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Abstract

This paper shows how state-level economic freedom has heterogeneous effects on labor market outcomes. To isolate own-state effects we adopt a difference-in-difference approach that compares counties in metro areas that straddle state borders. In contrast with previous studies, we do not find that economic freedom is related to the labor market outcomes of the entire population. This result masks heterogeneous effects across demographic groups, however, and we find substantial differences across levels of educational attainment, in particular. Specifically, increases in economic freedom are associated with improved labor market outcomes for those with the least education, as well as for Hispanics.

[JEL Codes: J08, H73, P16, R12, R23]

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1 Introduction

This paper examines the relationship between state-level economic freedom and three average labor market outcomes: the unemployment rate, the employment-population ratio, and labor force participation. We measure economic freedom using the Economic Freedom of North America Index (Stansel, Torra, Mitchell, and Carrión-Tavárez, 2024), which provides a composite measure based on state-level data for variety of variables. Our analysis differs from previous research by examining the effects across demographic groups (educational attainment, age, sex, and race/ethnicity) rather than just in the aggregate. Methodologically, our analysis differs from most previous research in this area by employing a difference-in-difference (DiD) estimation strategy that leverages the unique geographic context of metro areas that span state borders. By comparing counties within these metro areas but located in different states, we isolate the effects of varying state-level economic freedom while controlling for broader economic conditions that affect the entire metro area.

Generally speaking, previous research has found that higher economic freedom is associated with a lower aggregate unemployment rate, a higher aggregate employment-population ratio, and higher aggregate labor force participation. These results do not replicate with our methodology, although significant effects emerge when the outcomes are disaggregated by education. Specifically, for those with a high school degree or less, labor force participation rates and employment-population ratios are positively related to economic freedom. On the other hand, the unemployment rate for those with some college or an associate's degree tends to rise with economic freedom. We also find that outcomes for Hispanics improve alongside economic freedom.

Our results contribute to the ongoing literature linking economic freedom to a variety of subnational outcomes including growth, inequality, migration flows, business formation and failure, and entrepreneurship.[1] A number of papers have looked specifically at its effects on

[1] See Stansel and Tuszynski (2017) for a survey of the literature.

labor market outcomes: Heller and Stephenson (2014) have a two-way panel of states over 29 years and find that more economic freedom is related to lower unemployment rates, greater labor force participation, and higher employment-population ratios.[2] More recently, Arif and Dawson (2023) and Heller, Stephenson, and Stansel (2025) look at metro-level freedom and find that labor market outcomes have the anticipated links with economic freedom.[3] Other papers in this literature include Cebula and Alexander (2015) and Wong and Stansel (2016), who look at the link between economic freedom and female labor force participation. Also, Bennett (2016), Cebula (2016), and Cebula (2019) find that state unemployment rates were negatively related to state economic freedom. While our objectives are closely aligned with these studies, we extend the objectives to include differences in the effects of economic freedom across a variety of demographic groups.

Because our analysis differs methodologically from most of the existing literature, it is worth noting the other papers using the DiD framework. Murphy (2016) matches county pairs across state borders to find links between differences in economic freedom and income per capita income and real income growth. Similarly, Murphy, Taylor, and Stansel (2022) matches neighboring metro areas and find links between metro-level economic freedom and several measures of metro area economic performance, including employment-population ratios. The advantage of the DiD framework is the ability to assume that neighboring counties have common economic shocks and can, therefore, be split into treatment and control groups. We think that MSAs are the county groupings that provide the strongest justification for this assumption.[4]

[2] These results are for the most-general specification with state fixed effects and year dummies.
[3] These results are for Arif and Dawson's most-general specification with metro fixed effects, year dummies, and demographic control variables.
[4] Our approach is a logical extension of Jha, Neumark, and Rodriguez-Lopez (2024), which uses counties within multi-state commuting zones to estimate the effects of minimum wages. Commuting zones are more numerous than MSAs, but the statistical links between their counties are not nearly as strong.

The paper proceeds as follows: Section 2 derives the DiD model and describes the data. Section 3 presents the estimation results for the effects of overall economic freedom on the labor market outcomes of the total adult population, followed by the outcomes of groups that differ by educational attainment, age, sex, and race/ethnicity. Section 4 concludes.

