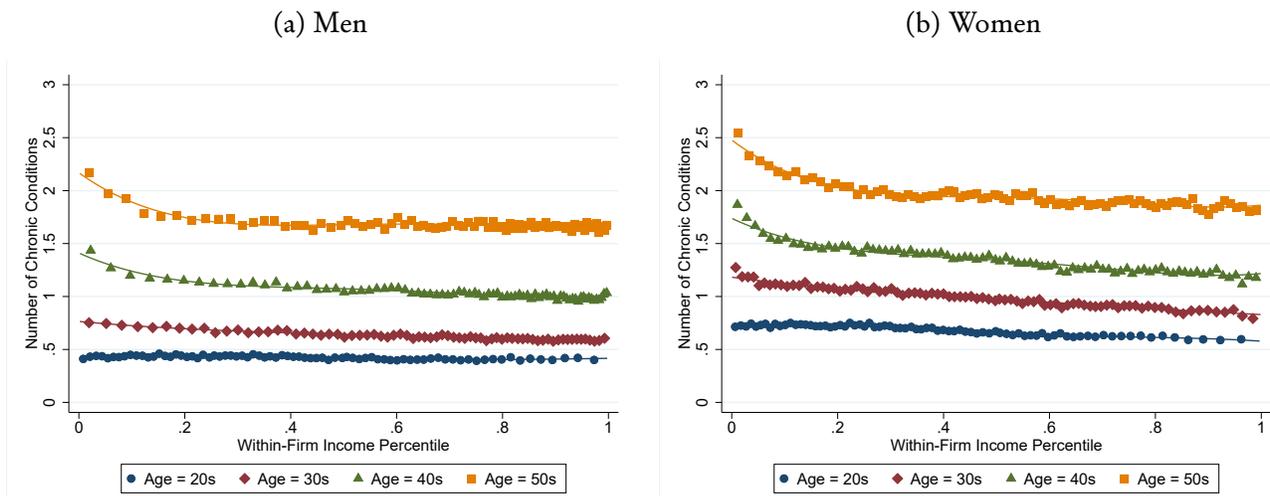
(a) Within-firm Rank

(b) Earnings Percentile
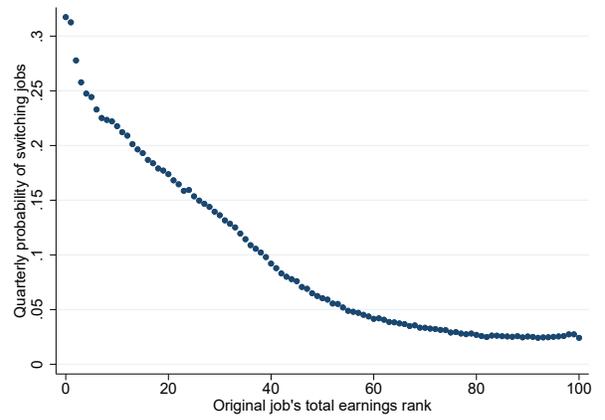
Notes: These figures report the quarterly probability of switching jobs conditional on the origin job's within-firm rank (panel a) and total earnings rank (panel b).

Appendix Figure A9: Number of Chronic Conditions vs Within-Firm Income Percentile
By Age in Decades, By Gender
Individual Earnings Percentile Fixed Effects

(a) Men

(b) Women

Notes: We conduct the same semiparametric method used in Figure 2 by age categories, where we control for fixed individual income percentile effects, age × zip code effects, gender, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 4th-order polynomials.

