

Transactions of State and Local Government Defined Benefit Pension Plans:

New experimental data on a state by state basis



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BEA Advisory Committee Meeting

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New experimental data by state—

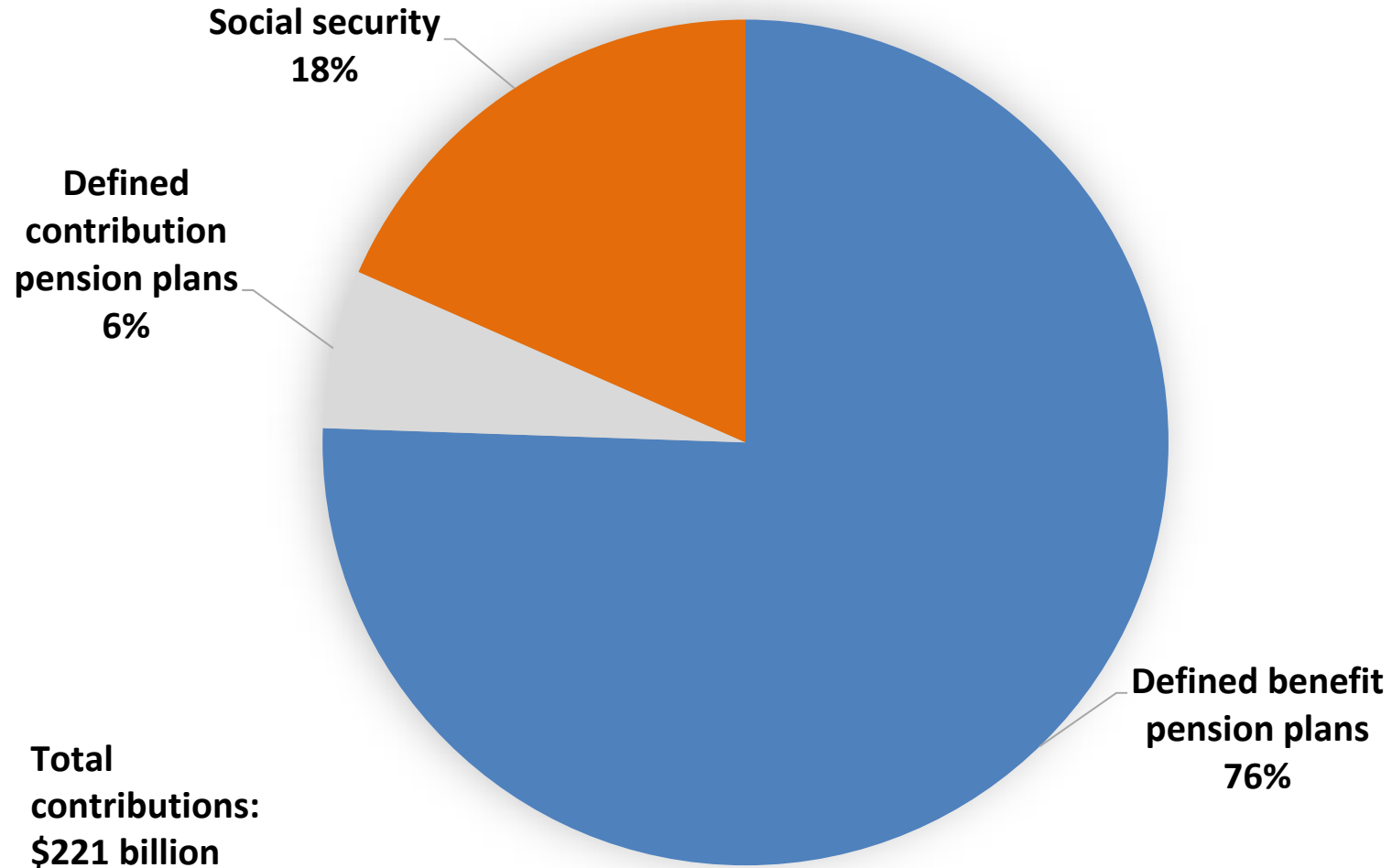
- Fills gap in BEA’s regional accounts
- Provides important data for public policy analyses and discussions
 - Comprehensive set of DB pension transactions for S&I govts
 - Consistently measured across all states on an accrual basis
 - Common discount rate
 - Annual time series data from 2000 to 2018
 - Complete data set not available elsewhere

Outline of today's presentation



1. Review changes in NIPA treatment of DB pensions and define key concepts
2. Highlight important features of the data using the accounting framework of new table
3. Discuss source data, their limitations, & potential improvements
4. Illustrate value of state-level DB pension estimates

Retirement components of employee compensation: Actual employer contributions, S&L gov't, 2018



New treatment of DB pensions in NIPAs

- Moved from cash accounting to accrual accounting
- Introduced a pension plan subsector in the financial corporate sector
- Provided estimates of current receipts, current expenses, and cash flow for the pension plan subsector

These changes

- Improved consistency of NIPAs with Financial Accounts of the U.S.
- Better aligned NIPAs with System of National Accounts

Accrual accounting for pensions



Accrual accounting

- Records transactions when they occur rather than when associated cash flows occur
- Matches expenses with the corresponding productive activity and records both in the same period
- Aligns pension component of compensation with the period of service when employees earned the benefits
- Reduces volatility in compensation arising from sporadic cash contributions to pension plans
- Improves accuracy of employers' pension expenses when plans are over-funded or under-funded