2 Estimation Model

As noted above, our analysis uses county-level differences in average labor market status within metro areas straddling state borders. It takes advantage of the notion of a metro area as a local economy comprised of counties that are highly integrated both economically and socially. The framework allows us to isolate the effects of state policies while controlling for broader economic conditions: Counties within a metro area face the same business cycle, but county-level differences in state-level policies can result in different labor market outcomes. More precisely, a county's average labor market status (unemployment rate, employment rate, or labor force participation rate) is a function of its MSA's economic conditions, the county's demographic makeup, and its metro and local policy environment. In the expression below, s_{it} is the county's labor market status variable, s_{it}^m is the labor market status for the county's MSA, D_{it} is a vector of county-level demographic variables, f_{it} is the level of economic freedom in the county's state, f_{it}^m is the level of economic freedom for the county's MSA as a whole, and ε_{it} is an idiosyncratic component:

$$s_{it} = \alpha_i + \tau_t + \beta s_{it}^m + \Gamma' D_{it} + \lambda f_{it} + \delta f_{it}^m + \varepsilon_{it}. \quad (1)$$

Note that the expression is a two-way fixed effects (TWFE) model that includes a county fixed effect α_i that captures county-specific, time-resistant factors and a time effect τ_t that is common to all counties.

To obtain the DiD model, designate one county in each MSA as the control county, and obtain the difference in average labor market status between it and all other counties in the MSA at time *t*:

$$s_{it} - s_{ic} = \alpha_i - \alpha_c + \Gamma'(D_{it} - D_{ct}) + \lambda(f_{it} - f_{ct}) + \varepsilon_{it} - \varepsilon_{ct} \quad (2)$$

or

$$\Delta s_{it} = \theta_i + \Gamma' \Delta D_{it} + \lambda \Delta f_{it} + u_{it}. \quad (3)$$

Thus, there are two groups of counties within an MSA: The control group for whom $\Delta f_{it} = 0$ because they are in the same state as their MSA's control county, and the treatment group for whom $\Delta f_{it} \neq 0$ because they are in a different state from the control county. For each MSA the control county is the county containing its core city.[5] Parallel trends are assumed given the inclusion of D_{it}.

We estimate the model using data from the Census Bureau's 5-year American Community Survey (ACS), which provides adult population shares, unemployment rates, employment-population ratios, and labor force participation rates for every county in the United States across a number of demographic categories. To avoid overlaps, we use the ACS for 2012, 2017, and 2022.[6] Our dataset is a balanced panel of the 313 counties in 45 MSAs that cross state borders. There are 36 states represented by at least one county and, for reference, Figure 1 shows the counties and their states.[7]

We measure economic freedom with the Economic Freedom in North America (EFNA) Index (Stansel, Torra, Mitchell, and Carrión-Tavárez, 2024). To match the index with our 5-year ACS data, we averaged the relevant measures over the years covered by the respective ACS releases. For reference, Figures 2 and 3 show the levels in 2022 and the changes between 2012 and 2022 in economic freedom. Generally speaking, states with the lowest economic freedom were in the West and Northeast, while the highest were in the South. Economic freedom increased over time in that the index rose for all but seven states between 2012 and 2022. Twelve states saw their index increase by one or more points.

[5] Because the District of Columbia is excluded, we use Fairfax County, Virginia as the control county for the Washington, DC, MSA.
[6] The most recent EFNA data are from 2022. For each year, labor force status and demographic shares are found in Table S2301 of the 5-year ACS.
[7] Although the Washington, D.C., MSA is included, D.C. itself is not because it is not included in the EFNA data. Also, the Worcester, MA, metro area is excluded because Connecticut replaced its eight counties with nine councils of governments in 2019.

3 Estimation Results

This section describes the Ordinary Least Squares (OLS) results for the effects of economic freedom on our average labor force status variables. The mean values of the labor force status variables and the demographic control variables are provided by Table 1. The mean unemployment rate declined over time, but the mean employment-population ratio and labor force participation rate changed little or declined because of increasing shares of those aged 65 and older. Alongside this aging, the shares of the population with low levels of education fell as the share with a bachelor's degree rose. Finally, the white share of the population fell between 2012 and 2022.

The estimation results are summarized by Table 2, highlighting the results for our DiD model [equation (3)]. It is worth pointing out how our control variables, meant to ensure parallel trends, are related to county labor market outcomes. There are few surprises: Counties with larger shares of younger people, people older than 65, disabled people, and people without a high school diploma tend to have lower employment-population ratios and labor force participation rates. In some of these cases this translates into higher unemployment rates, also. One unexpected result is the negative relationship between the male share and the labor-force participation rate.

With regard to economic freedom, the estimates indicate that a one-point increase in the economic freedom index should be associated with improvements in all three measures of labor market outcomes. These coefficients are not statistically significant, however, and so we find no evidence that labor force outcomes for the adult population (ages 16 and over) are related to economic freedom. This result is in contrast with previous studies and can be attributed to the difference between our DiD model and the TWFE model.

