

The Labor Market Effects of Medicaid Expansion

— An Analysis Based on CPS Data



Why Medicaid Expansion and Income?

Policy Change

2012 Supreme Court Ruling (NFIB vs Sebelius) made Medicaid expansion optional, creating state-level variation. Expanded coverage for low-income, childless, and working-age adults.

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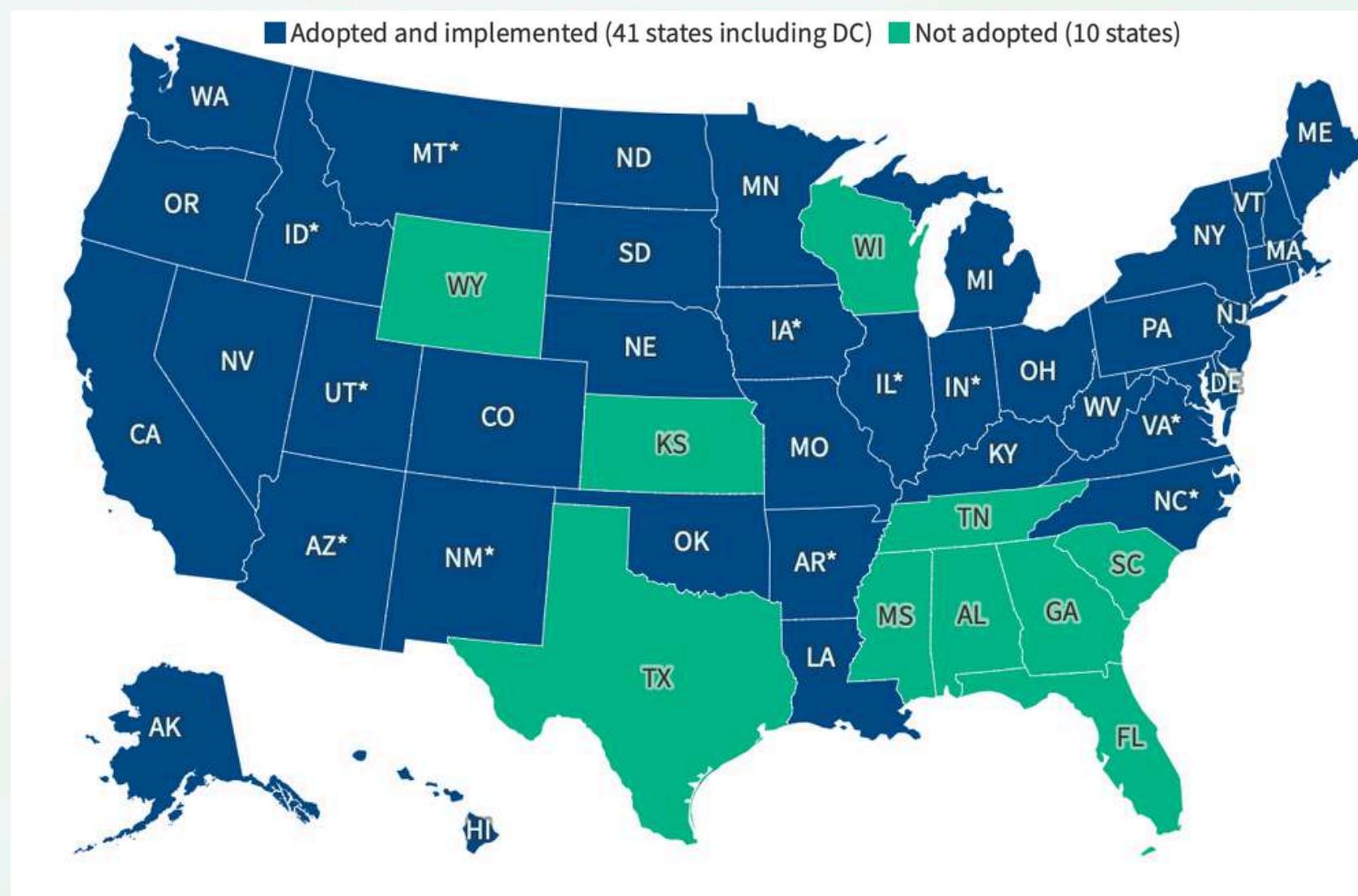
States Adopted
(as of 2025)

10

States Did Not
adopt expansion

vs

State Adoption Status Map



How Could Medicaid Affect Income?

