

# Unbanked Households: Evidence of Supply-Side Factors

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# Outline of the talk

- Motivation
- Identification strategy and data
- Results
- Robustness checks

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# The Unbanked Phenomenon

- 10% to 20% of all American households are **unbanked**
  - **40%** among **low income** households
  - **60%** among **low income** and **black** households
- Unbanked households:
  - Are at the mercy of “**fringe banks**”
  - Face **savings deficit**
  - Are more exposed to **behavioral biases**

# The Unbanked Phenomenon

*“The fact that these families often rely on informal means to manage their financial lives suggests that the formal sector is not meeting their needs”*

National Poverty Center, 2008

# Competing Reasons for Being Unbanked

## ■ “Demand-side”

- Cultural determinants
  - Distrust financial institutions
  - Lack “culture of saving”
- Low financial literacy

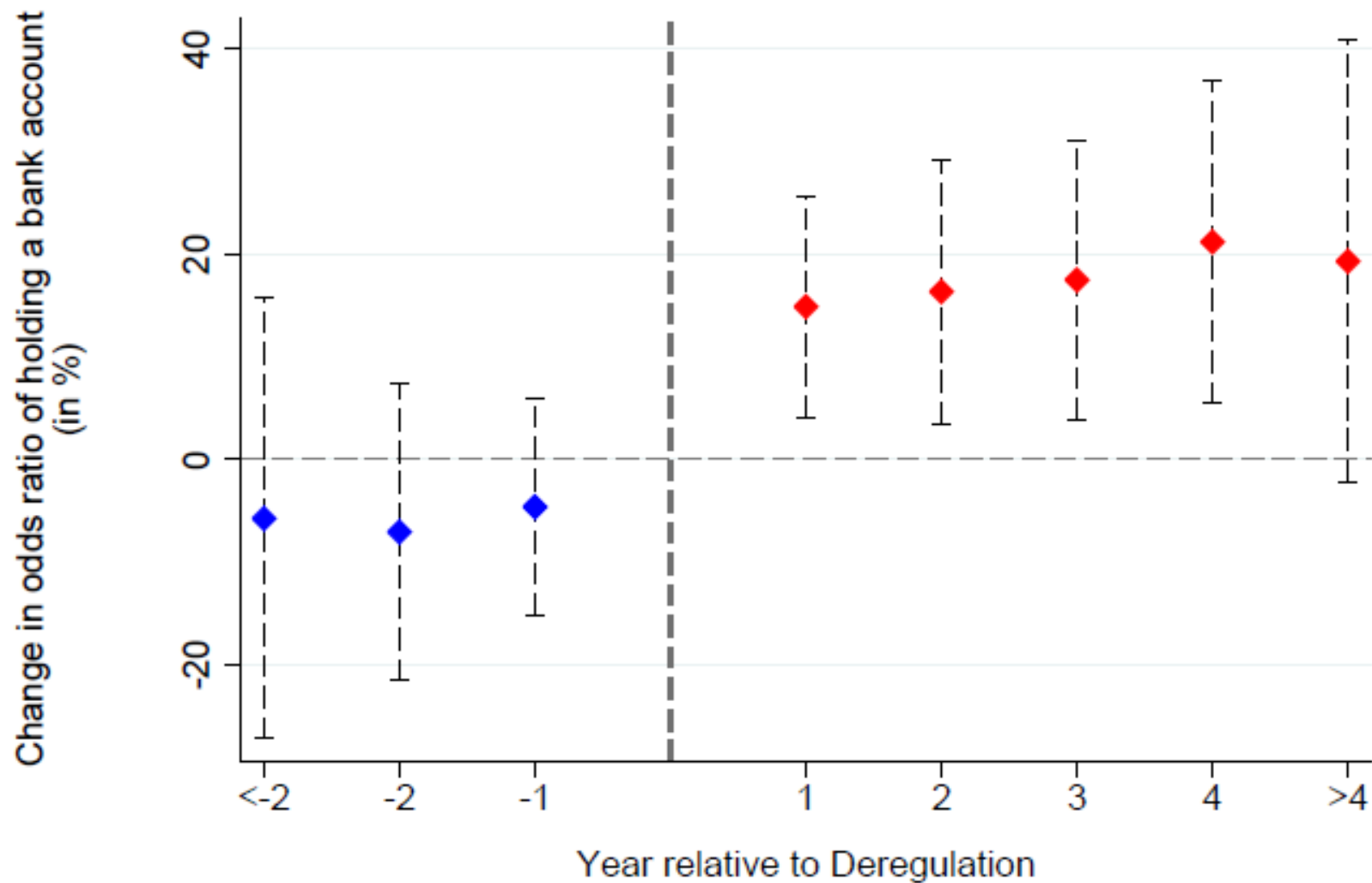
## ■ “Supply-side” (bank practises)?

- Fewer branches in disadvantaged neighborhood
- Minimum account balance to open an account
- High overdraft fees

## What We Do

- **Hypothesis:** Bank practices partially account for the high share of unbanked households
- **Identification Strategy:** competitive shock on banks to assess the role of supply
- **Shock:** changes in interstate branching regulation in the U.S. after 1994

Key Finding





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# Data

- Survey of Income and Program Participation (SIPP), 1993 -2010
  - 20,000 to 30,000 households per wave, 15 waves
  - 410,678 households residing in 45 states
  - Focus on low income households (< 200% poverty line)
- U.S. Bureau of Economic Analysis : Time varying state controls

## Determinants of Being Unbanked

<i>Dependent Variable</i>	<i>=1 if owns a bank account</i>	
<i>Household characteristics</i>		
Black	-0.162***	(0.05)
Married Couple	0.091***	(0.03)
Single Female-Headed	0.035***	(0.03)
Household Size	-0.020***	(0.01)
Age	0.004***	(0.00)
Elementary Education	0.091	(0.080)
High School Education	0.193**	(0.080)
College Education	0.308***	(0.082)
Monthly Household Income	0.00***	(0.00)
Income < Poverty Threshold	-0.059***	(0.005)
Receive Social Security	0.013*	(0.007)
Receive transfer income	-0.139***	(0.007)
Head unemployed	0.012**	(0.004)

## The Shock: Interstate Branching Deregulation

- The adoption of the IBBEA in 1994 allowed the entry of out-of-state bank branches
- **BUT** states had the right to erect **4 possible restrictions** to out-of-state entry
- **Deregulation index** =  $4 - \text{number of barriers}$ 
  - 0 = fully **regulated**
  - 4 = fully **deregulated**
- **57** episodes of deregulation in **43** different states between 1994 and 2005

