

Peaceful Coexistence

The Facts About Pensions
and Education Funding



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National Conference on
Public Employee Retirement Systems

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Executive Summary

This paper examines state and local finances to see whether they can afford both pensions and education. Common sense will tell us that pension contributions are such a small part of state and local revenues that they cannot possibly crowd out a major state and local function, namely public education. Yet those who would like to see public defined-benefit pensions converted into 401(k)-type defined-contribution plans argue that state and local governments cannot afford both, and that pensions are crowding out funding for education.

The claim that rising public pension costs are crowding out education funding has gained ground, despite a lack of evidence. For example, Josh McGee, senior fellow at Manhattan Institute,¹ and Joe Nation, at Stanford University,² maintain that pensions are pulling funding away from education. The data and analysis in the present study show that pension contributions do not crowd out education funding—or any other services, for that matter. They do show, however, that if there is a squeeze on state and local budgets, it is because state and local revenue systems are out of sync with the economy, not because of pension costs.

Using data from US Census Bureau, Census of Governments, and Bureau of Economic Analysis, the present study looks at trends in expenditures on pensions and education over the last quarter century. Education financing has been growing much faster than costs for public pensions. The need to provide students with world-class skills has led states to invest more in their education systems. Furthermore, education is often protected even during fiscal shortfalls because of education clauses in state constitutions. Yet faster

growth in education financing compared with that of pensions does not mean that education funding is adequate. State Supreme Court rulings in numerous states show that spending on education is inadequate and inequitable.

To see trends in education and pension financing, we use scatter diagrams to construct trend lines using best-fit regression equations for the two variables.³ We find that the slopes of the trend lines move apart with the passage of time. The slope of expenditures on education is much steeper than expenditures on pensions. Were there crowding out, the two trend lines would be on a path to convergence.⁴ This is true for the United States as a whole as well as for each of the 50 states.

While pension costs do not crowd out education funding, there is a squeeze on state and local budgets to fund public education and other important public services, such as health care and public safety. The squeeze occurs because state and local budgets are out of sync with the economy. Today, the purposeful role that state and local taxes play in the allocation of resources is obscured by frequent acts of tax cuts and tax increases driven by political ideology. States have cut progressive and stable taxes, such as income and property taxes, in good economic times and filled the resulting budget gaps with regressive and risky revenue schemes, such as excise taxes and casinos and lotteries. This shift in revenue sources has rendered tax systems increasingly regressive.

A regressive tax system becomes out of sync with the economy, especially when income inequality is rising. When a tax system isn't

¹ Josh McGee, *Feeling the Squeeze: Pension Costs Are Crowding Out Education Spending* (Report, Manhattan Institute, October 2016), <https://www.manhattan-institute.org/html/feeling-squeeze-pension-costs-are-crowding-out-education-spending-9368.html>.

² Joe Nation, *Pension Math: Public Pension Spending and Service Crowd Out in California, 2003-2030* (Working Paper 17-023, Stanford Institute for Economic Policy Research, October 2017), <https://siepr.stanford.edu/research/publications/pension-math-public-pension-spending-and-service-crowd-out-california-2003>.

³ As explained in the Data and Methodology sections, examining best-fit regression trend lines is the best way to look at the crowding-out effect of pensions on education funding compared with other measures.

⁴ Convergence means that slopes of the two trend lines are on a trajectory to meet or cross each other at some future date. Similarly, divergence means that they are unlikely to meet or cross.

calibrated to the economy, it does not grow even when the economy grows. A good tax system should not require frequent changes. It should be stable in bad economic times and grow in good economic times. A regressive tax system cannot meet the needs of a prosperous, civilized society.

To examine whether state and local revenue systems are in harmony with the economy, the present study uses scatter diagrams that plot state and local revenues relative to the state economy measured by personal income, which is the main source of taxes. We then construct trend lines to see how revenues correlated with the economy, using 40 years of data and best-fit regression

equations. We find that the slopes of the trend lines diverge with the passage of time instead of growing together. The slope of the economy line is much steeper than that of revenues, indicating that revenues lag economic growth and are out of sync with the economy.

State and local governments face many competing priorities, including funding education and public safety and maintaining retirement systems that allow them to attract and retain the most qualified workforce. The governments can afford both pensions and education. They just need to redesign their revenue systems to harmonize them with the economy.

Introduction

The purpose of this paper is to examine state and local finances to see whether states can afford both pensions and education. Common sense will tell us that pension contributions are such a small part of state and local revenues that they cannot possibly crowd out a major state function such as public education. Yet those who would like to see public pensions go away argue that state and local governments cannot afford both and that pensions are crowding out education funding.

Opponents of public pensions make two arguments to push for converting the lifetime guarantee of a defined-benefit pension plan into a do-it-yourself retirement savings plan such as a 401(k)-type defined-contribution plan. First, they argue that taxpayers cannot afford public pensions. Second, they maintain that public pensions are crowding out important public services such as education. There is no empirical evidence using high quality and legitimate data to support either of these arguments. On the contrary, there is evidence that public pensions can coexist with education funding.

With respect to the first argument, the National Conference on Public Employee Retirement Systems' (NCPERS') earlier study⁵ shows that taxpayers cannot afford not to have public pensions. Public pensions contribute to state and local economies through investment of their assets as well as through monthly pensions paid to retirees. These contributions to the economy in turn generate state and local tax revenues. The NCPERS study found that in 2016, public pensions contributed \$1.3 trillion to the national economy and \$277.6 billion to state and local revenues. In the same year, state and local governments contributed \$140.3 billion to public pensions. In other words, public pensions are net revenue

generators to the tune of \$137.3 billion. (That is, \$277.6 billion minus \$140.3 billion equals \$137.3 billion.) If there were no public pensions, taxpayers would have to pay \$137.3 billion more to get the same level of public services.

The second argument, that pensions are crowding out education, is also meritless. Pension contributions are such a small part of state and local revenues that they cannot possibly crowd out a major state function such as public education. For example, in 2016 state and local governments contributed \$140.3 billion to public pensions out of \$3.4 trillion of total revenues. This means pension contributions were only about 4.1% of revenues. Compare this with spending on public education. In 2016 state and local governments spent \$965 billion on education, which translates into 28.3% of revenues. We examine the truth about the crowding-out argument further through analysis of historical data in the present study.

While pensions are not a problem in the grand scheme of things, state and local revenue systems are. State and local budgets are under constant stress — not because spending is too high, but because revenues are too low to fund vital public services. States have cut progressive and stable taxes, such as income and property, in good economic times and have filled the budget gaps with regressive and volatile revenue sources, such as casinos and lotteries, excise taxes, and user fees. On top of that, they have given the store away in subsidies and tax loopholes in the name of economic development. As a result, state and local revenue systems have become regressive and out of sync with the economy.

We undertook this study to examine whether pensions are crowding out important public services, such as public education, and to evaluate

⁵ *Unintended Consequences: How Scaling Back Public Pensions Puts Government Revenues at Risk* (Washington, DC: NCPERS, 2018), https://www.ncpers.org/files/NCPERS%20Unintended%20Consequences%20Report_2018_Aug_v1.pdf.

whether state and local revenue systems are out of sync with the economy. Beyond discerning the truth about pensions crowding out public services, it is important to understand the relationship between the economy and state and local revenues. If the economy and revenues are out of sync, then we have a bigger problem that needs to be addressed. Namely, instead of focusing on pensions, we need to focus on fixing state and local revenue structures.

A few words about what we mean by crowding out and revenues being out of sync with the economy: By crowding out, we mean if the trend line of expenditure on pensions goes up, the trend line for expenditure on education should go down, and the correlation between the two is negative. But if the relationship is positive and the slope of education spending trend line, as measured by the beta value of regression equation, is steeper than that of the pension spending trend line, there is no crowding out. The present study examines crowding out using trends in expenditures on

pensions and public education for the United States and each of the 50 states over the last quarter century.

Similarly, we examine the lack of harmony between economy and state and local revenues through trend lines for the United States and each of the 50 states over the last 40 years. If the slopes of these trend lines grow apart such that the slope of the economy trend line is steeper than that of revenues, it means that revenue growth lags economic growth and revenues are out of sync with the economy. When the economy grows, the need for public services such as infrastructure, education, and public safety grow. A synchronized revenue system should be stable in economic downturns and grow in good economic times to keep pace with the changing needs of a prosperous civilized society.

The present study is divided into four sections. Section 1 discusses the literature, section 2 focuses on data and methodology, section 3 presents results, and section 4 offers conclusions.

Section 1

Review of Relevant Literature

The literature review will focus on studies around two questions addressed in the present study:

1. Do government pension contributions discourage education funding?
2. Are state and local revenue systems out of sync with the economy?

The literature that focuses on pensions crowding out education funding has serious methodological limitations. The studies use a limited number of handpicked jurisdictions to magnify results when public data for all jurisdictions are available to get a realistic picture. They also use meaningless numbers and anecdotal evidence to paint a scary picture to support their ideological bias against public pensions.

Do Government Pension Contributions Discourage Education Funding?

A recent study by Joe Nation, from Stanford University, argues that rising pension costs are crowding out funding for education and other services, including “soft services” such as libraries.⁶ This study has a serious shortcoming. It targets a limited number of jurisdictions in California to draw broad conclusions about pension indicators. For example, the study argues that employer contributions from 2002-03 to 2017-18 have increased by 400%. Census data show that pension contributions for all state and local pension plans in California increased by 285%. And if we use 2003-04 as a base year, pension contributions rose by 168% over 14 years – less than half of what Nation claims.⁷ Why use a sample of 14 California jurisdictions when public data are available for all

state and local pension plans in California? Using such a sample biases the results.

The second study that makes a case that pensions are crowding out expenditures on public education was conducted by Josh McGee, senior fellow at Manhattan Institute.⁸ This study focuses on teacher pensions and translates 30-year, \$500 billion unfunded pension liability in terms of per pupil pension debt. The study argues that per pupil student pension debt increased by \$9,588 per pupil from 2000 to 2013. This is no different from arguing that every new baby born in the United States today is responsible for about \$1.6 million of US national debt.⁹ Perhaps that's why babies cry when they are born, wondering how they are going to pay such a huge debt. The calculation is mathematical and has no practical economic meaning. Debt issued for a high rate of return investment such as education may actually increase the lifetime wealth of the baby.

McGee makes the mistake of arguing a correlation is causation. He argues that the correlation between pension cost increases and spending cuts in education equipment and facilities, instruction supplies, and flat teacher pay trends from 2000 to 2013 is causal, which is not evidence. The study thus does not identify the cause of lower education spending. The study does not explore what other important factors, such as changes in state and local revenue structures, may have caused education funding to fall during this period.

Most crowding-out studies are focused on California. However, a few studies are focused elsewhere, such as one done by Illinois Policy that

⁶ Joe Nation, *Pension Math: Public Pension Spending and Service Crowd Out in California, 2003-2030* (Working Paper 17-023, Stanford Institute for Economic Policy Research, October 2017), <https://siepr.stanford.edu/research/publications/pension-math-public-pension-spending-and-service-crowd-out-california-2003>.

