Pension System Comparison

Feb. 15, 2024

Agenda

- Overview
- Benefit Structures
- Normal Costs and Contributions
- COLA and Inflation Protection
- Purchasing Power
- Estimated Returns
- Plan Data Graphs

Overview

- **We will be taking an in-depth look at how STRS Ohio compares to and contrasts with a handful of other peer pension systems**
  - Focused on teacher systems that (mostly) opted out of Social Security coverage
- **Any comparison of plans needs to be holistic — looking at a single element in isolation can be misleading, as there are often tradeoffs between enhancing one aspect and another**
- **Key elements include:**
  - Benefits (multiplier, eligibility, COLA provisions, vesting, FAS, etc.)
  - Contribution rates (employee and total) and contribution policies
  - Level of risk (plan maturity, funding levels, policies, history, investment allocations)

Observations

- Most plans have tiered benefit structures
- The most stable and well-funded plans have variable contribution rates
- While there are different approaches to COLAs, no plans provide full inflation protection
- Over long periods of time differences in investment returns are small relative to the liabilities
- Demographics and history matter (plans that were well funded in 2000 tend to be well funded now with fewer cutbacks along the way)

Tiered Benefit Structures

- With very few exceptions, plans had to make structural changes at some point during or after the two setbacks of the dot-com bubble bursting and the Global Financial Crisis.
- Most chose to address their structural challenges by introducing new tiers, generally based on the date of hire. Newer participants would get different benefits and perhaps have different contributions than prior participants.
- The Retirement Board, working with the legislature and stakeholder groups, deliberately selected a different approach.

Benefit Structures

Plan	Are Benefits Tiered?
STRS Ohio	**No**
Missouri Teachers	**No**
Nevada PERS	Yes
Texas Teachers	Yes
New York State Teachers	Yes
Georgia Teachers	**No**
Louisiana Teachers	Yes
CalSTRS	Yes
Kentucky Teachers	Yes
Illinois Teachers	Yes

Tiering Example — Eligibility

- How many years until a participant qualifies for unreduced retirement?

	Current Tier (still open) Age/Service			**Earliest Tier** (now closed) Age/Service		
Plan	55/30	50/20	40/5	55/30	50/20	40/5
Ohio	**4 or 5**	**15**	**25**	**0**	**5**	**20**
Missouri	-2	5	18	NA		
Nevada	0	10	22	0	10	20
Texas	7	12	22	-2	5	18
New York	8	13	23	0	5	15
Georgia	0	10	20	NA		
Louisiana	7	12	22	0	5	25
California	7	12	22	5	10	20
Kentucky	2	10	20	-3	7	20
Illinois	12	17	27	5	10	20

STRS Ohio 2012 values

Normal Costs and Contributions

STRS OHIO

	Current Tier (still open)			Earliest Tier (now closed)		
Plan	Normal Cost	Employee Rate	Difference	Normal Cost	Employee Rate	Difference
Ohio	**10.93%**	**14.00%**	**-3.07%**	**15.98%**	**10.00%**	**5.98%**
Missouri	17.06%	14.50%	2.56%			
Nevada*	20.38%	17.50%	2.88%			
Texas*	12.09%	8.25%	3.84%			
New York	8.90%	5.00%***	3.90%	10.90%	3.00%**	7.90%
Georgia	8.65%	6.00%	2.65%			
Louisiana*	11.42%	8.00%	3.42%			
California	18.39%	9.00%	9.39%	20.78%	8.00%	12.78%
Kentucky	11.38%	9.00%	2.38%	16.15%	9.11%	7.04%
Illinois	7.97%	9.00%	-1.03%	24.13%	9.00%	15.13%

STRS Ohio 2012 values

NYSTRS Tier 4

*Normal cost by tier is not available, this is the aggregate cost; early tiers would have higher normal costs, later tiers would have lower normal costs
**Employee contributions only required in first 10 years after hire
***Contribution rate varies by salary, this is a rough average

Employee Contribution Rates

Plan	Employee Contribution Rate Average FY00-09	Average FY10-23	FY23/24
Nevada	10.2%	13.8%	17.5%
Missouri	11.7%	14.5%	14.5%
Ohio	**9.7%**	**12.4%**	**14.0%**
California	7.1%	9.2%	10.3%
New York	9.2%	9.2%	9.2%
Illinois	10.2%	9.5%	9.0%
Kentucky	9.2%	8.8%	8.9%
Texas	6.4%	7.2%	8.3%
Louisiana	8.0%	8.0%	8.0%
Georgia	5.0%	5.9%	6.0%

Contributions

- **STRS Ohio and Texas Teachers have fixed contribution rates**
- **All other plans reviewed here have variable contribution rates**
- **In my opinion, a variable contribution rate is a necessary, but not sufficient, condition for long-term stability and adequate funding**
  - A reasonable contribution rate must:
    1. Be responsive to downturns,
    2. Be based on a reasonable funding policy, and
    3. Have the commitment of the sponsoring political entity

Fixed rate plans fail #1, unless they are willing and able to make drastic changes to benefits

COLA Provisions

- **Four general approaches:**
  - Ad hoc COLA: STRS Ohio, Texas Teachers
  - Formulaic COLA: Missouri, Nevada, New York, Georgia, Louisiana, Illinois Tier 2
  - Static COLA (an unchanging percentage): Kentucky, Illinois Tier 1
  - Purchasing power maintenance: California
- **Any of these approaches can have integrated caps and floors on rates, caps on benefit base, delayed effective dates, CPI multipliers, etc.**
- **You cannot tell anything about the "richness" of a COLA without looking at the combined impact of all the features**

Inflation Protection

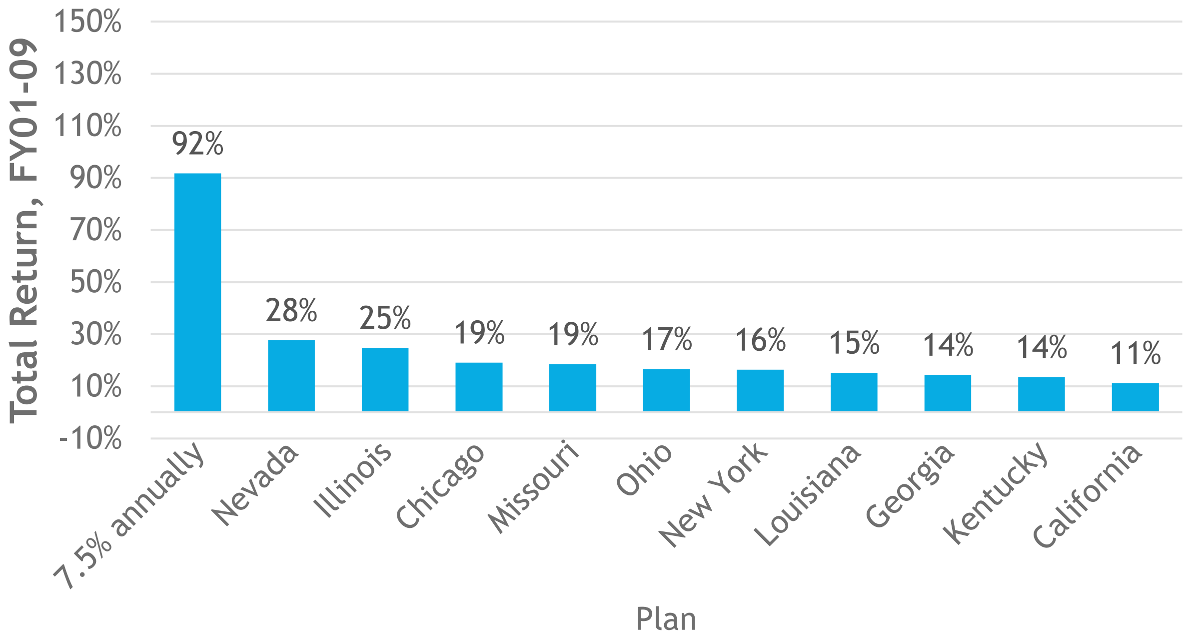
- **No plan (other than Social Security) explicitly provides full inflation protection**
- **The Illinois Teachers Plan Tier 1 benefits have provided this in some circumstances, but that was due to circumstances not design**
- **While Social Security offers full inflation protection of its benefit, that benefit**
  - Is much smaller than a typical teacher pension (***maximum*** new benefit in 2024 at normal retirement age is about $46,000; the median STRS Ohio pension for new retirees with a similar career length was more than $65,000 in 2023)
  - Is not available for unreduced eligibility until age 67 (median retirement age for STRS Ohio in 2023 was 62)
  - Is based on indexed career earnings, not final average salary of three to five years
  - Has a highly progressive benefit structure that provides for much less income replacement for those earning over $15,000 per year
  - Has a very different purpose (social safety net) and therefore different design than pensions for career teachers (deferred compensation)

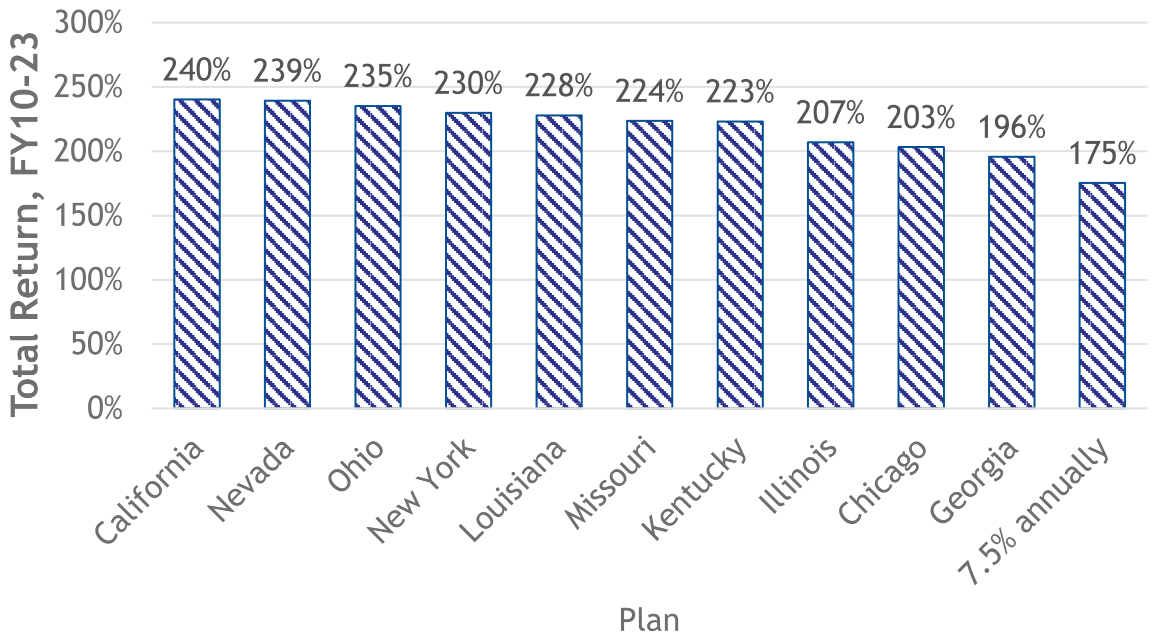
Preservation of Purchasing Power

- **Approximation of how much purchasing power would be preserved by the COLA structure of various systems, over a period from 1984-2023 and over a period from 2004-2023**
- **California has a specific (separately funded) mechanism to maintain purchasing power of at least 85%**
- **Plans with ad-hoc COLAs are not shown**
  - The actual historical COLAs paid by STRS Ohio over this period would have preserved 84% of purchasing power over 20 years, and 65% over 40 years

Plan	20 years	40 years
Social Security	100%	100%
California	>=85%	85%
Illinois, Tier 1	109%	103%
Illinois, Tier 2	77%	55%
Missouri	82%	65%
Nevada, Tier 1	88%	84%
Nevada, Tier 3	85%	77%
Georgia	91%	80%
New York	68%	42%
Simple 2%	84%	59%
Simple 3%	96%	72%
No protection	60%	33%