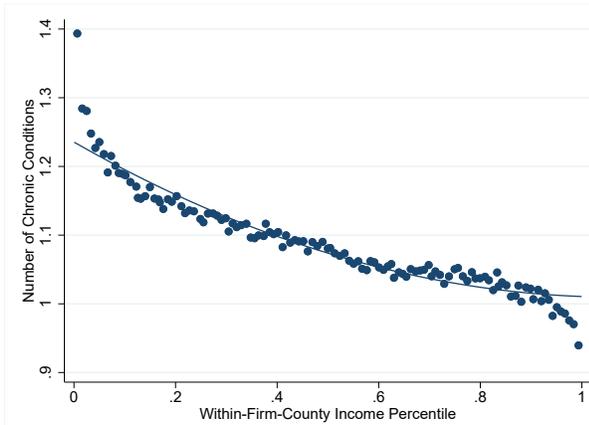## Appendix Figure A10: Alternative Social Status Measures
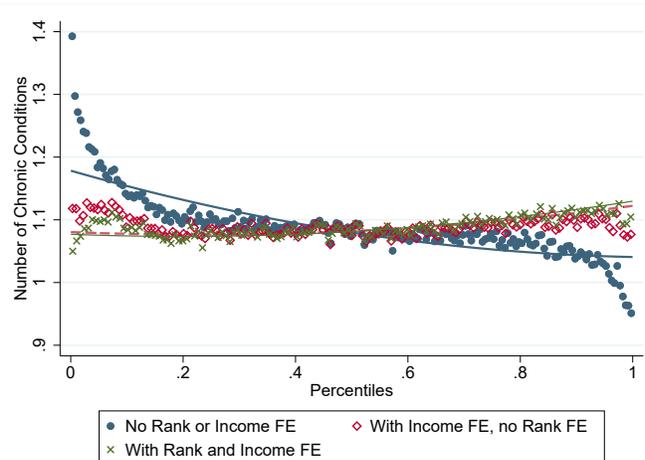
(a) Rank within Firm-Race Bin
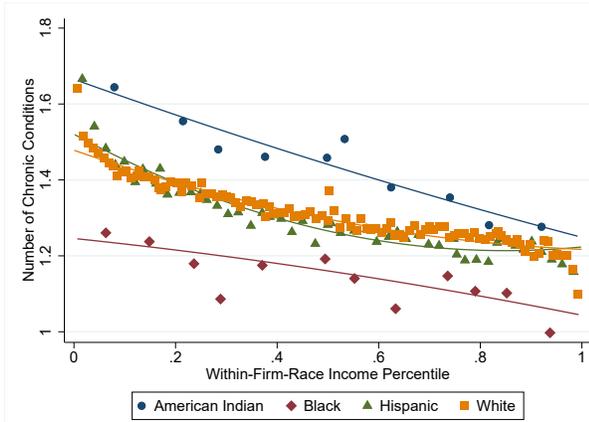
(b) Rank within Firm-Age Bin
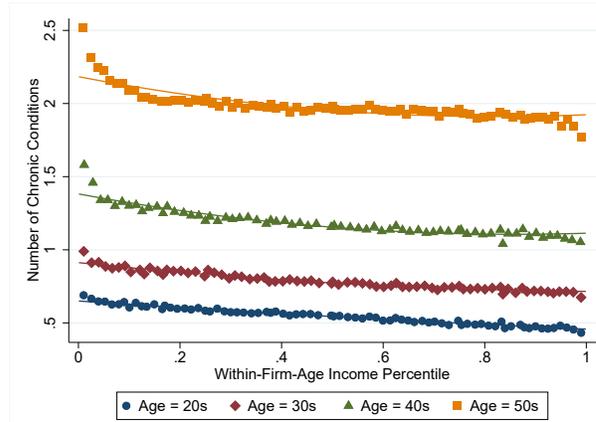
### (c) Rank within Firm-County Pairs

(d) Rank within Zip Code of Residence

Notes: In panels (a), (b), and (c) the horizontal axes are (a) the worker's percentile rank among workers with the same race within their firm, (b) percentile rank among workers with the same age (in decades) within their firm, and (c) percentile rank within the firm-county pair. In panel (d) we calculate each worker's percentile rank of the earnings distribution within their zip code of residence and show the rank-health gradient with an without controlling for fixed within-firm rank effects and income percentile effects. All figures are constructed using the semiparametric method from Figure 2, and include fixed household income percentile effects (unless otherwise indicated), age × zip code effects, gender, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 2nd-order polynomials.

