





Pension funding across the nation continues to struggle with several issues, including an aging baby boomer population, expectations for investment returns, and significant benefit promises.



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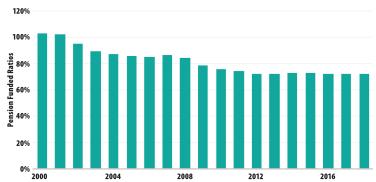


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any state and local governments continue to kick this can down the road rather than getting a handle on costs, prompting some to view pension liabilities as one of the stressors possibly accelerating the next financial crisis. To that end, Praedium and Ten-X Strategic Insights analyzed the fiscal pressures on states and how the resulting responses to those pressures may affect demographic patterns, economic growth trajectories, and commercial real estate demand.

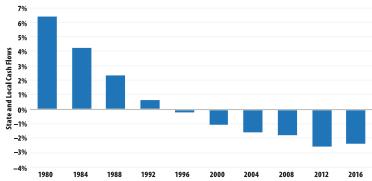
A significant portion of the US population is growing older, a simple but persistent issue pension funds face; as baby boomers age, their benefits begin to outweigh contributions of the currently employed younger generations, placing more stress on pensions generally. According to the Center for Retirement Research at Boston College, state and local pension funded ratios have been in decline for nearly two decades since peaking at 102.7% (Exhibit 1). Regardless of whether these percentages are recently measured under traditional or new GASB standards, the ratio dipped

Exhibit 1: State and Local Pension Funded Ratios, 2000-2018



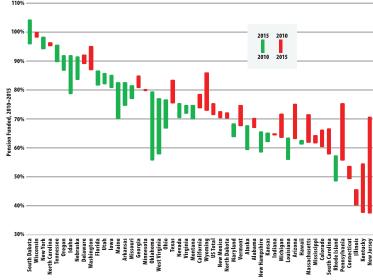
Sources: Center for Retirement Research at Boston College, Public Plans Database, Zorn, Ten-X Strategic Insights

Exhibit 2: State and Local Cash Flows, 1980-2016



Sources: Center for Retirement Research at Boston College, US Census Bureau, Ten-X Strategic Insights

Exhibit 3: Percentage of Pension Funding by State, 2010–2015



Sources: Pew Charitable Trusts, Ten-X Strategic Insights

below 80% in 2009 for the first time since 1990 and continues to hover around new lows. The persistent decline is further troubling as economic growth has not provided relief over the past 20 years or hope that this is merely a cyclical trend.

Pew Charitable Trusts data underscore how pension funding in particular is becoming a rising concern when calculated as a share of state personal income. For all 50 states, debt as a share of personal income has been relatively constant for more than a decade, hovering between 3% and 4% each year. Unfunded retiree health-care costs are slightly higher than debt, though the share has dipped to 4.2% in recent years. The share of unfunded pension costs not only towers at 6.9% but has soared from just 2.5% in 2003. This high share and sustained rise even as economic fundamentals have improved since the recession point to a secular problem that may not be poised to abate soon.

As discussed by the Center for Retirement Research, the two key components of pension assets are investment returns and cash flows (contributions minus benefits). Investment returns tend to be cyclical, as they generally track the stock market, with a strong correlation ($R^2 = 0.805$) between annual state and local returns and Dow Jones gains since 2001. Pension funding ideally should have taken advantage of this economic growth period, as recessions have usually led to losses on investment returns; however, pension funded ratios have not seen marked improvement in recent years. State and local cash flows were in a remarkably consistent decline for more than three decades since recording a 6.4% gain in 1980, first turning negative in 1996 and recently posting a 2.4% loss as benefits continue to outweigh contributions (Exhibit 2). With cash flows battling sizable demographic shifts, state and local governments are likely to continue to struggle without changes to contributions and benefits.

The 12-month rolling total of state and local tax revenue year-over-year growth has oscillated between 2% and 6% through much of this cycle. Despite these rising revenues, pension funded ratios have been on the decline, highlighting the stresses on pension



funds as they face long-term struggles that go beyond tax revenues. Of particular concern is the late stage of the current economic cycle and the possibility of an economic downturn, as previous recessions have often caused state and local tax revenue and investment returns to tumble.

Pension Funding by State

In the majority of states, pension funded ratios declined between 2010 and 2012, and though recent data now reveal that more states have raised their pension funded ratios since 2010 as economic conditions have improved, only half have increased their pension funded ratios despite revitalized market conditions; further, nearly all remain underfunded (Exhibit 3). This trend may likely be exacerbated if the economic cycle turns and investment returns as well as tax revenues dip.