Estimated Returns



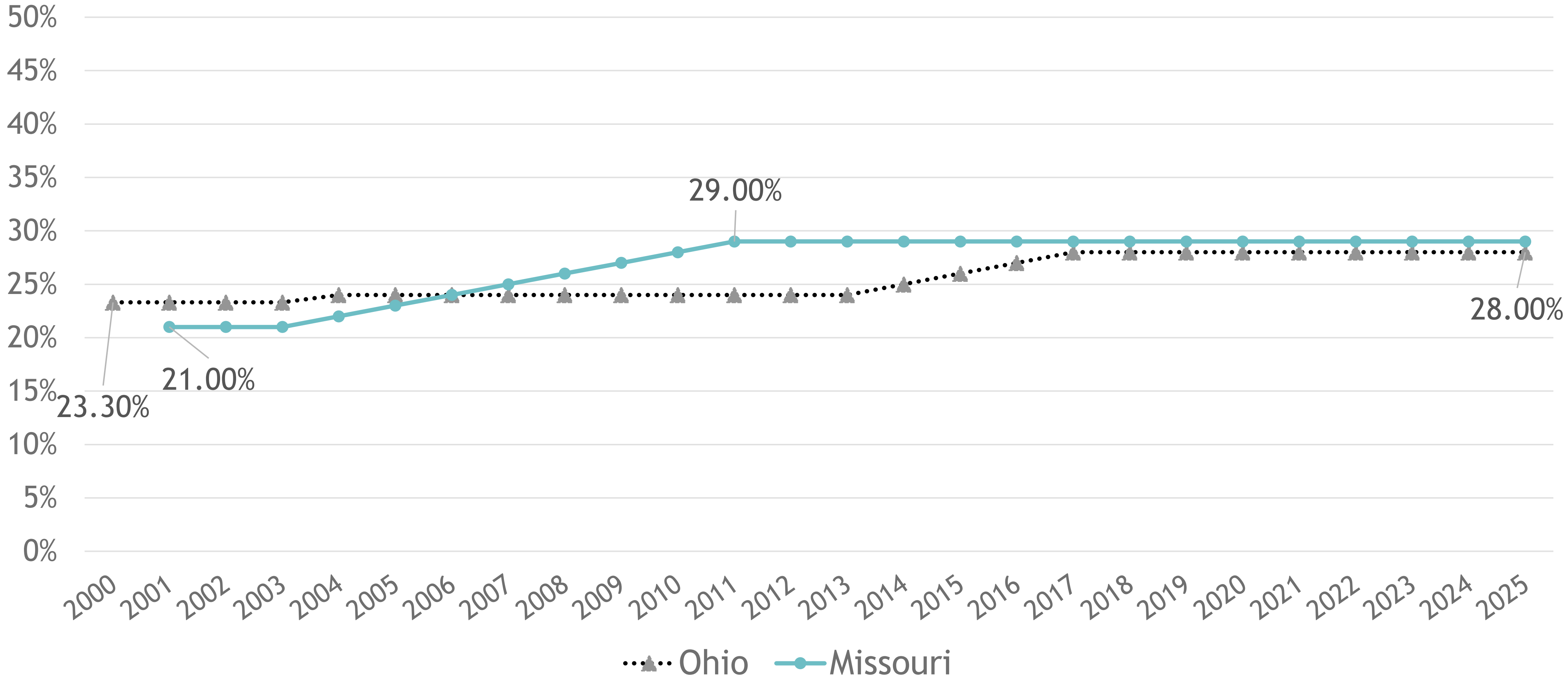


- Returns are the total return over the entire period (not annualized); for example, if the return is 200% that means $100 invested in that strategy would have grown to $300 by the end of the period
- Returns are my calculation, approximated from cash flows and market values. Over long periods these calculated returns closely match reported returns, but these are not intended to reproduce investment performance calculations
- ***The difference between total returns is small relative to the size of the liabilities; they are much too small to explain differences in benefits***

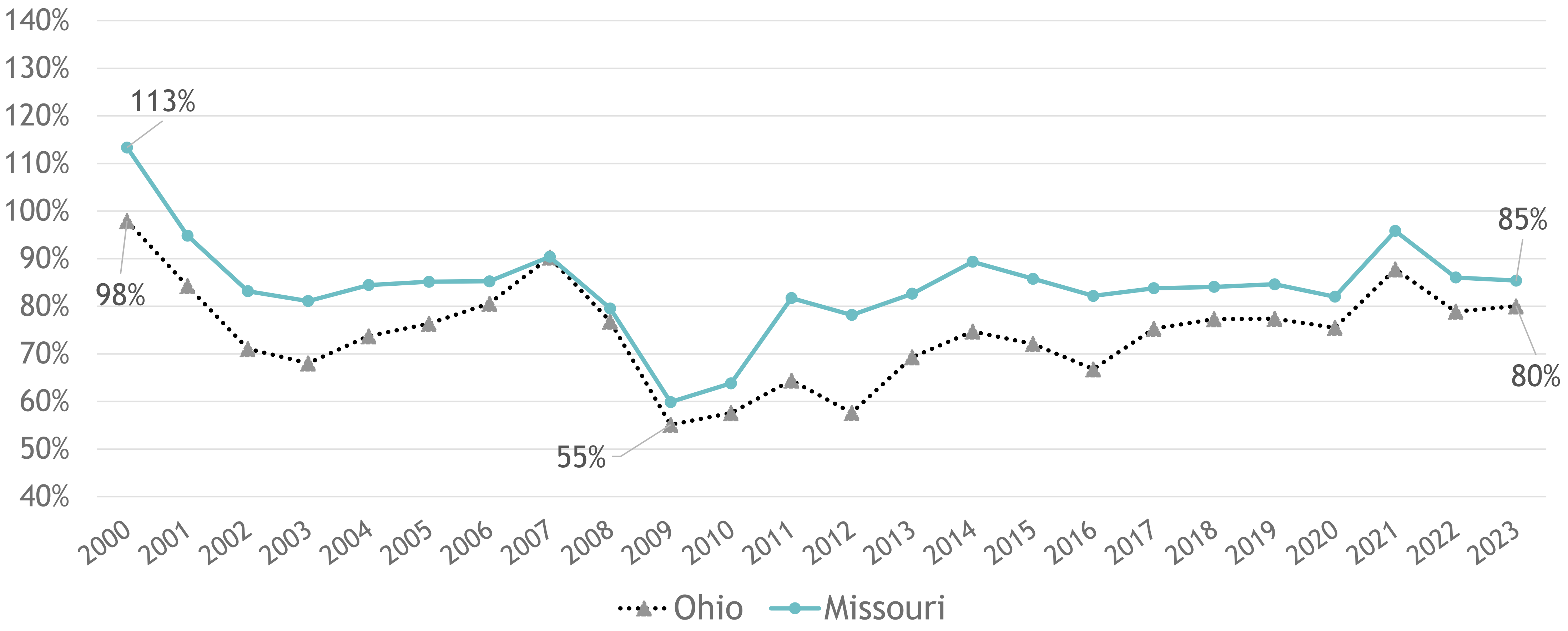
Plan Data Graphs

- **Graphs of plan data (contribution rate, market value funded ratio, and active/beneficiary ratio) for the following plans are included in the subsequent slides**
  - Missouri Public School and Education Employees Retirement System
  - Nevada Public Employees' Retirement System
  - Teacher Retirement System of Texas
  - New York State Teachers' Retirement System
  - Teachers Retirement System of Georgia
  - Teachers' Retirement System of Louisiana
  - California State Teachers' Retirement System
  - Teachers' Retirement System of the State of Kentucky
  - Teachers' Retirement System of the State of Illinois