Table 3 compares the different results that are obtained with the TWFE and DiD approaches (equations 1 and 3, respectively). Note that the results use data only from 2012 and 2017 because the corresponding index for MSA-level economic freedom is available

only through 2017.[8] In short, the DiD results do not provide evidence of an effect of state freedom on the unemployment rate, whereas the TWFE results indicate a negative effect: A one-point increase in state economic freedom should mean a 1.2 point decrease in the unemployment rate of the state's portion of the MSA. A 0.6-point increase in the employment-population ratio is also indicated, but this is not quite statistically significant. These TWFE results are similar to those from previous literature. The effects are smaller than Heller and Stephenson (2014) for state-level effects and larger than what Amir (2023) found for MSAs, which makes sense because this effect is an average across the counties of the MSA whereas ours is isolated on the part of the MSA experiencing the change in economic freedom.

To see how economic freedom affects the labor market outcomes of subgroups, we applied the same empirical model to groups according to educational attainment, age, sex, and race/ethnicity.

Educational Attainment

Labor force status is broken down by educational attainment for those ages 25 to 64. Table 4 provides the differences in average labor market outcomes across four education levels and over time. Outcomes improved over time for all education groups and, unsurprisingly, more education is associated with better outcomes. Note, however, that participation actually fell by more than one and a half points for those without a high school diploma.

We apply the same model and data as above for each of the four education levels. For space considerations we report only the coefficients on the EFNA variable for the 12 sets of results. The estimated effects of economic freedom are provided by Table 5 and indicate heterogenous effects across the groups. In particular, the largest effects are on those without a high school diploma. A 1-point increase in the economic freedom index is associated with a 2.7-point increase in the group's employment-population ratio and a 3 point increase in its

[8] We use the 2012 and 2017 data from the Metro Area Economic Freedom Index (MEFI). See Stansel (2019).

labor force participation rate. The unemployment rate is unrelated to economic freedom, however, as the increase in participation and employment roughly cancel out. The effects for those with a high school diploma are similar, but smaller. A 1-point increase in the economic freedom index is associated with increases of 1.8 and 1.7 point increases in the group's employment-population ratio and its labor force participation rate, respectively.

The other statistically significant effects is for the unemployment rate for those with an associate's degree or some college: A 1-point increase in economic freedom is associated with a 0.9-point increase in the unemployment rate. One explanation for this result is that policies that reduce economic freedom can harm the least educated to the benefit of their closest competitors. Occupational licensing, for example, restricts the options of those without education or training while also providing an advantage for those who have it.

Age Groups

For reference, the mean levels of the average labor market outcomes by age within our sample are provided by Table 6. Generally speaking, labor market outcomes improved over time for all age groups: unemployment rates fell, and employment-population ratios rose. Labor force participation rates did not follow this pattern, however: They rose for teenagers and those 65 and older, but were mostly unchanged for those aged 20-24 and 25-64. In other words, participation in the labor market was not very sensitive to economic conditions for people aged 20-64, although labor market success was. The youngest and oldest workers, on the other hand, were sensitive to conditions in terms of both participation and success. This fact suggests that more members of the youngest and oldest groups were at the margins of the labor market and might have been more susceptible to changes in economic freedom as well as the business cycle.

As the results in Table 7 indicate, we do not find any statistically significant relationships between economic freedom and the labor market outcomes of any of our five age groups. Even the outcomes of those ages 25 to 64 are not related to economic freedom even though

the outcomes of the least educated within this group are. Given our findings for education levels, we are somewhat surprised that we do not find relationships between economic freedom and the labor market outcomes of the two youngest age groups.

Sex

Our final two demographic categories are sex and race/ethnicity, and Table 8 summarizes their average labor market outcomes. Because data split by sex are only for those ages 20-64, the table also provides summary statistics for this group so that we can get a comparable baseline. In short, for males the average unemployment rate, employment-population ratio, and labor force participation rate were consistently above those of females, although their movements over time were similar.

Table 9 provides the estimation results for males and females. The baseline results for the age group as a whole do not show evidence that economic freedom affects the employment-population ratio or the labor force participation rate of those aged 20 to 64. Neither do the results disaggregated by sex. One might have expected that economic freedom and labor market outcomes are more closely related for men than for women given our results for different levels of educational attainment and the fact that men are more likely to have a high school degree or less. We find higher point estimates for women and lower p-values for women, however. It might simply be the differences in educational attainment between the sexes are not large enough to matter here, or that the links between education and economic freedom differ for men and women.

Race/Ethnicity

The racial and ethnic categories are limited by data availability, but we are able to split the data into the three largest non-overlapping groups: non-Hispanic whites, blacks or African Americans, and Hispanics of any race. As reported in Table 8, the three groups have had very different average labor market outcomes. The average white unemployment rate was

the lowest for each period, usually on the order of half the average black unemployment rate. The average unemployment rate for Hispanics was in between those of the other groups. Average employment-population ratios and labor participation rates, on the other hand, were always highest for Hispanics and lowest for blacks. Note that these data are for the entire adult populations 16 and older, so the differences in mean outcomes might be driven by age and education differences among the groups.