⁷ E-mail exchange with Nari Rhee, University of California, Berkeley, July 24, 2019.

⁸ Josh McGee, *Feeling the Squeeze: Pension Costs Are Crowding Out Education Spending* (Manhattan Institute report, October 2016), <https://www.manhattan-institute.org/html/feeling-squeeze-pension-costs-are-crowding-out-education-spending-9368.html>.

⁹ Terence P. Jeffrey, “U.S. Debt Up \$1,608,304 for Each Baby Born the Year Obama Took Office,” *CNSNews.com* (January 20, 2014), <https://www.cnsnews.com/news/article/terence-p-jeffrey/us-debt-1608304-each-baby-born-year-obama-took-office>.

makes the case that the rising cost of pensions is leading to layoffs and crowding out of public services in Peoria.¹⁰ However, such studies are often based on anecdotal evidence rather than systematic research.

Another study casts doubt on the argument that pension costs negatively impact other public programs, such as teacher salaries. This study was conducted by academics at the University of Missouri and Texas Christian University in February 2019.¹¹ The authors examined data from 2001 to 2015 and explored the relationship between pension contributions and salary expenditures. Overall, they found that there is no relationship between pension contributions and salary expenditures. But when they broke down the analysis by pre- and post-Great Recession periods, they found a negative relationship between pension and salary expenditures in the post-recession period – in other words, if pension contributions went up, salary expenditures went down. However, the authors acknowledged that this relationship was not statistically significant.

A study by Tyler Bond reviewed literature on various aspects of public pensions and found that the crowding-out argument is false and a distraction, because public pension contributions are a small portion of state and local budgets.¹² Furthermore, most of the money for public pension funds comes from employee contributions and investment earnings. Finally, state and local pensions are big contributors to the economy and revenues. In fact, public pensions are net revenue contributors to state and local treasuries. They cannot possibly

crowd out other public services. Without public pensions, taxpayers would have to pay more to receive the same level of public services.

Are State and Local Revenue Systems Out of Sync with the Economy?

A good revenue or tax system should be in sync with the economy. If the economy grows by 1 percent, the revenues should grow by 1 percent too, to keep up with societal needs that grow proportionally with economic growth. In other words, a revenue system should have an elasticity of 1.0. Much like investment strategies, tax systems should consist of a diversified portfolio of taxes to provide stability in bad economic times and growth in good economic times without making frequent changes to the tax system. In short, a tax system should look as if it is designed for a purpose – to meet the needs of a prosperous civilized society in all economic circumstances.

Today, frequent random acts of tax cuts and tax increases based on political ideology have the damaging effect of chipping away at purposefully developed systems of state and local taxation. A study by Nick Johnson and Iris Lav¹³ suggests that states usually cut progressive and stable taxes, such as income and property taxes, in good economic times and fill the budget gaps with regressive and risky revenue schemes, such as sales and excise taxes and, lately, casinos and lotteries. This phenomenon has made tax systems increasingly regressive over time.

A regressive tax system cannot keep up with the needs of a civilized society because it shifts the burden of taxes to those who don't have

¹⁰ Adam Schuster, "Crowding Out: Pension Pressure Leads to Layoffs in Peoria" (Illinois Policy website), <https://www.illinoispolicy.org/crowding-out-pension-pressure-leads-to-layoffs-in-peoria/>.

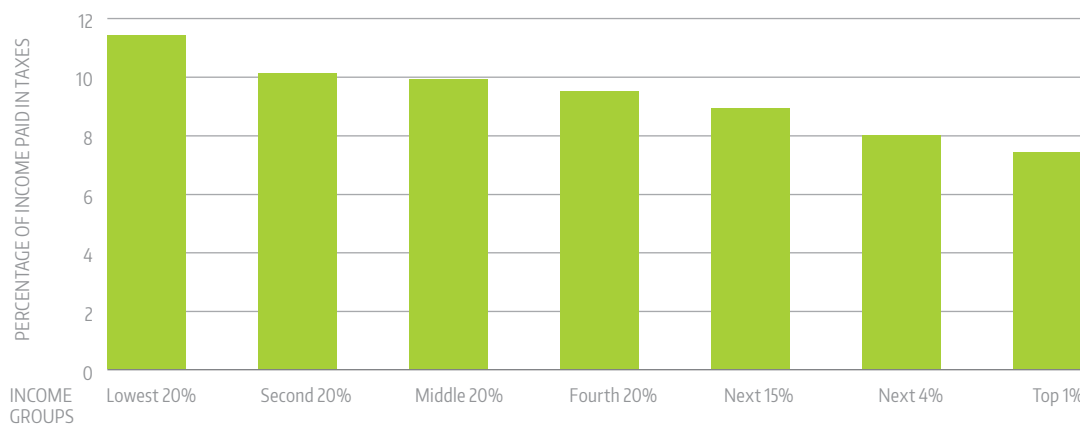
¹¹ Dongwoo Kim, Cory Koedel, and P. Brett Xiang, "The Trade-off Between Pension Costs and Salary Expenditures in the Public Sector" (unpublished paper, University of Missouri, February 2019), http://faculty.missouri.edu/~koedelc/kkx_crowdout_wp_v1.pdf.

¹² Tyler Bond, "The 'Pension Crisis' Is a Myth, Part Six" (National Public Pension Coalition blog, November 13, 2017), <https://protectpensions.org/2017/11/13/pension-crisis-myth-part-six/>.

¹³ Nick Johnson and Iris Lav, "Are State Taxes Becoming More Regressive?" (Center on Budget and Policy Priorities, October 1997), <https://www.cbpp.org/archives/930sttax.htm>.

Figure 1. Average Effective State and Local Taxes as a Percentage of Income by Different Income Groups, 2018

(Source: ITEP)



much money – especially low- and middle-income people who live paycheck to paycheck. It promotes income inequality, which in turn makes the tax system even more regressive. So a regressive tax system becomes out of sync with the economy because it captures usually about 80% of the economic growth (elasticity of 0.80) – if the economy grows by one dollar, revenues grow by only 80 cents. In short, revenues will always be short in good economic times and shorter in bad economic times just because of the tax structure.

The regressive nature of state and local revenue systems is also underscored in a study by the Institute on Taxation and Economic Policy (ITEP). The ITEP report “Who Pays?” captures state and local taxes paid by different income groups. The October 2018 study shows that when we add up

all the taxes people pay, including income, sales, property, excise, etc., the lowest 20% of income earners pay \$11.40 in taxes out of every \$100 of their income. The same figure for the top 1% of income earners is \$7.40. Using data from the ITEP report, Figure 1 shows the percentage of taxes paid by different income groups.¹⁴

Figure 1 shows that as income goes up, tax burden (percentage of income paid in taxes) goes down. This is not only unfair and regressive, but also increases income inequality and throws the revenue system out of balance with the economy.

Robert Tannenwald identifies how revenue systems can become out of sync with the economy.¹⁵ His study, published in the *National Tax Journal*, argues that state and local revenue shortfalls emerge over the business cycle, due to economic ups and downs, but also due to the

¹⁴ Meg Wiehe, Aidan Davis, Carl Davis, Matt Gardner, Lisa Christensen Gee, and Dylan Grundman, “Who Pays?” (Institute on Taxation and Economic Policy, October 2018), <https://itep.org/wp-content/uploads/whopays-ITEP-2018.pdf>.

¹⁵ Robert Tannenwald, “Are State and Local Revenue Systems Becoming Obsolete?” *National Tax Journal*, 55, no. 3, (2002): 467-89, <https://www.ntanet.org/NTJ/55/3/ntj-v55n03p467-89-are-state-local-revenue.html>.

changing structure of our economy. In its infancy, the US economy was predominantly agrarian. After the Industrial Revolution, it became mainly a manufacturing economy. In recent times, the economy has become more of a service economy, and it might be transforming into a cyber economy. Many state and local tax systems have not kept pace with the changing economy and may now be obsolete.

Tannenwald noted:

State and local revenue systems are becoming increasingly “out of sync” with the economy’s changing structure. The economic stocks and flows that they are designed to “meter” comprise a shrinking

fraction of the nation’s wealth and economic activity. According to some, these factors are so pervasive and persistent that they threaten to make current state and local tax systems obsolete.

Given that state and local tax systems continue to be regressive and misaligned with the economy, they are unable to produce the revenues needed to fund necessary public services such as education. Pension contributions are a small portion of state and local revenues, and education funding has grown faster than pension contributions. Yet opponents of public pensions blame pensions for revenue shortfalls instead of considering the impact of obsolete revenue systems.

Section 2

Data and Methodology

As we have noted, we set out to examine whether pension contributions crowd out education funding and whether state and local revenue systems are out of sync with the economy. In order to do this, we needed to examine state-by-state historical data on pension contributions, education expenditures, revenues, and the economy.

Data Sources

The data needed for this study are available from the following three sources:

1. Data on state and local revenues and expenditures are available from the US Census Bureau's Annual Survey of State and Local Government Finances as well as from the Tax Policy Center.¹⁶ These data span the period from 1977 to 2016 for each of the 50 states.
2. Data on state and local pension contributions are available from the US Census Bureau's Annual Survey of Public Pensions.¹⁷ These state-by-state data cover the period from 1993 to 2017.
3. Economic data for individual states are available from the federal Bureau of Economic Analysis.¹⁸ These data span over a much longer period, but for the purposes of the present study, we have extracted economic data, specifically personal income, from 1977 to 2016 to match with state and local revenues mentioned in item 1 above.

Methodology

Our methodology consists of the following steps.

Extraction of Variables – We extracted the

following four variables from the data sources identified above:

1. Pension Contributions – This variable consists of state-by-state pension contributions by state and local governments in thousands of dollars (\$1,000s) from 1993 to 2016.
2. Education Expenditures – Education funding or education expenditures consists of state-by-state spending by state and local governments on public education. It is measured in thousands of dollars (\$1,000s) and covers the period of 1993 to 2016 to match with pension contributions. This variable does not include federal education money because we want to focus on state and local governments' own revenues and expenditures.
3. Revenues – This variable consists of state-by-state total state and local governments' own source tax revenues. It is measured in thousands of dollars (\$1,000s) and spans 1977 to 2016.
4. Economy – We measure economy in terms of aggregate personal income. This variable consists of state-by-state personal income in millions of dollars (\$1,000,000s) over 1977-2016.

Preparation of Data – Since some data are in thousands of dollars (\$1,000s), we converted all variables into billions for the purpose of analysis. We have not deflated these variables as the results of the analysis will be the same regardless of whether we use current dollars or inflation-adjusted dollars.

Analysis – This study uses a combination of visual graphics and best-fit regression equations

¹⁶ US Census Bureau, <https://www.census.gov/programs-surveys/gov-finances.html>, and Tax Policy Center (housed in Urban Institute), <https://slfdqs.taxpolicycenter.org/pages.cfm>.

