

# **Economic Opportunity and Spatial Variation in Self-Reported Disability, SSI & SSDI**

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# Key research questions

1. Is there an association between local area *economic opportunity* and *disability*, net of sociodemographic and economic characteristics?
2. Does local area economic opportunity *moderate* the relationship between unemployment and disability?

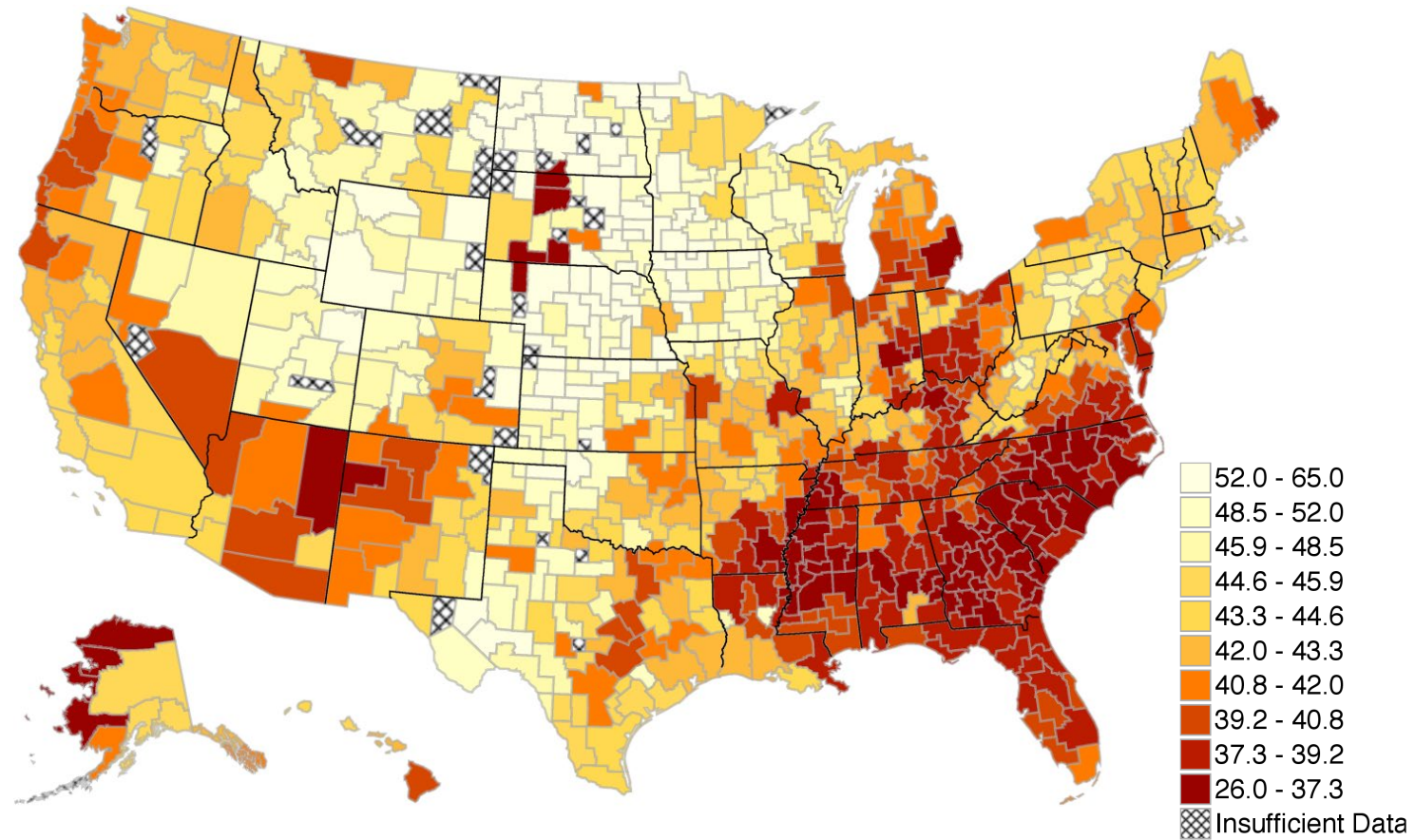
# What is economic opportunity?