- 1 **Better Health → Higher Work Capacity**
Improved health enables greater labor force participation
- 2 **Reduced Job Lock → Better Job Matching**
Workers seek better opportunities without fear of losing coverage

Research Question

What is the effect of Medicaid expansion on income and labor market outcomes?

Dataset:

Source: Integrated Public Use Microdata - Current Population Survey

(IPUMS-CPS), University of Minnesota

Years: 2012–2016 (pre- and post-Medicaid expansion)

Sample: 591,642 working-age adults (ages 18–64)

Key Variables: Income, Age, Sex, Education, State

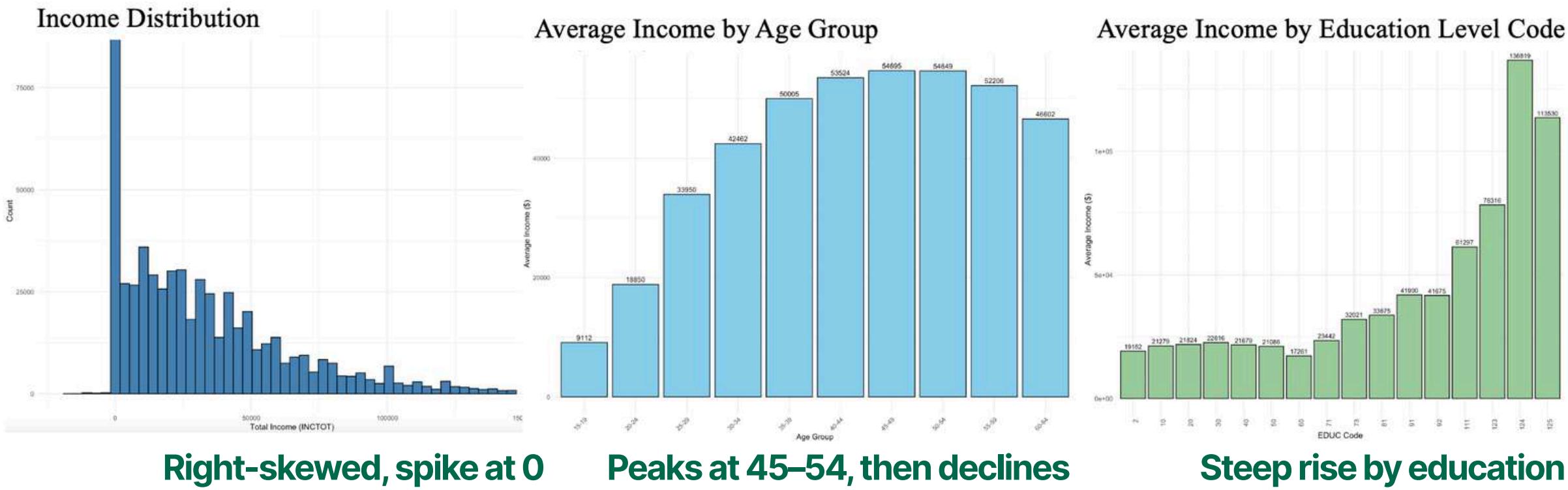
Expansion States (2014): Illinois, Oregon

Control States: Missouri, Florida

No.	Variable	Description
1	YEAR	Survey year
2	STATEFIP	State (FIPS code)
3	ASECWT	Annual Social and Economic Supplement Weight
4	AGE	Age
5	SEX	Sex
6	RACE	Race
7	EMPSTAT	Employment status
8	LABFORCE	Labor force status
9	EDUC	Educational attainment recode
10	INCTOT	Total personal income
11	INCWAGE	Wage and salary income
12	HIUFPGBASE	Federal poverty guidelines (base)

Why this dataset?

- Focused on data from before and after Medicaid to ensure a clear comparison of policy impact
- Avoids COVID-related distortions
- Nationally representative, consistent cross-year structure
- Tracks demographics + income + employment
- Allows state-by-year identification of policy exposure