Transactions of State and Local Government Defined Benefit Pension Plans,
New York, 2017

[Billions of dollars]



1	Current receipts, accrual basis	73.5
2	Output	2.0
3	Contributions	45.8
4	Claims to benefits accrued through service to employers	20.2
5	Actual employer contributions 4/	17.4
6	Imputed employer contributions	3.1
7	Actual household contributions	1.7
8	Less: Pension service charges	2.0
9	Household pension contribution supplements 1/	25.6
10	Income receipts on assets (including plans' claims on employers)	25.6
11	Interest	20.1
12	Monetary interest	7.9
13	Imputed interest on plans' claims on employers 2/	12.2
14	Dividends	5.5
15	Current expenditures, accrual basis	73.5
16	Administrative expenses	2.0
17	Imputed income payments on assets to persons	25.6
18	Interest	20.1
19	Dividends	5.5
20	Benefit payments and withdrawals	33.0
21	Net change in benefit entitlements 3/	12.8
22	Cash flow	-2.5
23	Actual employer and household contributions	19.1
24	Monetary income receipts on assets	13.4
25	Less: Benefit payments and withdrawals	33.0
26	Less: Administrative expenses	2.0
Addenda:		
27	Employers' normal cost	18.5
28	Interest accrued on benefit entitlements	30.8
29	Benefit entitlements	798.5
30	Pension plan assets	528.8
31	Plans' claims on employers	269.7
32	Funded ratio	0.662

Current receipts, New York, 2017

S&L Gov't Pension funds, billion dollars



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Claims to benefits accrued through service to employers (normal cost)

- The present value of the additional benefits that plan participants earn from employment during the accounting period
- Employer portion is called employers' normal cost
- Employee portion is called actual household contributions

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Plans' claims on employers (net pension liability)

- The difference between benefit entitlements and the assets held by plans

Benefit entitlements (total pension liability)

- The present value of accrued benefits

Pension plan assets (net position restricted for pension benefits)

New York, 2017

S&L Gov't Pension funds, billion dollars



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Current expenditures & cash flow,

New York, 2017, S&L Gov't Pension funds, billion dollars



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26	Less: Administrative expenses	2.0

- Annual Survey of Public Pensions (census every 5 years)
 - Individual Unit File (by pension plan)
 - IUF has detail for dividends & interest
 - Unusual movements in plan-level data can be cross checked with pension plan financial statements

- Benefit entitlements (liabilities) and employers' normal cost
 - Compiled by BEA from the financial statements of 180 of the largest pension plans
 - Liabilities standardized on common discount rate using sensitivity test data from financial statements
 - Net pension liability if discount rate decreased 1% and if rate increased 1%
 - Scaled up by membership to represent the universe of pension plans by state

Experimental data



- Uncertain pension plan universe
 - Census Bureau expanded sample frame from 2,264 plans in 1997 to 5,531 in 2017
 - Mostly discoveries of existing plans that had been overlooked
 - Mostly small plans, adding a few % to national total
 - Geographically concentrated with larger effects on a few states
 - In general, BEA extrapolated the discoveries back to 2000 using growth rates of the other plans in the state
- BEA subset for actuarial estimates (liabilities, employers' normal cost)
 - 180 of the largest pension plans
 - 87% of Census Bureau universe, as measured by plan membership
 - Assumes smaller plans similar to the largest plans