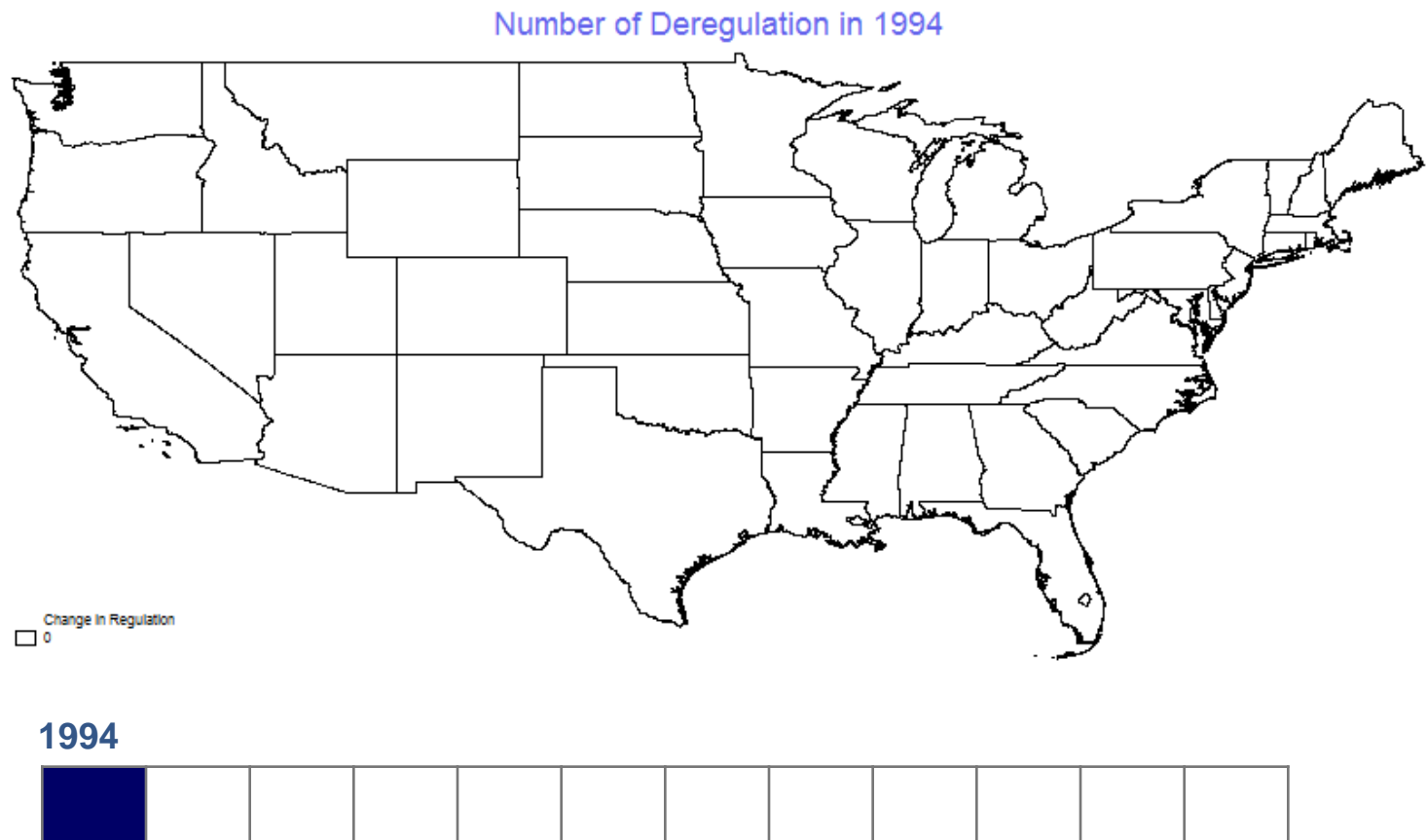
# Evolution of Deregulation

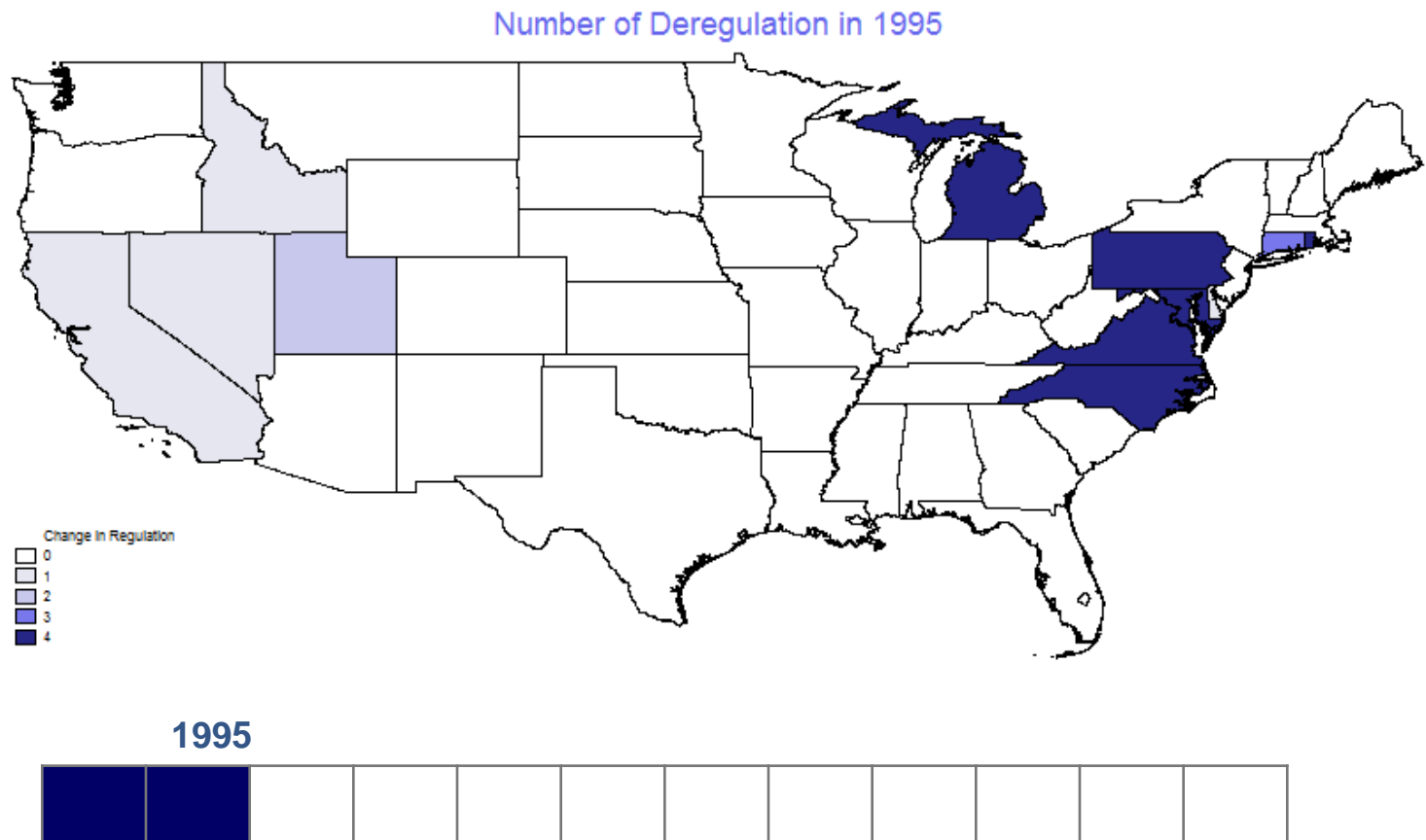
Number of Deregulation in 1994

Change in Regulation  
0

1994

0	1	2	3	4	5	6	7	8	9	10	11	12
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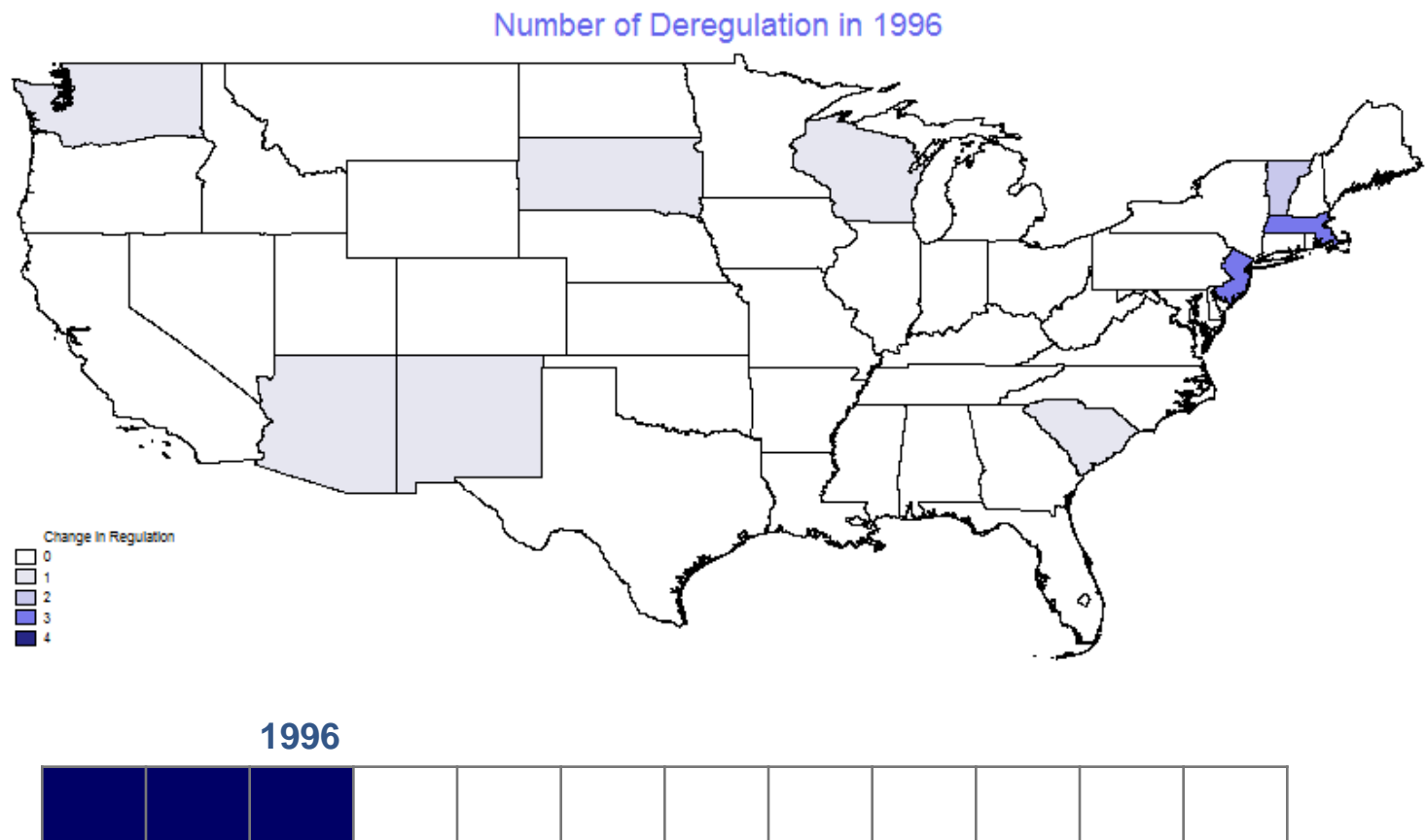
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Number of Deregulation in 1996

Change in Regulation

Change in Regulation	States
0	California, Nevada, Utah, Colorado, Missouri, Arkansas, Louisiana, Mississippi, Alabama, Tennessee, Kentucky, West Virginia, North Carolina, South Carolina, and Virginia
1	Oregon, Idaho, Wyoming, Nebraska, Kansas, Oklahoma, Texas, Illinois, Indiana, Ohio, Pennsylvania, Maryland, Delaware, Georgia, and Florida
2	Washington, North Dakota, Wisconsin, Arizona, and New Mexico
3	Connecticut, New York, and Vermont
4	Massachusetts and New Jersey