There are two effects that might affect our expectations about the links between economic freedom and differences in average labor status by race/ethnicity. First, our results regarding educational attainment would suggest that economic freedom would be more strongly related to the labor market outcomes of blacks and Hispanics. That is, both groups should see higher employment-population ratios and labor force participation rates in states with more economic freedom, all else equal. On the other hand, Hoover, et al. (2015) show how economic freedom is negatively related to the economic outcomes of black households and positively related to those of white households.

As summarized in Table 9, our results are somewhat consistent with these expectations in that the employment-population ratio of Hispanics is positively related to economic freedom and negatively related to the unemployment. The point estimates are large: A 1-point difference in economic freedom is associated with a 3.9 percentage point difference in the employment-population ratio for Hispanics and a 3.7 percentage point difference in their unemployment rate.

4 Conclusions

Previous studies found that increases in state-level economic freedom were related to improved aggregate labor market outcomes. We do not find such a relationship, however, and we have shown that this difference in results is due to our use of a DiD model. Nonetheless, we find that there is significant heterogeneity across demographic groups in the

relationships between economic freedom and labor market outcomes. Specifically, we find that the outcomes of those with the least education (no high school degree or only a high school degree) improve alongside increases in economic freedom. In addition, we find that increases in economic freedom are associated with very large improvements in the labor market outcomes of Hispanics.

Overall, our findings underscore the complexity of labor market dynamics and indicate that the impacts of economic freedom policy can have diverse and sometimes contrasting effects on various segments of the population. Therefore, policies aimed at addressing the specific needs and circumstances of different demographic groups by adjusting economic freedom may need to be carefully tailored to address the specific needs and circumstances of different demographic groups to avoid unintended consequences and maximize positive outcomes. Analysis that ignores these heterogeneous effects might lead to the erroneous conclusion that economic freedom is not relevant for labor market outcomes and will miss the variety of effects that economic freedom has across demographic groups.

References

Arif, I. and Dawson, J.W., 2023. Pro-Market Institutions and Labor Market Outcomes: A Panel-Data Analysis of U.S. Metropolitan Areas. *Contemporary Economic Policy*. 41(4), 629-652.

Cebula, R., 2016. Do Regional Differentials in Economic Freedom Yield Regional Unemployment Rate Differentials in the U.S.? A Brief Exploratory Note Adopting Panel Data Analysis. *Econometrics Letters*. 3(1). 11-25.

Cebula, R., 2019. Economic Freedom and Geographic Differentials in the Percentage Unemployment Rate in the U.S. *Journal of Economics and Finance*. 43. 828-840.

Cebula, R. and Alexander, G., 2014, An Exploratory Empirical Note on the Impact of Labour Market Freedom on the Female Labour Force Participation Rate in the U.S. *Applied Economics Letters*. 22(8), 632-636.

Heller, L.R. and Stephenson, F., 2014, Economic Freedom and Labor Market Conditions: Evidence From the States. *Contemporary Economic Policy*. 32(1), 56-66.

Heller, L., Stephenson, F., and Stansel, D., 2025, Economic Freedom and Labor Market Conditions in U.S. Metropolitan Areas. *Journal of Regional Analysis and Policy*.55(2), 43-49.

Hoover, G.A., Compton, R.A., and Giedman, D.C, 2015. The Impact of Economic Freedom on the Black-White Income Gap. *American Economic Review: Papers and Proceedings*. 105(5), 587-592.

Jha, P., Neumark D., and Rodriguez-Lopez, A., 2024. What's Across the Border? Re-Evaluating the Cross-Border Evidence on Minimum Wage Effects, NBER Working Papers 32901. (Forthcoming, *Journal of Political Economy: Microeconomics*)

Murphy, R.H., 2016, Economic Freedom of North America at State Borders. *Journal of Institutional Economics*. 12(4). 885-893.

Murphy, R.H., Taylor, E., and Stansel, D., 2022. Economic Freedom at Metropolitan Statistical Area Borders. *American Journal of Economics and Sociology*. 82(2), 141-149.

Stansel, D., 2019. Economic Freedom in U.S. Metropolitan Areas. *Journal of Regional Analysis and Policy*. 49(1), 40-48.

Stansel, D., Torra, J., Mitchell, M., and Carrión-Tavárez, Á, 2024. Economic Freedom of North America 2024. Fraser Institute, Vancouver, Canada.

Stansel, D. and Tuszynski, M.P., 2017. Sub-National Economic Freedom: A Review and Analysis of the Literature. *Journal of Regional Analysis and Policy*. 48(1), 61-71.