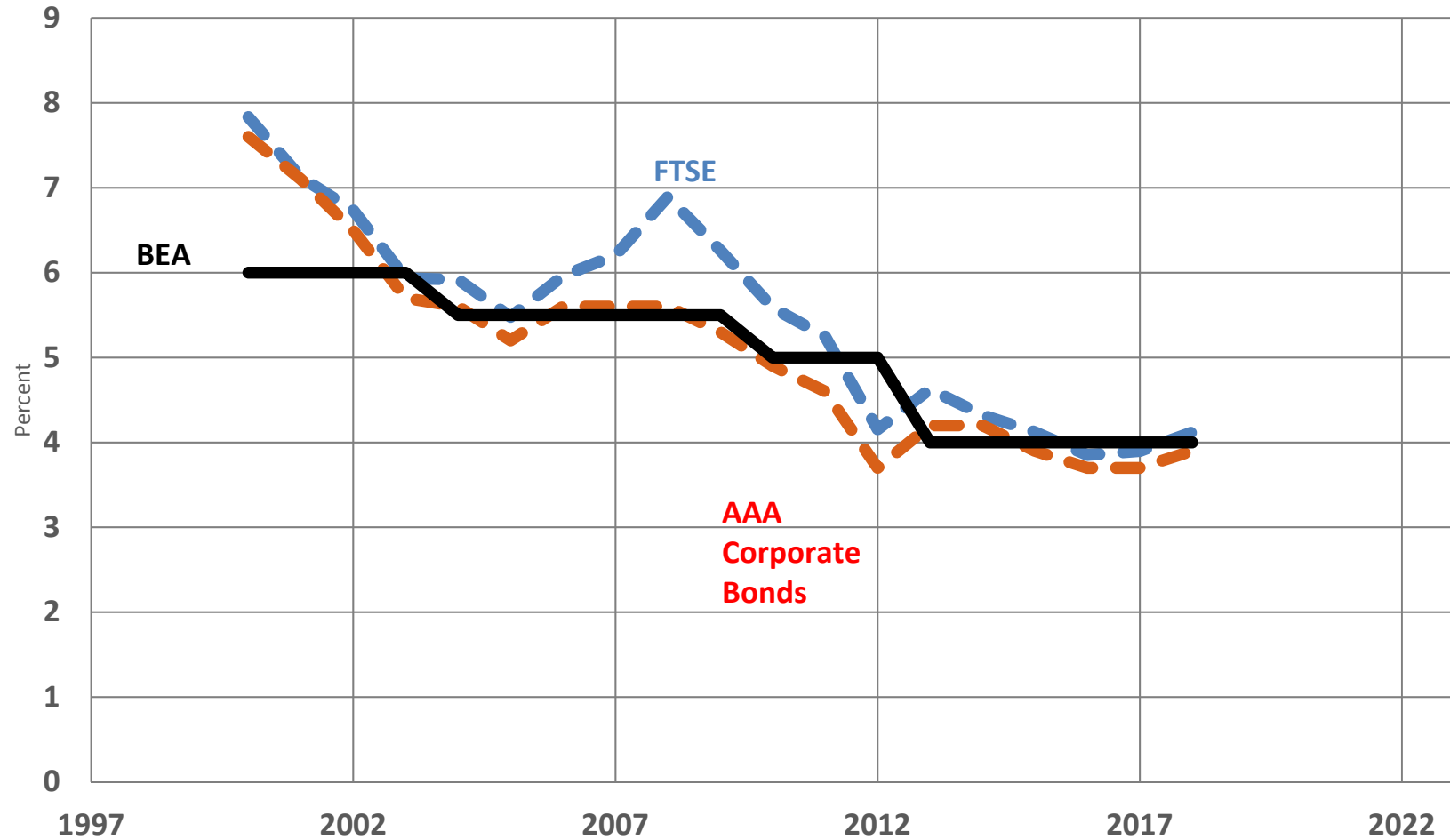
BEA pension plan subset by state

Active members + beneficiaries: largest plans as a % of all plans



Rank	State	Percent
1	Hawaii	100
⋮	⋮	⋮
10	New York	98
⋮	⋮	⋮
35	California	87
⋮	⋮	⋮
45	Texas	78
46	Missouri	74
47	Georgia	69
48	Nebraska	67
49	Illinois	66
50	Tennessee	63
51	Massachusetts	55
--	U.S.	87