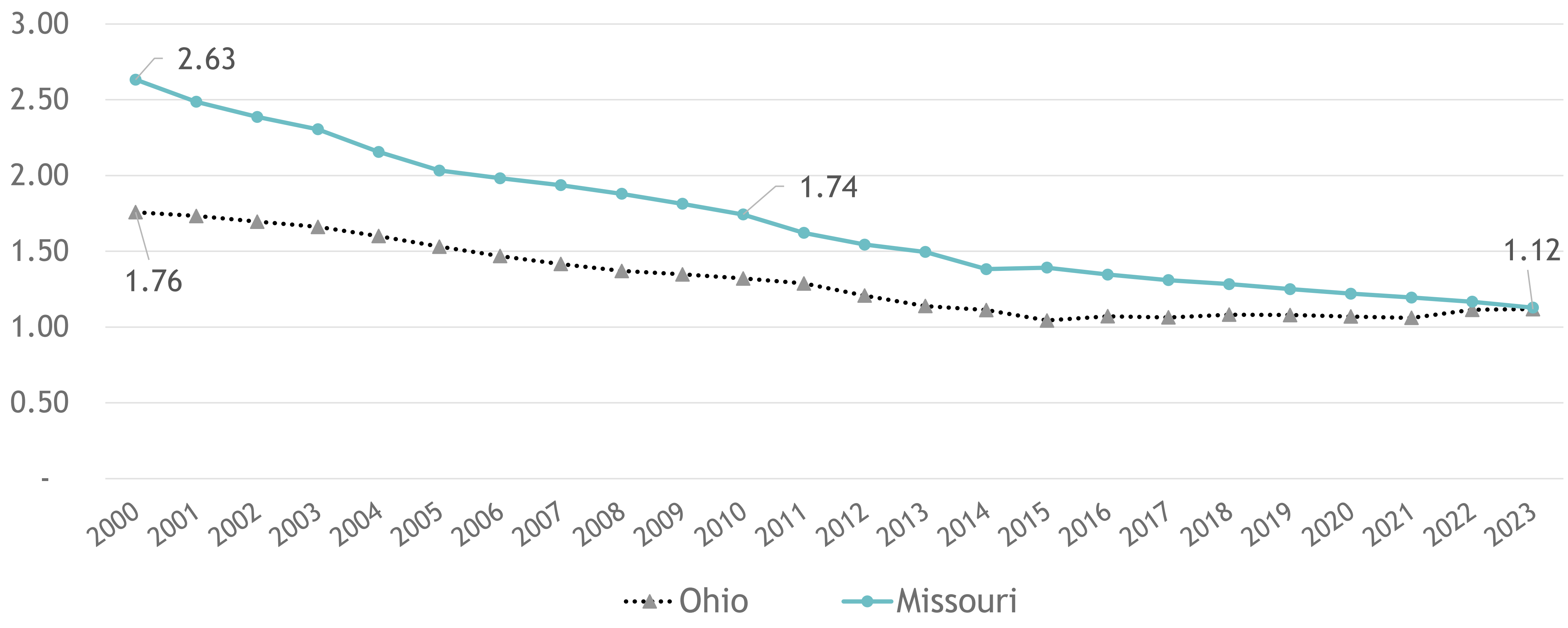
Missouri — Contribution Rates



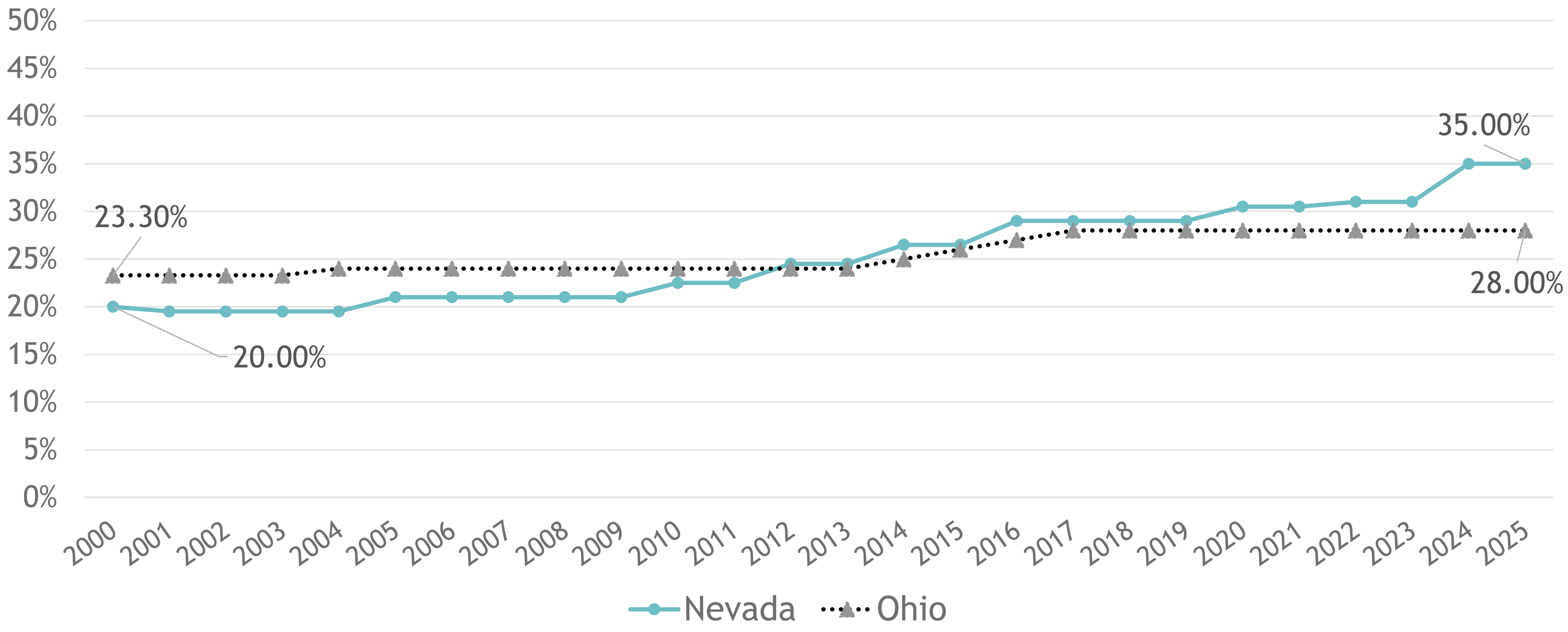
Missouri — Market Value Funded Ratio



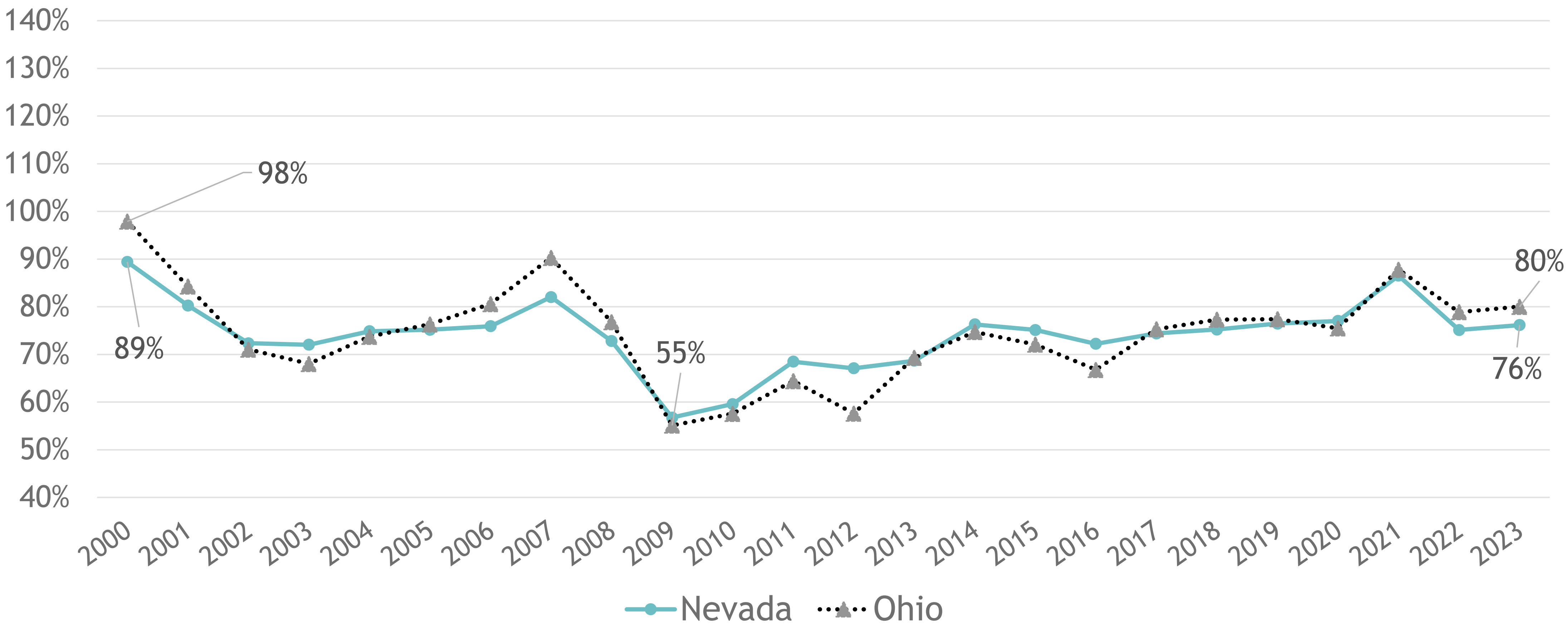
Missouri — Active to Beneficiary Ratio



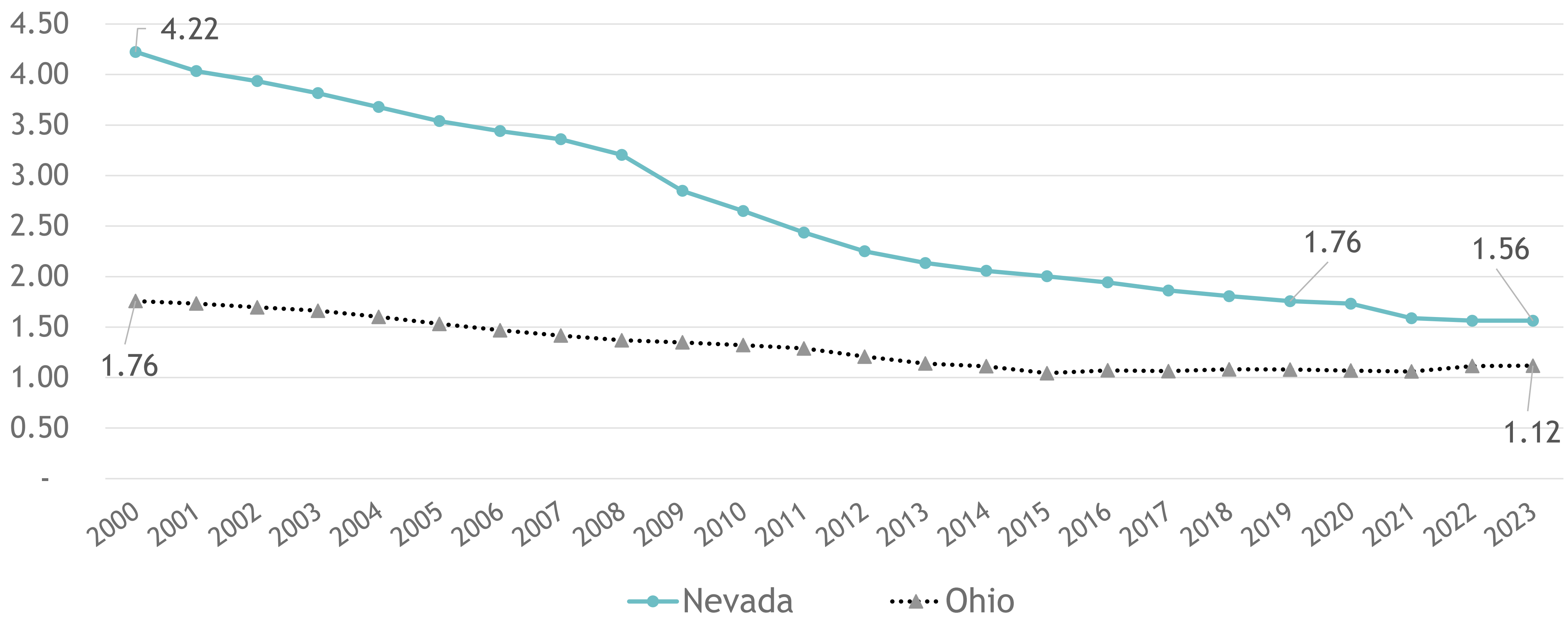
Nevada — Contribution Rates



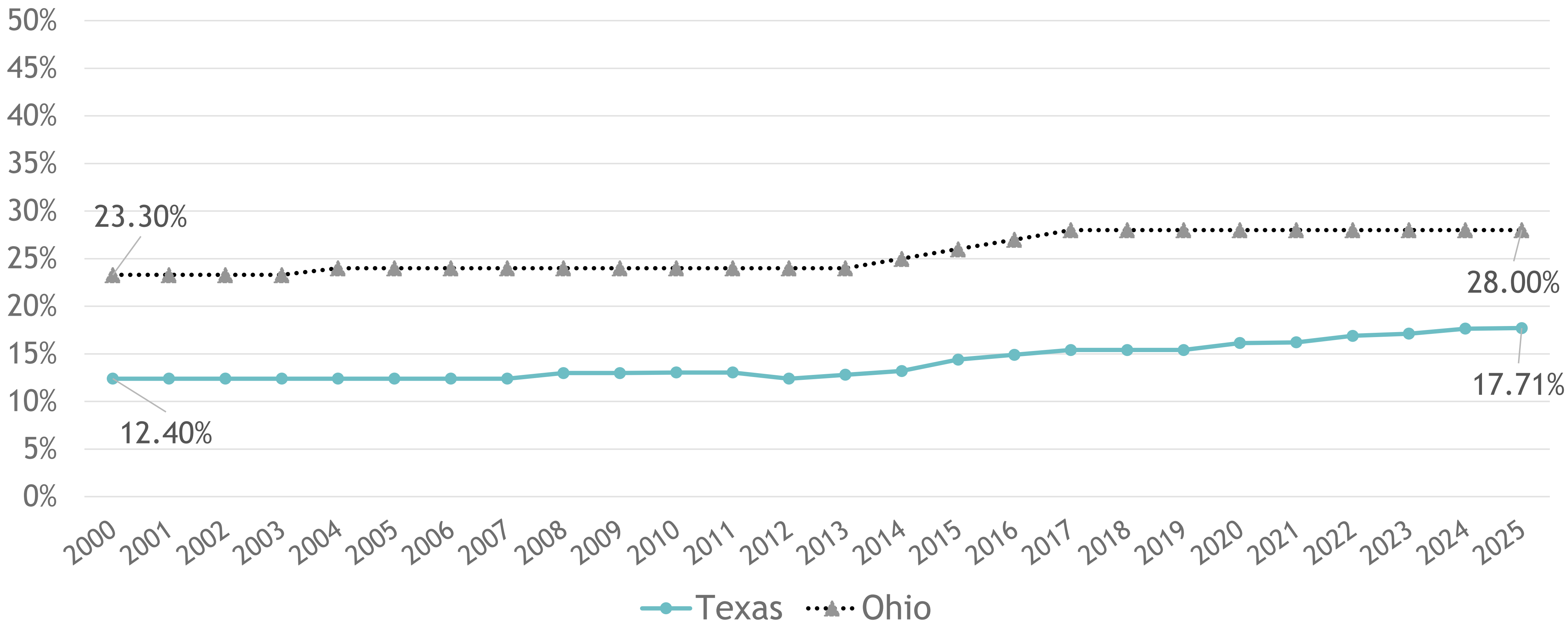
Nevada — Market Value Funded Ratio