¹⁷ US Census Bureau, <https://www.census.gov/programs-surveys/aspp/data/datasets.2007.html>.

¹⁸ Bureau of Economic Analysis, <https://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&sacrdn=7#reqid=70&step=25&isuri=1&7022=20&7023=7&7024=non-industry&7001=720&7029=20&7090=70>.

to examine whether pensions are crowding out funding for vital public services, such as education. For example, we first plot a scattergram of pension contributions and education expenditures over time. We then apply the best-fit regression line to each scattergram. This produces trend lines for each variable in the diagram as well as slopes of the regression lines as measured by beta values of the regression equation. If the two trend lines are moving apart with the passage of time, indicating that the slope of education funding is steeper than pension contributions, there is no crowding out between pensions and education funding. Conversely, if the beta value for the pension trend line is higher than the education expenditures line, then pension contributions are rising faster than education expenditures. This could reflect crowding out, although this can be due to other factors – for instance, limited tax revenues. Alternative explanations must be examined in order to make a case for crowding out.

Similarly, we use scattergram and best-fit regression lines to examine whether the economy and state and local revenues are out of sync. If the two lines grow apart with the passage of time, they are out of sync. By out of sync we mean when the economy grows, the revenues do not grow as much. In this situation, revenues will always be short relative to the spending priorities of state and local governments. On the other hand, if the two lines are parallel or on a convergence path, that means revenues are in harmony with the economy (they grow as the economy grows) or grow faster than economy.

We measure the convergence and divergence of the trend lines by beta values of the best-fit regression equations for several reasons. First, beta measures the slope of the trend line

regardless of where it begins, and hence overcomes the problem of magnitude of starting point of a variable. For example, if the beta value for the education expenditure line is greater than that of pension expenditures, it means that education expenditures are on a trajectory that is steeper than that of pension contributions.

Second, beta values smooth out fluctuations that result from using rate of growth or funding as percentage of revenues for each variable. These fluctuations distort the picture, and graphics become confusing, especially because state and local governments rarely make the full required contributions and sometime skip them altogether, and sometimes make large payments through pension obligation bonds.

Finally, using the beta values is the best way to look at the crowding-out effect of pensions on education funding compared with other measures, such as looking at every dollar going to pensions is a dollar that does not go to education. Such measures would make sense if the correlation between education and pension spending were negative. Instead, we find that the correlation coefficient between the two variables is +0.91, and simple regression between the two variables shows that for each \$1 billion increase in pension contributions, education funding increases by \$5.8 billion.

The next section presents results in terms of graphics as well as beta values for each state as well as for the United States as a whole. These results will show that pension contributions are not the cause of budget problems as they are portrayed by opponents of public pensions. Instead, it's the lack of harmony between the economy and state and local revenue systems that needs to be fixed to address the fiscal woes of state and local governments.

Section 3

Results

In this section, we will present the graphic results of our analysis for the United States as a whole, as well as for each of the 50 states, in tabular form using beta values of the best-fit regression trend lines. We'll first focus on whether government pension contributions crowd out funding for public education. We'll then explore whether state and local revenue systems are out of sync with the economy. We'll examine the results related to economy and revenues in graphic form as well as in a 50-states table containing beta values. Individual state graphic results will be shown in the Appendix.

Do Pension Contributions Crowd Out Education Funding?

As mentioned in the methodology section, we measure crowding out by looking at the slopes of the trend lines of education expenditures and pension contributions. The trend lines for these two variables over the last quarter century show that there is no evidence of crowding out.

Were there crowding out, the two lines would have been on a path to convergence. Instead, as Figure 2 shows, the lines move farther apart with the passage of time. The slope of the education funding trend line is steeper than the slope of the pension contributions line.

The slopes of these lines are measured by the beta value of the regression equation that best fits the data in the scattergram. Beta values for education expenditures and pension contributions for each state are shown in Table 1. This table shows that there is no crowding out in any state. In each state, the beta value (slope) of education funding line is greater than the beta value of the pension contributions line.

Let's look at California, where most of the crowding-out literature originated. The slope of the education expenditures line is 3.78, and the slope of pension contributions line is 0.9. This means that these lines are on a trajectory that will not meet.

This is true even for states such as Illinois and Kentucky that are often portrayed by opponents

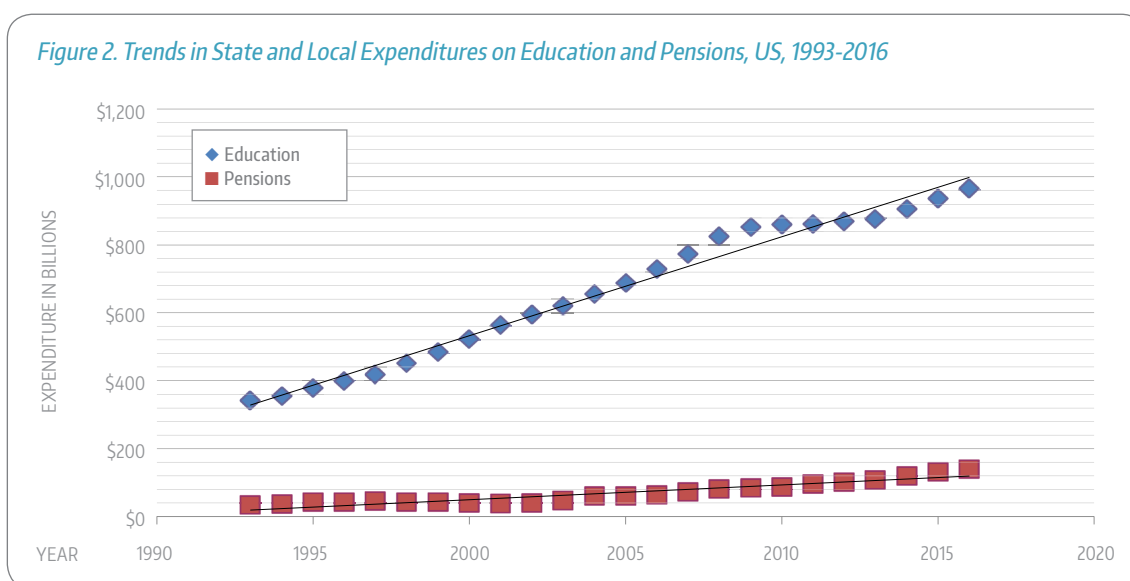


Table 1. Beta Values of the Best-Fit Regression Lines for State and Local Education and Pension Expenditures Depicting Slopes of the Two Lines, 1993-2016

State	Education	Pensions
Alabama	0.44	0.04
Alaska	0.11	0.02
Arizona	0.49	0.08
Arkansas	0.28	0.03
California	3.78	0.90
Colorado	0.48	0.04
Connecticut	0.41	0.11
Delaware	0.12	0.01
Florida	1.28	0.04
Georgia	0.88	0.06
Hawaii	0.11	0.02
Idaho	0.08	0.01
Illinois	1.12	0.38
Indiana	0.45	0.06
Iowa	0.32	0.03
Kansas	0.27	0.04
Kentucky	0.39	0.05
Louisiana	0.39	0.09
Maine	0.09	0.01
Maryland	0.64	0.07
Massachusetts	0.72	0.08
Michigan	0.67	0.09
Minnesota	0.47	0.03
Mississippi	0.24	0.04
Missouri	0.44	0.07

Montana	0.81	0.001
Nebraska	0.20	0.02
Nevada	0.21	0.06
New Hampshire	0.13	0.015
New Jersey	1.09	0.09
New Mexico	0.22	0.02
New York	2.38	0.79
North Carolina	0.80	0.04
North Dakota	0.09	0.006
Ohio	0.98	0.06
Oklahoma	0.31	0.04
Oregon	0.34	0.02
Pennsylvania	1.13	0.12
Rhode Island	0.098	0.023
South Carolina	0.45	0.04
South Dakota	0.07	0.004
Tennessee	0.42	0.05
Texas	2.75	0.20
Utah	0.29	0.03
Vermont	0.083	0.004
Virginia	0.83	0.09
Washington	0.64	0.04
West Virginia	0.16	0.03
Wisconsin	0.47	0.01
Wyoming	0.099	0.004
United States	29.13	4.25

of public pensions as “in trouble.” Graphic results for individual states are shown in the Appendix.

As mentioned earlier, faster growth in education funding than that of pension contributions does not mean that education funding is adequate and equitable. State Supreme Court decisions in numerous states indicate that education funding is nowhere near adequate and equitable. This is because state and local revenue systems are out of sync with the economy. We’ll discuss this next.

Are State and Local Tax Revenue Systems Out of Sync with the Economy?

Figure 3 shows the trend lines for economy and revenues over time for the United States as a whole. It clearly shows that the two trend lines grow apart with the passage of time. This means revenues do not keep pace with economic growth because they are out of sync with the economy. If they were in sync, the two lines would have been at least parallel.

We examine the lack of harmony between economy and revenues through beta values of the best-fit regression lines for individual states.

This information is shown in Table 2. It is clear from the table that beta values for the economy trend lines are greater than beta values for the revenue trend lines for each of the 50 states. In other words, the slope of the economy line is steeper than the slope of the revenue line. This means state and local revenues are unlikely to be enough for public services, even if there were no pension contributions.

If opponents of public pensions are so worried about the crowding-out effect of public pensions and want public services like education adequately funded, they need to join efforts to reform state and local revenue systems.

Are Public Pensions Crowding Out Other Public Services?