Appendix Figure A11: Heterogeneity in the Rank-Health Gradient

(a) Rank Gradient by Gini Index
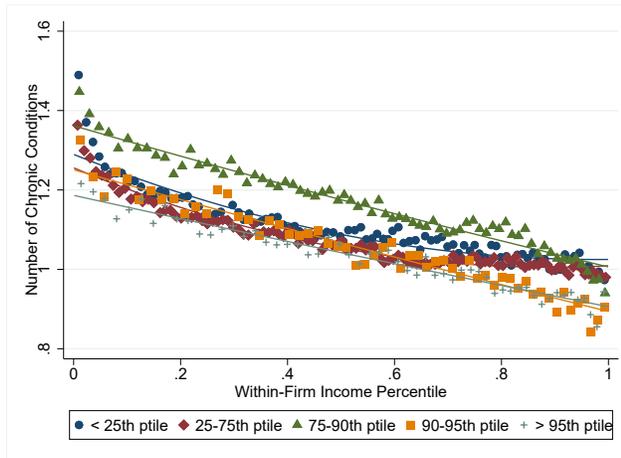
(b) Rank Gradient by Firm Size
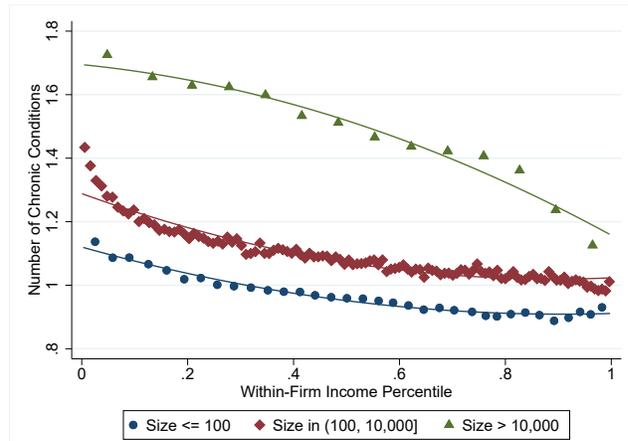
Notes: In panel (a) we calculate the Gini Index for each firm and show heterogeneity in the rank-health gradient by percentile bins of the Gini Index. In panel (b) we show heterogeneity in the rank-health gradient by different firm sizes: small firms (size ≤ 100), larger firms (size in between 100 and 10,000), and very large firm with more than 10,000 workers. Both figures are constructed using the semiparametric method from Figure 2, and include fixed household income percentile effects, age × zip code effects, gender, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 2nd-order polynomials.

Appendix Figure A12: Diagnosis Rates by Condition vs Within-Firm Income Percentile
Full Set of Controls
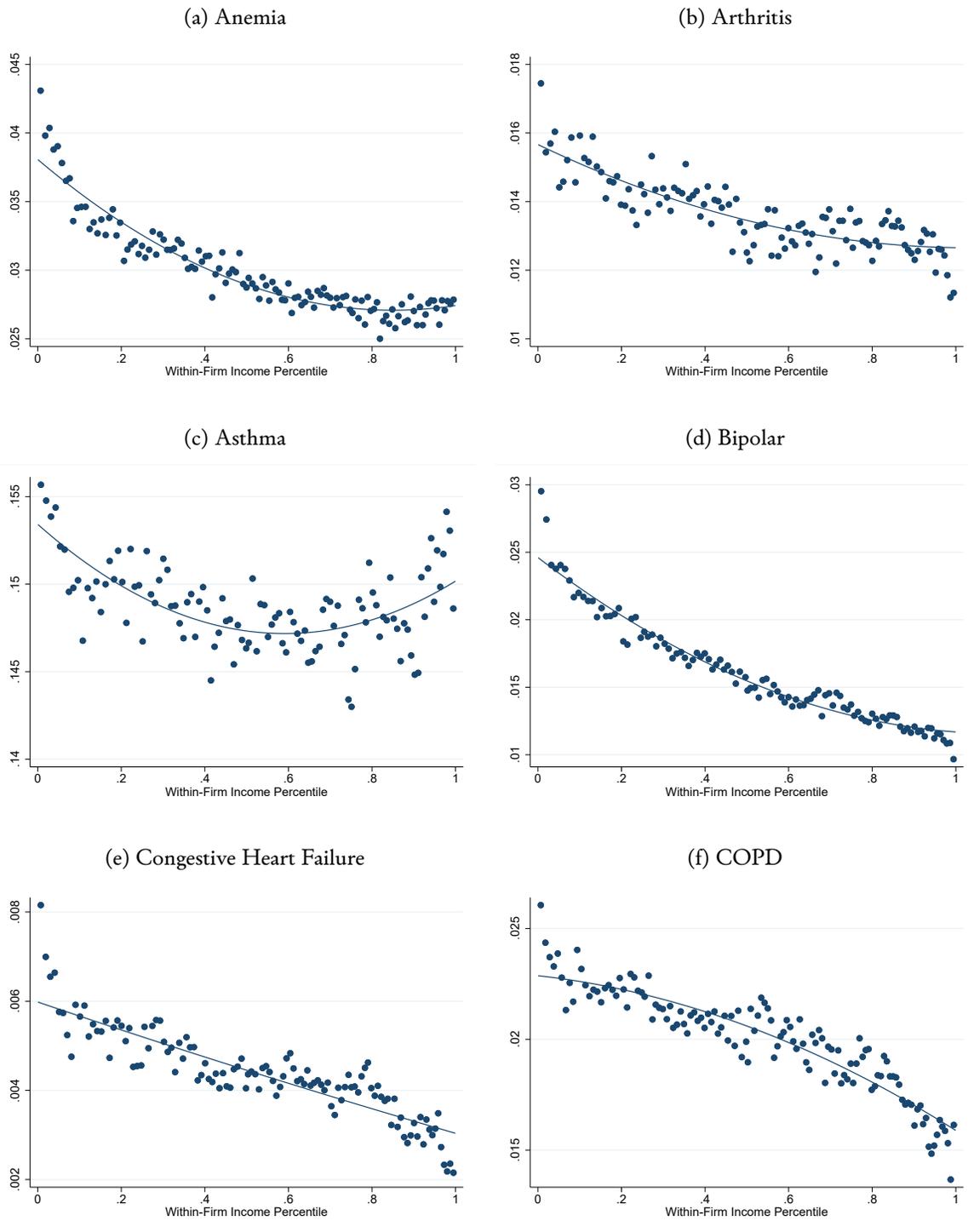
(a) Anemia