1996

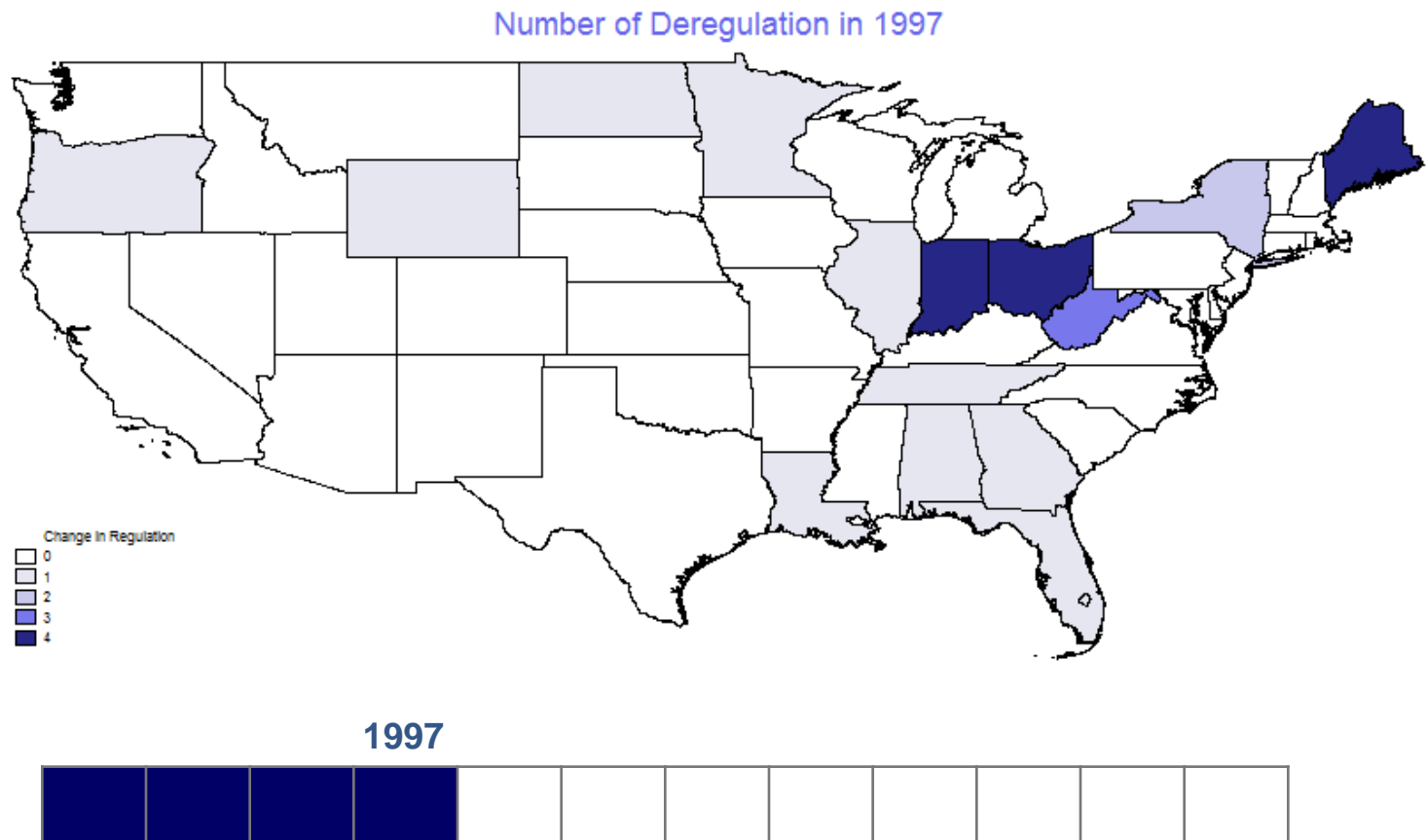


Number of Deregulation in 1997

Change in Regulation

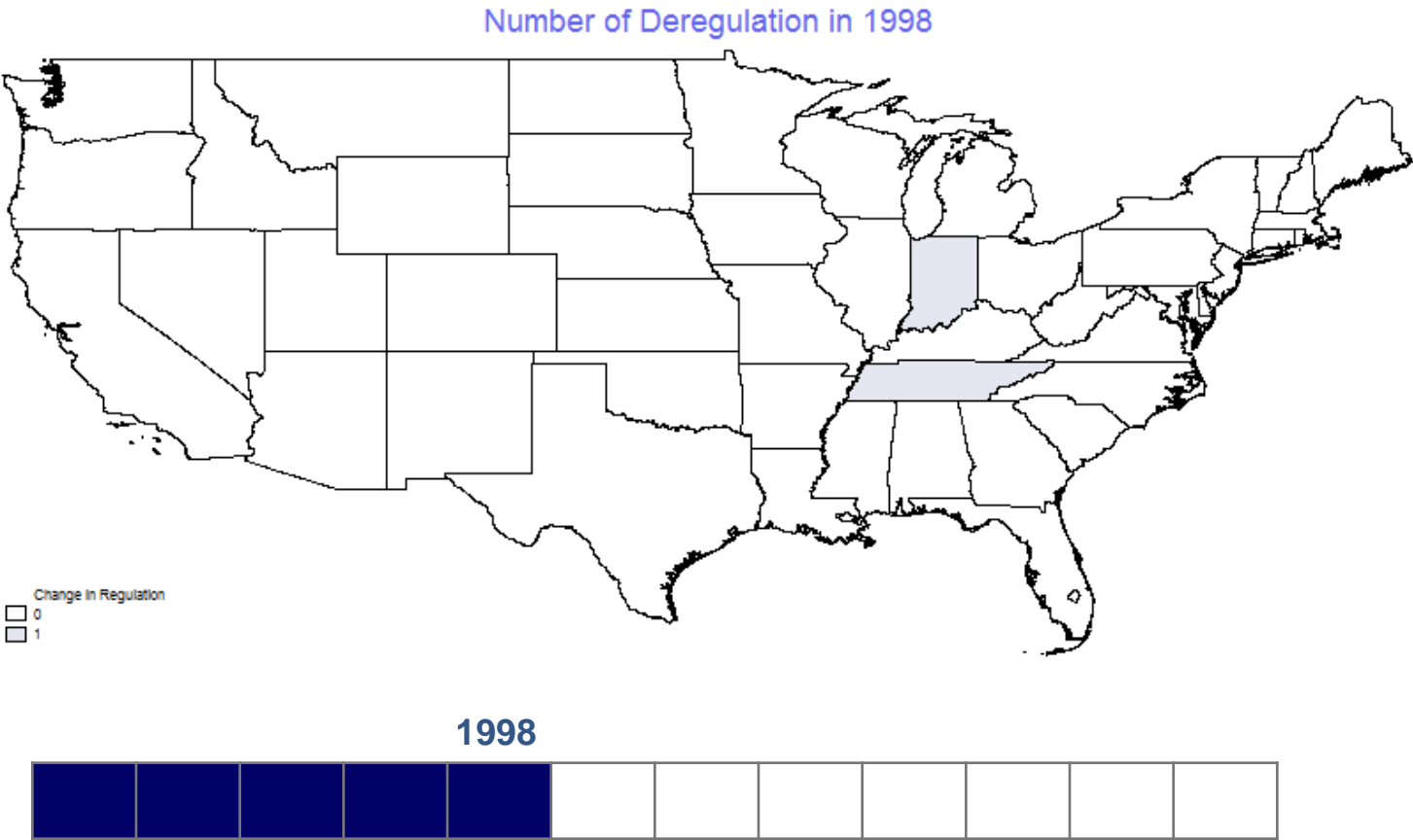
0  
1  
2  
3  
4

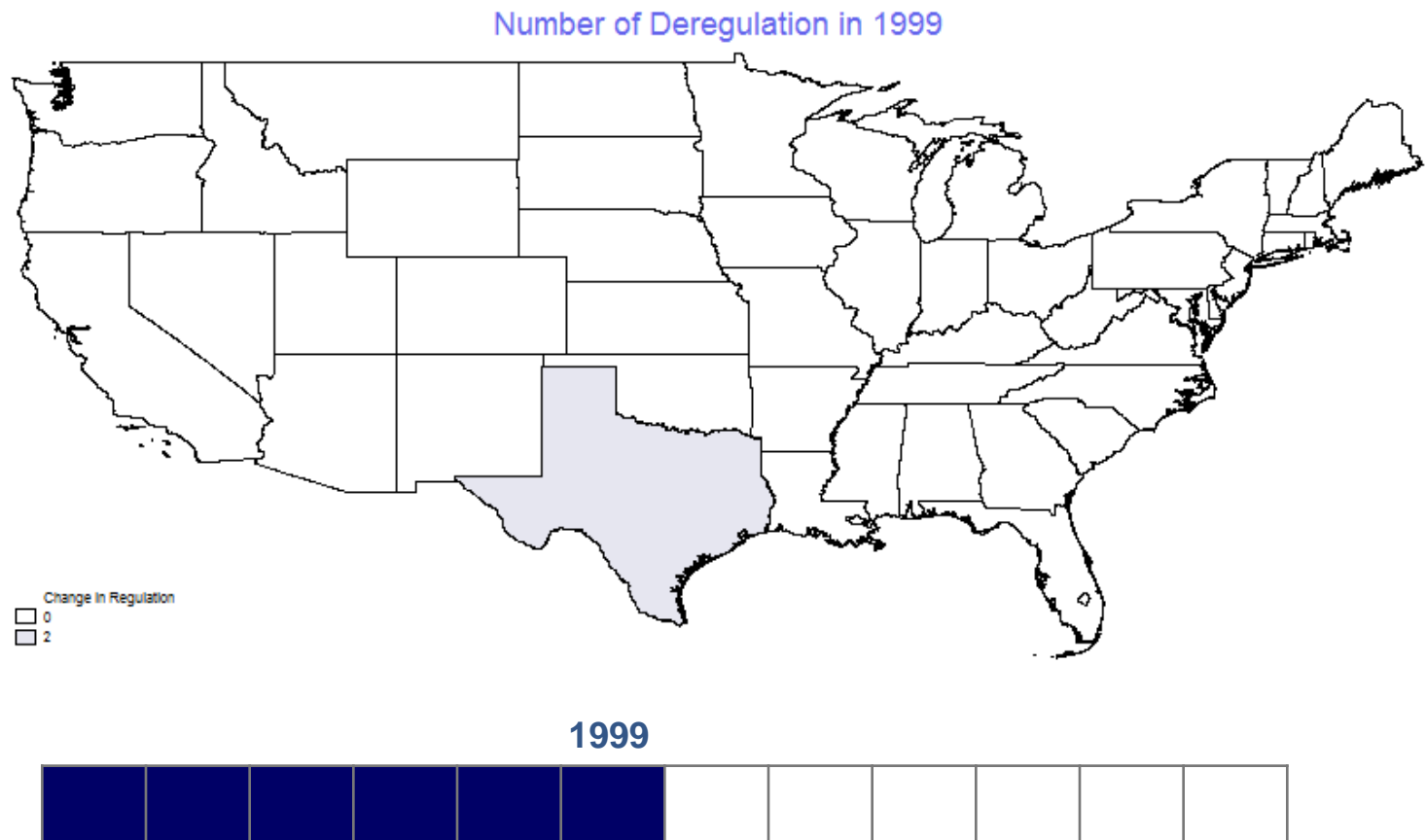
1997