In this study we have mainly focused on whether pensions crowd out education funding. This is mostly because most of the literature emanating from those who would like to see public pensions converted into defined-contribution plans focuses on public education. Yet we looked at whether

Figure 3. Trends in Economy and Revenues, US, 1977-2016

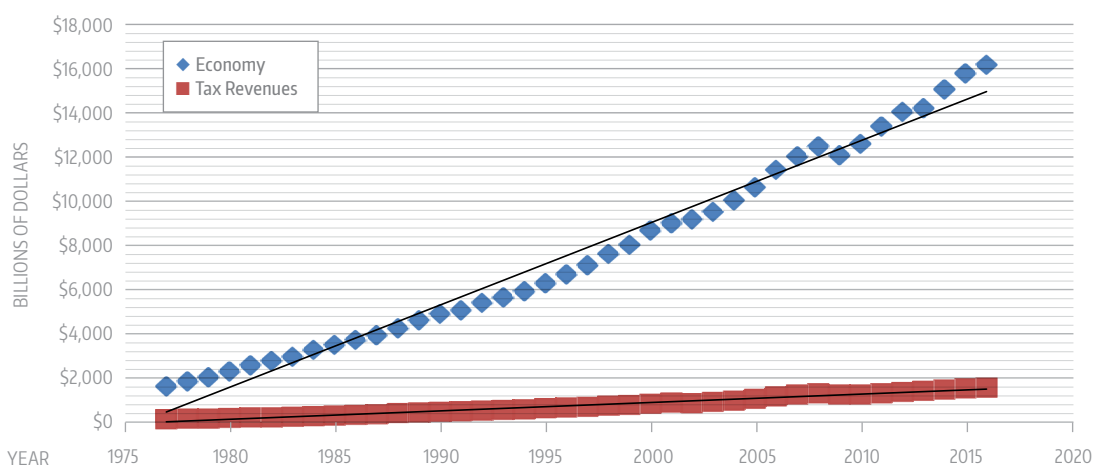


Table 2. Beta Values of the Best-Fit Regression Lines for Economy and Tax Revenues Depicting Slopes of the Two Lines, 1993-2016

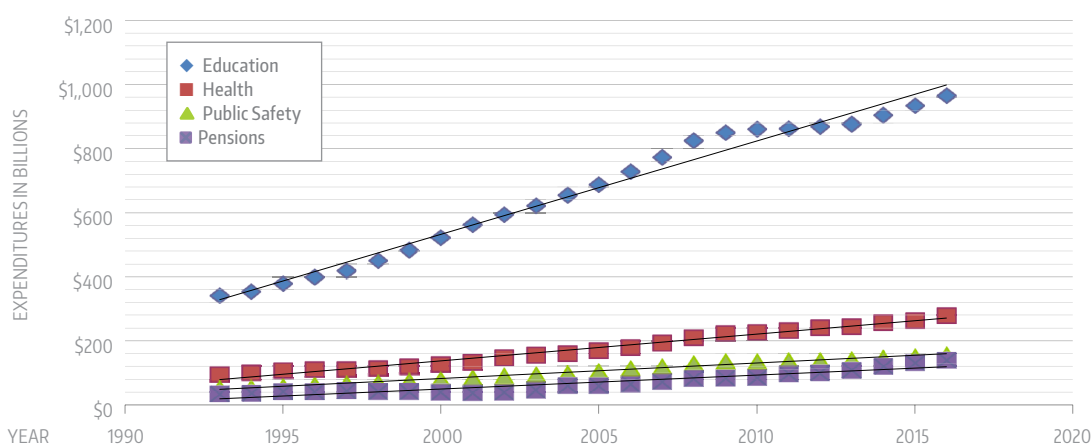
State	Economy	Tax Revenues
Alabama	4.49	0.38
Alaska	0.96	0.12
Arizona	6.97	0.64
Arkansas	2.76	0.29
California	50.40	5.46
Colorado	6.74	0.61
Connecticut	6.07	0.66
Delaware	1.10	0.11
Florida	22.70	1.96
Georgia	10.55	0.95
Hawaii	1.62	0.20
Idaho	1.57	0.14
Illinois	15.09	1.67
Indiana	6.44	0.65
Iowa	3.22	0.33
Kansas	3.19	0.32
Kentucky	4.02	0.40
Louisiana	4.62	0.44
Maine	1.38	0.17
Maryland	8.35	0.84
Massachusetts	10.09	0.97
Michigan	9.36	0.87
Minnesota	6.74	0.75
Mississippi	2.56	0.26
Missouri	6.09	0.54

Montana	1.03	0.09
Nebraska	2.18	0.22
Nevada	3.39	0.33
New Hampshire	1.85	0.15
New Jersey	12.86	1.48
New Mexico	1.98	0.21
New York	26.88	3.94
North Carolina	10.44	0.99
North Dakota	0.89	0.13
Ohio	11.43	1.24
Oklahoma	3.97	0.33
Oregon	4.21	0.40
Pennsylvania	14.66	1.46
Rhode Island	1.23	0.14
South Carolina	4.57	0.40
South Dakota	0.98	0.07
Tennessee	6.82	0.54
Texas	30.70	2.75
Utah	2.95	0.28
Vermont	0.75	0.09
Virginia	10.86	0.94
Washington	9.20	0.84
West Virginia	1.52	0.17
Wisconsin	6.29	0.66
Wyoming	0.77	0.08
United States	369.48	37.71

pensions crowd out other services, such as health care and public safety. Figure 4 shows that pension contributions do not crowd out education, health,

and public safety. The slope of the trend lines for each such service is not on a path to convergence with pension contributions.

Figure 4. Trends in State and Local Expenditures on Education, Health Care, Public Safety, and Pensions, US, 1993-2016



Section 4

Conclusions

This paper looks at state and local finances to see whether they can afford both pensions and education. We find that they can if they structure their revenue systems to keep pace with the economy and resulting needs of a civilized, prosperous society.

Opponents of public pensions make two arguments for converting defined-benefit pensions into defined-contribution plans. First, they insist that taxpayers cannot afford public pensions. Second, they argue that public pensions are crowding out important public services, such as education. Careful analysis demonstrates that both of these arguments are false.

With respect to the first argument, NCPERS' earlier study¹⁹ shows that public pensions are net revenue generators to the tune of \$137.3 billion. In other words, if there were no public pensions,

taxpayers would have to pay \$137.3 billion more to get the current level of public services.

Regarding the second argument, the present study shows that public pensions do not crowd out education funding, or funding for other public services, such as health care and public safety, for that matter. In fact, a recent study by researchers from Bank of England, Federal Reserve Board of Governors, and Brookings show that pensions can be sustained over the next 40 years or longer without causing any fiscal crisis²⁰.

Is there a squeeze on funding public education and other services? Yes. But it is because state and local revenue systems are becoming obsolete and out of sync with the economy, not because of pension expenditures. Instead of blaming public pensions for state and local budget problems, opponents of public pensions need to focus on modernizing and reforming state and local revenue systems.

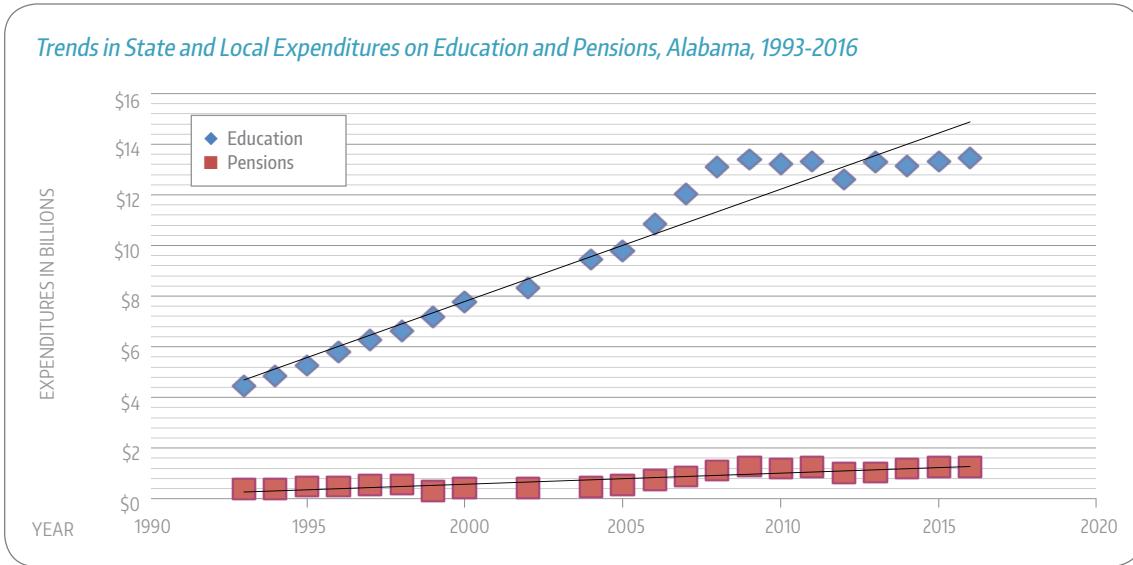
¹⁹ Unintended Consequences: How Scaling Back Public Pensions Puts Government Revenues at Risk (Washington, DC: NCPERS, 2018), https://www.ncpers.org/files/NCPERS%20Unintended%20Consequences%20Report_2018_Aug_v1.pdf.

²⁰ Jamie Lenney, Byron Lutz, and Louise Sheiner, "The Sustainability of State and Local Government Pensions: A Public Finance Approach," Paper Presented at 8th Annual Municipal Finance Conference, July 2019. - https://www.brookings.edu/wp-content/uploads/2019/07/lenney_lutz_sheiner_MFC_Final.pdf

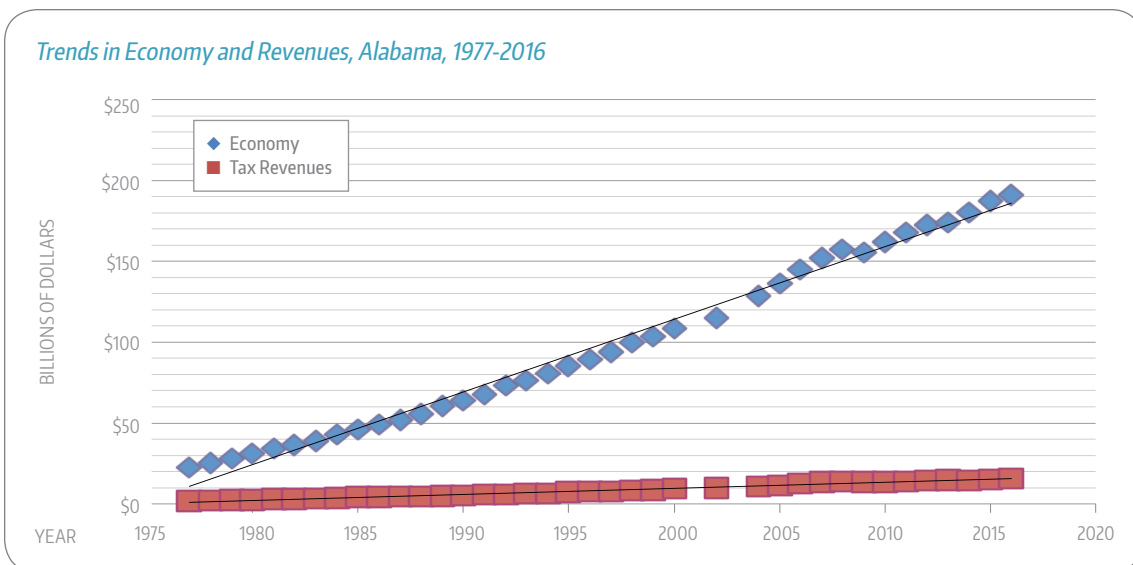
Appendix: State by State Charts

ALABAMA

Do pension contributions crowd out education funding? No. The slope of the education expenditure trend line is steeper than that of pension contributions. The crowding out is likely only if the two lines were on a path to convergence.