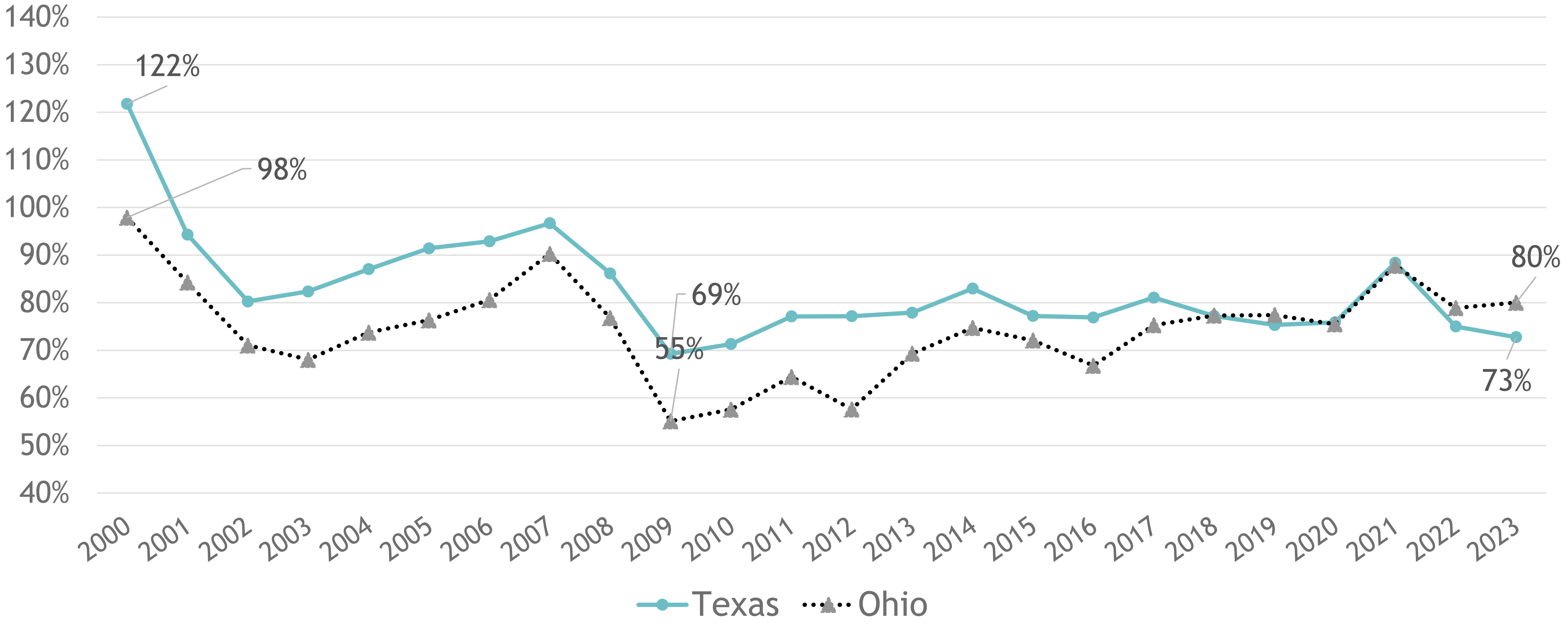
Nevada — Active to Beneficiary Ratio



Texas — Contribution Rates



Texas — Market Value Funded Ratio



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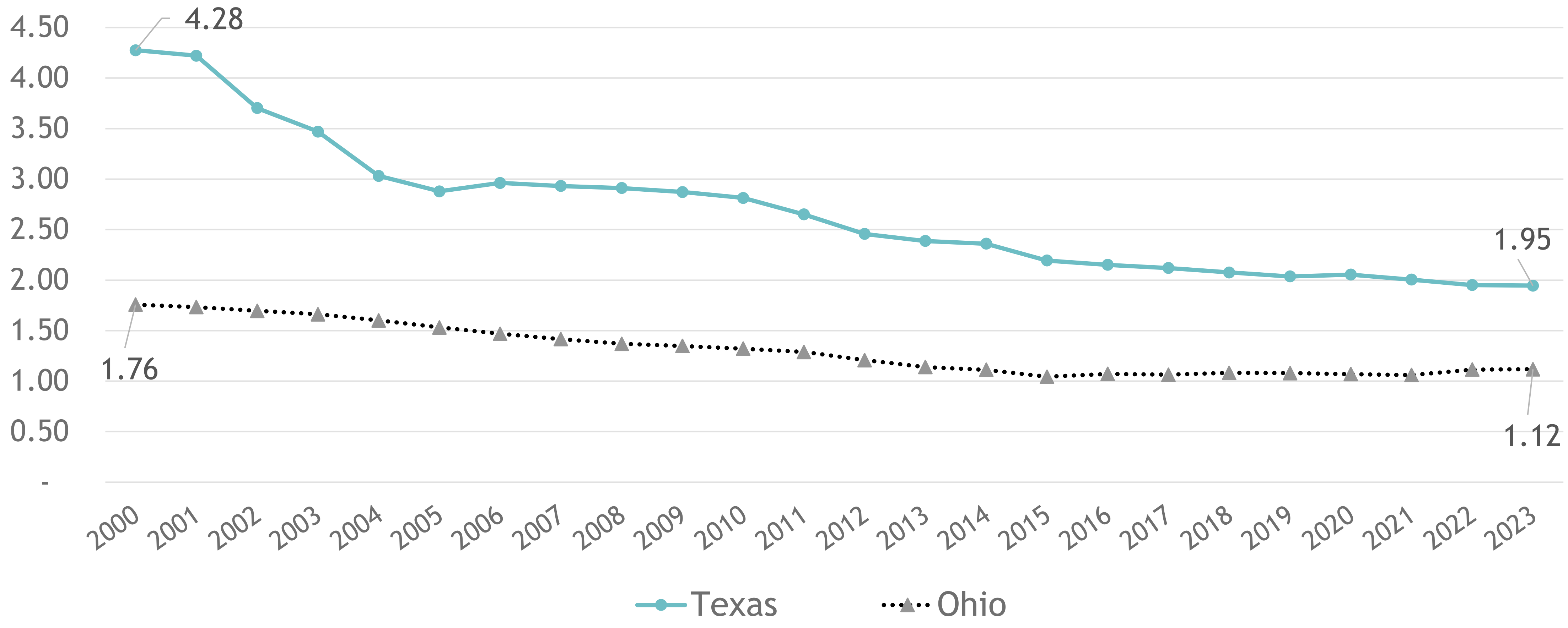
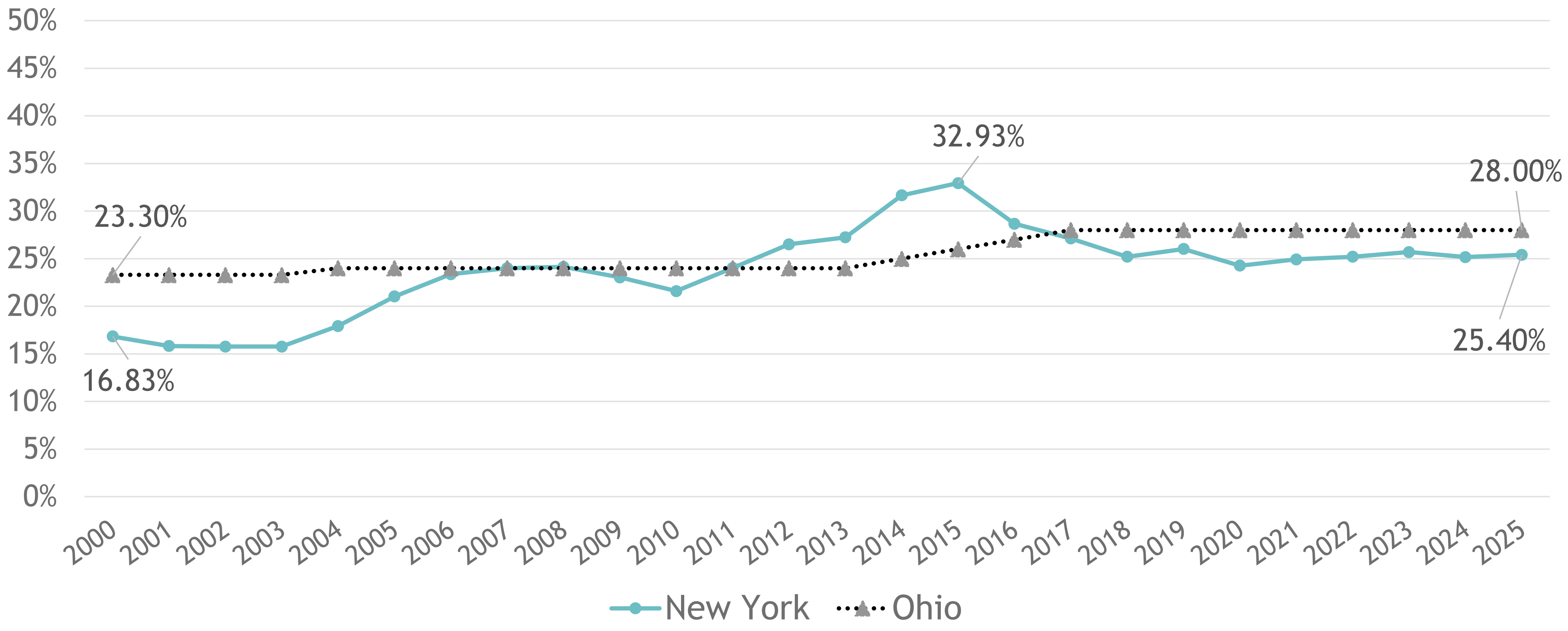


New York State — Contribution Rates



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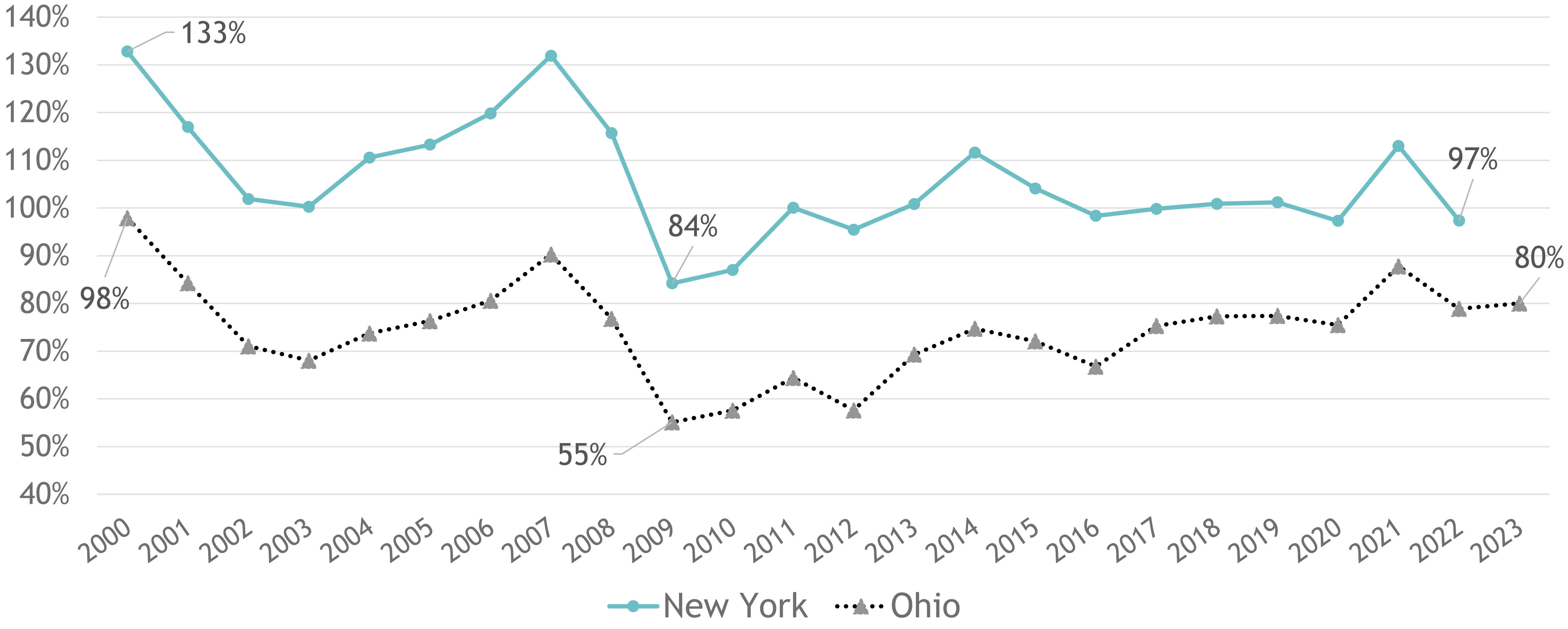