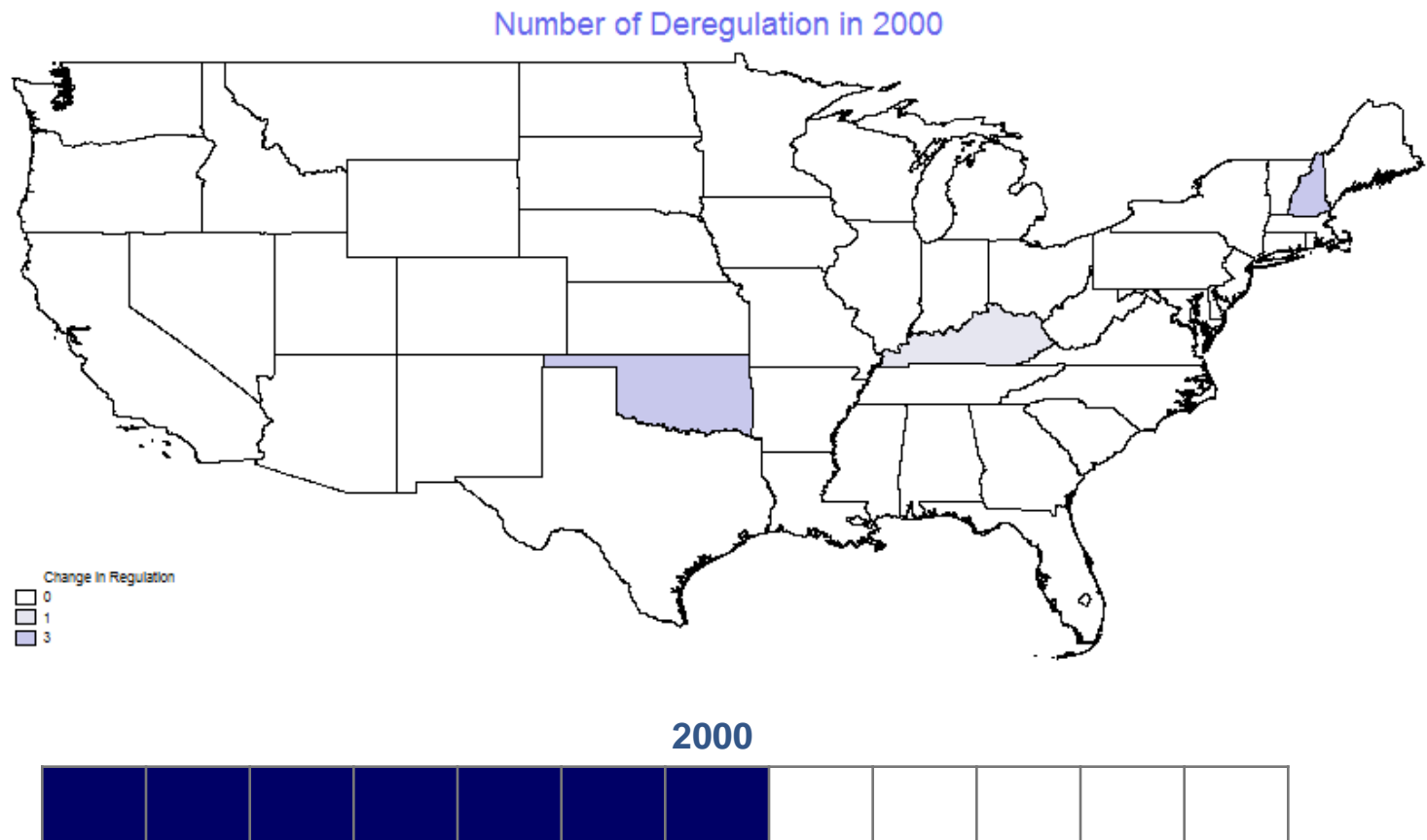




# Evolution of Deregulation



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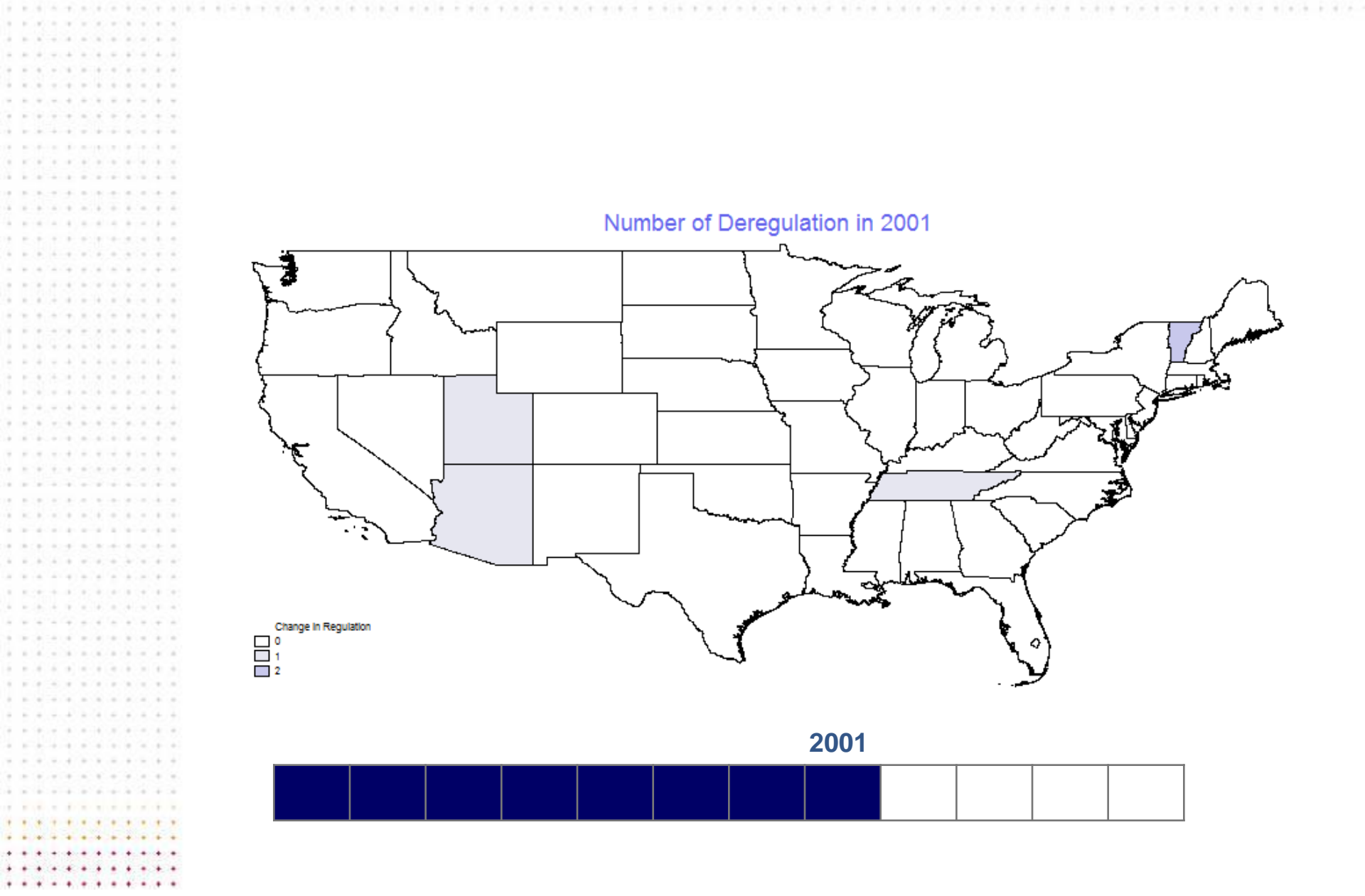
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Number of Deregulation in 2001