Treatment and Control Selection

**Early Adopters (- 2014)
(Excluded)**

**Mid-Period Adopters (2014–2016)
(Excluded)**

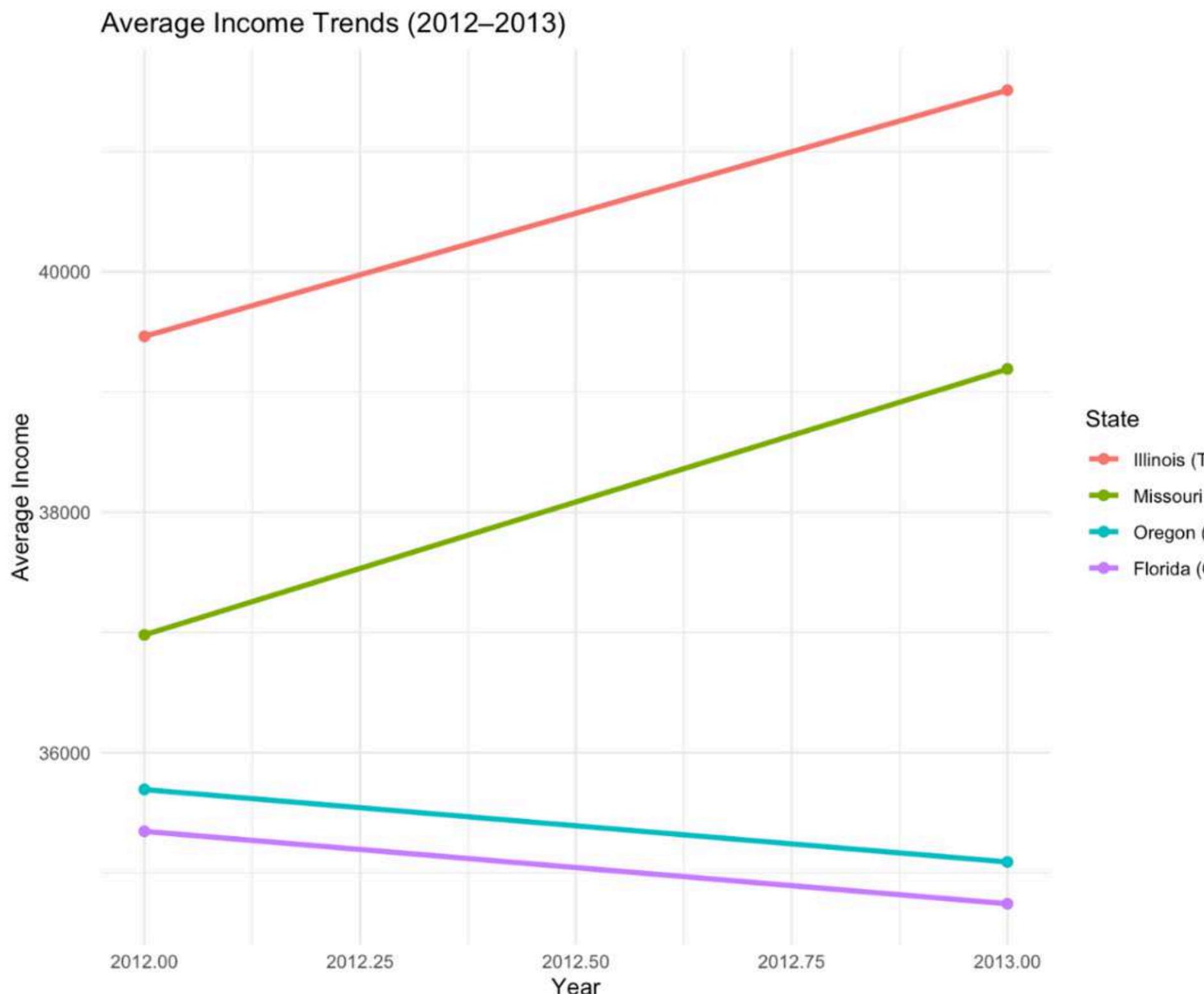
**After-Period Adopters(2017 -)
(Control Candidates)**

**Non-Adopters till 2025
(Control Candidates)**

State Name	STATEFIP	State Name	Expansion Start Date	STATEFIP	State Name	Expansion Start Date	STATEFIP	State Name	STATEFIP
California	6	Michigan	4/1/14	26	Virginia	1/1/19	51	Texas	48
Connecticut	9	New Hampshire	8/15/14	33	Maine	1/10/19	23	Florida	12
Minnesota	27	Pennsylvania	1/1/15	42	Idaho	1/1/20	16	Georgia	13
New Jersey	34	Indiana	2/1/15	18	Utah	1/1/20	49	Alabama	1
Washington	53	Alaska	9/1/15	2	Nebraska	10/1/20	31	Mississippi	28
District of Columbia	11	Montana	1/1/16	30	Oklahoma	7/1/21	40	Tennessee	47
		Louisiana	7/1/16	22	Missouri	10/1/21	29	Kansas	20
					South Dakota	7/1/23	46	South Carolina	45
					North Carolina	12/1/23	37	Wisconsin	55
								Wyoming	56

Treatment and Control Selection Cont.