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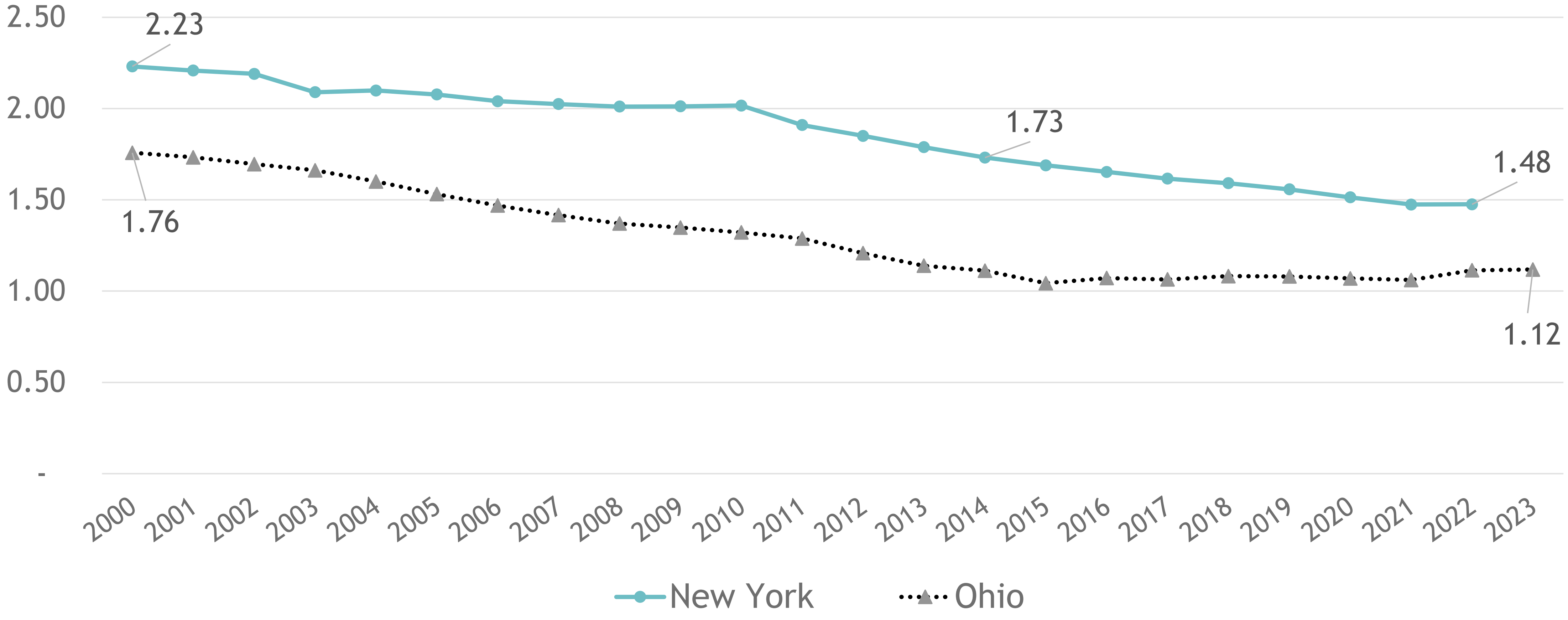
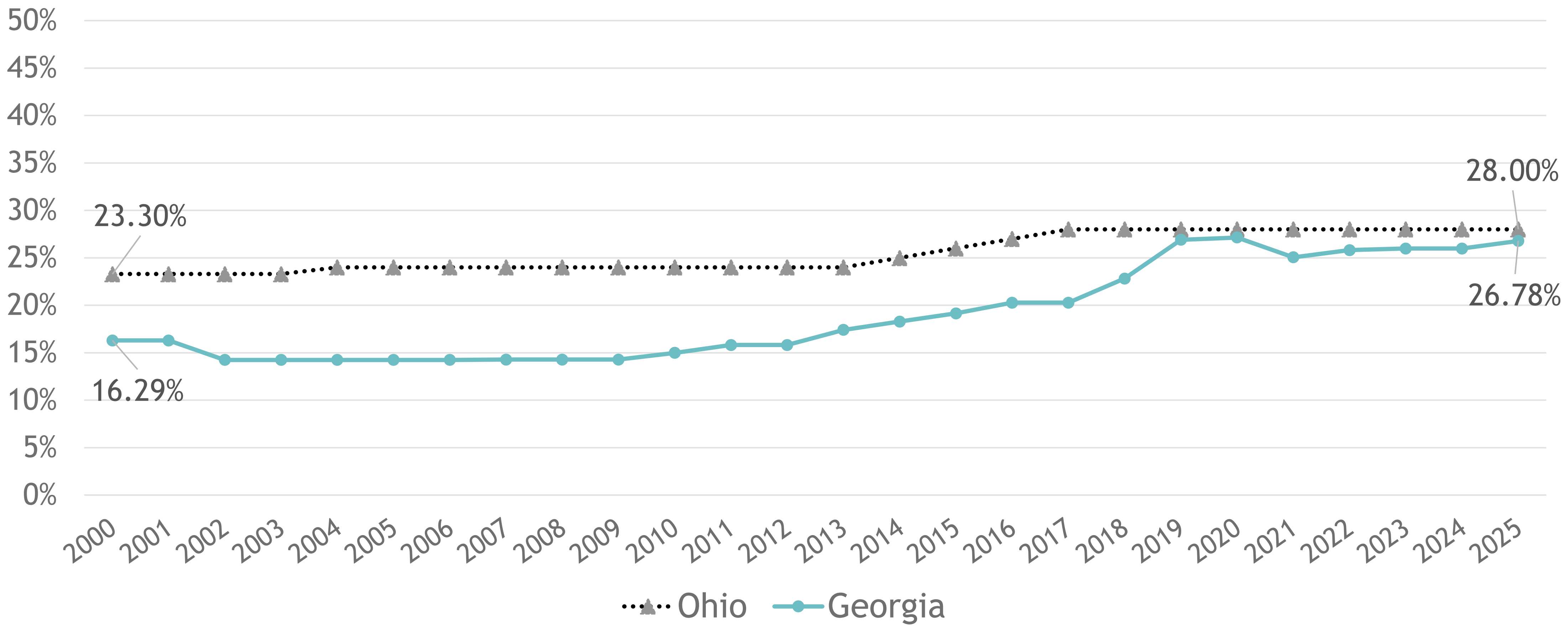


Georgia — Contribution Rates



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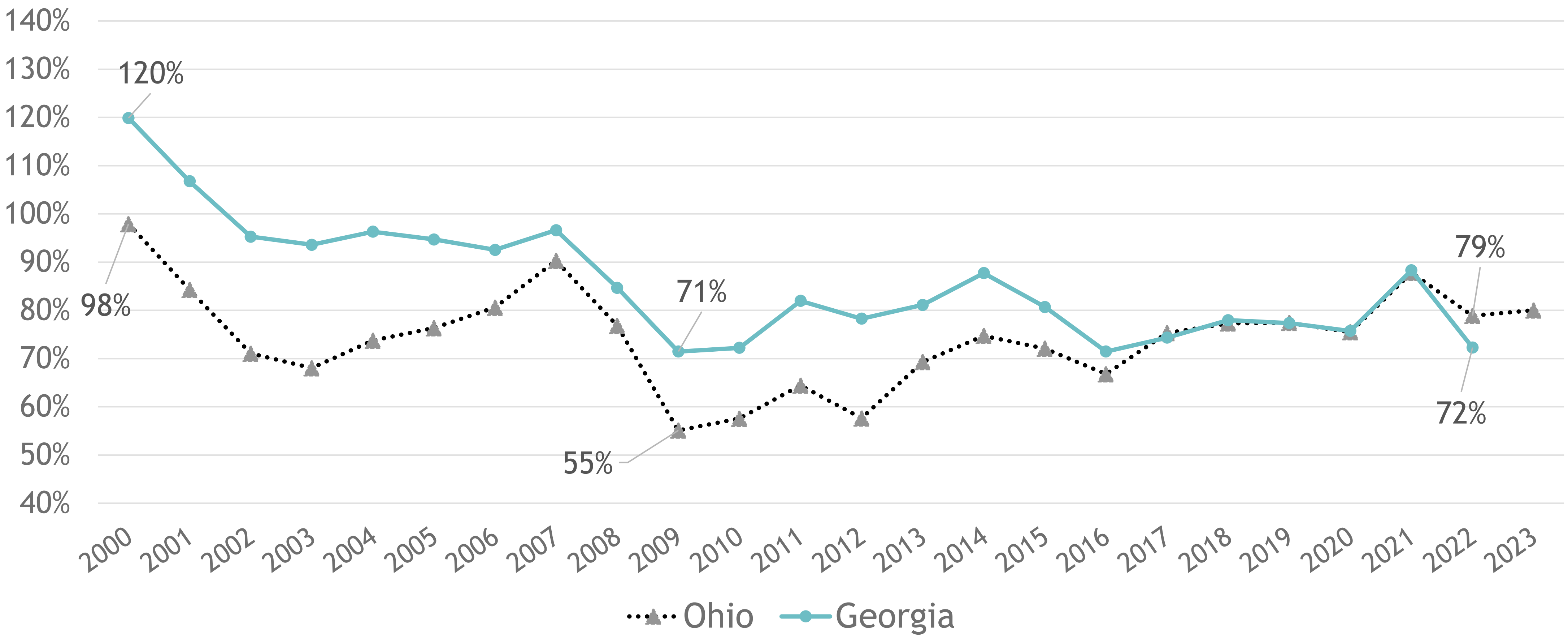

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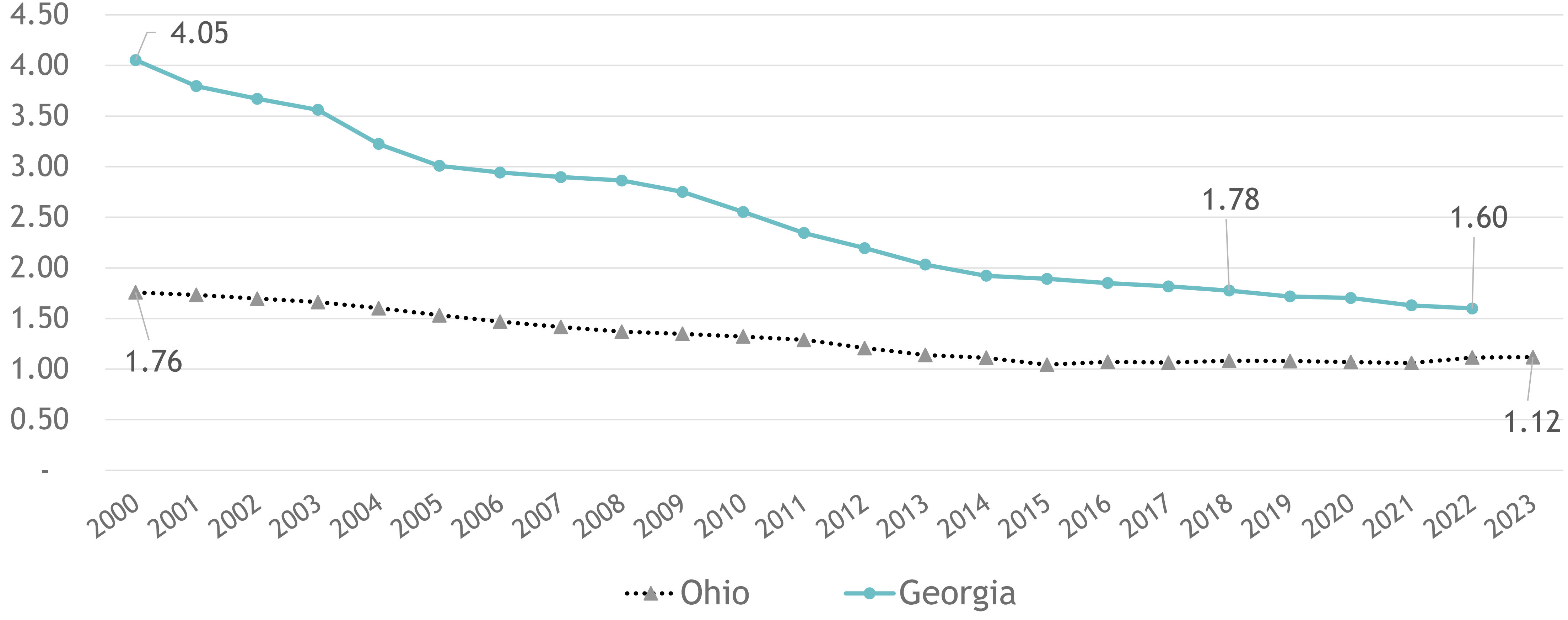
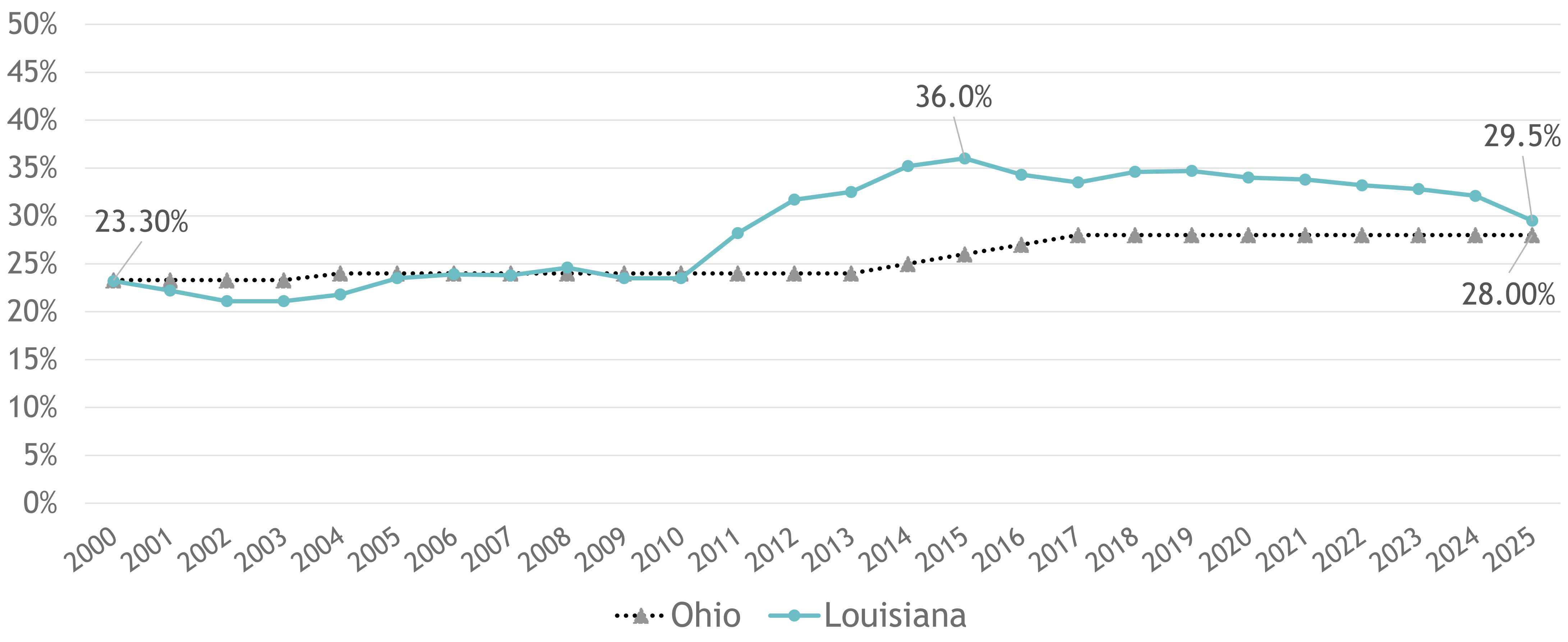