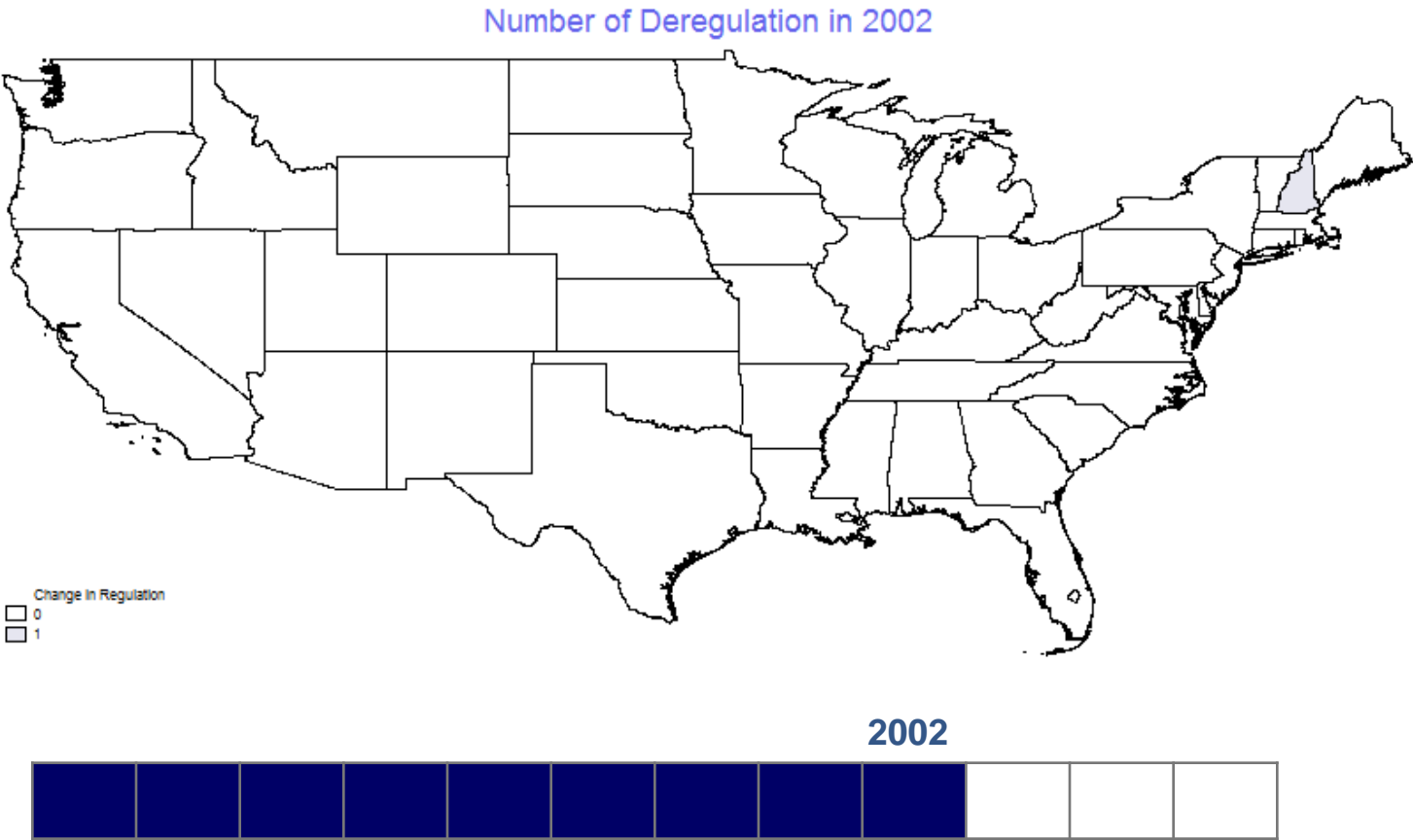
Change in Regulation

- 0
- 1
- 2

2001



# Evolution of Deregulation



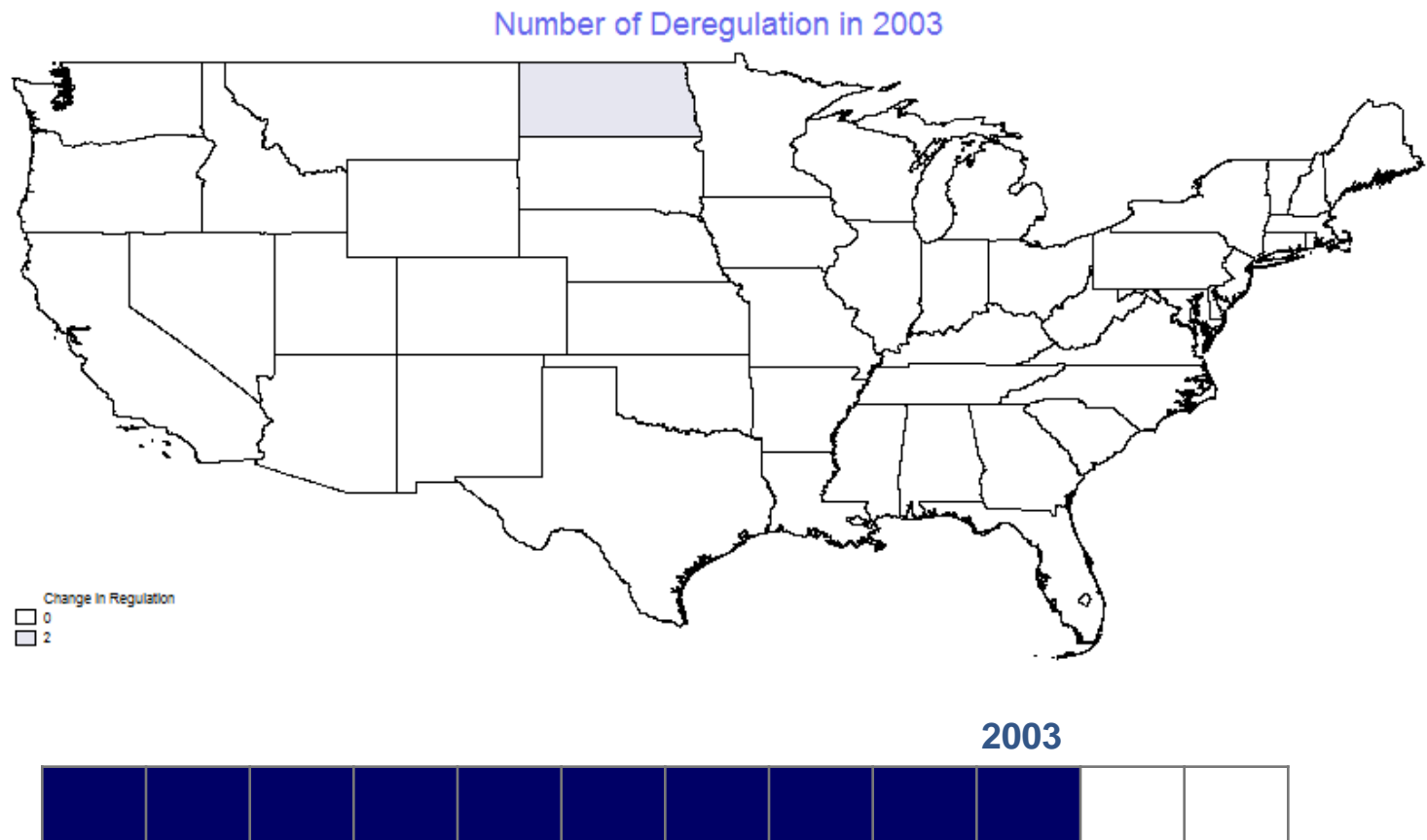
Number of Deregulation in 2003

Change in Regulation

0

2

2003



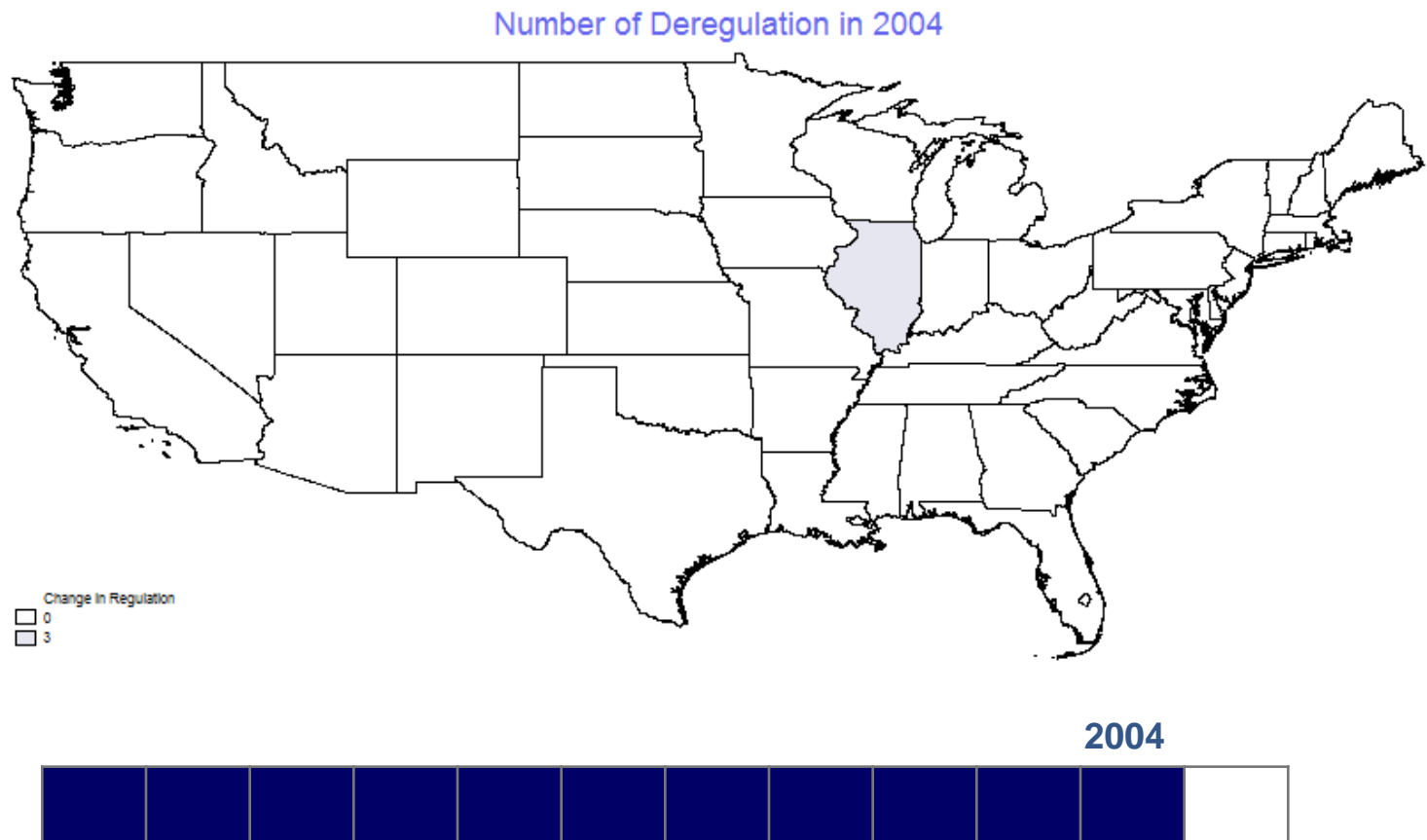
Number of Deregulation in 2004

Change in Regulation

0

3

2004



# Evolution of Deregulation

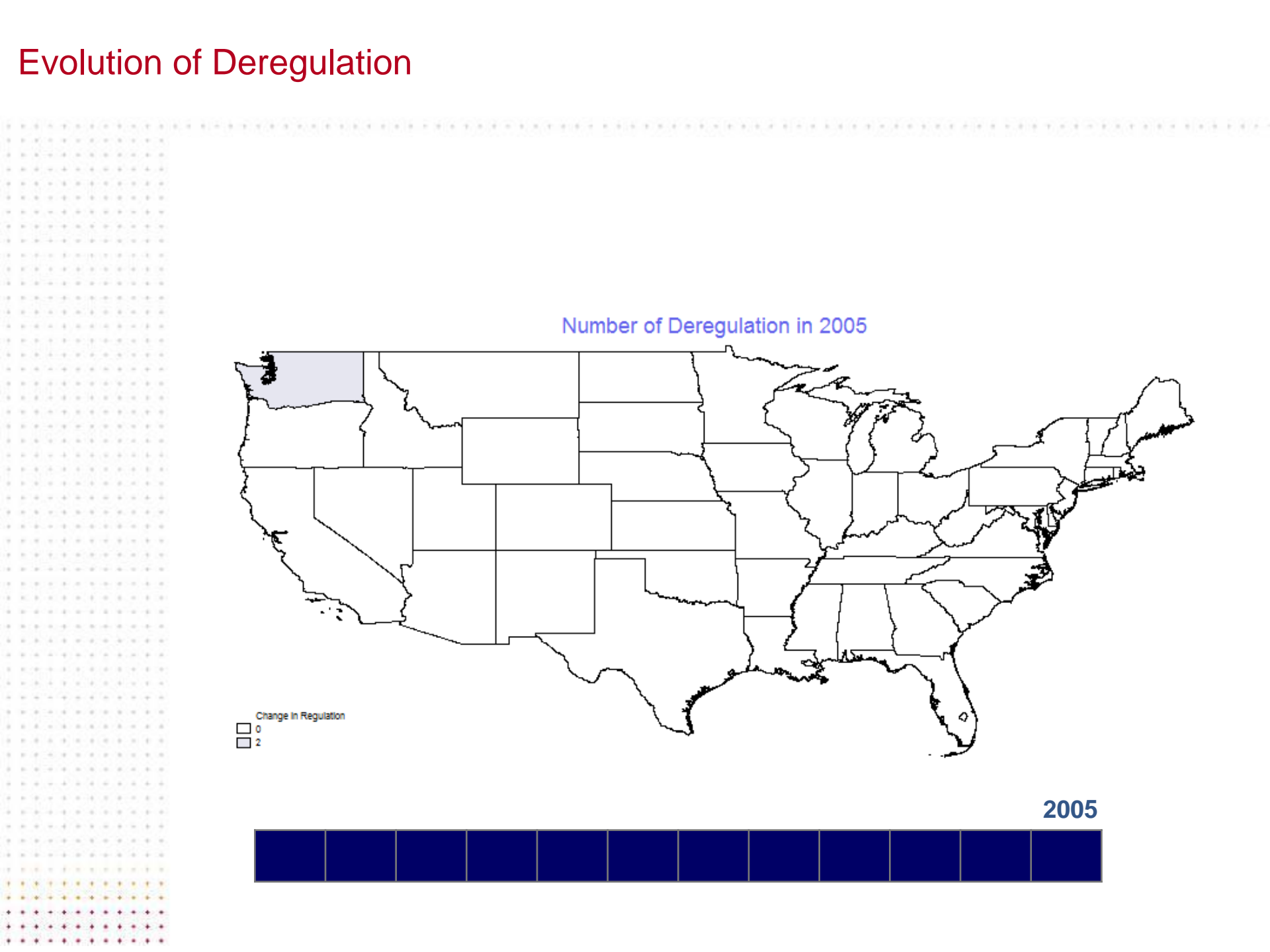
Number of Deregulation in 2005

Change in Regulation

- 0
- 2

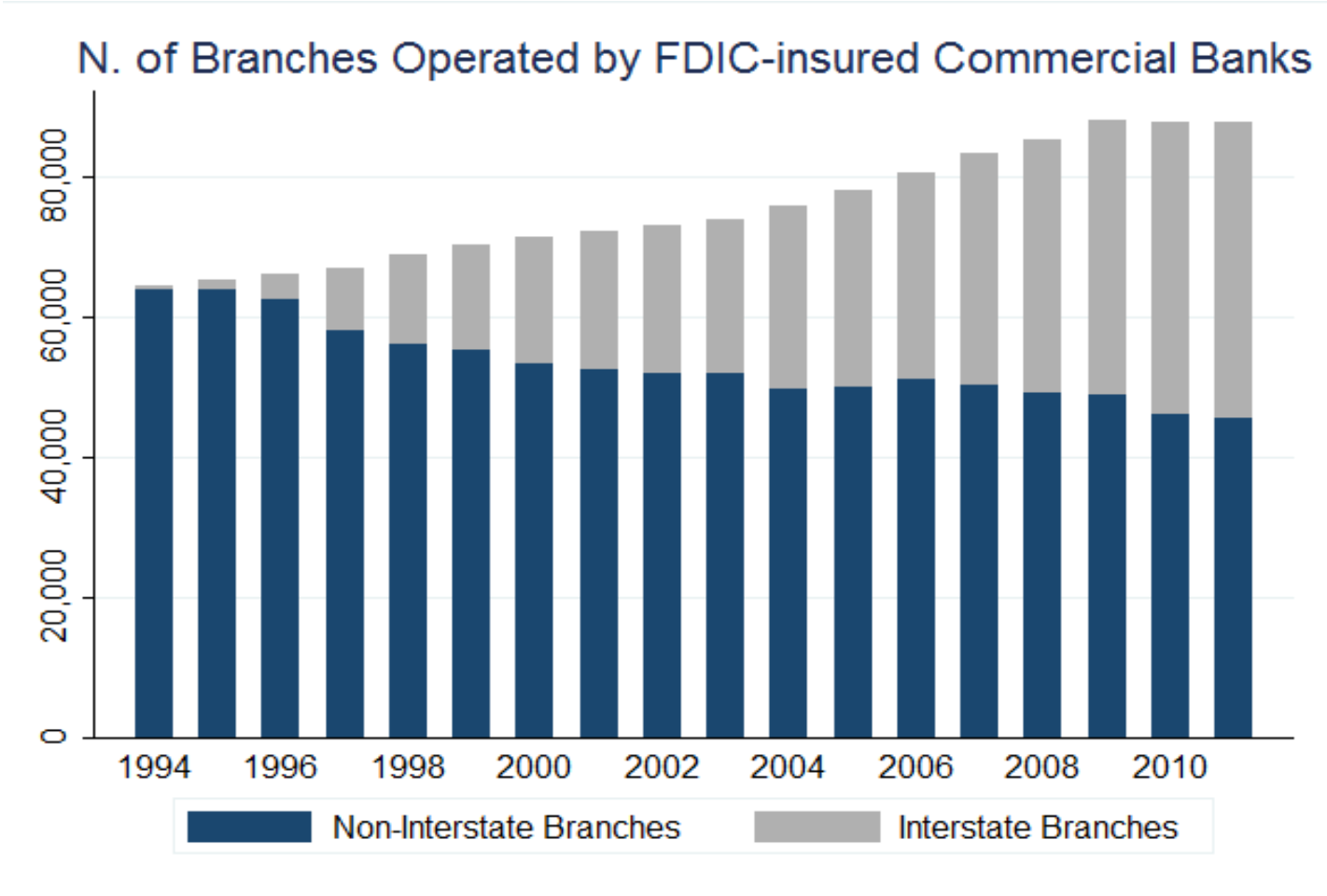
2005

State	Number of Deregulation in 2005
Washington	2
Other States	0





# Significant Out-of-State Bank Penetration



## Identification Strategy

- Likelihood that a **household  $i$**  in **state  $s$**  at **year  $t$**  holds a bank account

$$\Pr\{BankAccount_{ist}\} = \beta Deregulation_{st} + \theta X_{ist} + \delta StateControls_{st} + \gamma_s + \eta_t + \varepsilon_{ist}$$

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# Competition Increases the Share of Banked Households

<i>Dependent variable</i>	<i>=1 if the household holds a bank account</i>			
	(1)	(2)	(3)	(4)
Deregulation Index	0.012*** (0.004)	0.012*** (0.004)	0.012*** (0.004)	
Deregulation ( $\leq t-4$ )				-0.012 (0.016)
Deregulation ( $t-3,t-1$ )				-0.012 (0.012)
Deregulation ( $t+1,t+3$ )				0.033*** (0.012)
Deregulation ( $\geq t+4$ )				0.037** (0.017)
Household Controls	-	Yes	Yes	Yes
State-Year Controls	-	-	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Observations	136,176	136,176	136,176	136,176

# Is the Effect stronger for Households that are More Likely to be Rationed?

- Black households in states with a history of discrimination
  - Four proxies for black discrimination preferences
- Poor households
- Households living in rural areas
- Educated households