Parallel Trend Comparison by Slope and Level Differences



Selected 2 Pairs of Treatment and Control States

Treatment State (FIPS)	Control State (FIPS)	slope diff	level diff
Illinois (17)	Missouri (29)	164	2482
Oregon (41)	Florida (12)	0	349

*59,593 rows of data
Slope Difference < \$300, Level Difference < \$3,000

Econometric Models

OLS → DID → DID + Fixed Effects → DDD

Key Assumptions: Parallel trends, No spillover effects between states

Naïve OLS

$$Income_{it} = \beta_0 + \beta_1 \cdot Medicaid_{it} + u_{it}$$

A raw basic correlation

Limitations: omitted variable bias, ignoring differences across states and time

DID

$$Income_{ist} = \beta_0 + \beta_1 * Post_t + \beta_2 * Treatment_s + \delta * (Post_t \times Treatment_s) + \epsilon_{ist}$$

Before VS After income changes between expansion and non expansion states

Limitations: no controlling for time-invariant factors and states fixed effects, assumes parallel trends

DID TWFE

$$Income_{ist} = \beta_0 + \delta \cdot (Treatment_s \times Post_t) + \theta_1 \cdot AGE_{ist} + \theta_2 \cdot SEX_{ist} + \theta_3 \cdot EDUC_{ist} + \lambda_s + \tau_t + \varepsilon_{ist}$$

Control both state and year fixed effects

Limitations: unexpected unobserved shocks, assumes parallel trends

DDD FE

$$\begin{aligned} Income_{ist} = & \beta_0 + \delta_1 \cdot Treatment_s + \delta_2 \cdot Post_t + \delta_3 \cdot LowMid_i \\ & + \delta_4 \cdot (Treatment_s \times Post_t) + \delta_5 \cdot (Treatment_s \times LowMid_i) + \delta_6 \cdot (Post_t \times LowMid_i) \\ & + \delta_7 \cdot (Treatment_s \times Post_t \times LowMid_i) \\ & + \theta_1 \cdot AGE_{ist} + \theta_2 \cdot SEX_{ist} + \theta_3 \cdot EDUC_{ist} + \lambda_s + \tau_t + \varepsilon_{ist} \end{aligned}$$

Analyze the effect on low-to-middle-income individuals

Limitations: assumes parallel trends of triple differences in sub groups, hard to verify