(b) Arthritis

(c) Asthma

(d) Bipolar

(e) Congestive Heart Failure

(f) COPD

Notes: The y-axis in each figure shows the prevalence of each disease. All figures are constructed using the semiparametric method from Figure 2, and include fixed household income percentile effects, age × zip code effects, gender, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 2nd-order polynomials.

Appendix Figure A13: Diagnosis Rates by Condition vs Within-Firm Income Percentile
Full Set of Controls
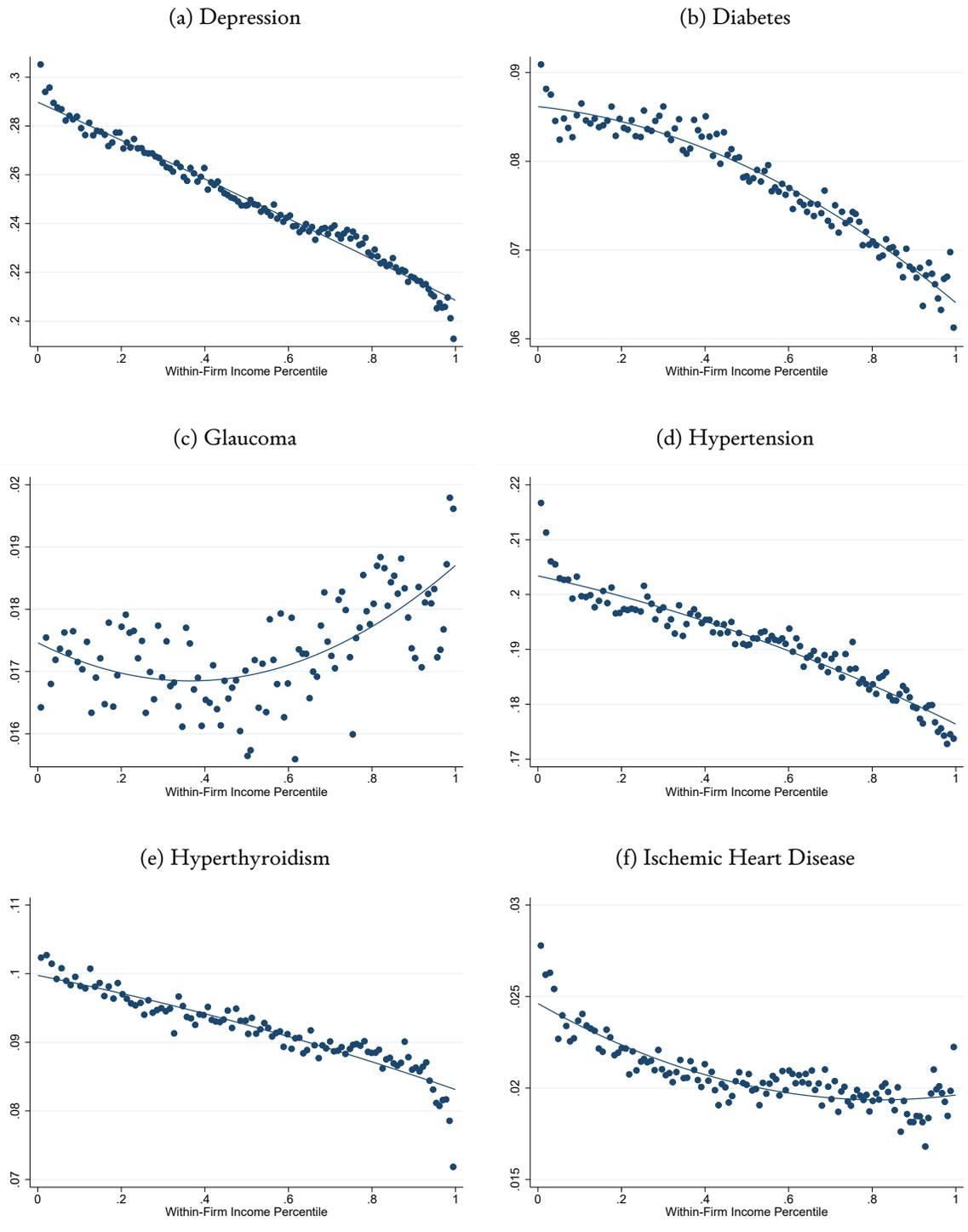
(a) Depression