Wong, C. and Stansel, D., 2016. An Exploratory Empirical Note on the Relationship between Local Economic Freedom and the Female Labor Force Participation Rate in U.S. Metropolitan Areas. *Empirical Economics Letters*. 15(11), 1095-1100.

Figure 1. The 313 Counties in the Dataset:
45 Multi-State MSAs Across 36 States

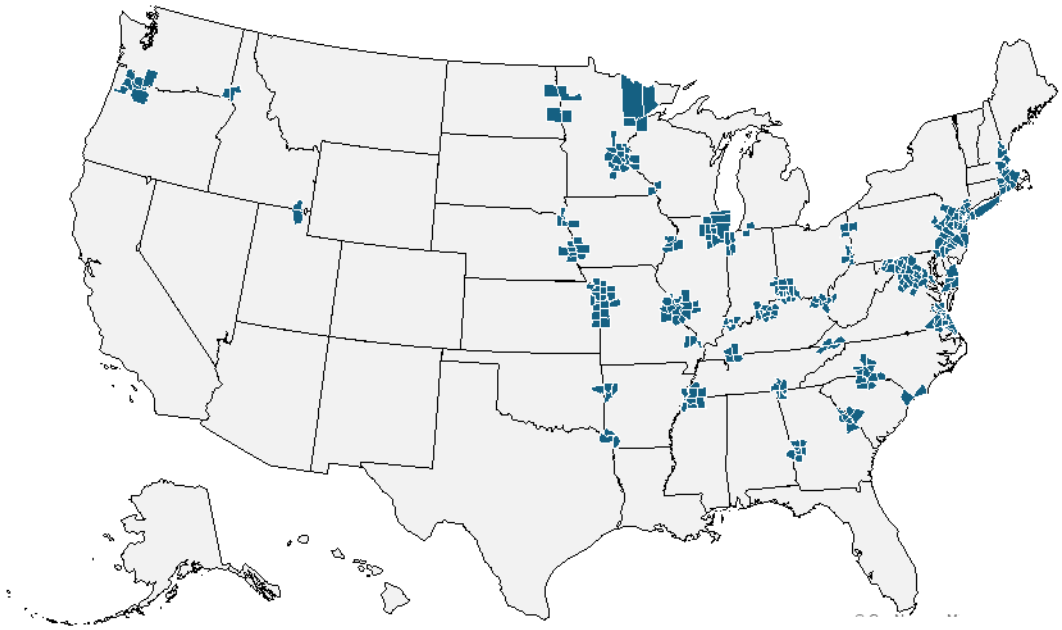
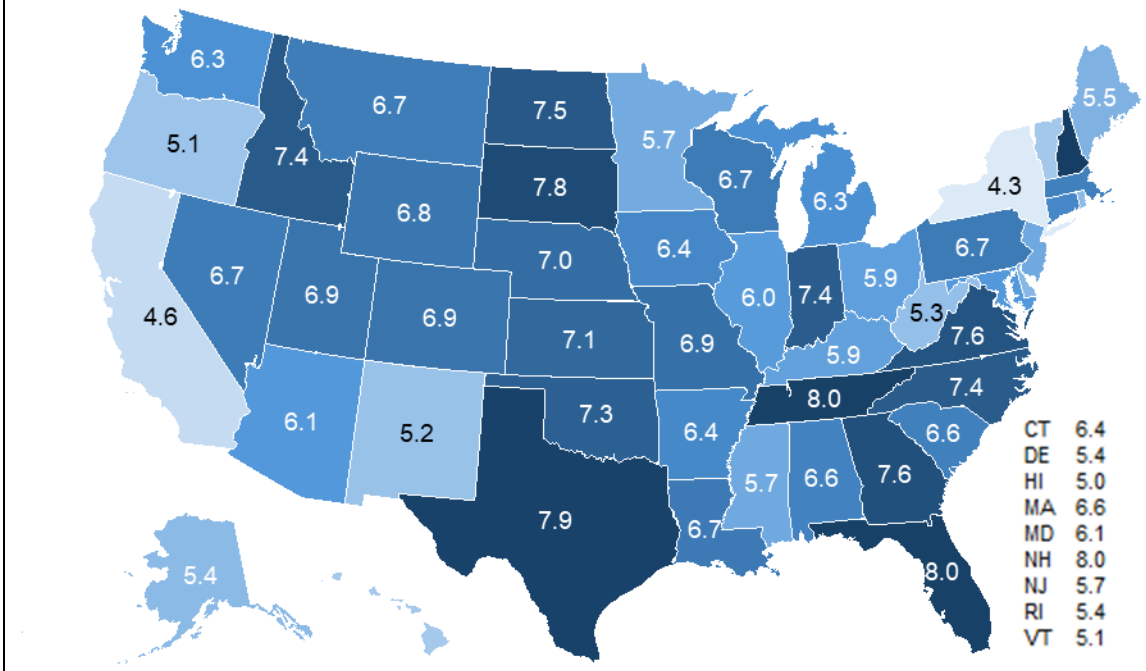
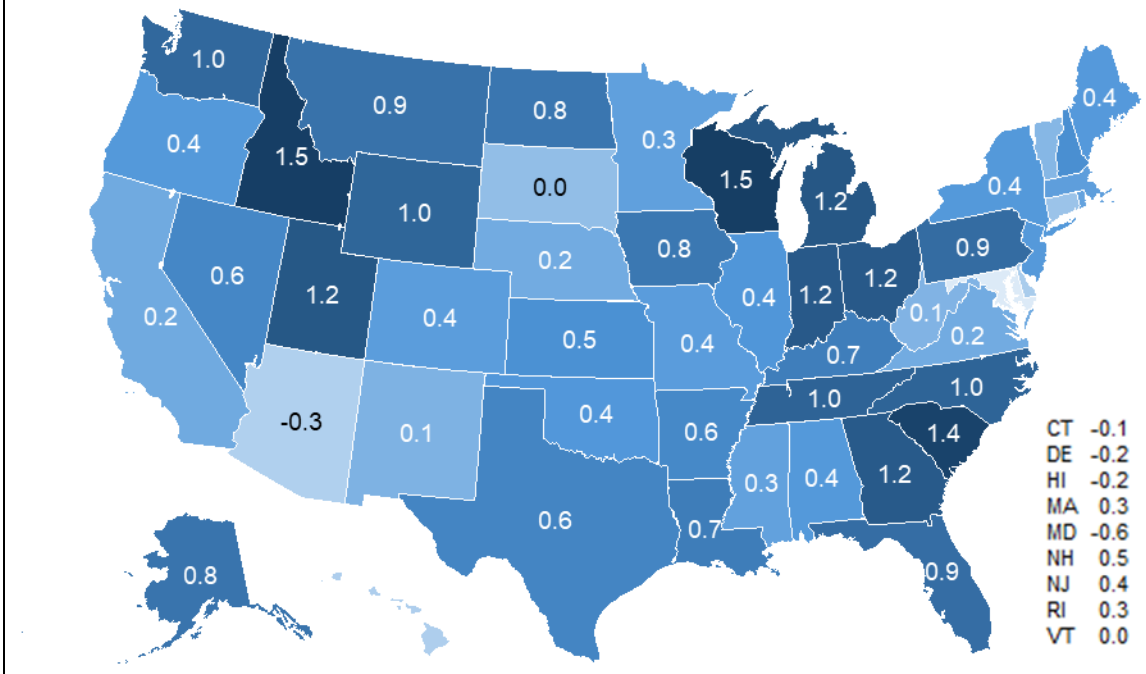