Louisiana — Contribution Rates



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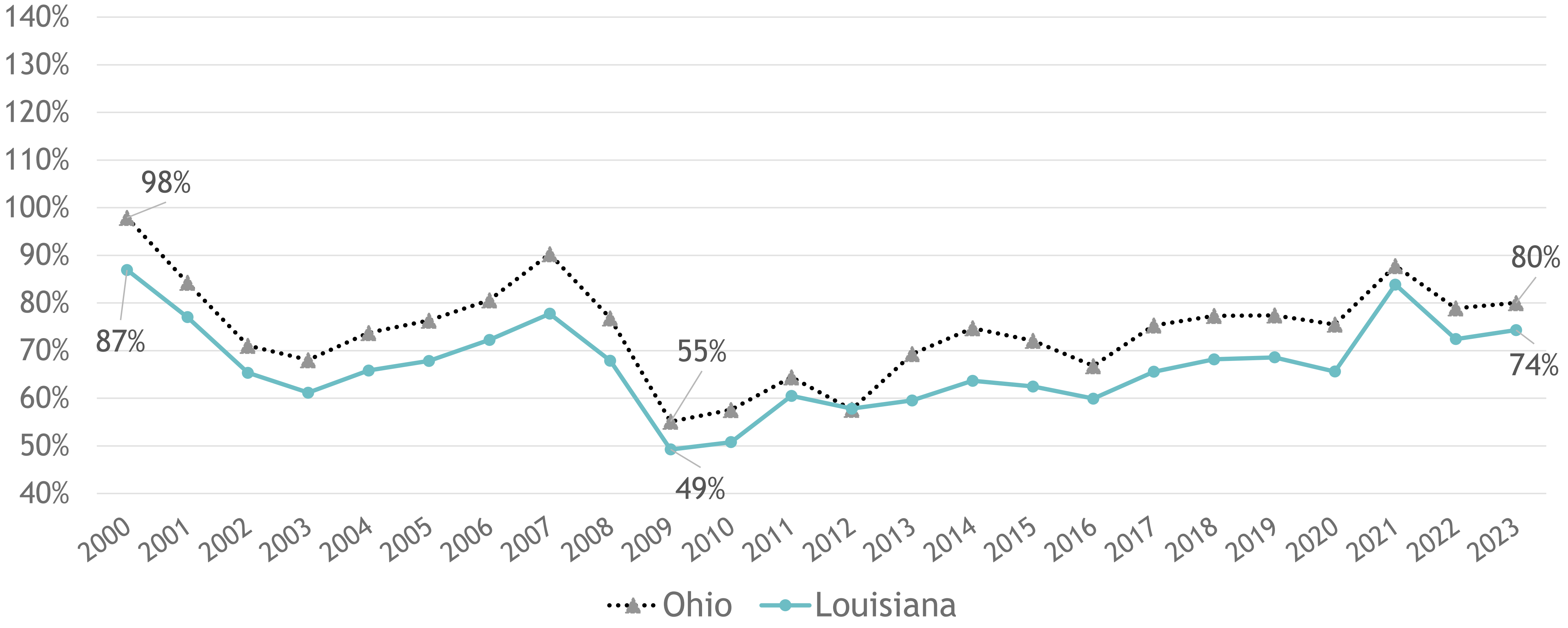

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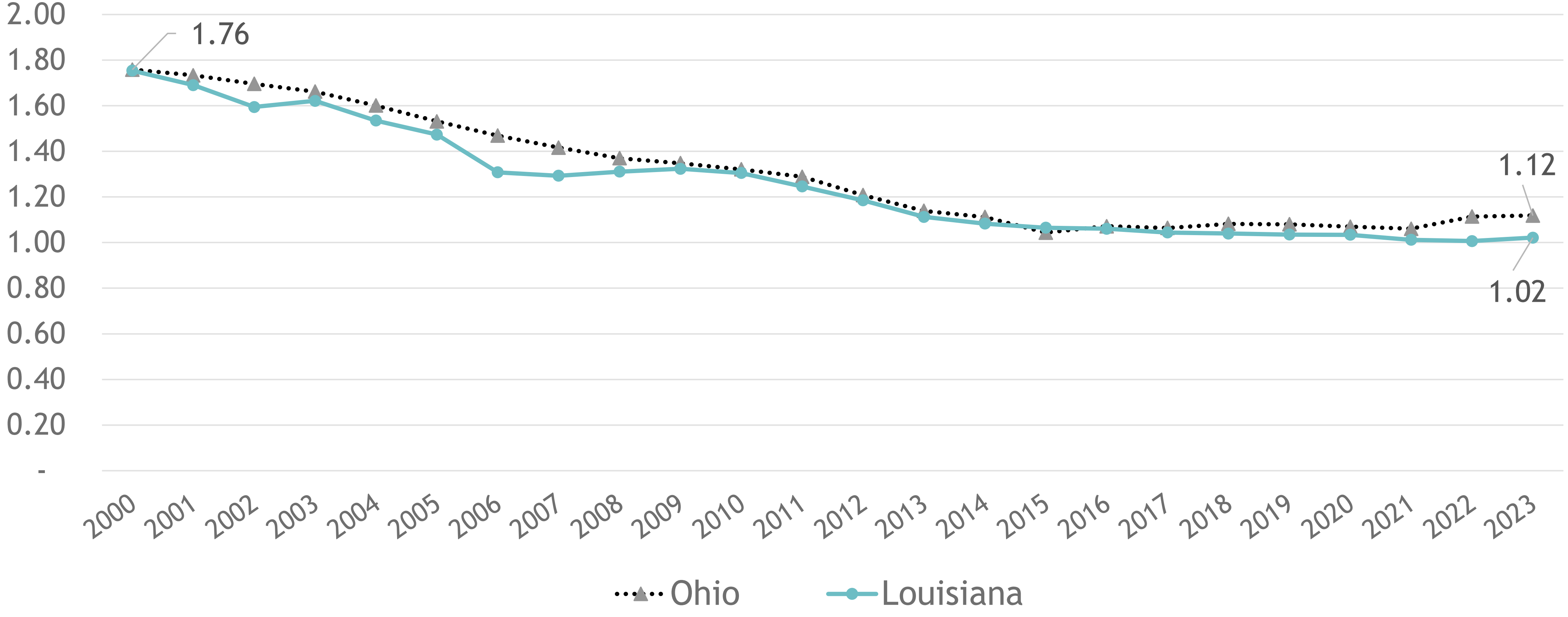
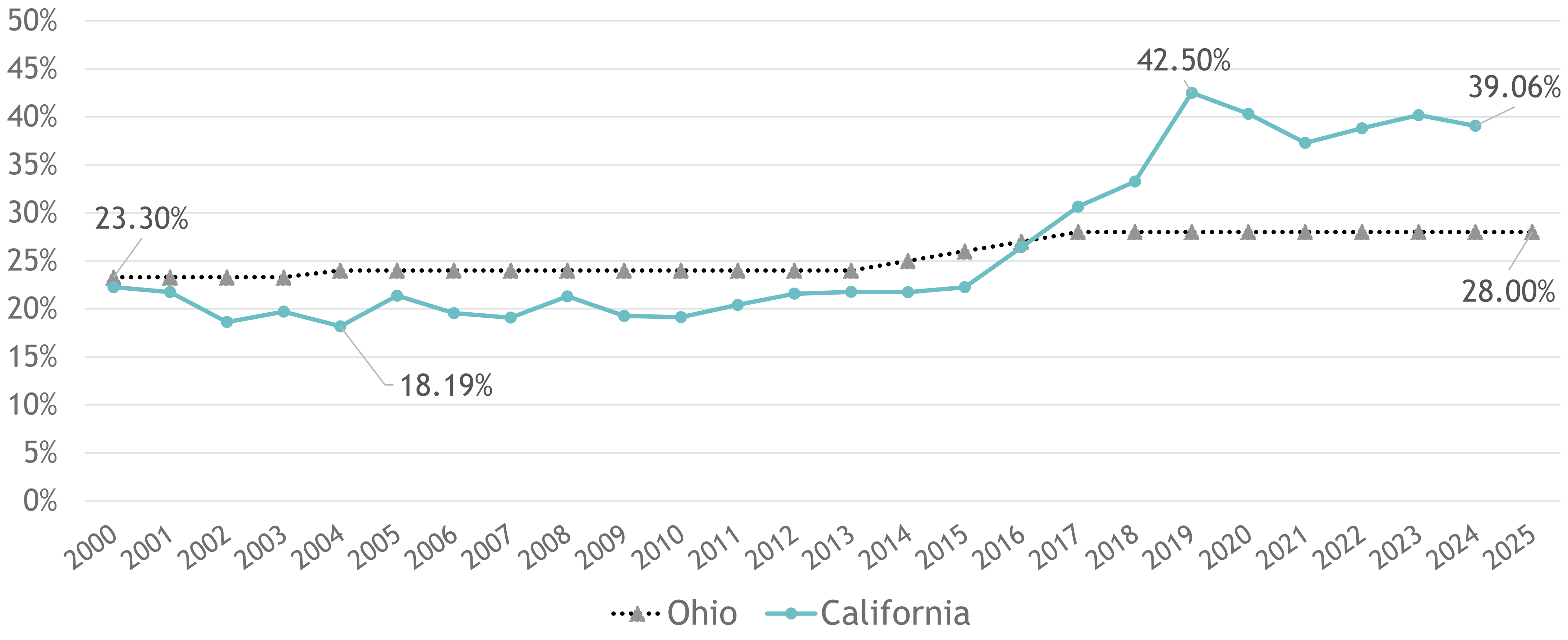