(b) Diabetes

(c) Glaucoma

(d) Hypertension

(e) Hyperthyroidism

(f) Ischemic Heart Disease

Notes: The y-axis in each figure shows the prevalence of each disease. All figures are constructed using the semiparametric method from Figure 2, and include fixed household income percentile effects, age × zip code effects, gender, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 2nd-order polynomials.

Appendix Figure A14: Diagnosis Rates by Condition vs Within-Firm Income Percentile
Full Set of Controls

(a) Lower Back Pain

(b) Macular Degeneration

(c) Osteoporosis
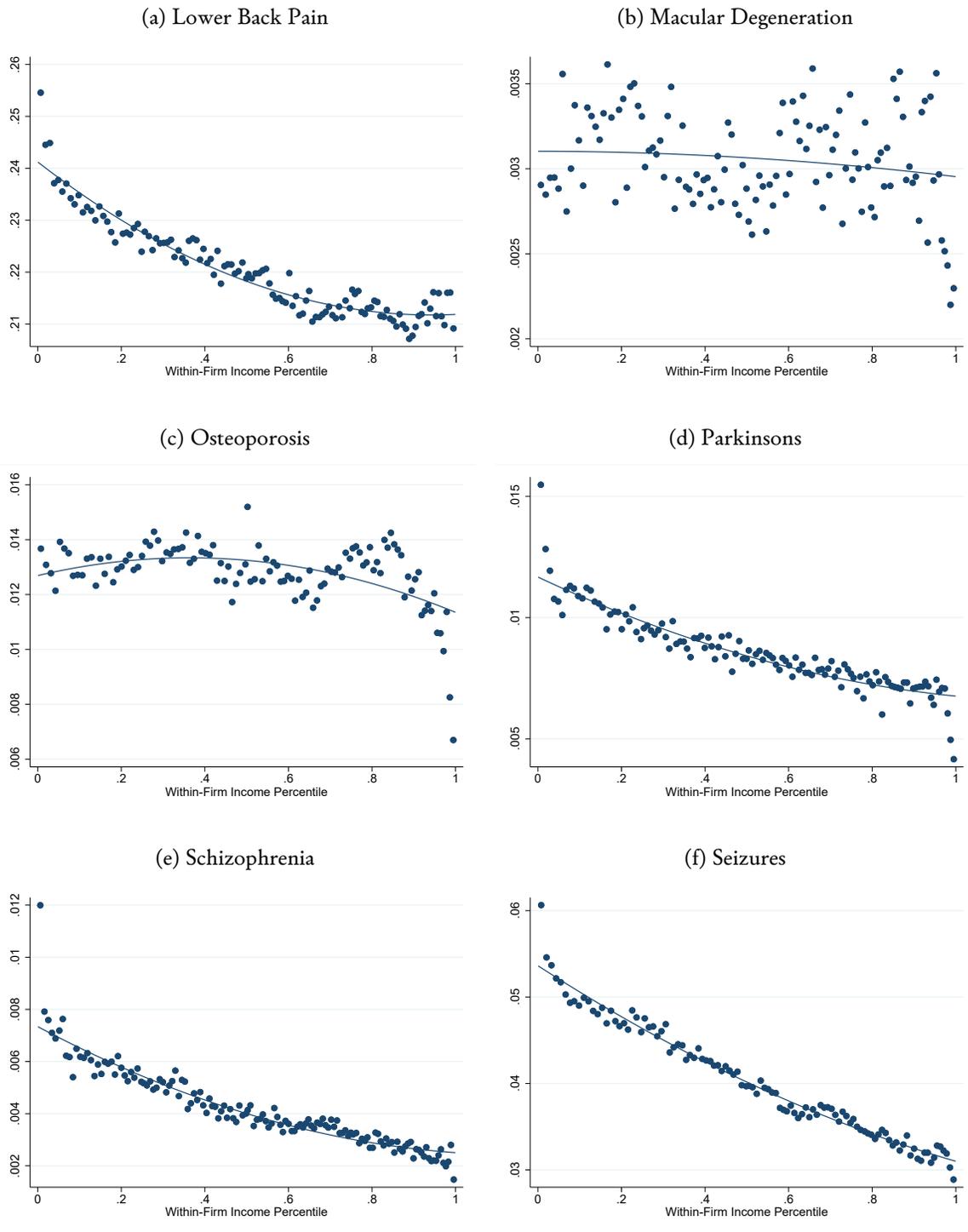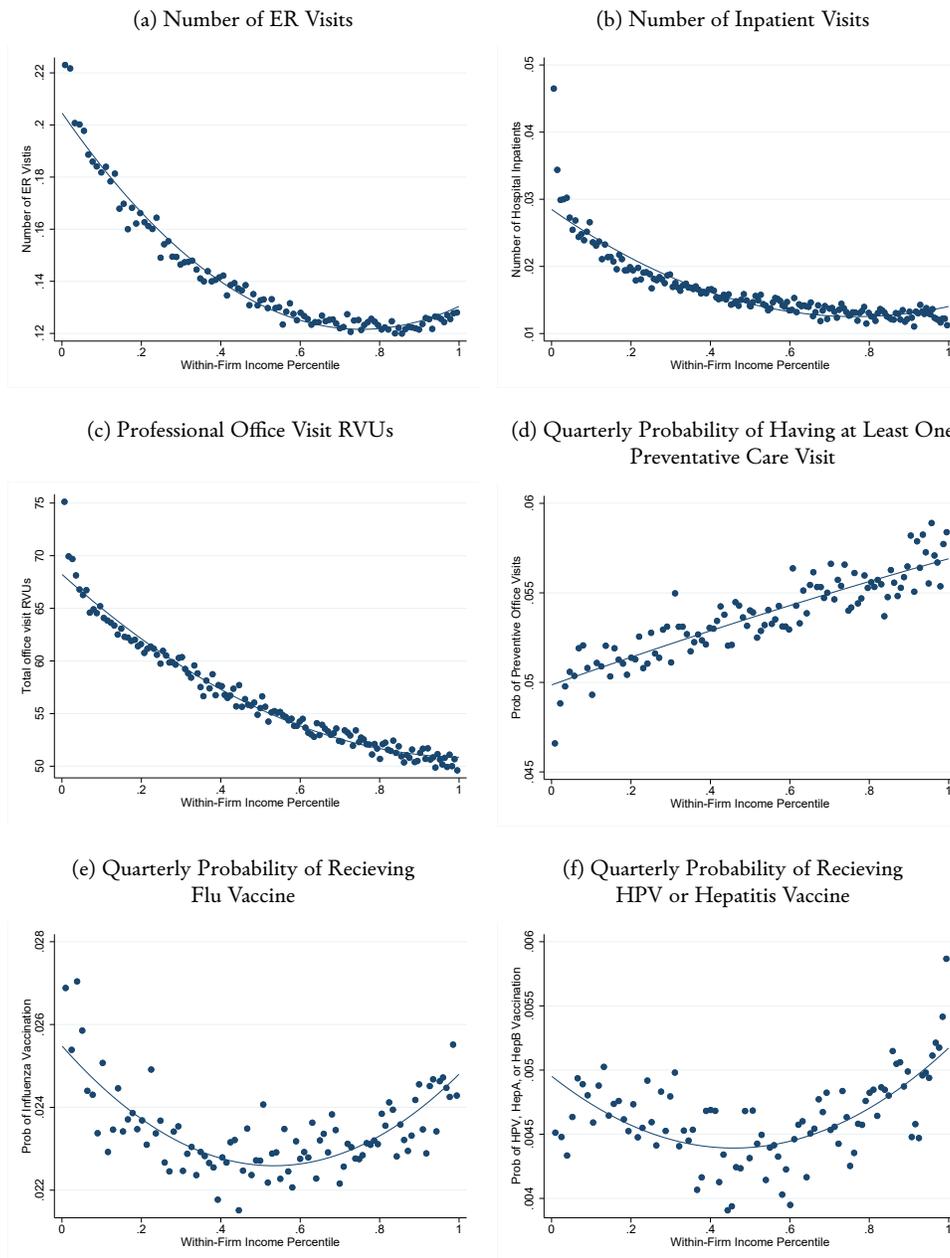
(d) Parkinsons

(e) Schizophrenia

(f) Seizures

Notes: The y-axis in each figure shows the prevalence of each disease. All figures are constructed using the semiparametric method from Figure 2, and include fixed household income percentile effects, age × zip code effects, gender, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 2nd-order polynomials.