Regression Results Summary

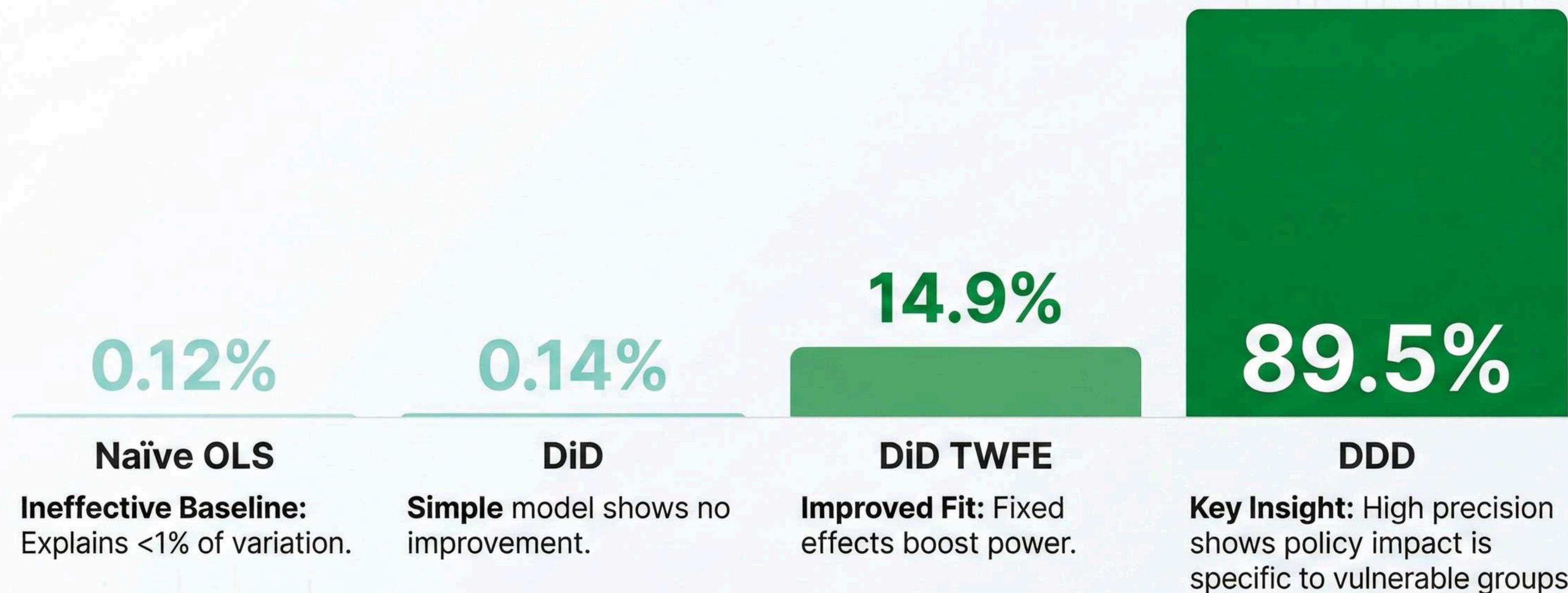
	(1) Naïve OLS	(2) DiD (No FE)	(3) DiD + Control + TWFE	(4) DDD + Control + TWFE
Medicaid	4718.6*** (555.9)	Significant		
Post x Treat	Highly Significant	1,259.2** (220.0)		
Post	—	2,110.0*** (197.9)	Insignificant	
Treat	—	3,055.0 (2,007.6)		
Age	—	—	651.9*** (66.7)	—
Sex	—	—	-21,737.5*** (1,286.6)	—
Education	—	—	773.3***	—
LowMid	—	—	—	-32611.5*** (238.2)
Post x LowMid	—	—	—	-284.3* (74.2)
Treat x LowMid	—	—	—	-319.0 (269.2)
Post x Treat x LowMid	—	—	—	566.5** (92.1)
Constant	37,574.8*** (284.0)	35,869.3*** (986.6)	—	35893.6*** (8.3)
N	59,593	59,593	59,593	19,879
Adjust R-squared	0.0012	0.0014	0.149	0.895
State FE	NO	NO	YES	YES
Year FE	NO	NO	YES	YES
Controls (AGE, SEX, EDUC)	NO	NO	YES	YES
Clustered SE (STATEIP)	NO	YES	YES	YES

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

- Initial Naïve OLS model likely biased by omitted variables
- Estimated effect declines as models become more rigorous
- No significant overall impact after controlling for fixed effects (TWFE)
- Significant income gains for lower income group (DDD model)
- Results suggest Medicaid expansion benefits low-income groups more than the general population

DDD Model Best Explains Income Variation: Adjusted R-Squared Comparison

Comparison of explanatory power across models.



Limitations

Remaining Identification Challenges



Residual Endogeneity

- Policy selection bias cannot be fully eliminated.
- Policy or economic dynamics concurrent with intervention.
- Adoption of other concurrent policies.



Measurement Errors

- Inaccurate reporting of state of residence.
- Interstate mobility issues.
- Misclassification of state's Medicaid expansion status.



Omitted Variables

- Unobserved personal health status.
- Informal work paid by cash, unreported income.
- Cross-state Medicaid access differences.



Parallel Trends Assumptions

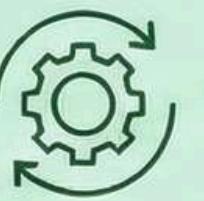
- Subgroups parallel trend violations in DDD model.
- Pre-existing differences in income trajectories.

CONCLUSION



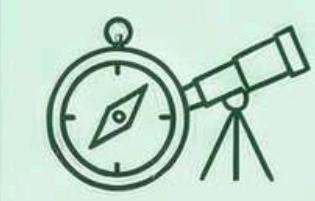
KEY FINDINGS

- Overall this analysis suggests modest income gain, being statistically weak when fully controlled
- **Significant gains**(+\$567) for low-income individuals (DDD model), highlighting heterogeneous benefits



POLICY IMPLICATIONS

- **Support Complementary Policies:** income gains may be amplified when paired with supported services such like job training, childcare
- **Encourage Remaining States to Expand Medicaid:** states that have not yet expanded Medicaid may realize substantial economic and social benefits by adopting the policy



FUTURE DIRECTIONS

- **Explore Spillover Effects:** investigate whether Medicaid expansion improves household stability, school attendance, or mental health...
- **Analyzing More Variables:** Employment status, Hours worked
- **Long Term Impact:** analyzing long term effect of Medicaid expansion on income
- **Add Instrumental Variables:** address policy endogeneity by predicting Medicaid expansion with exogenous factors

**Thank you
very much!**