Economic Opportunity = Intergenerational Economic Mobility

A measure of the extent to which children born to low-income families move up the income distribution in adulthood.

Distinct from 'standard' economic measures such as unemployment, labor force participation, inequality, material deprivation, poverty, etc.

# Geography of opportunity: Evidence from Chetty et al.



Map shows expected mean rank in national income distribution for children born to parents at the 25<sup>th</sup> income percentile

[Chetty and Hendren](#) (2015), based on income tax data

# Economic opportunity & health

Growing literature linking economic opportunity and health

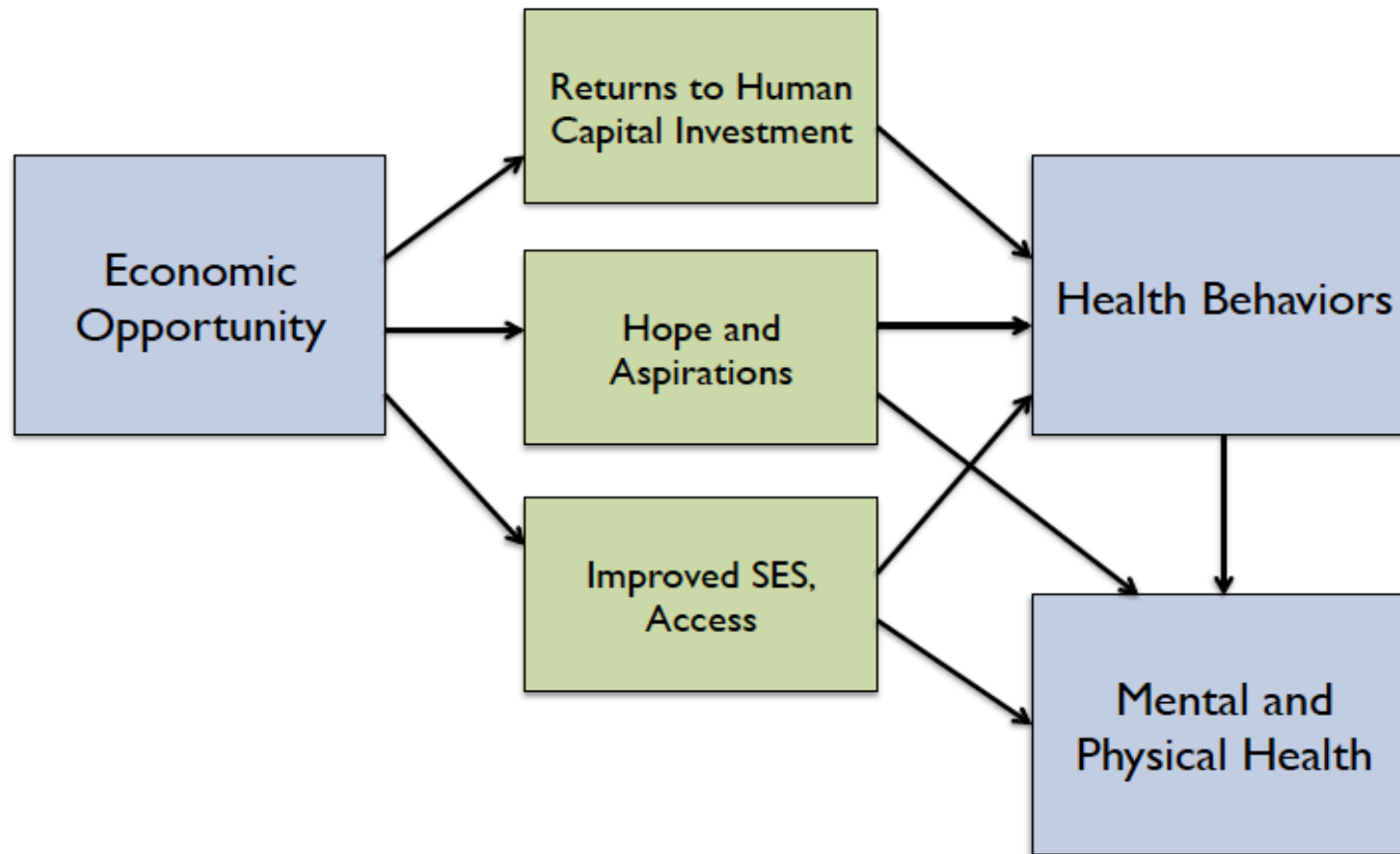
Health as determinant of economic mobility/opportunity