Appendix Figure A15: Healthcare Utilization vs Within-Firm Income Percentile
Full Set of Controls

(a) Number of ER Visits

(b) Number of Inpatient Visits

(c) Professional Office Visit RVUs

(d) Quarterly Probability of Having at Least One Preventative Care Visit

(e) Quarterly Probability of Recieving Flu Vaccine

(f) Quarterly Probability of Recieving HPV or Hepatitis Vaccine

Notes: Panels a, b, and c report total number of visits by visit type. The number of ER and inpatient visits is calculated using the Johns Hopkins ACG software. Office visit RVUs are defined as office or outpatient visits coded CPT codes 99211-99215 and 99201-99205. Relative value units are defined as the non-facility fee paid by Medicare for these procedures in 2014. Panels d, e, and f report the probability of having one of three preventive services. We define a preventive health visit as a comprehensive preventive medicine appointment (CPT codes 99381-99387, 99391-99397), individual counselling for preventive medicine (CPT codes 99401-99404), or a behavioral change intervention (CPT codes 994063-99420). Flu vaccines are defined according to the CPT codes: 90630, 90653-90658, 90660-90662, 90664-90668, 90672-90674, 90682, 90685-90687, 90756, Q2034-Q2039. An HPV or Hepatitis vaccine includes CPT codes 90649, 90650, 90632-90634, 90636, 90739, 90740, 90743, 90744, 90746, 90747, G0010. All figures are constructed using the semiparametric method from Figure 2, and include fixed household income percentile effects, age × zip code effects, gender, year, plan ID effects, average firm size, and average tenure within a firm. Fitted lines are 2nd-order polynomials.

Appendix Figure A16: Estimated $\widehat{\beta}_c$ among Long-Term Stayers by Cohort
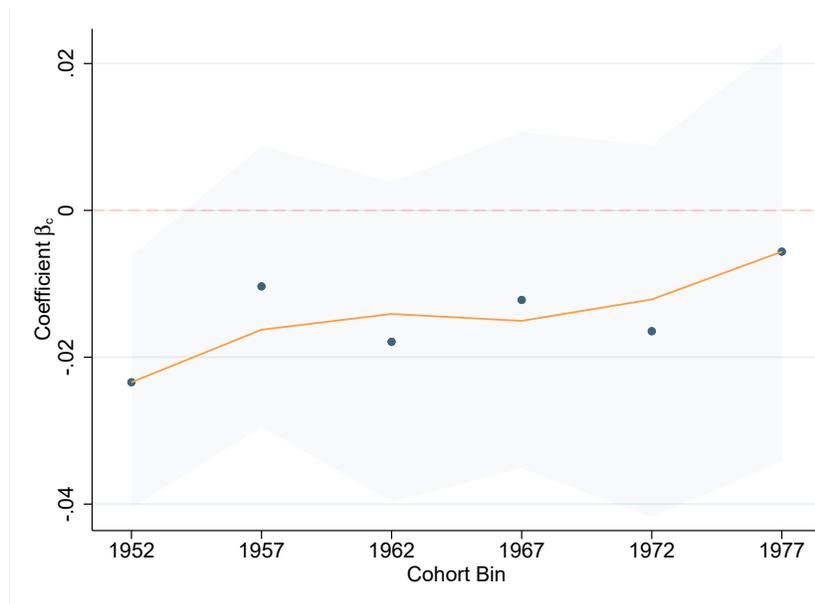

Notes: This figure shows estimates of $\widehat{\beta}_c$ from Equation 7 for 5-year bins of birth cohort. Estimates are based on the sample of job stayers for whom $wp_{it}^{max} - wp_{it}^{min} < 0.15$ during the 7+ year job spell.

Appendix Figure A17: Estimated $\widehat{\beta_m}$ from Equation 8
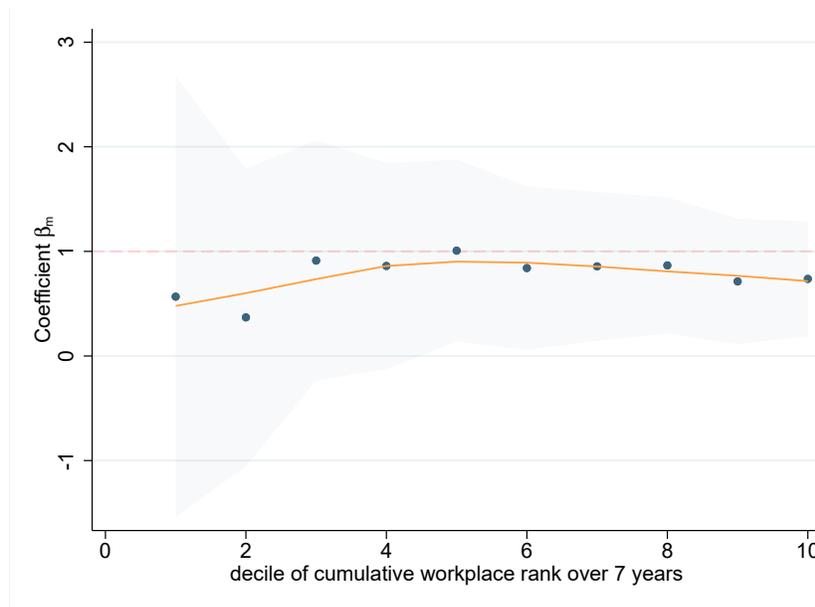
Notes: The dots in the figure are estimates of $\widehat{\beta_m}$ from Equation 8 for each decile of $\overline{y}_{rwp}$. The solid line is a smoothed local linear function of the age-specific estimates.