Discount rates



Pension plans' discount rates

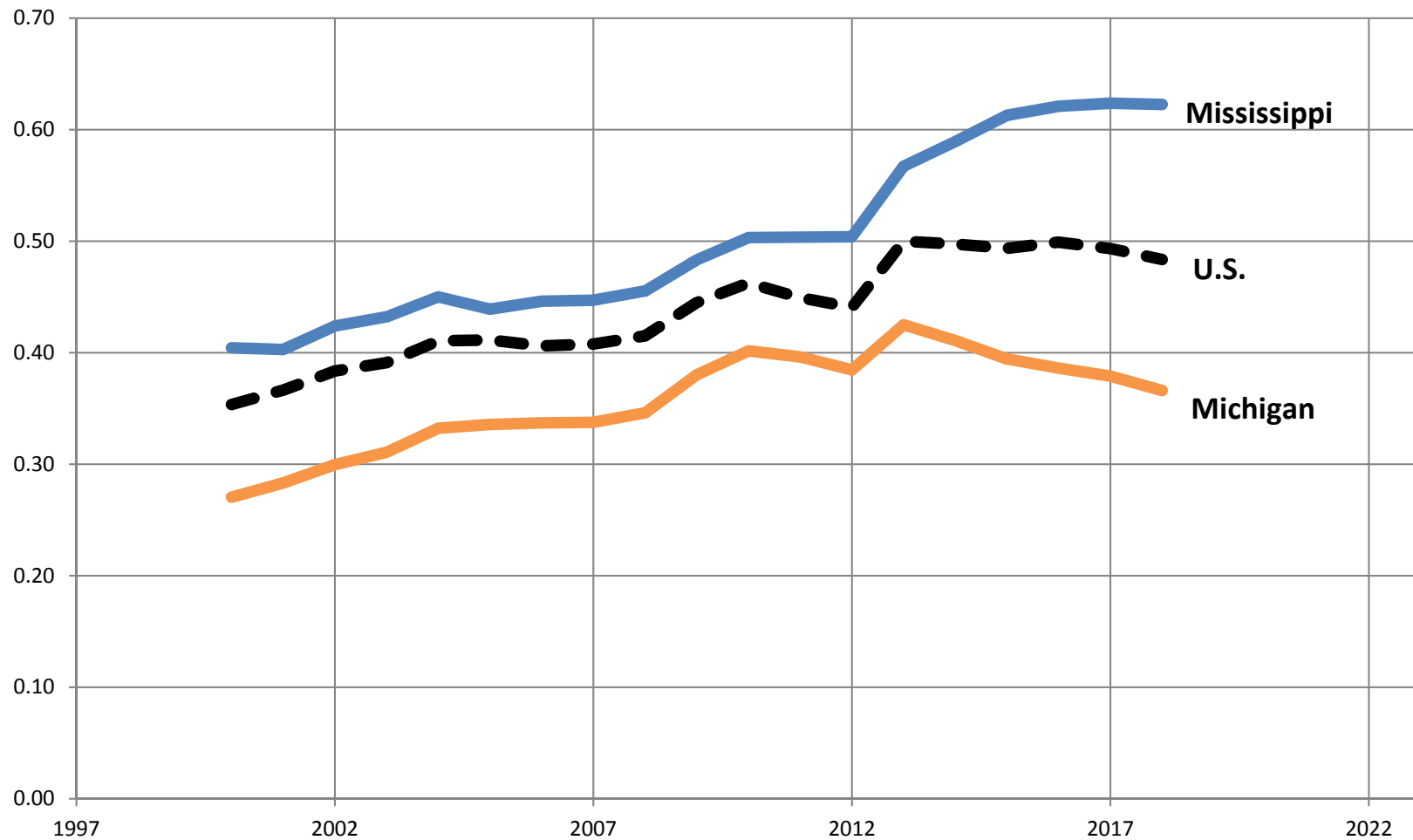
BEA subset



	2000	2018
6.50 or less	1	20
6.51 to 7.00	3	47
7.01 to 7.50	15	95
7.51 to 8.00	63	19
8.01 to 8.50	33	0
8.51 or more	5	0
Liability-weighted average	7.99	7.05
Number of pension plans	120	181

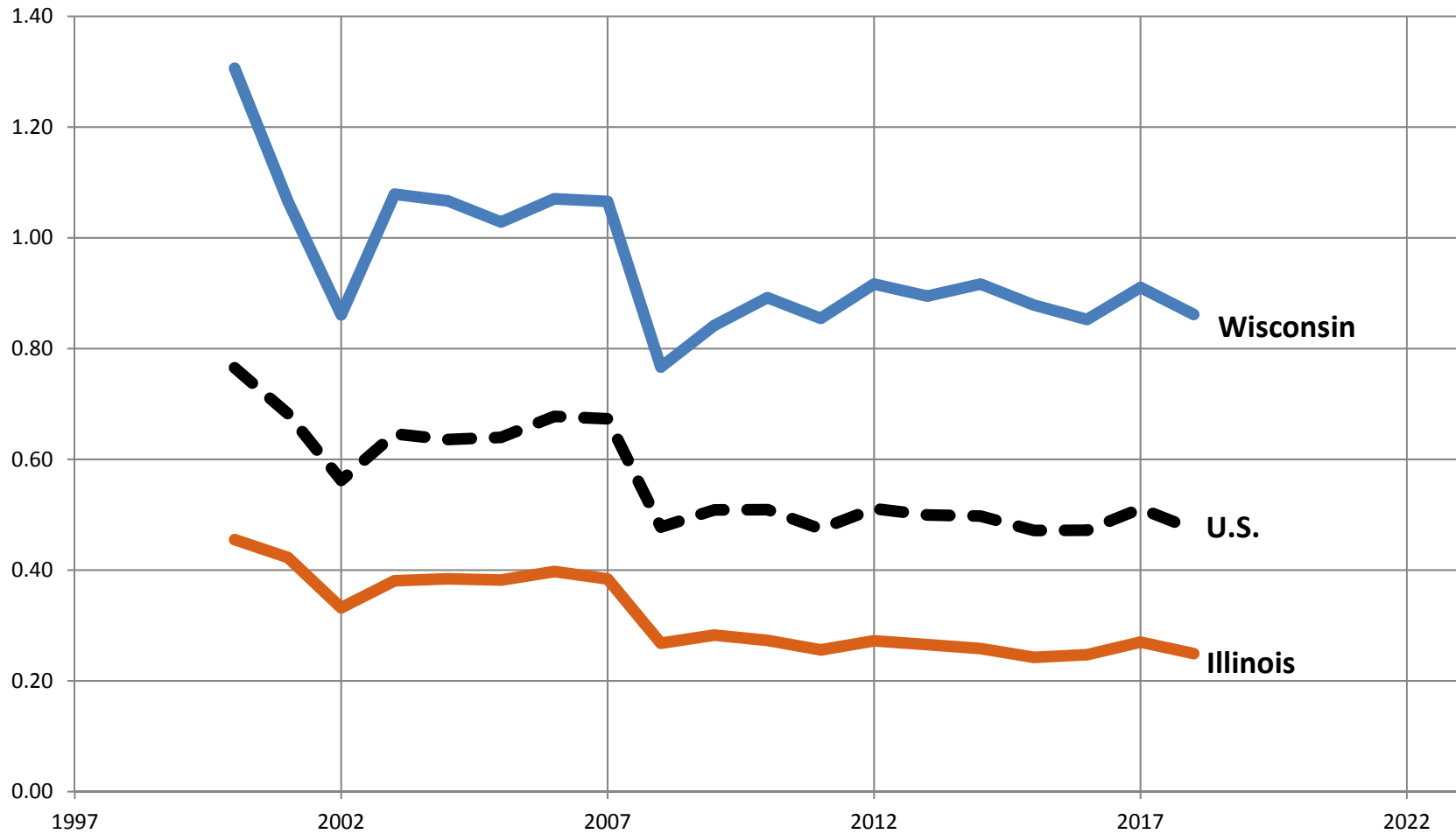
Benefit entitlements

Relative to personal income



Funded ratio

Pension fund assets relative to benefit entitlements



Funded ratio

Pension fund assets relative to benefit entitlements



Rank	State	2018
1	Wisconsin	0.86
2	South Dakota	0.69
3	New York	0.62
4	Idaho	0.61
5	Delaware	0.61
⋮	⋮	⋮
49	Massachusetts	0.32
50	New Jersey	0.29
51	Illinois	0.25
--	Average	0.47