- **Medicaid** (O'Brien & Robertson); **Birthweight** (Robertson & O'Brien); **Pollution** (O'Brien et al; Manduca & Sampson)

Opportunity as a determinant of health

- Mobility context and **risky health behaviors** in adolescents (Venkataramani et al); **White mortality** (O'Brien et al); **Black-White Mortality Gap** (O'Brien et al)
- Health impacts of policies that shift opportunity: **DACA** (Venkataramani et al), **Affirmative Action Bans** (Venkataramani et al)

# Economic opportunity & health



# Key research questions

1. Is there an association between local area economic opportunity and disability net of sociodemographic and economic characteristics?
2. Does local area economic opportunity moderate the relationship between unemployment and disability?

# Data and analytic strategy

**Unit of Analysis:** County (n=2,764)

**Model:** OLS Cross-section

**Predictor:** Opportunity Measure

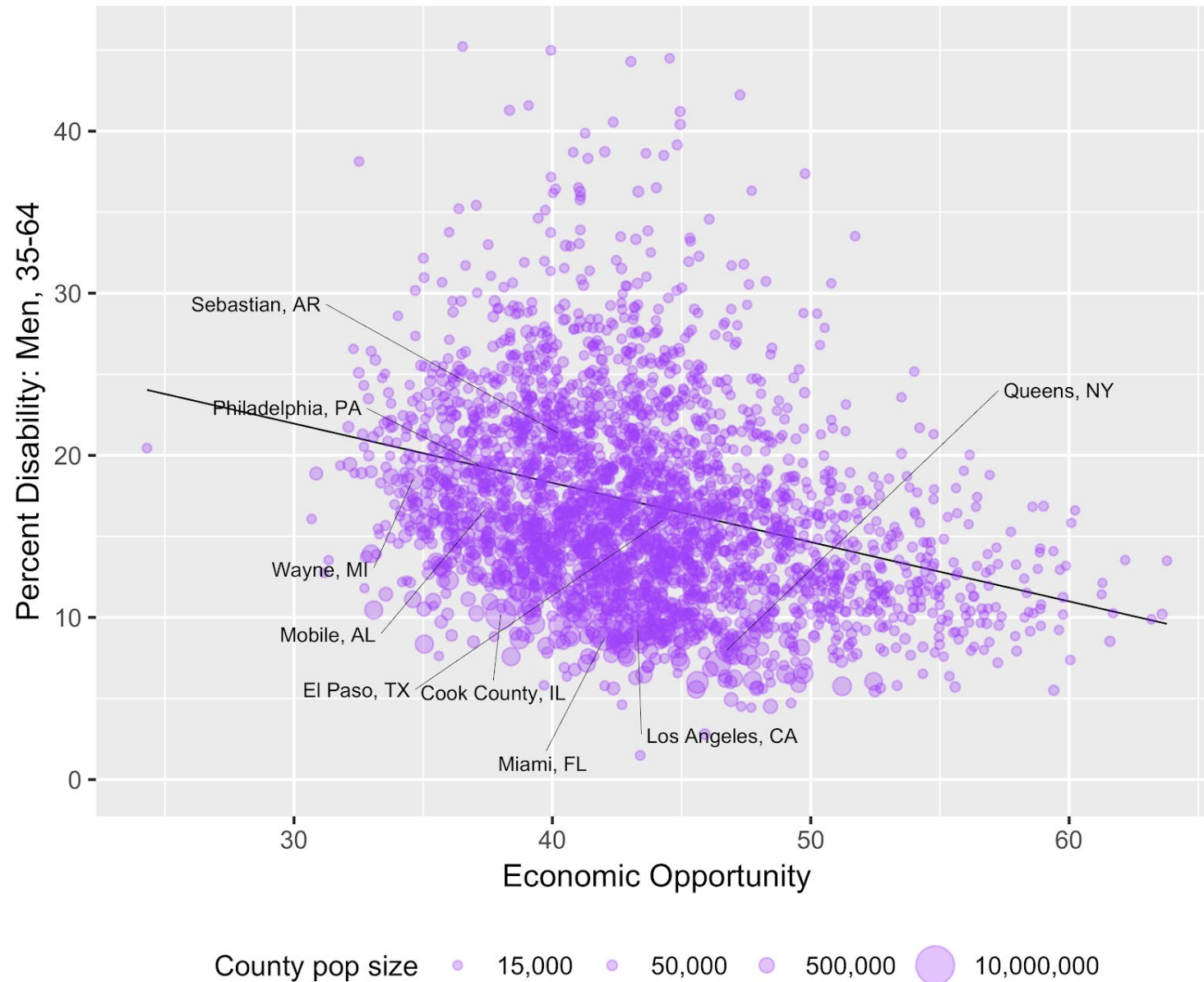
**Outcomes** (pooled 2013-2017):