# Competition Reduces Racial Discrimination in States with Preferences for Discrimination

<i>Dependent Variable</i>	<i>=1 if the household holds a bank account</i>				
<i>Discrimination Dummy</i>	-	Former Slave State	Antimiscegenation Law	No Fair Housing Law	Share of interracial marriage
	(1)	(2)	(3)	(4)	(5)
Deregulation Index	0.010** (0.004)	0.014** (0.005)	0.012*** (0.005)	0.014** (0.005)	0.013*** (0.005)
Index x Black	0.009 (0.006)	-0.002 (0.008)	0.003 (0.008)	-0.005 (0.007)	-0.001 (0.006)
Index x Black x Discr.		0.024** (0.010)	0.018* (0.009)	0.028*** (0.009)	0.023*** (0.008)
Household Controls	Yes	Yes	Yes	Yes	Yes
State-Year Controls	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	136,176	135,934	136,176	136,176	136,176

# Heterogenous Effect of Deregulation Across Household Types

<i>Dependent Variable</i>	<i>=1 if the household holds a bank account</i>						
<i>Sample</i>	Income Group			Residence		Education	
	Poor	Low	Middle	Rural	Urban	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deregulation Index	0.016*** (0.004)	0.010** (0.004)	0.003 (0.003)	0.018*** (0.007)	0.010* (0.005)	0.012** (0.005)	0.007 (0.006)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-Year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52,470	83,706	48,343	37,550	98,626	97,873	38,303

# Consequences for Households?

- Asset accumulation

- Debt?



# Effect of Bank Deregulation on Household Asset Accumulation

<i>Dependent variable</i>	=1 if the household holds						
	Checking Account	Savings Account	Checking Account		Savings Account		Savings in o. Institutions
<i>Sample</i>	All	All	Poor	Low Inc.	Poor	Low Inc.	All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Deregulation Index	0.007** (0.003)	0.006*** (0.002)	0.014*** (0.003)	0.008* (0.005)	0.004 (0.003)	0.009*** (0.003)	0.094*** (0.038)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-Year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	135,524	135,524	38,620	46,115	52,250	83,274	135,340