Benefit entitlements

Components of change



$$L_t - L_{t-1} = C_t + I_t - B_t + O_t$$

- L = Benefit Entitlements (Liabilities)
- C = Claims to benefits accrued through service to employers
- I = Interest accrued on benefit entitlements
- B = Benefit payments
- O = Other changes (e.g. changes in assumptions)

Claims to benefits accrued

Percent of wages and salaries, state & local government *

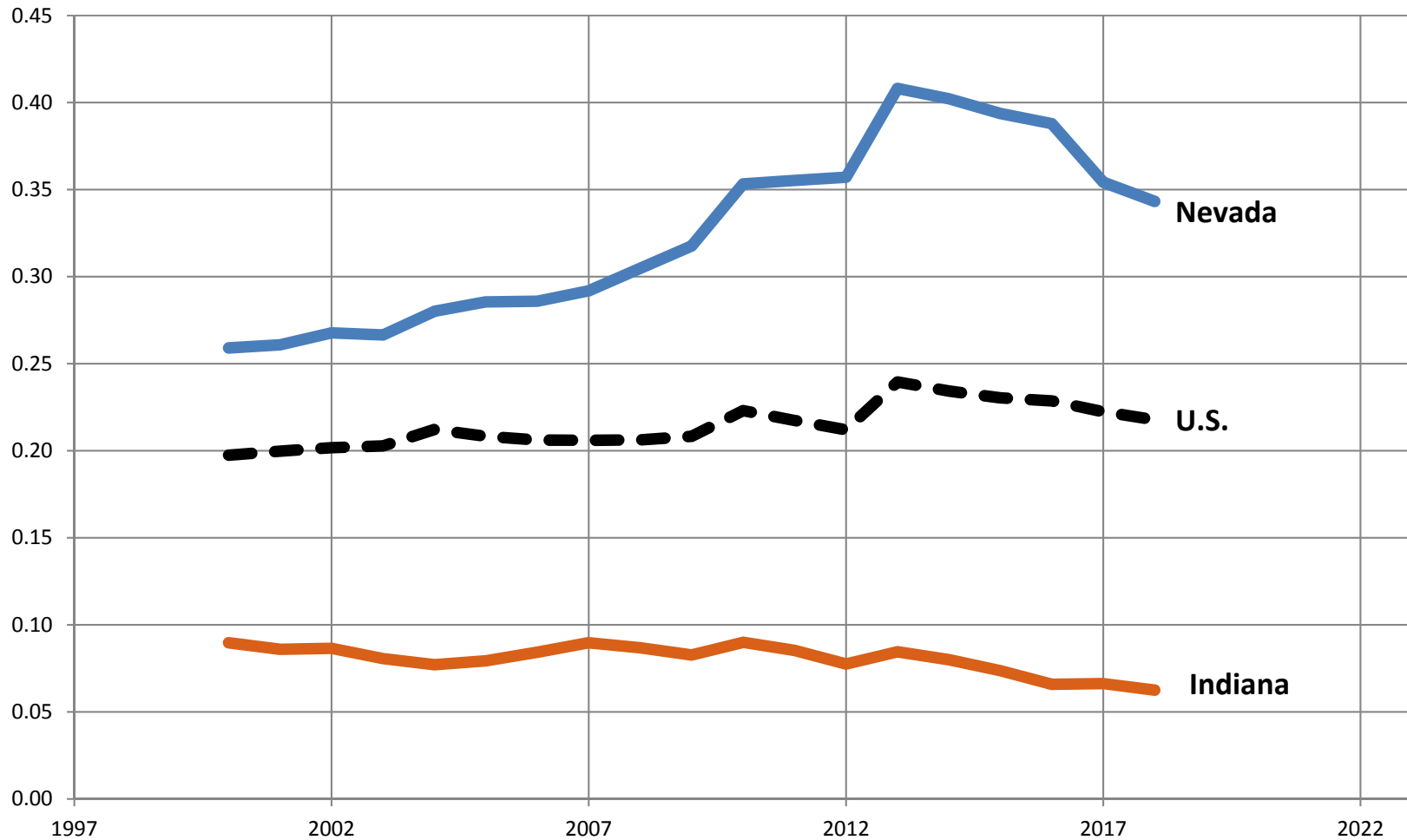


Rank	State	2018
1	Nevada	34
2	California	33
3	Illinois	31
4	Arizona	29
5	Massachusetts	27
6	Hawaii / Ohio	25
⋮	⋮	⋮
49	Florida	11
50	Michigan	10
51	Indiana	6
--	Average	19

* The BEA estimate of the wages and salaries of state and local government employees is for all employees, whether or not they participate in DB pension plans.