- Self-reported Disability Male, Female (Age 35-64)
- SSI Rate (Age 18-64)
- SSDI Rate (Age 18-64)

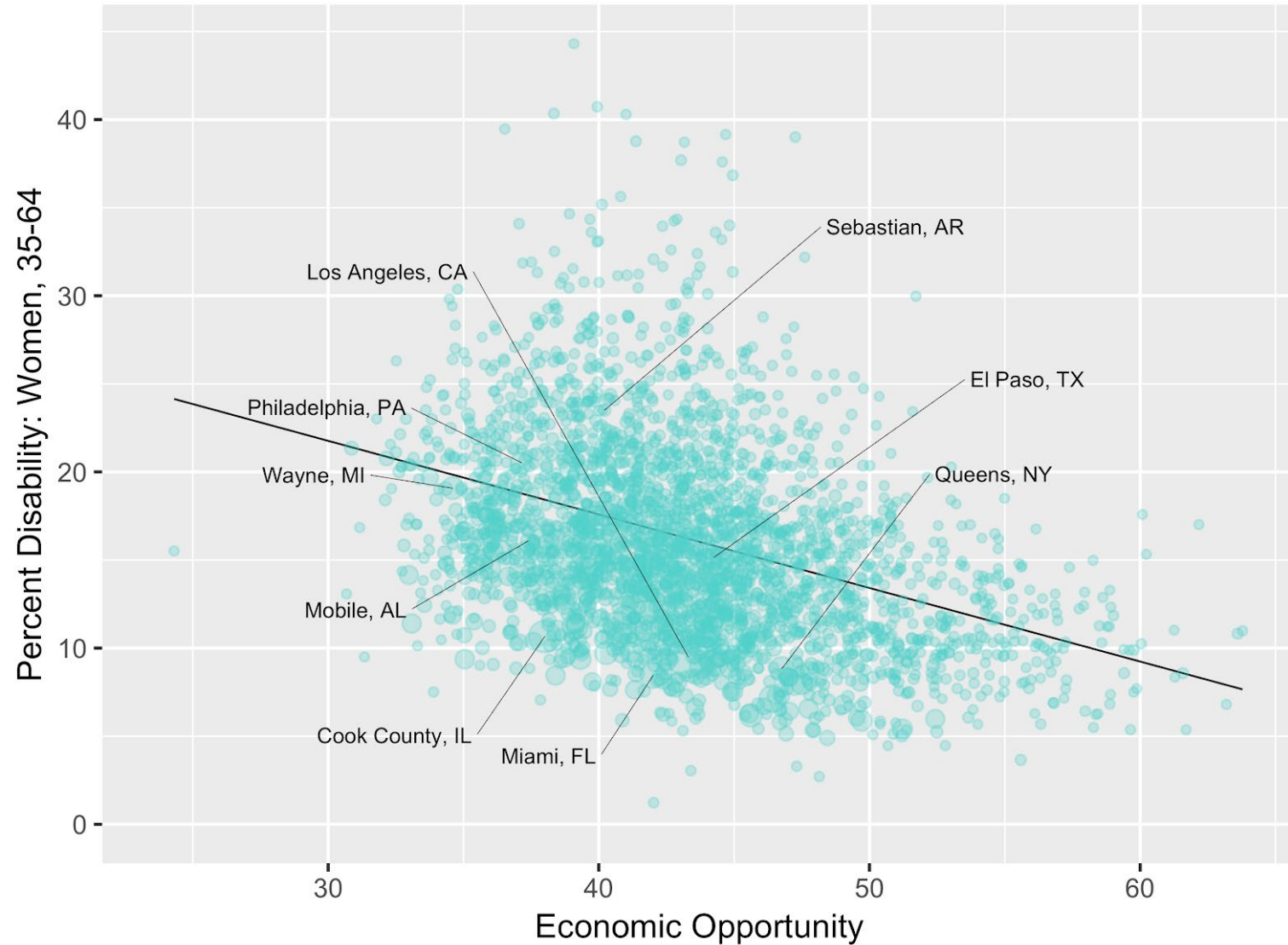
**Covariates** (pooled 2013-2017): Unemployment rate, median household income, education, labor force participation total population, age distribution, racial composition, poverty, and income inequality (gini).