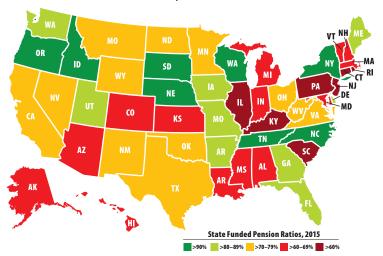
Only 17 states have pension funded ratios greater than the widely recommended 80%, just one more than in 2010 despite broader economic improvement (Exhibit 4). South Dakota is now the lone state with a ratio above 100%, with only seven others north of 90%. Twenty-one states still have ratios below 70%, including seven that are below 60%: South Carolina (57.8%), Rhode Island (57.1%), Pennsylvania (55.8%), Connecticut (49.4%), Illinois (40.2%), Kentucky (37.8%), and New Jersey (37.5%). These are situations that may hamstring future growth, particularly if they are addressed with harsher tax conditions, benefit cuts, or higher contributions that discourage future economic and demographic gains.

Geographic Implications

US domestic migration flows dropped to historical lows in the aftermath of the housing bust but have been on the rise since bottoming out in 2010, climbing from less than 115,000 to more than 760,000. As we expected, interstate migration has continued to pick up while the country has climbed out from under the shadow of the housing market bust.

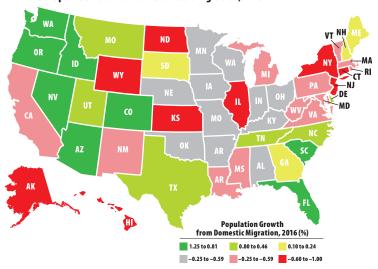
An increase in domestic migration across the country is having a greater demographic impact on states. The Northwest, Southwest, and Southeast regions are the broad beneficiaries of domestic

Exhibit 4: State Funded Pension Ratios, 2015



Sources: Pew Charitable Trusts, Ten-X Strategic Insights

Exhibit 5: Population Growth from Domestic Migration, 2016



Sources: US Census Bureau, Ten-X Strategic Insights

migration, while most of the Northeast, Midwest, and California are among those struggling with outflows (Exhibit 5). These migration flows have a sizable impact on local economies and their growth potential and largely reflect the attractiveness of states to workers and businesses. In addition to various quality of life measures, local tax policy can play a considerable role and affect the economic viability that draws in or pushes away workers and businesses.

Exhibit 6: The Correlation Between Relative State Tax Burdens and Domestic Migration Flows Is Strong at Either End of the Spectrum

State	Tax Rank	Domestic Migration Rate			
State	iax Kank	2000-2017	2010-2017	2013-2017	
Utah	1	3.5%	1.6%	1.6%	
Florida	2	10.8%	4.9%	3.9%	
Indiana	3	-1.2%	-0.9%	-0.5%	
Montana	3	7.2%	3.6%	2.9%	
Missouri	5	-0.3%	-0.9%	-0.5%	
North Carolina	5	9.5%	3.2%	2.4%	
Wyoming	5	2.3%	-1.5%	-2.4%	
Arizona	8	14.4%	4.0%	3.3%	
South Dakota	9	2.1%	1.4%	0.7%	
North Dakota	10	2.7%	5.2%	2.8%	
Pennsylvania	41	-2.1%	-1.7%	-1.5%	
Maine	42	2.3%	0.3%	0.5%	
Rhode Island	42	-7.4%	-3.2%	-2.0%	
Connecticut	44	-7.1%	-4.3%	-3.4%	
Arkansas	45	2.7%	0.2%	0.0%	
Vermont	46	-2.1%	-1.6%	-1.2%	
Illinois	47	-10.1%	-5.0%	-3.9%	
Iowa	48	-2.2%	-0.6%	-0.4%	
Minnesota	49	-1.5%	-0.6%	-0.3%	
New Jersey	50	-9.6%	-4.4%	-3.3%	

Source: Pew Charitable Trusts, US Census Bureau, Ten-X Strategic Insights

Exhibit 7: Best and Worst States by Taxation and Pension Liabilities, Adjusted for **Real Estate Transaction Volume**

State	Business Tax Rank	Personal Tax Rank	Percent Pension Funded Rank	Commercial Deal Volume Rank	Overall Rank
Florida	5	4	11	4	1
North Carolina	1	16	4 13		2
Utah	6	2	12	29	3
Missouri	3	14	16	23	4
New York	13	49	3	2	5
Indiana	10	1	36	22	6
Oregon	36	10	6	19	7
Tennessee	18	32	5	17	8
Arizona	7	21	39	11	9
South Dakota	15	14	1	50	10
1	10	26	12	27	41
lowa	46	36	13	37	41
Pennsylvania	50	21	46	15	41
New Hampshire	49	11	34	39	43
Illinois	42	39	48	5	44
Louisiana	19	46	38	32	45
Connecticut	26	48	47	26	46
Kentucky	40	28	49	30	46
New Jersey	42	50	50	12	48
Vermont	32	47	31	47	49
Rhode Island	29	43	45	41	50