California — Contribution Rates



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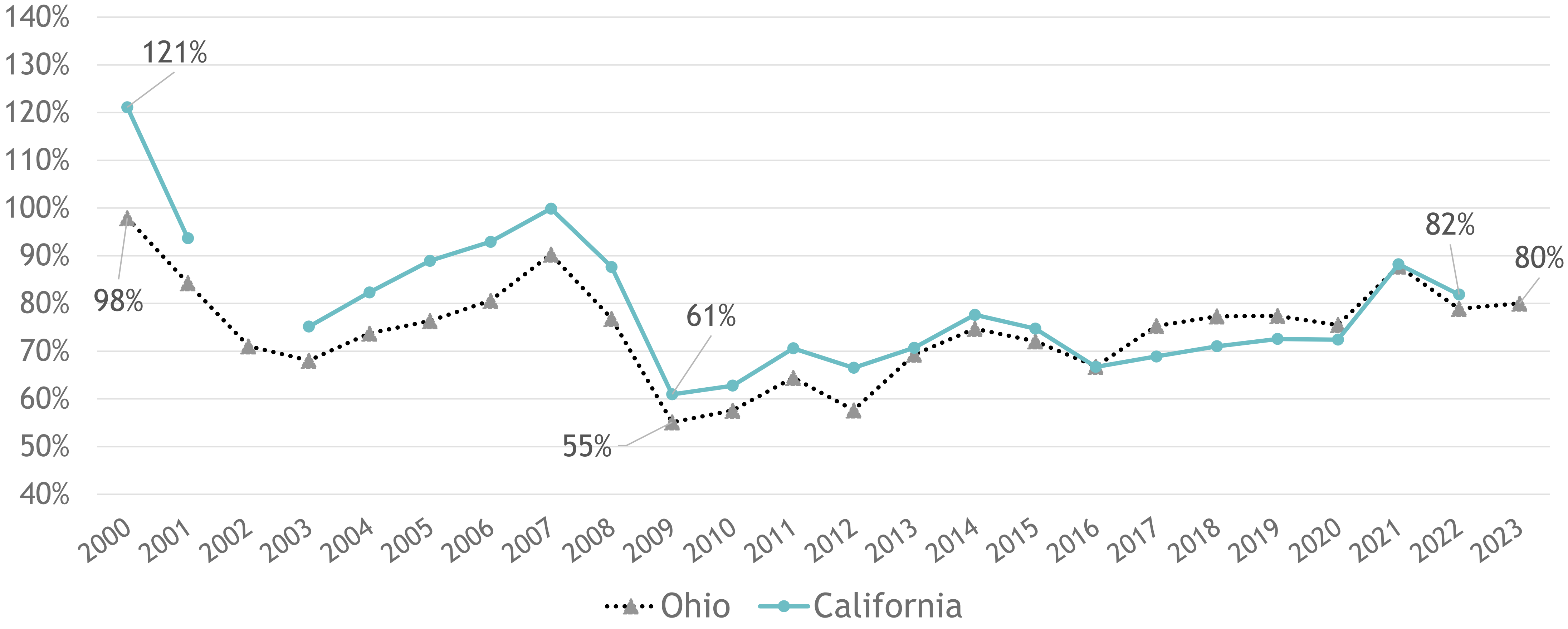
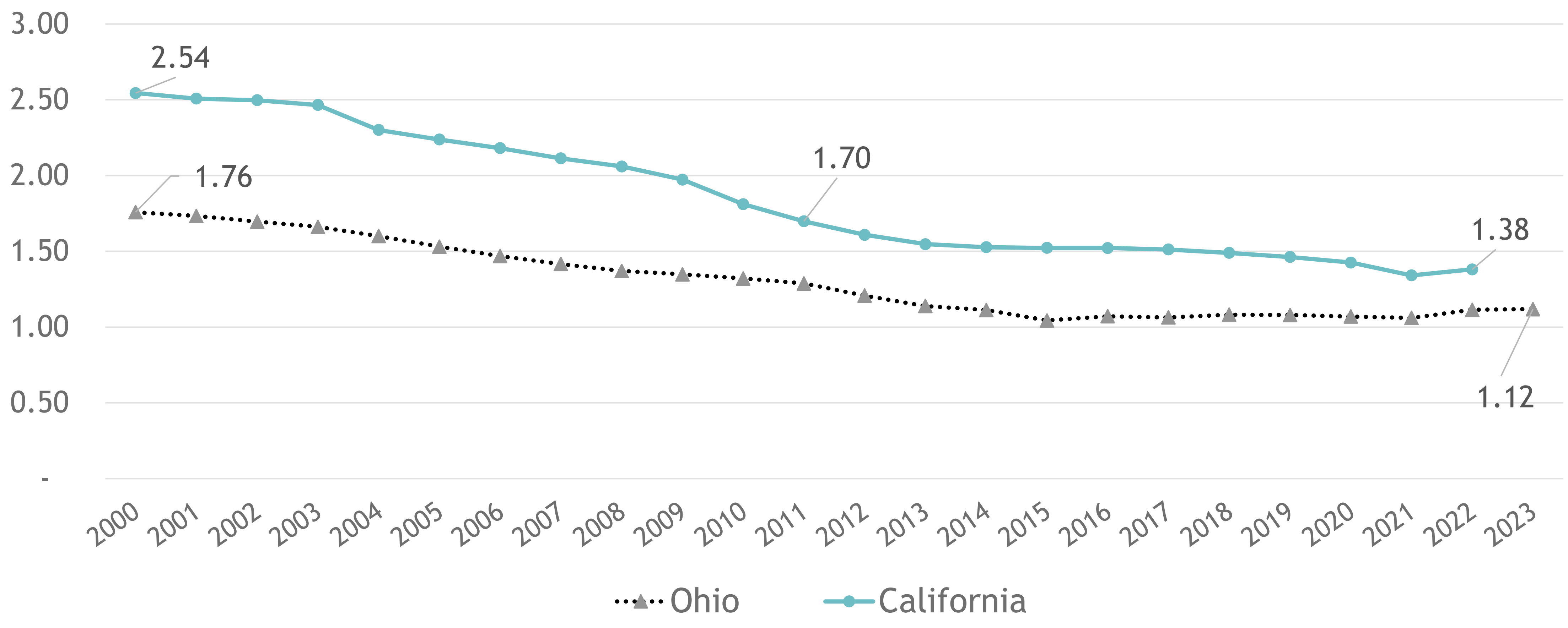
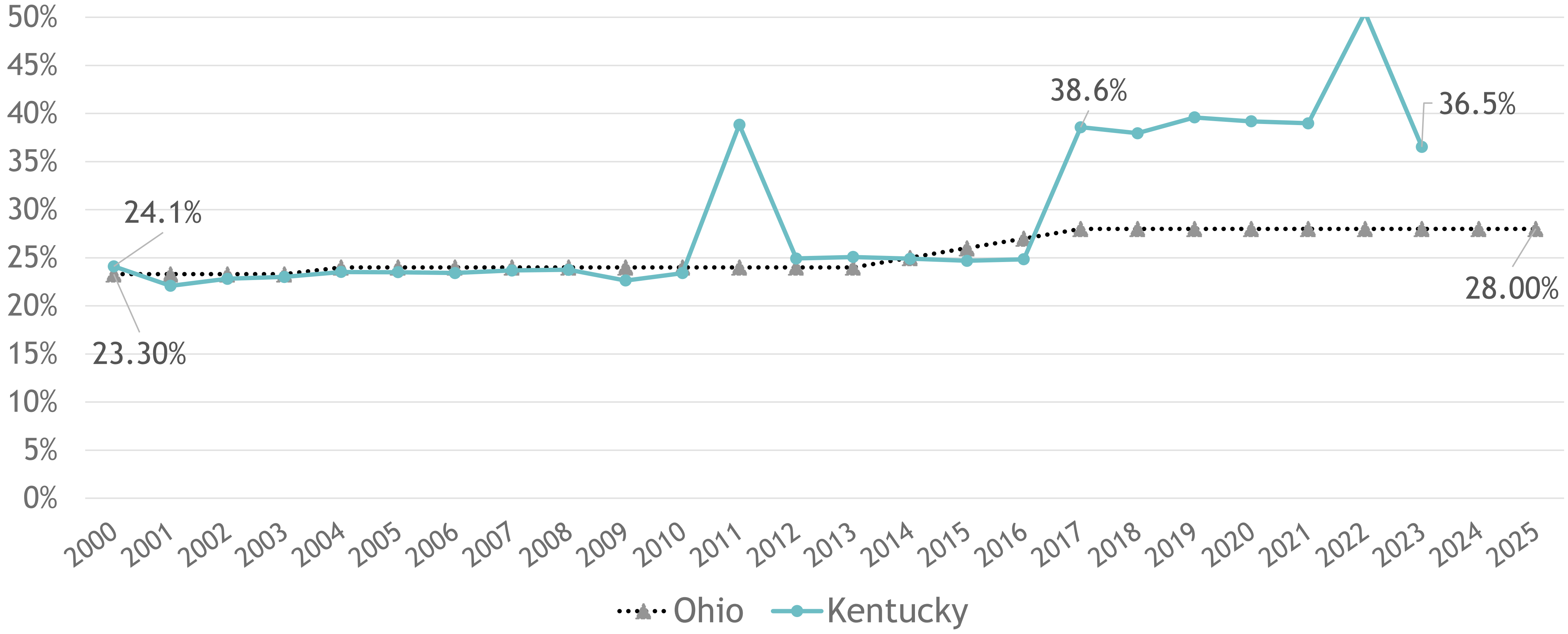


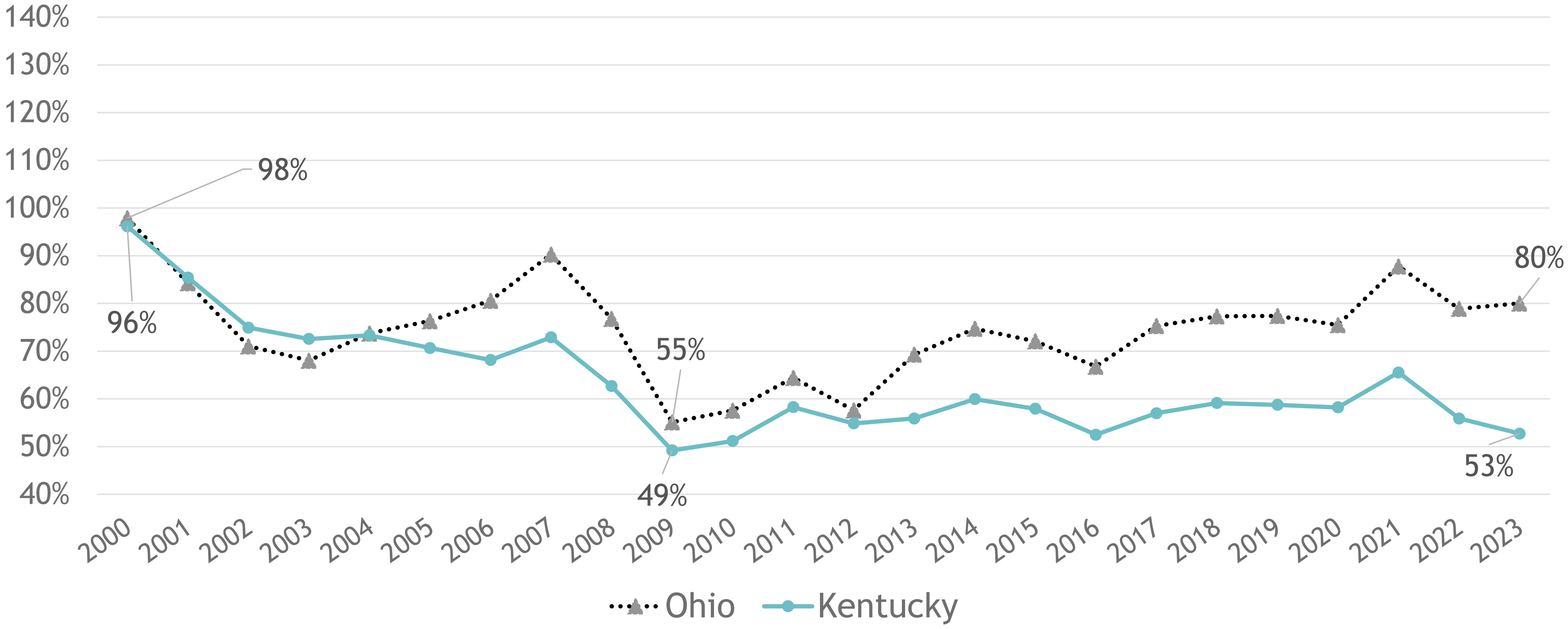
California — Active to Beneficiary Ratio