# Opportunity & Self-reported disability, Males 35-64



# Opportunity & Self-reported disability, Females 35-64



County pop size    ● 15,000    ● 50,000    ● 500,000    ● 10,000,000

# Outcome: Self-reported disability

Outcome: Self-Reported Disability (Ages 35-64)	Women			Men		
	M1	M1	M3	M1	M1	M3
	Bivariate	+ Covariates	+ State FE	Bivariate	+ Covariates	+ State FE
Opportunity (25 <sup>th</sup> percentile)	-0.471*** (0.060)	-0.181*** (0.044)	-0.236*** (0.039)	-0.419*** (0.062)	-0.124* (0.056)	-0.158** (0.048)
Unemployment Rate		0.329*** (0.058)	0.476*** (0.061)		0.418*** (0.071)	0.628*** (0.075)
Median Household Income (in 1000s)		-0.053** (0.020)	-0.069** (0.023)		-0.071*** (0.019)	-0.065** (0.024)
Labor Force Participation Rate (16-64)		-0.133*** (0.024)	-0.128*** (0.026)		-0.233*** (0.028)	-0.234*** (0.034)
% High School Degree		0.089** (0.026)	0.077*** (0.022)		0.044 (0.027)	0.055* (0.023)
Poverty Rate		23.047** (7.321)	14.143* (6.397)		13.479* (6.347)	8.043 (6.808)
State Fixed Effects	No	No	Yes	No	No	Yes
N	2765	2765	2765	2765	2765	2765
R-Square	0.192	0.763	0.815	0.129	0.780	0.821

Notes: Model 2 also adjusts for total population, age distribution, racial composition and income inequality (Gini coefficient).

# Outcome: SSDI rate (18-64)

Outcome: SSDI, Ages 18-64	M1	M1	M3
	Bivariate	+ Covariates	+ State FE
Opportunity (25 <sup>th</sup> percentile)	-0.155*** (0.030)	-0.060* (0.024)	-0.082*** (0.023)
Unemployment Rate		0.037 (0.027)	0.095*** (0.027)
Median Household Income (in 1000s)		-0.023* (0.009)	-0.018 (0.013)
Labor Force Participation Rate (16-64)		-0.063*** (0.014)	-0.048*** (0.012)
% High School Degree		0.040** (0.014)	0.055*** (0.013)
Poverty Rate		10.807*** (1.801)	9.625*** (1.591)
State Fixed Effects	No	No	Yes
N	2764	2764	2764
R-Square	0.096	0.814	0.871

Notes: Model 2 also adjusts for total population, age distribution, racial composition and income inequality (Gini coefficient).