Appendix Figure A18: Racial and Ethnic Segregation of Jobs by Workplace Rank
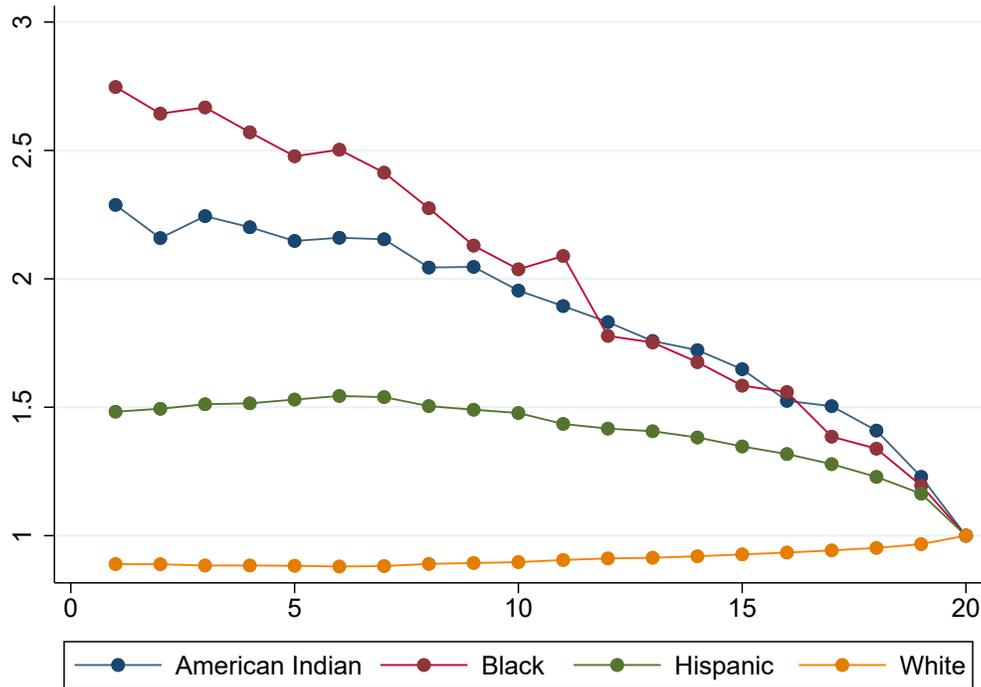
Notes: This figure shows the factor by which workers are over or under-represented in jobs by vigintile of the workplace rank distribution, relative to the share of workers of the same race or ethnicity in the top vigintile of job ranks. White workers are under-represented in every vigintile of the rank distribution, relative to the share of White workers in the top vigintile. For all other racial and ethnic groups, workers are over-represented in lower ranked jobs relative to their shares in the top vigintile.

Appendix B Defining Firm IDs

The earnings file does not include firm IDs, but it does contain information about the network structure of the labor market that can be used to statistically estimate firm boundaries over time. The file contains a variable that reports the average pay at the employer-quarter level for all workers for whom that employer was the primary employer. This average pay variable is infused with white noise to preserve privacy. The noise-infused variable is uniform at the firm-quarter level.

For large firms, the data contains large blocks of workers with the same sequence of quarterly firm average pay. Given the precision with which average pay is recorded, the probability of this happening by statistical chance is infintesimal. Using similar logic, we compute the statistical probabilities that different combinations of workers are coworkers with each other in each quarter over the panel. Using a simulated model we estimate that in a sample of approximately 60,000 firms, the probability that two or more firms share the exact same average pay by statistical chance in one quarter is less than 4%. The probability that this happens by chance in two consecutive quarters is less than 0.001%. These error probabilities are over the entire set of all firm boundaries, not the boundaries of a particular firm. Therefore for firms that exist for multiple quarters, especially firms that have five or more workers (as in our main analysis sample), the statistical estimation of firm

boundaries is precise. Moreover, the APCD contains firm IDs for the 81% of the sample that has employer-provided insurance, which we also use to validate the statistical estimation procedure.