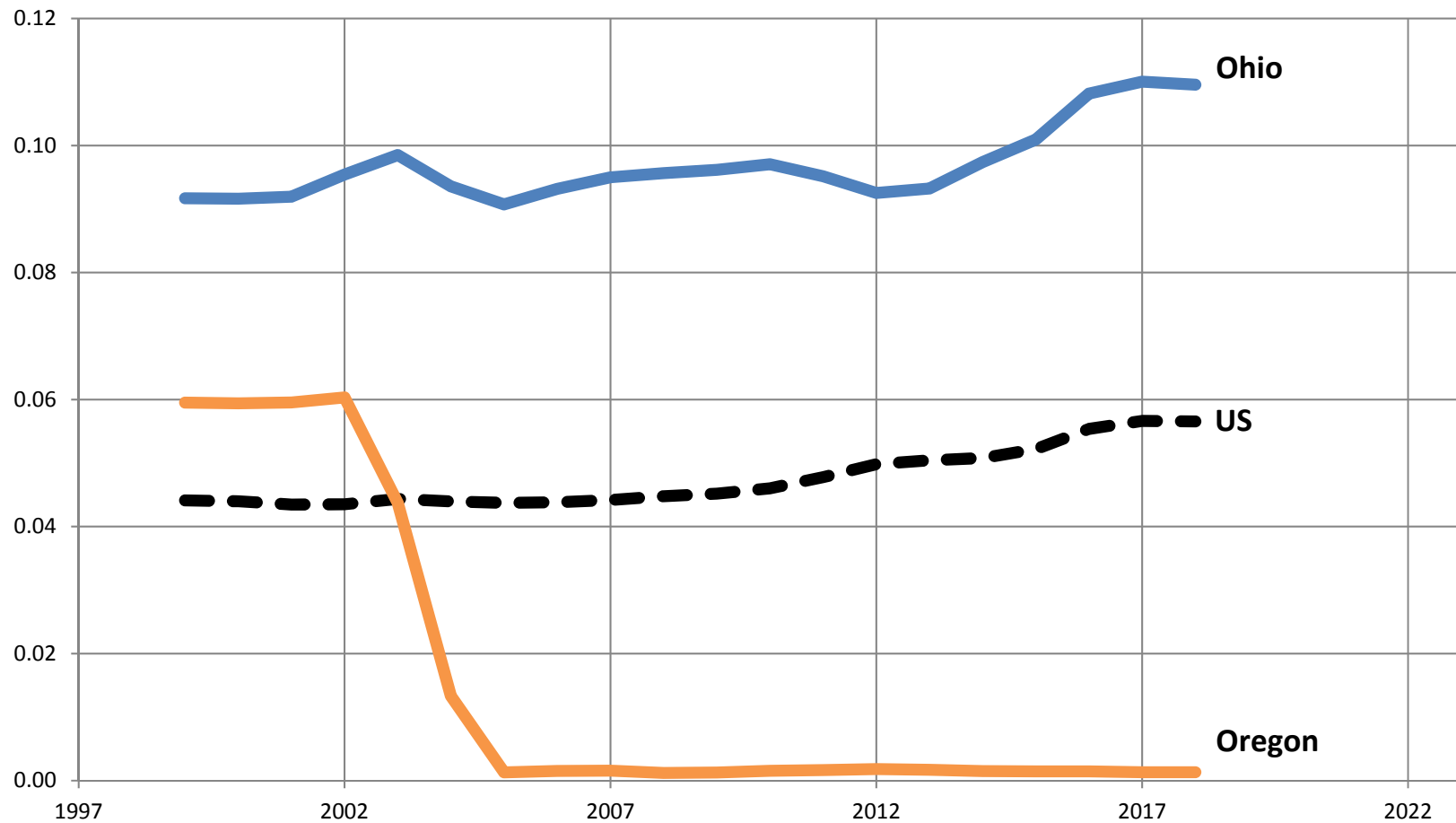
Claims to benefits accrued

Relative to wages and salaries, state & local government



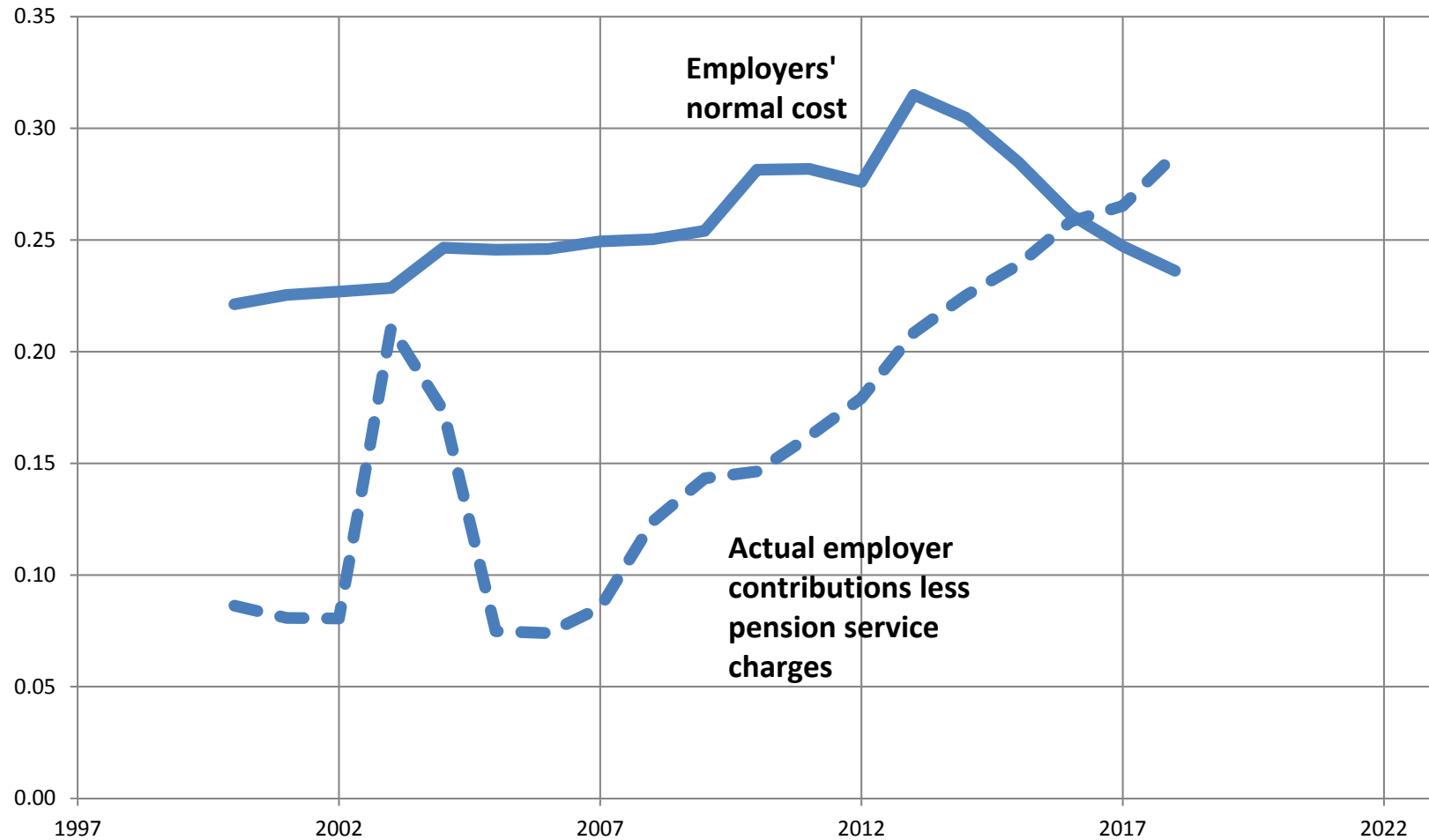
Actual household contributions

Relative to wages and salaries, state & local government