# Outcome: SSI rate (18-64)

Outcome: SSI, Ages 18-64	M1	M1	M3
	Bivariate	+ Covariates	+ State FE
Opportunity (25 <sup>th</sup> percentile)	-0.146*** (0.016)	0.019 (0.016)	-0.034 (0.018)
Unemployment Rate		0.122*** (0.027)	0.093*** (0.020)
Median Household Income (in 1000s)		0.005 (0.004)	-0.012* (0.005)
Labor Force Participation Rate (16-64)		-0.028** (0.010)	-0.040** (0.012)
% High School Degree		0.023* (0.010)	0.003 (0.009)
Poverty Rate		19.953*** (2.186)	15.564*** (1.950)
State Fixed Effects	No	No	Yes
N	2752	2752	2752
R-Square	0.185	0.749	0.826

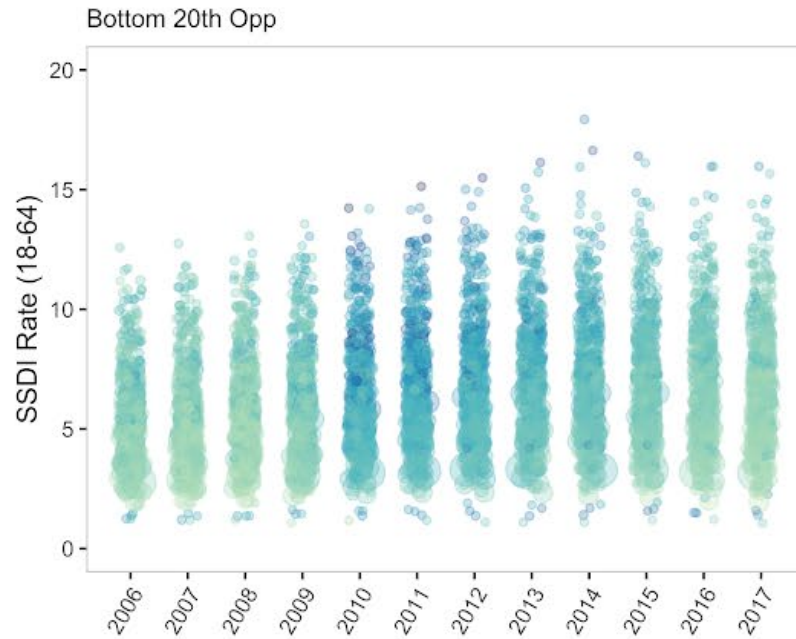
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# Key Research Questions

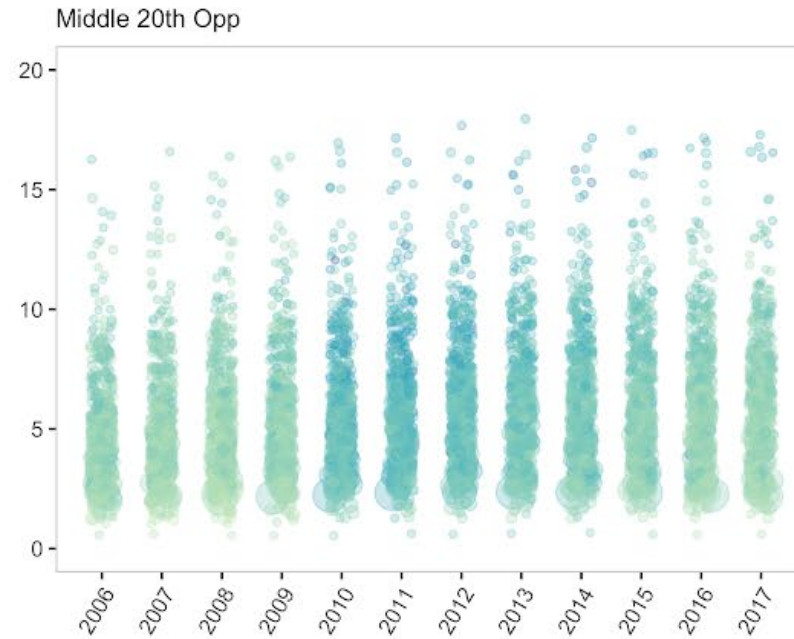
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# Unemployment & SSDI During Great Recession