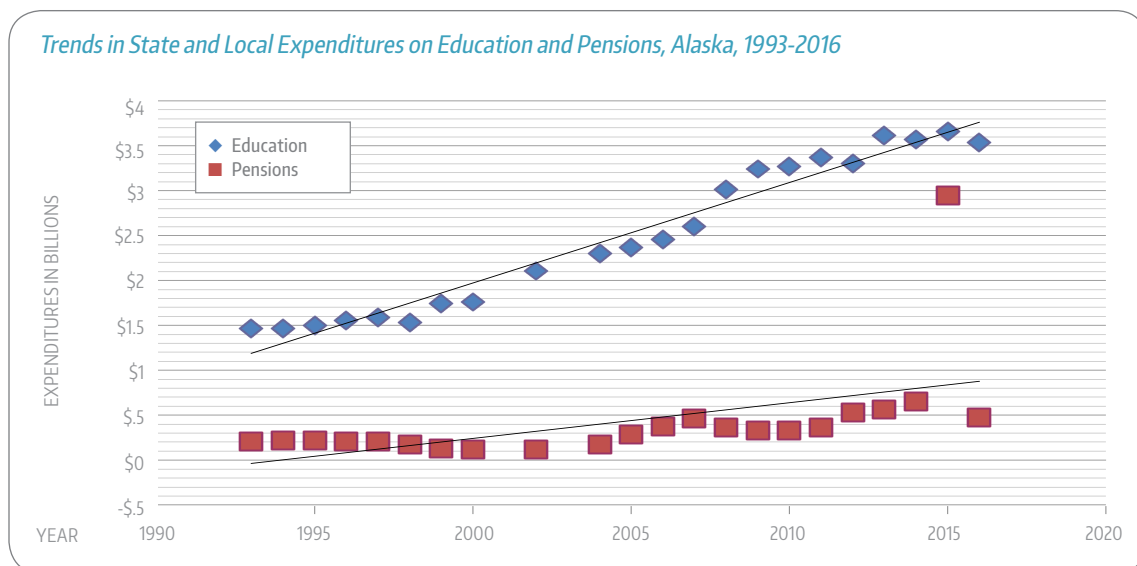


Are state and local revenue systems out of sync with the economy? Yes. The slope of the trend line for the economy is steeper than that of revenues. This means revenues cannot keep pace with the funding needs of a growing economy and will never be enough without reform.

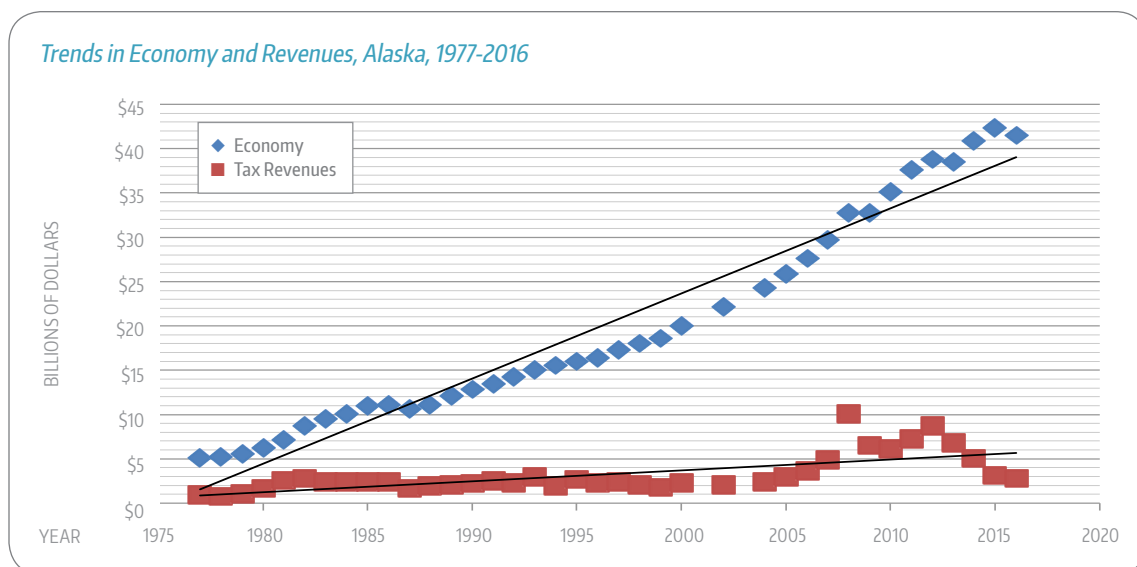


ALASKA

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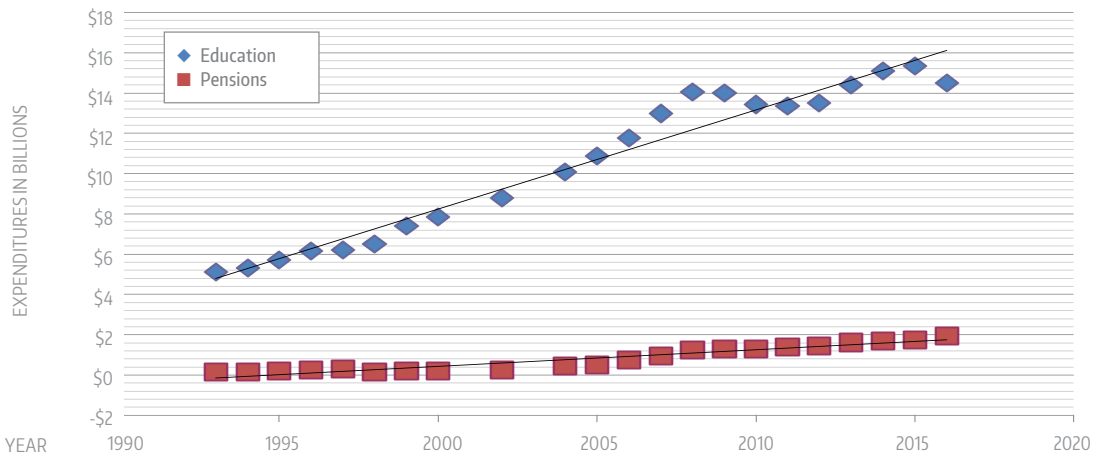
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ARIZONA

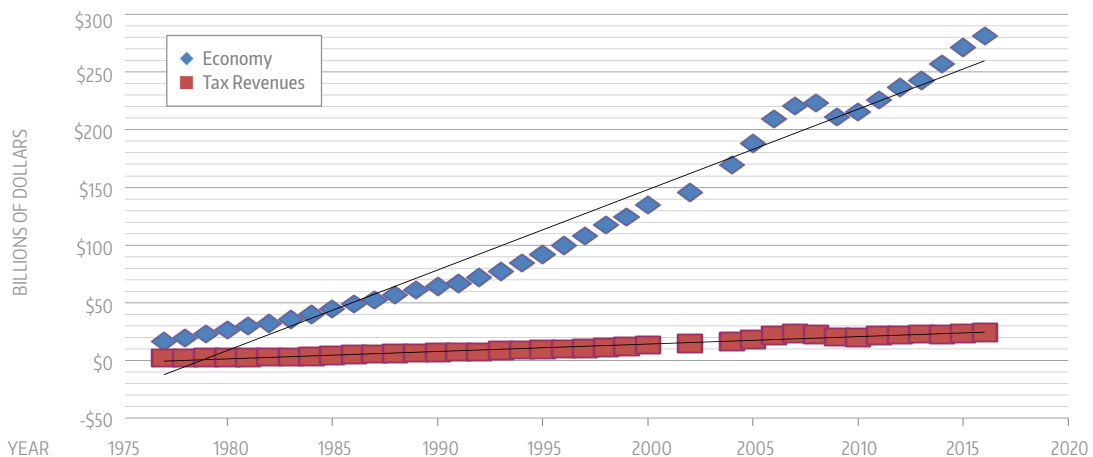
Do pension contributions crowd out education funding? No. The slope of the education expenditure trend line is steeper than that of pension contributions. The crowding out is likely only if the two lines were on a path to convergence.

Trends in State and Local Expenditures on Education and Pensions, Arizona, 1993-2016



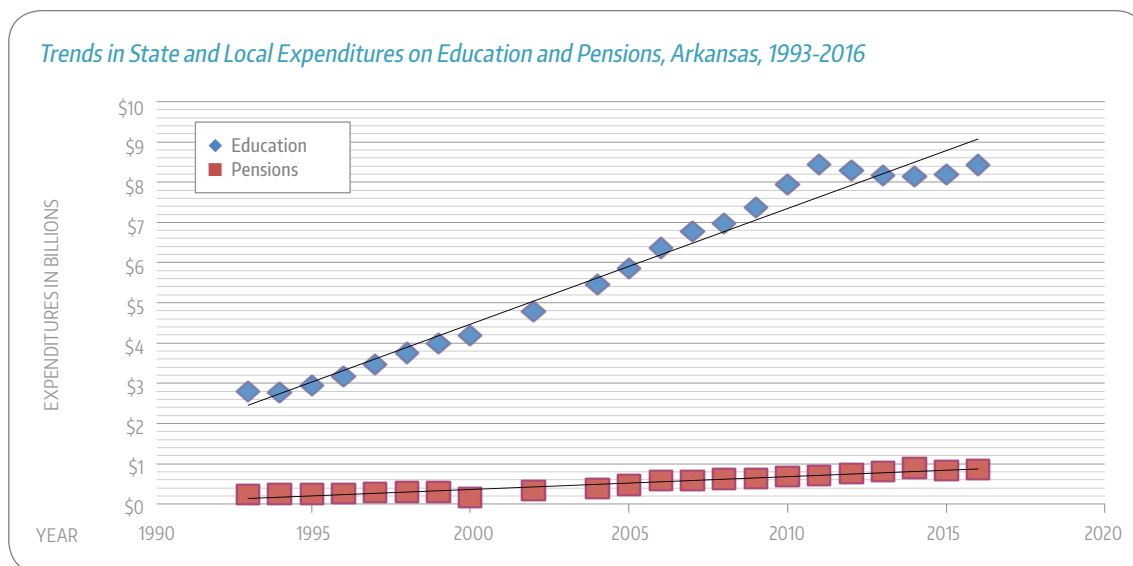
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Trends in Economy and Revenues, Arizona, 1977-2016