Kentucky — Contribution Rates



Kentucky — Market Value Funded Ratio



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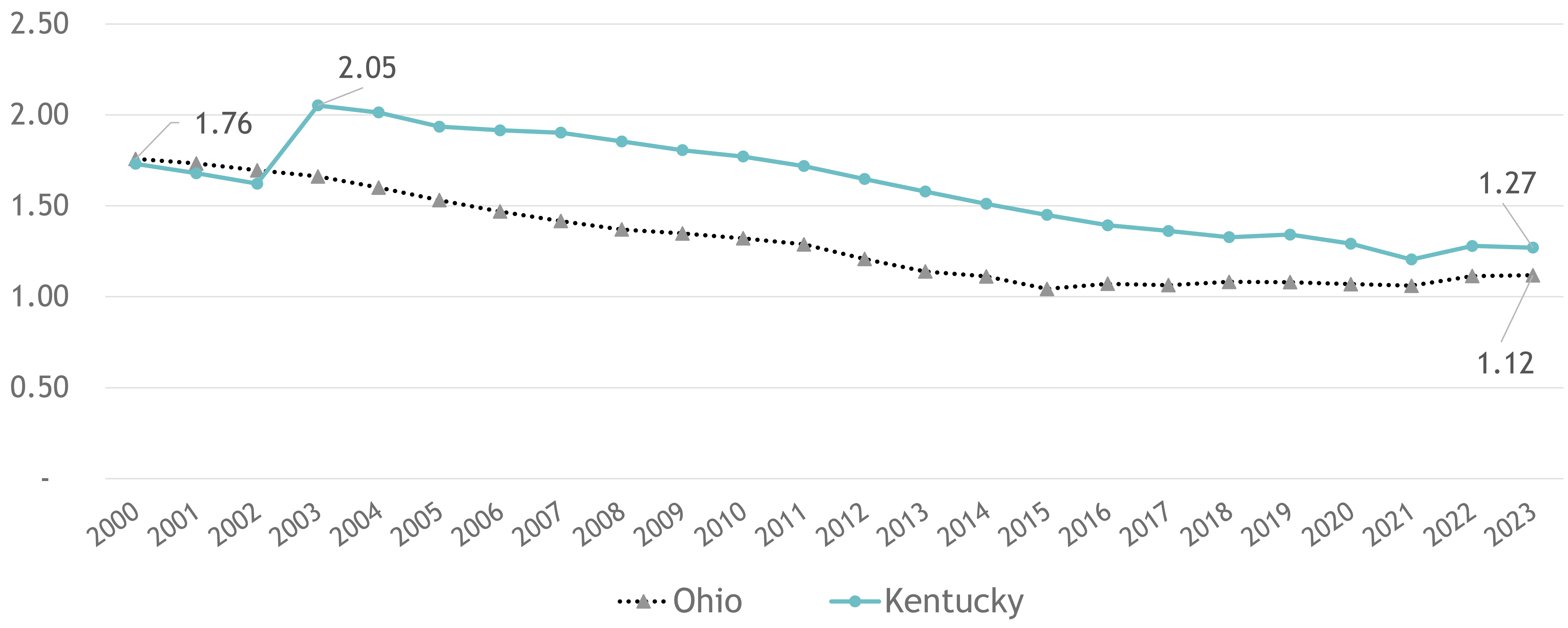
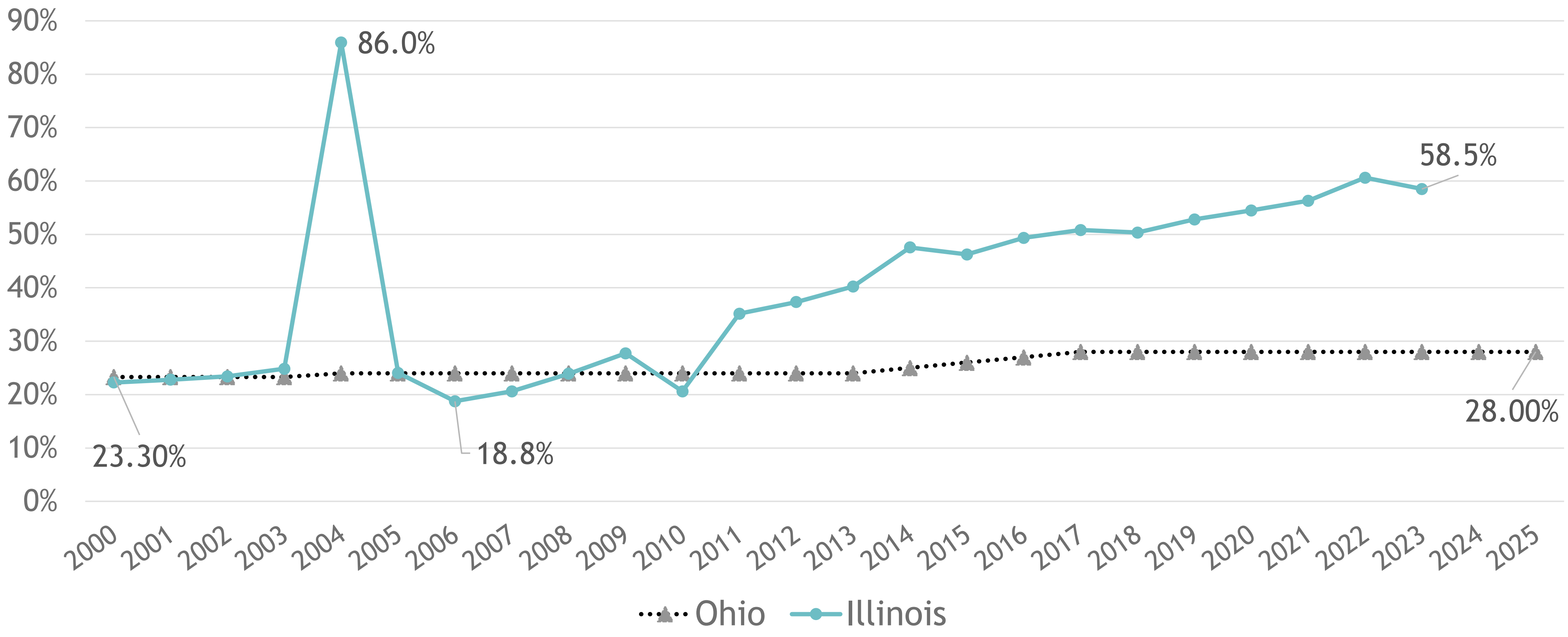
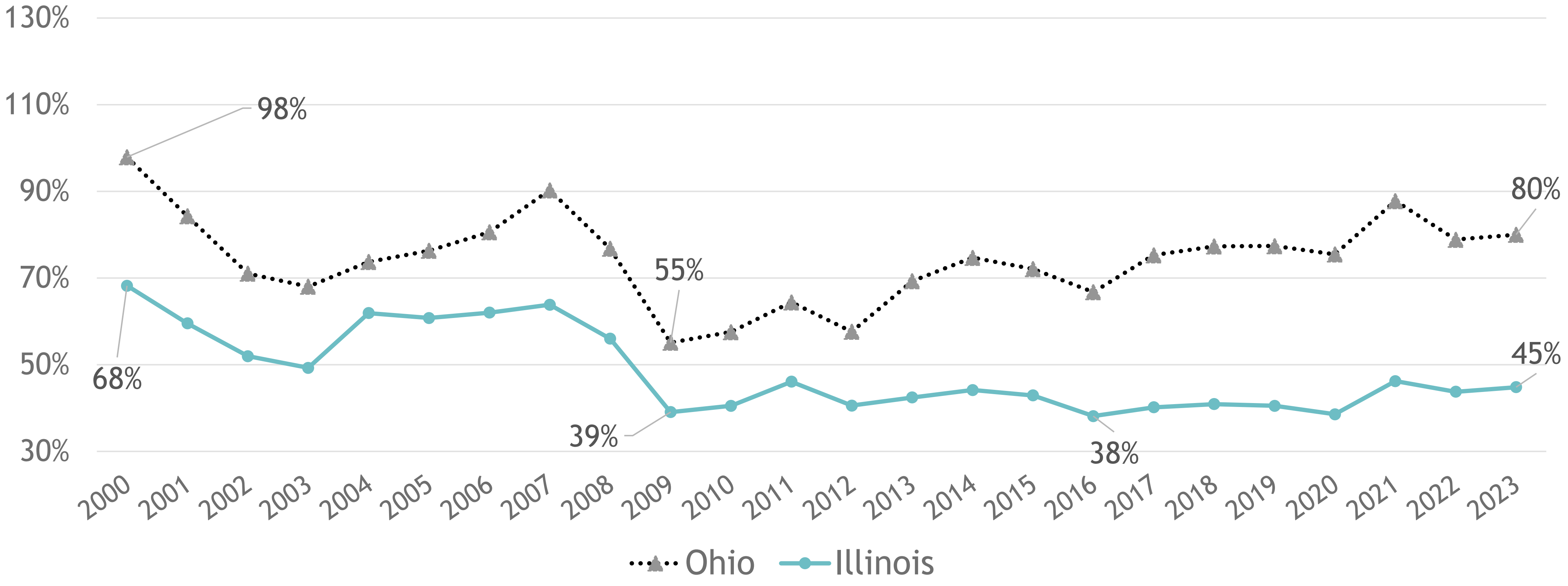


Illinois — Contribution Rates



Illinois — Market Value Funded Ratio



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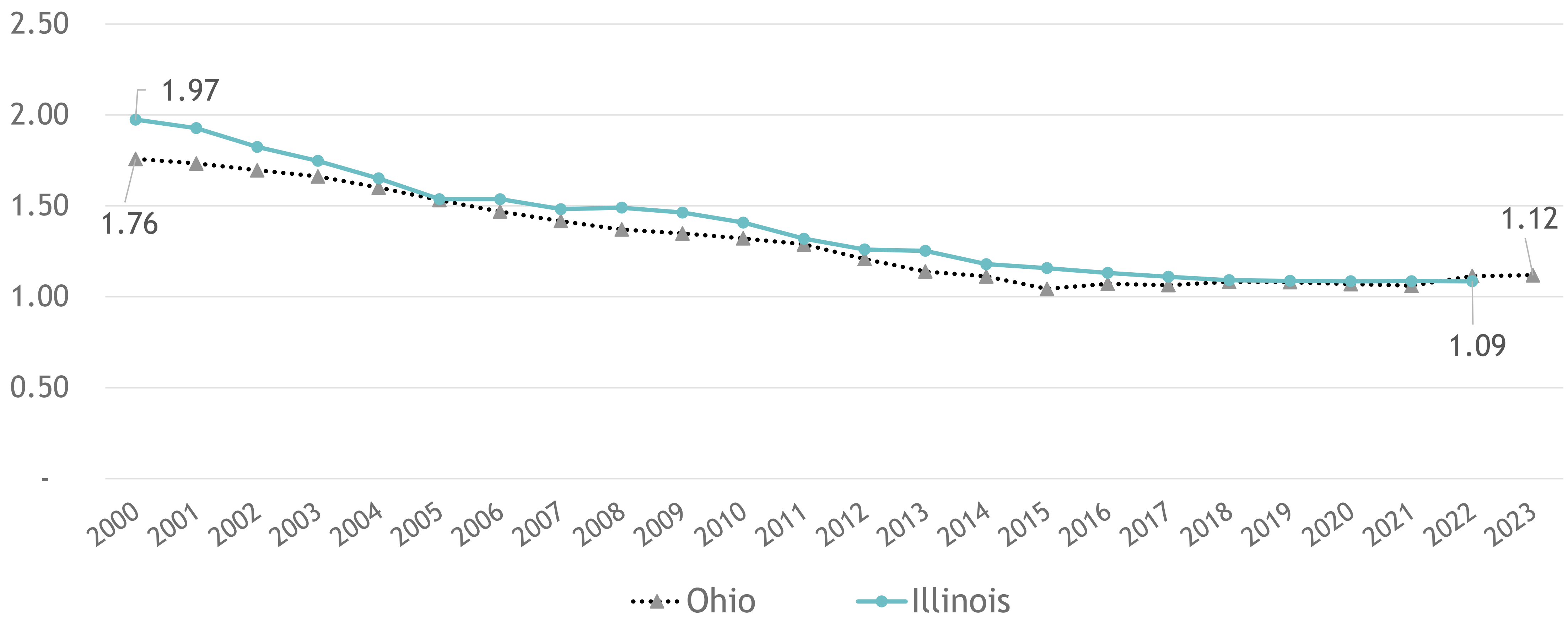

Questions?