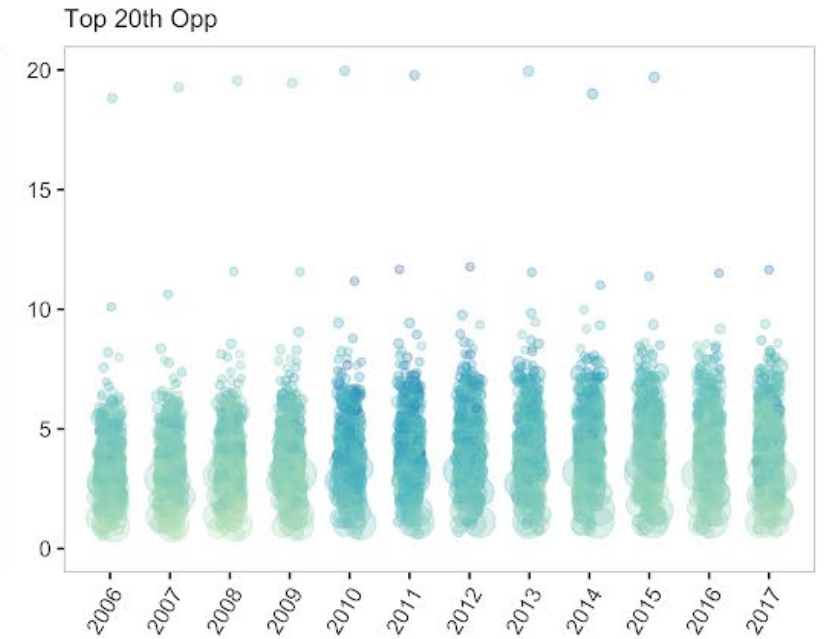
## Low Opportunity Counties



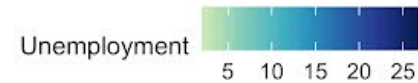
## Mid Opportunity Counties



## High Opportunity Counties



County pop size • 15,000 • 50,000 • 500,000



# Data and Analytic Strategy

**Unit of Analysis:** County-Year (2005-2017)

**Model:** Two-way FE (county and year)

**Predictor:** Unemployment (time-varying) X Opportunity Measure

**Outcomes** (annual):

- Self-reported Disability (Age 35-64)
- SSI Rate (Age 18-64)
- SSDI Rate (Age 18-64)

**Time-varying Covariates** (annual): Median household income, education, labor force participation total population, age distribution, racial composition, household composition, homeownership, poverty and income inequality (gini)<sup>16</sup>.



# Opportunity as Moderator of Unemployment-Disability Relationship

Outcome:	SSDI		SSI, Ages 18-64		Self-Reported, Ages 35-64	
	M1 Bivariate	M2 + Covariates	M1 Bivariate	M2 + Covariates	M1 Bivariate	M2 + Covariates
Unemployment Rate	0.1150*** (0.0187)	0.1154*** (0.0187)	0.0342** (0.0118)	0.0190 (0.0128)	0.2890** (0.0927)	0.2136* (0.0939)
Unemployment Rate x Opportunity	-0.0030*** (0.0005)	-0.0030*** (0.0004)	-0.0011*** (0.0003)	-0.0008** (0.0003)	-0.0068** (0.0022)	-0.0049* (0.0022)
County Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	8709	8709	8709	8709	8314	8314
# Counties	816	816	816	816	815	815
R-Square	.622	.755	.281	.496	.111	.131

# Conclusions

Areas with higher levels of economic opportunity have lower rates of disability and disability assistance, net of standard covariates.

Local area economic opportunity moderates relationship between unemployment and disability.

- Increasing unemployment drives greater demand for disability in low opportunity areas relative to high opportunity areas

Implications for understanding drivers of demand for disability during economic contractions.

# With Appreciation...

Social Security Administration

**Thanks!!**

Center for Financial Security, UW-Madison

Collaborators: Nathan Seltzer (UW-Madison),  
Tiffany Neman (UW-Madison)

# **Economic Opportunity and Spatial Variation in Self-Reported Disability and Receipt of SSI & SSDI**

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