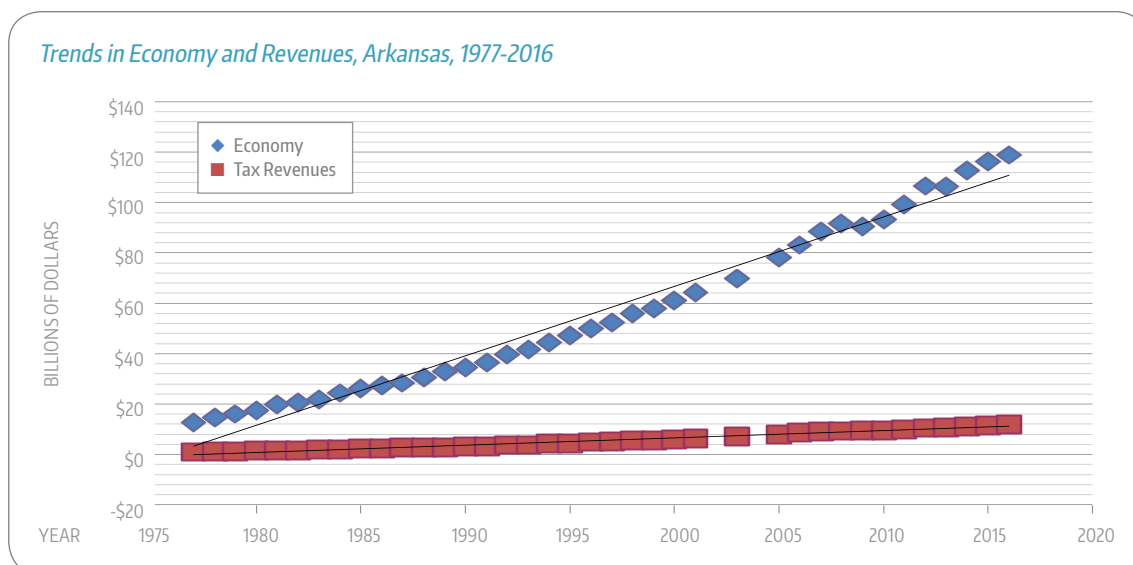


ARKANSAS

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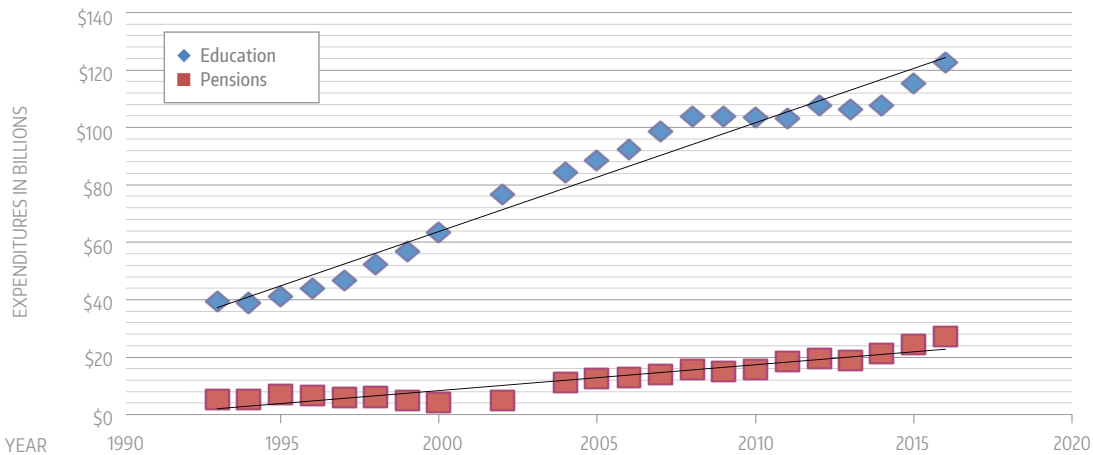
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CALIFORNIA

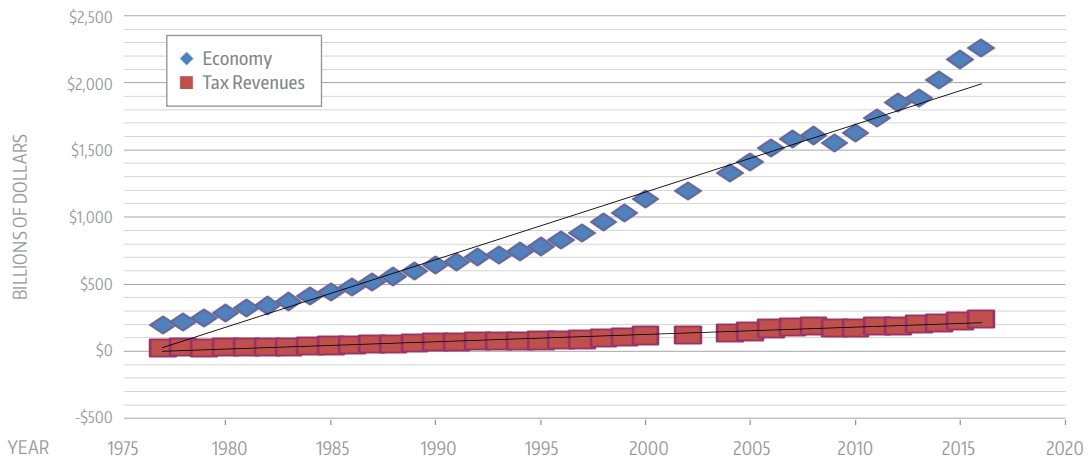
Do pension contributions crowd out education funding? No. The slope of the education expenditure trend line is steeper than that of pension contributions. The crowding out is likely only if the two lines were on a path to convergence.

Trends in State and Local Expenditures on Education and Pensions, California, 1993-2016



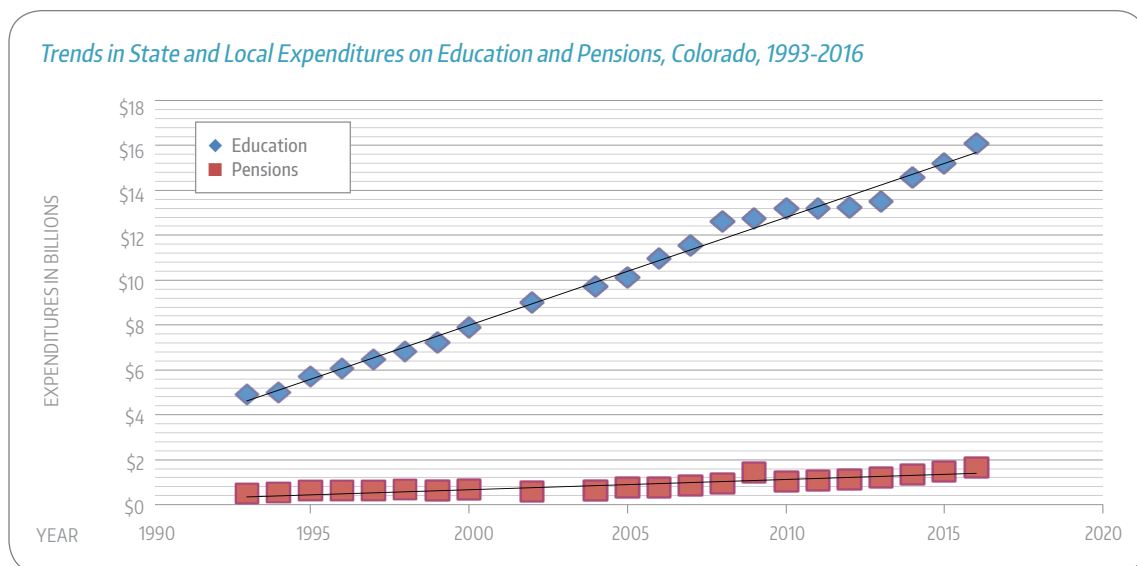
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Trends in Economy and Revenues, California, 1977-2016

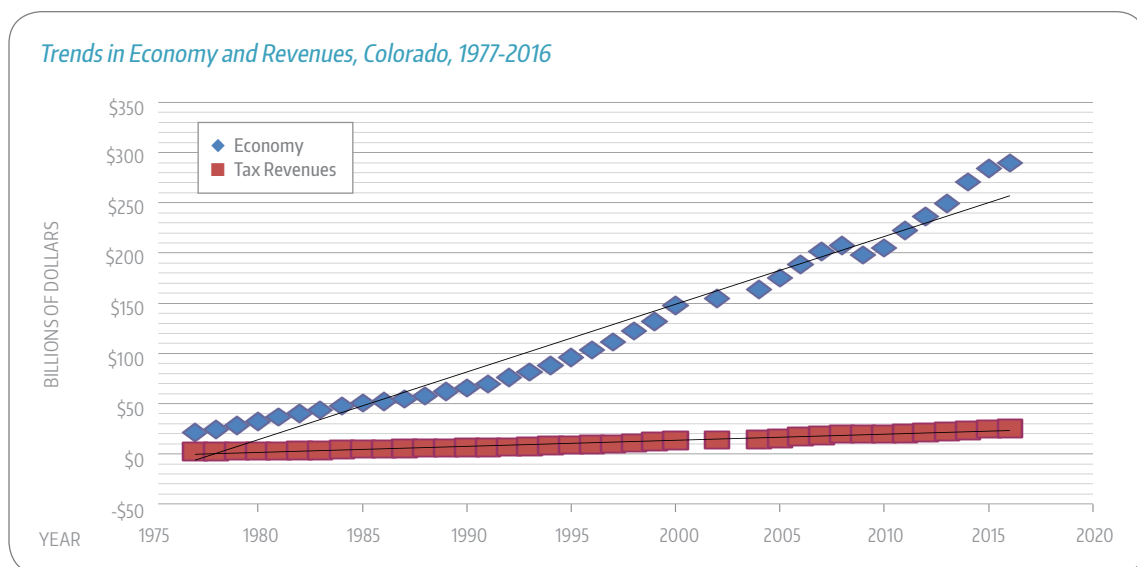


COLORADO

Do pension contributions crowd out education funding? No. The slope of the education expenditure trend line is steeper than that of pension contributions. The crowding out is likely only if the two lines were on a path to convergence.



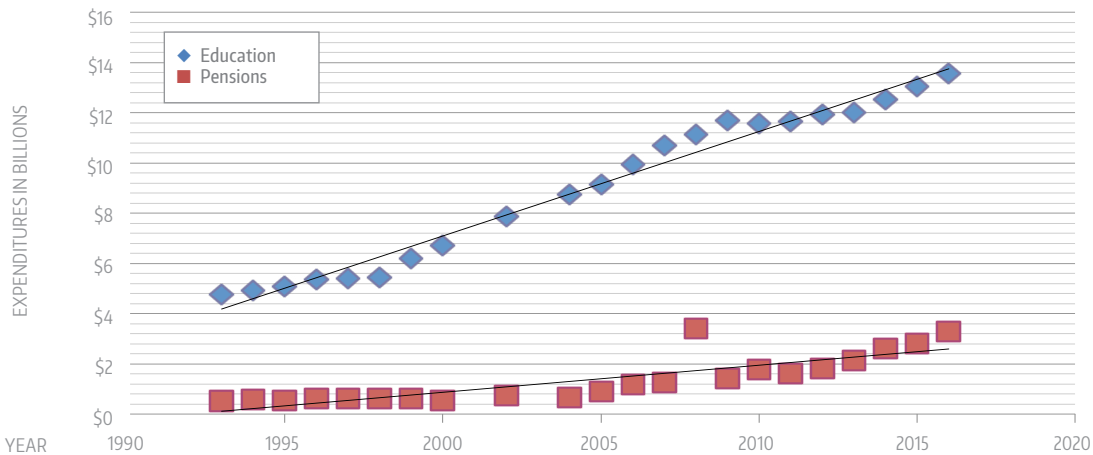
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CONNECTICUT