Figure 2. Overall 5-Year Economic Freedom, 2022



Source: Authors' calculations from Economic Freedom in North America, 2024.

Figure 3. Change in 5-Year Economic Freedom, 2012-2022



Source: Authors' calculations from Economic Freedom in North America, 2024.

Table 1. Mean Labor Force Status and Select Population Shares

	2012	2017	2022
Unemployment rate ages 16 plus	8.6	6.1	4.9
Employment-population ratio ages 16	58.8	58.9	59.2
Labor force participation rate ages 16	64.9	63.3	62.9
Ages 16 to 19	7.1	6.6	6.6
Ages 20 to 24	8.1	8.1	7.8
Ages 65 plus	17.3	19.6	21.7
White (not Hispanic) ages 16 plus	79.6	78.0	75.7
Male ages 20 to 64	49.8	49.9	50.6
Disabled ages 20 to 64	11.0	11.3	11.6
No high school diploma ages 25 to 64	10.3	9.4	8.4
Some college or associate's ages 25 to 64	31.6	31.7	30.7
Bachelor's or higher ages 25 to 64	27.2	29.1	32.0

Means across the 313 counties in the dataset.

Table 2. Economic Freedom Index and Average Labor Force Status: Ages 16 Plus

	Unemployment Rate	Employment/ Population	Labor Force Participation
State overall EFNA	0.101	0.352	0.483
	(0.278)	(0.514)	(0.483)
Share ages 16-19	0.240*	-0.395*	-0.307*
	(0.098)	(0.138)	(0.136)
Share ages 20-24	0.191	-0.439*	-0.211
	(0.137)	(0.164)	(0.190)
Share aged 65+	0.017	-0.435*	-0.580*
	(0.120)	(0.120)	(0.104)
Share white only	-0.148*	0.040	0.000
	(0.071)	(0.061)	(0.057)
Share male	-0.176	-0.225	-0.408*
	(0.165)	(0.169)	(0.137)
Share disabled	0.072	-0.214*	-0.227*
	(0.078)	(0.062)	(0.062)
Share < high school	0.124*	-0.245*	-0.213*
	(0.052)	(0.066)	(0.057)
Share some college	-0.053	-0.011	0.022
	(0.067)	(0.048)	(0.040)
Share bachelor's+	-0.015	0.084	0.054
	(0.058)	(0.064)	(0.048)
Common intercept	2.113	-0.845	-0.594
	(1.712)	(1.452)	(0.857)
R-squared Within	0.142	0.341	0.309
R-squared Between	0.555	0.648	0.741
R-squared Overall	0.435	0.624	0.707

All specifications include county fixed effects. State-clustered standard errors are in parentheses. "*" and "†" indicate statistical significance at the 5 percent and 10 percent levels, respectively.

Table 3. Estimation Results: Comparing DiD and TWFE Models, 2012 and 2017

	Difference-in-Difference Model			Two-Way Fixed Effects Model		
	Unemployment Rate	Employment/ Population	Labor Force Participation	Unemployment Rate	Employment/ Population	Labor Force Participation
State Overall EFNA	0.274	-0.320	-0.041	-1.224*	0.584	-0.235
	(0.533)	(0.642)	(0.712)	(0.380)	(0.366)	(0.405)
MSA overall MEFI				-0.749	0.239	-0.288
				(0.582)	(0.476)	(0.414)
MSA average status				0.231	0.045*	0.021*
				(0.221)	(0.021)	(0.010)
2017 dummy				-1.397†	-0.003	-1.184*
				(0.766)	(0.672)	(0.483)
Share ages 16-19	-0.061	-0.499†	-0.535*	-0.294	-0.114	-0.360†
	(0.272)	(0.273)	(0.192)	(0.196)	(0.245)	(0.189)
Share ages 20-24	0.188	-0.229*	-0.057	0.227	-0.023	0.200
	(0.146)	(0.094)	(0.181)	(0.184)	(0.159)	(0.290)
Share aged 65+	-0.092	-0.459*	-0.557*	-0.189	-0.239	-0.409*
	(0.276)	(0.146)	(0.080)	(0.226)	(0.189)	(0.107)
Share white only	-0.216	0.101	0.033	-0.171	-0.073	-0.141
	(0.139)	(0.078)	(0.082)	(0.123)	(0.118)	(0.102)
Share male	0.181	-0.035	0.078	0.032	0.032	0.109
	(0.235)	(0.182)	(0.274)	(0.191)	(0.141)	(0.203)
Share disabled	0.084	-0.096	-0.117	0.039	-0.058	-0.074
	(0.099)	(0.069)	(0.089)	(0.074)	(0.097)	(0.121)
Share < high school	0.085	-0.098	-0.067	0.016	-0.082	-0.067
	(0.065)	(0.068)	(0.053)	(0.067)	(0.054)	(0.053)
Share some college	-0.062	0.101†	0.094	-0.042	0.108	0.107
	(0.063)	(0.055)	(0.072)	(0.058)	(0.072)	(0.089)
Share bachelor's+	-0.046	0.032	0.024	-0.047	0.094	0.073
	(0.062)	(0.083)	(0.080)	(0.054)	(0.083)	(0.083)
Common intercept	3.046	-2.428	-1.738	36.416*	55.920*	76.714*
	(2.568)	(1.665)	(1.738)	(15.885)	(10.056)	(13.938)
R-squared Within	0.130	0.204	0.169	0.725	0.079	0.494
R-squared Between	0.527	0.546	0.631	0.303	0.308	0.290
R-squared Overall	0.465	0.533	0.609	0.340	0.304	0.297

All specifications include county fixed effects. State-clustered standard errors are in parentheses. "*" and "†" indicate statistical significance at the 5 percent and 10 percent levels, respectively.

Table 4. Mean Labor Force Status By Educational Attainment, Ages 25 to 64

	Unemployment Rate			Employment-Population			Labor Force Participation		
	2012	2017	2022	2012	2017	2022	2012	2017	2022
No high school diploma	14.6	10.4	8.0	51.3	52.0	53.7	60.0	57.9	58.4
High school graduate	8.9	6.3	5.3	68.4	68.4	68.8	75.4	73.3	73.1
Some college or associate's	6.7	4.7	4.1	74.9	75.2	75.8	81.2	79.6	80.0
Bachelor's or higher	3.4	2.7	2.2	82.5	83.4	84.2	86.3	86.4	87.1

Means across the 313 counties in the dataset.