# Effect of Bank Deregulation on Household Debt

<i>Dependent variable</i>	<i>=1 if the household holds</i>			<i>Debt-to-Inc. R.</i>
<i>Sample</i>	<i>Debt</i>	<i>Bank Account</i>		<i>All</i>
	<i>Banked HH</i>	<i>Debt-free HH</i>	<i>In debt HH</i>	
	(1)	(2)	(3)	
Deregulation Index	0.001 (0.002)	0.014*** (0.005)	0.007** (0.003)	0.013 (0.020)
Household Controls	Yes	Yes	Yes	Yes
State-Year Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Observations	84,089	63,039	72,660	135,699

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## Alternative story: demand effect?

- Deregulation fosters growth and employment: participation could be a “**collateral benefit**”
- **BUT:**
  - **Control** for a lot of socio-economic and macro variables
  - Does not appear fully consistent with results in **cross section** of households (education)
  - Add **finer macro economics variables** specific to black and poor households
  - Find no difference between households who are **more or less likely to be unemployed**

# Other Robustness

- Test endogeneity

- Other robustness:

  - Periods

  - States

  - Placebo

## Take Away

- Supply-side factors contribute to the unbanked phenomenon
- Increase in banking competition
  - **Eases access** to banking services for low income households
  - Particularly for **black households** in states with a history of discrimination
  - Which improves **asset accumulation**
  - And does **not** appear to be driven by **increased demand**
- **Policy Implication:** Can “demand intervention” (financial literacy program) be enough? → How to modify banks' incentives?

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Thank You!