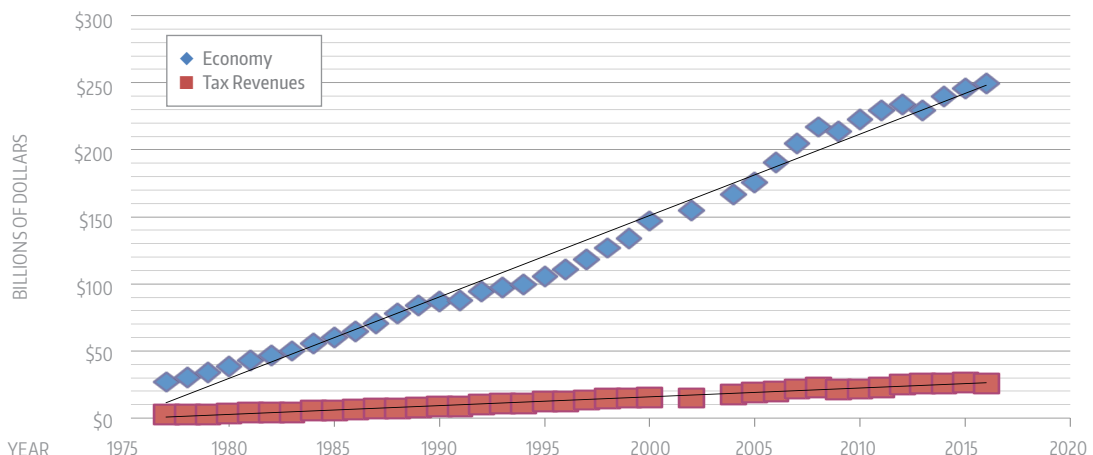
Do pension contributions crowd out education funding? No. The slope of the education expenditure trend line is steeper than that of pension contributions. The crowding out is likely only if the two lines were on a path to convergence.

Trends in State and Local Expenditures on Education and Pensions, Connecticut, 1993-2016



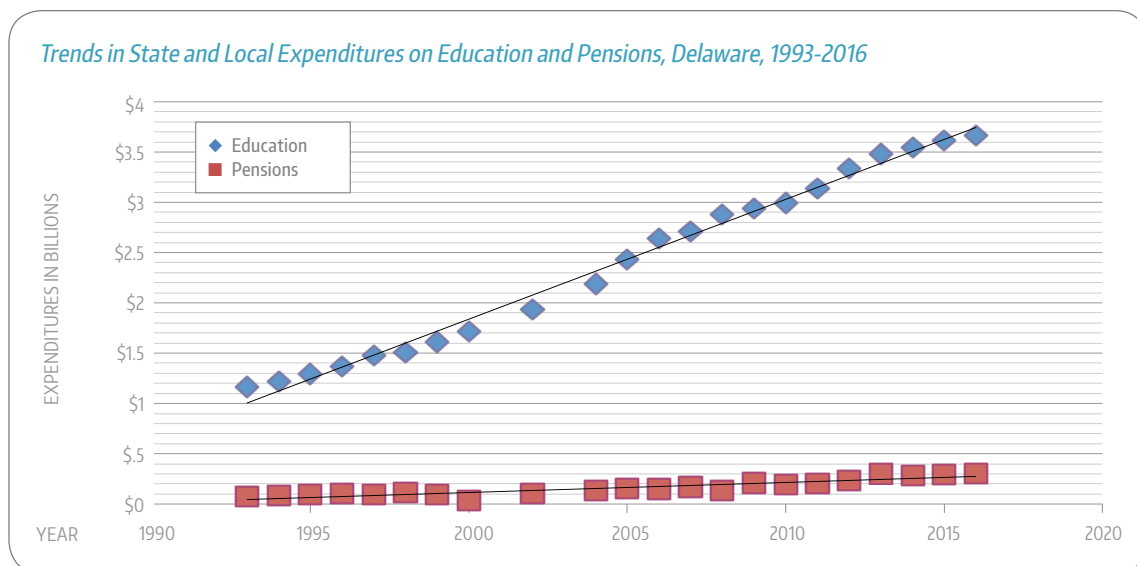
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Trends in Economy and Revenues, Connecticut, 1977-2016

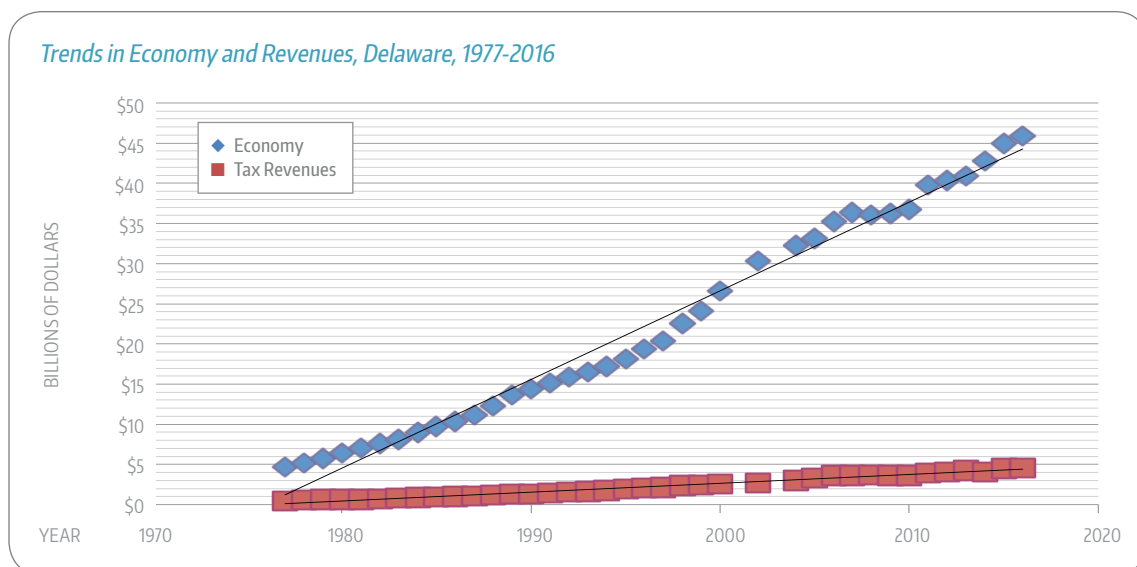


DELAWARE

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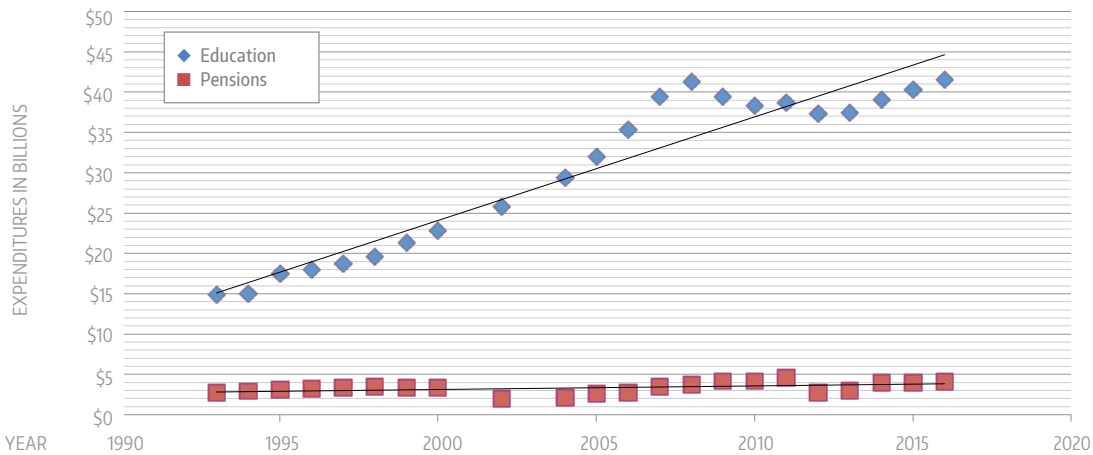
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FLORIDA

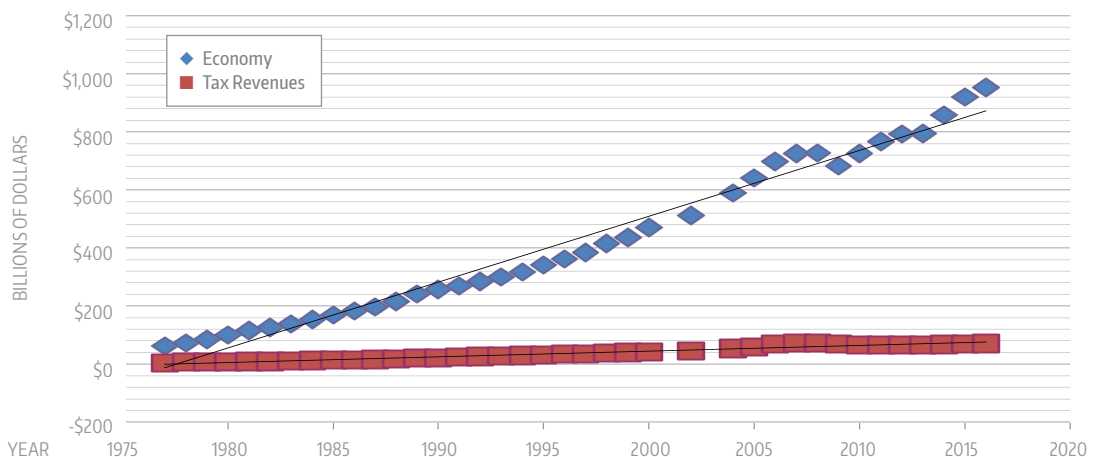
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Trends in State and Local Expenditures on Education and Pensions, Florida, 1993-2016



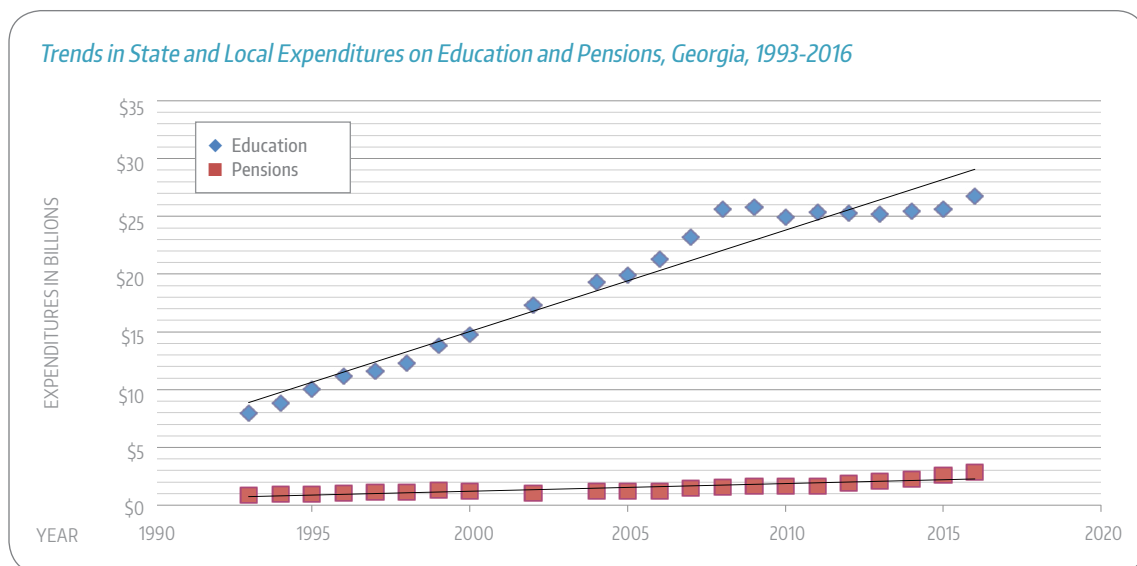
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Trends in Economy and Revenues, Florida, 1977-2016