Table 5. Estimation Results: Economic Freedom Index and Labor Force Status, Educational Attainment Ages 25-64

	Unemployment Rate	Employment/ Population	Labor Force Participation
No high school diploma	-0.294	2.671*	3.030*
	(1.514)	(1.278)	(1.431)
High school diploma	-0.326	1.773*	1.712*
	(0.514)	(0.820)	(0.672)
Some college or associate's	0.871†	-0.466	0.151
	(0.443)	(1.009)	(0.938)
Bachelor's degree or higher	-0.340	0.641	0.182
	(0.248)	(0.777)	(0.620)

Estimated coefficients for the EFNA index. State-clustered standard errors are in parentheses. All specifications include county fixed effects and variables to control for demographics, which are suppressed for space considerations. "*" and "†" indicate statistical significance at the 5 percent and 10 percent levels, respectively.

Table 6. Mean Labor Force Status Across Age Groups

	Unemployment Rate			Employment-Population			Labor Force Participation		
	2012	2017	2022	2012	2017	2022	2012	2017	2022
Ages 16 to 19	25.6	19.7	14.1	31.7	33.3	37.3	42.8	41.8	43.8
Ages 20 to 24	14.9	11.6	9.3	64.0	67.1	68.4	76.7	77.0	76.9
Ages 25 to 64	7.1	4.9	4.0	72.2	73.1	74.4	78.4	77.4	78.3
Ages 65 to 74	5.6	3.4	3.3	23.5	24.6	25.3	24.9	25.4	26.2
Ages 75 plus	5.4	3.7	3.3	5.5	6.2	6.6	5.8	6.4	6.8

Means across the 313 counties in the dataset.

Table 7. Estimation Results: Economic Freedom Index and Labor Force Status, Age Groups

	Unemployment Rate	Employment/ Population	Labor Force Participation
Ages 16 to 19	2.536	0.379	1.725
	(1.782)	(1.415)	(1.472)
Ages 20 to 24	0.300	1.533	1.571
	(0.728)	(1.636)	(1.755)
Ages 25 to 64	-0.029	0.712	0.795
	(0.321)	(0.630)	(0.572)
Ages 65 to 74	-0.031	-0.434	-0.329
	(0.548)	(0.635)	(0.673)
Ages 75 plus	-1.733	-0.229	-0.305
	(1.061)	(0.518)	(0.537)

Estimated coefficients for the EFNA index. State-clustered standard errors are in parentheses. All specifications include county fixed effects and variables to control for demographics, which are suppressed for space considerations. "*" and "†" indicate statistical significance at the 5 percent and 10 percent levels, respectively.

Table 8. Mean Labor Force Status Across Sex and Racial/Ethnic Groups

	Unemployment Rate			Employment-Population			Labor Force Participation		
	2012	2017	2022	2012	2017	2022	2012	2017	2022
Population ages 20 to 64	7.9	5.6	4.6	71.3	72.4	73.7	78.1	77.3	78.1
Males ages 20 to 64	8.3	5.9	4.6	74.7	76.1	77.1	82.8	81.9	82.1
Females ages 20 to 64	7.4	5.4	4.5	68.0	68.9	70.5	73.6	72.9	74.1
White (not Hispanic) ages 16+	7.6	5.3	4.2	59.4	59.1	58.8	64.9	62.9	62.1
Black or African American ages 16+	14.7	10.4	9.3	50.6	53.3	54.1	59.6	59.9	60.2
Hispanic (any race) ages 16+	9.4	8.0	5.6	61.2	61.3	64.8	68.8	67.7	70.0

Means across the 313 counties in the dataset.

Table 9. Estimation Results: Economic Freedom Index and Labor Force Status, Sex and Race/Ethnic Groups

	Unemployment Rate	Employment/ Population	Labor Force Participation
Population ages 20 to 64	-0.024	0.716	0.743
	(0.304)	(0.584)	(0.526)
Males ages 20 to 64	0.028	0.556	0.493
	(0.352)	(0.723)	(0.568)
Females ages 20 to 64	-0.100	0.883	0.983
	(0.355)	(0.654)	(0.654)
White (not-Hispanic) ages 16 plus	0.051	0.608	0.618
	(0.277)	(0.518)	(0.525)
Black or African American only ages 16	3.611	-2.269	0.262
	(3.062)	(2.868)	(2.900)
Hispanic (any race) ages 16 plus	-3.694†	3.937†	1.675
	(1.878)	(2.066)	(2.032)

Estimated coefficients for the Economic Freedom Index. State-clustered standard errors are in parentheses. All specifications include county fixed effects and variables to control for demographics, which are suppressed for space considerations. "*" and "†" indicate statistical significance at the 5 percent and 10 percent levels, respectively.