Sources: Pew Charitable Trusts, Tax Foundation, Real Capital Analytics, Ten-X Strategic Insights

While relative state tax burdens fall far short of a direct correlation with domestic migration across all states, a clear pattern emerges with states at the extremes of the tax spectrum (Exhibit 6). Eight of the ten most burdensome tax states have suffered domestic outflows across various time windows since 2000, and the opposite is essentially true for the ten states with the easiest tax environments. This is not to say that state tax policy solely inspires interstate migration, as there are numerous factors to consider (including economic opportunity, affordability, and various quality of life measures); however, the numbers indicate that the softest tax states tend to benefit from net in-migration, while the most burdensome tax states tend to suffer net outflows.

Real Estate Implications

In response to the state fiscal imbalances, fiscal and regulatory policies may be a factor in future regional growth patterns and, therefore, commercial and residential real estate trends. To that end, we generated state rankings driven by fiscal pressures, transaction liquidity, and commercial real estate conditions.

Layering in Commercial Deal Volume

In this layered analysis, we first rated the states by their current tax burdens and pension/medical liabilities, along with a variable capturing the depth of the property market that would enable an investor to put investment capital to work, an approach that deemphasizes states that do not provide consistent liquidity. This initial framework produced a ranking of all the states, of which the best and worst states are depicted in Exhibit 7.

Despite a devastating recession that led to its becoming a poster child for the housing bust, Florida has managed to top our rankings with a relatively well-funded state pension while maintaining its reputation as a low-tax state. With healthy migration inflows keeping strong thanks to positive quality-oflife measures and favorable fiscal conditions, Florida is poised to remain one of the highest-ranked states.

The Northeast accounts for a majority of the bottom ten states, which largely struggle with



Exhibit 8: A Top-Down Regional Strategy for Potential Investment

	Business Tax Rank	Personal Tax Rank	Percent Pension Funded Rank	Fiscal Subrank	Commercial Deal Volume Rank	Commercial Property Rank	CRE Subrank	Overall Rank
Florida	5	4	11	1	4	7	3	1
North Carolina	1	16	4	3	13	3	4	2
Arizona	7	21	39	10	11	8	6	3
Utah	6	2	12	1	29	1	16	4
Georgia	25	37	17	16	6	2	1	4
Indiana	10	1	36	5	22	4	13	6
New York	13	49	3	9	2	22	10	7
Tennessee	18	32	5	7	17	11	14	8
Texas	41	29	22	20	3	6	2	9
Oregon	36	10	6	6	19	11	16	9
Virginia	24	30	24	14	9	14	8	9
Washington	35	30	10	12	8	16	10	9

Sources: Pew Charitable Trusts, Tax Foundation, Real Capital Analytics, Reis, US Census Bureau, BLS, BEA, EPA, NAR, STR, Sperling's BestPlaces, Forbes, Ten-X Strategic Insights

high taxes and weak pension funding. There is an unrelenting struggle for upward mobility once states suffer from both higher taxes and pension shortfalls, as it is incredibly difficult to improve both scenarios at once.

Layering in Real Estate Fundamentals

Our second level of analysis builds on the tax, pension liability, and commercial deal volume data by incorporating the Ten-X Strategic Insights' market outlook across the major property segments over the next several years (Exhibit 8). We have incorporated the regional outlook for supply, the potential for cyclicality in individual markets, and what this implies for vacancy rates and rent growth. The result could provide insights into potential differences in how various real estate market performances unfold.

Our top state rankings are dominated by Sunbelt states and both coasts; the Sunbelt orientation continues to reemerge despite containing hard-hit and out-of-favor markets in years past, and some of the coastal states tend to provide greater liquidity and more consistent commercial real estate outlooks.

Conclusion

History has demonstrated that both individuals and businesses respond to a range of issues in making

their location decisions. State and local tax burdens as well as the scope and quality of government services are important influences in these decisions. In this new climate of tax reform and the deduction limit on state and local taxes, domestic migration flows could burden state and local budgets, particularly those that already have high taxes. This could make households and businesses acutely aware of the tax burdens they bear.

We stress, however, that this analysis represents only one tool for helping to formulate investment strategy in a top-down approach. As always, property and market-specific opportunities will be significantly more varied than what these results suggest.

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