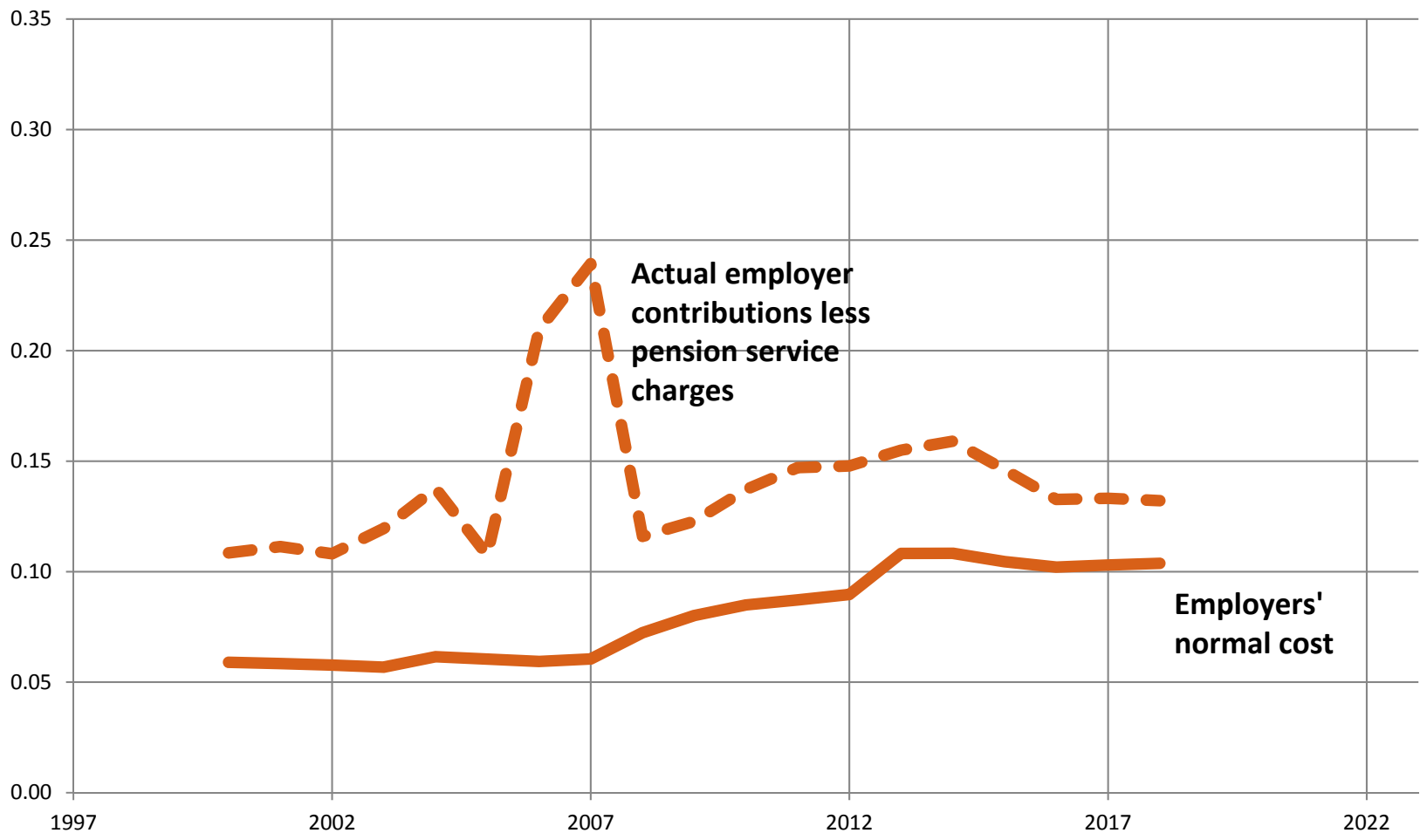
Illinois

Relative to wages and salaries, state & local government



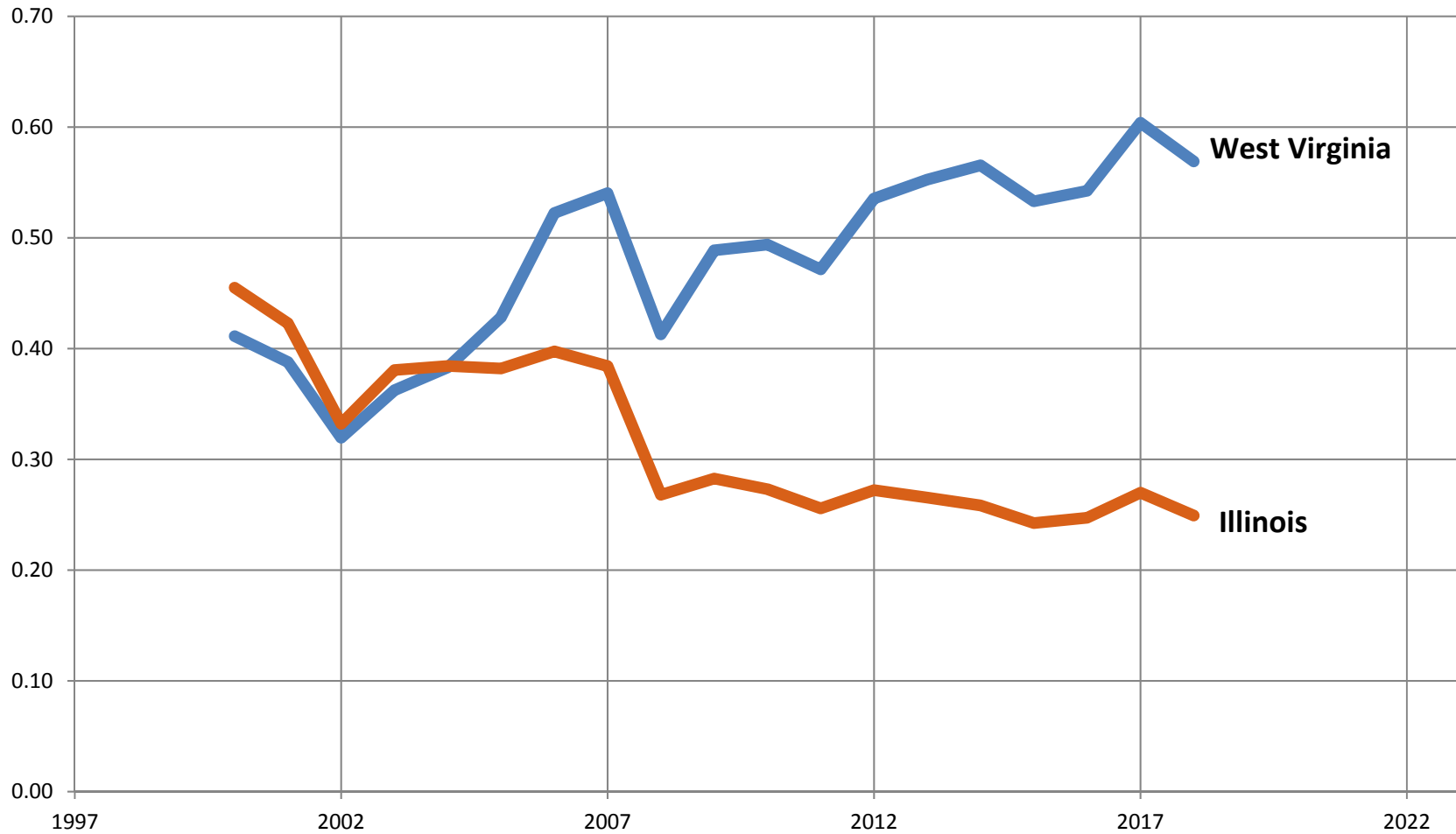
West Virginia

Relative to wages and salaries, state & local government



Funded ratio

Pension fund assets relative to benefit entitlements



Next steps



- Benchmark estimates of benefit entitlements to 2017 Census of Governments
 - Liabilities for 2,500 pension plans
- Survey of Current Business article describing data sources, statistical methods, and assumptions
- Solicit comment from interested data users