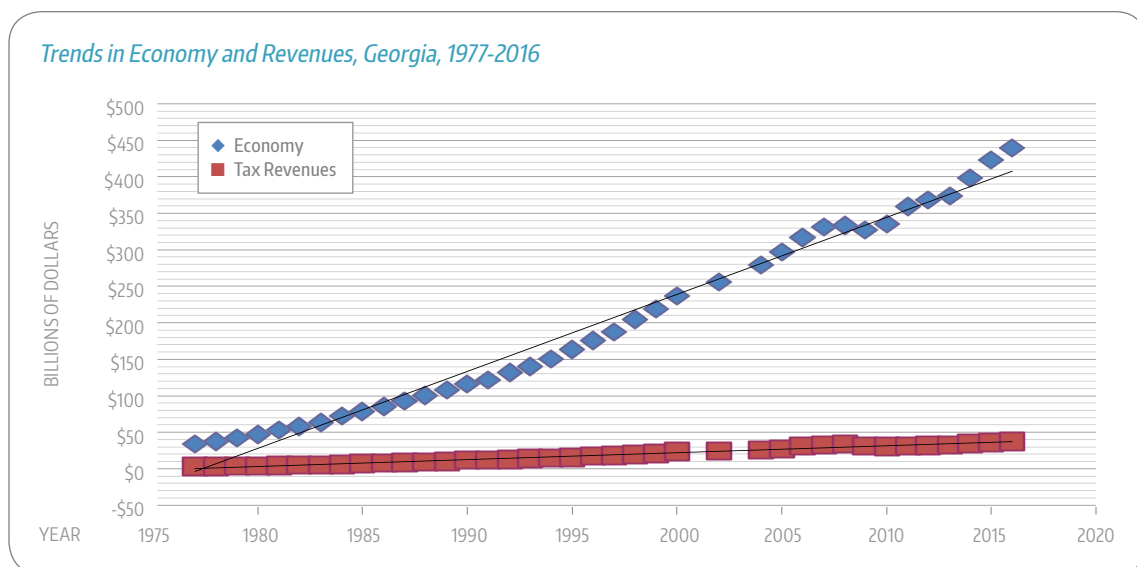


GEORGIA

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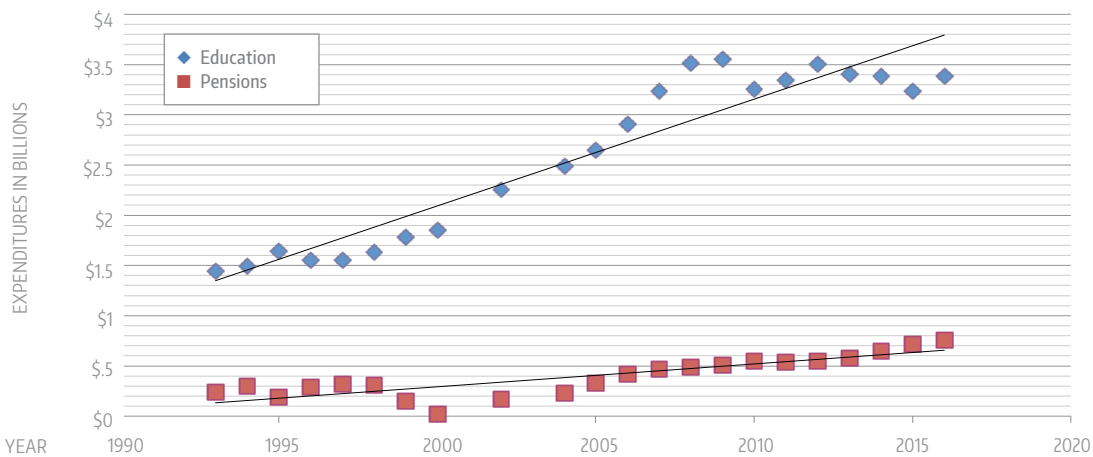
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HAWAII

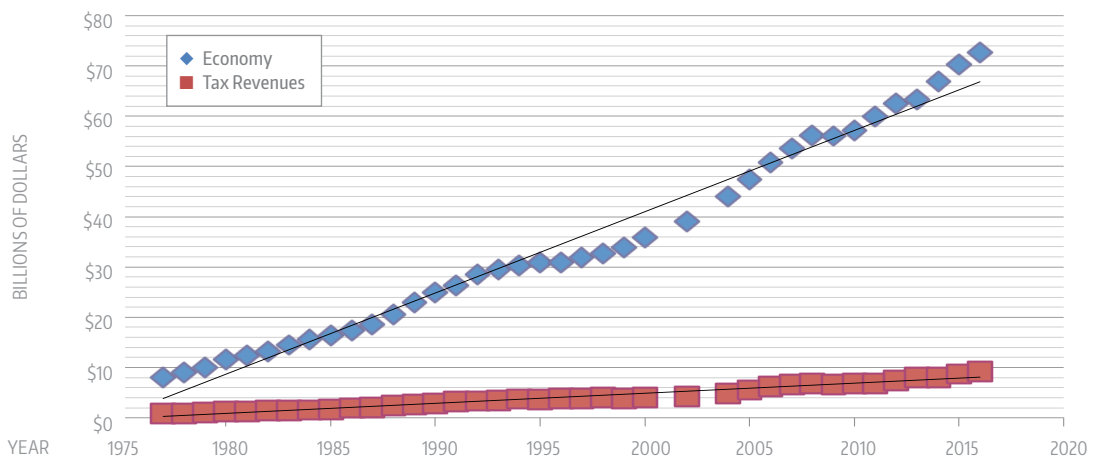
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Trends in State and Local Expenditures on Education and Pensions, Hawaii, 1993-2016



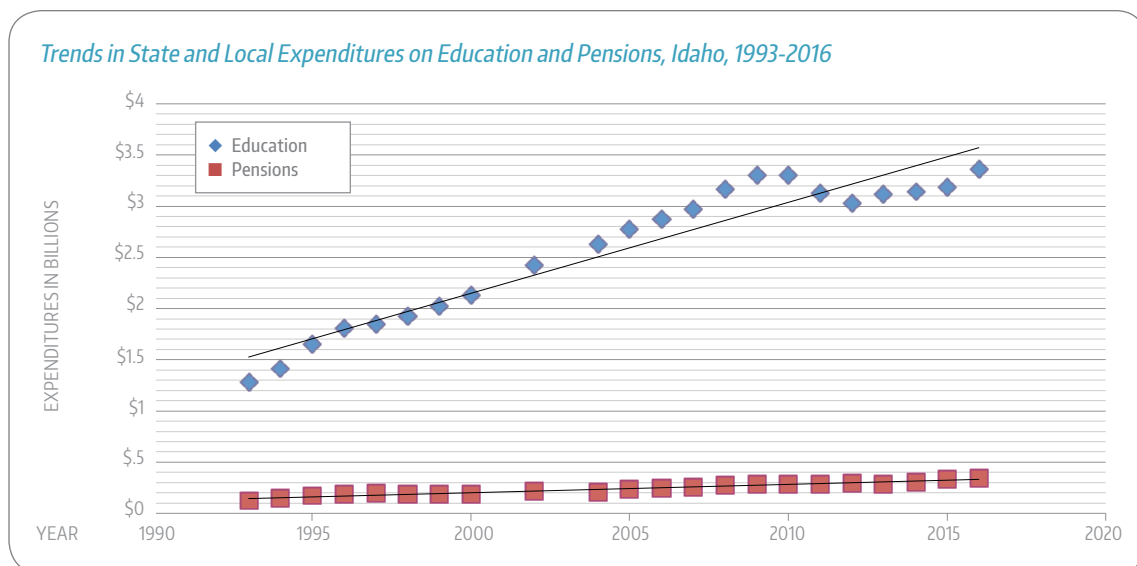
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Trends in Economy and Revenues, Hawaii, 1977-2016

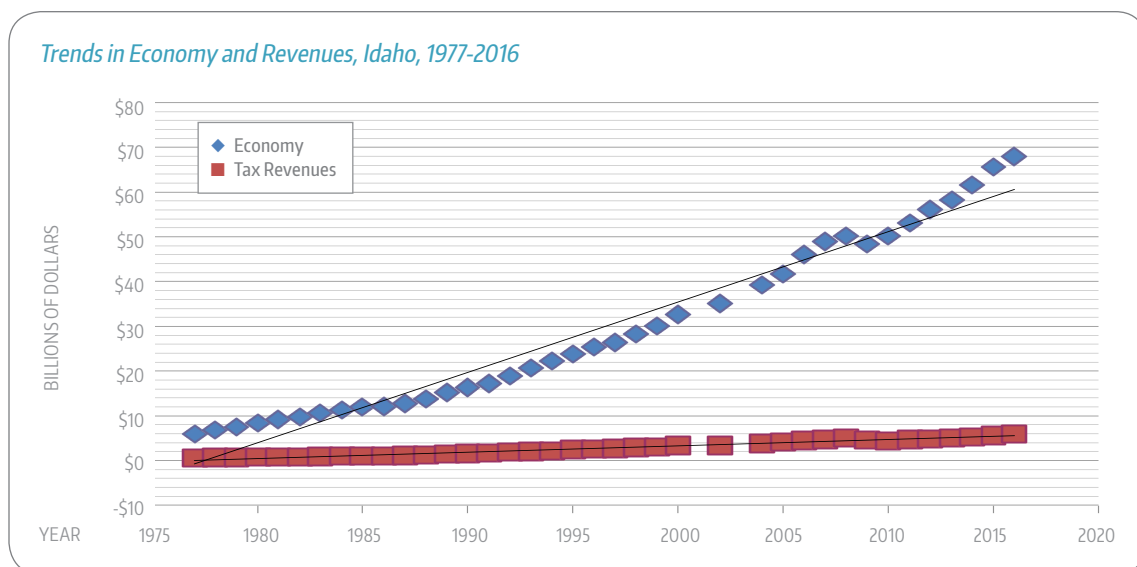


IDAHO

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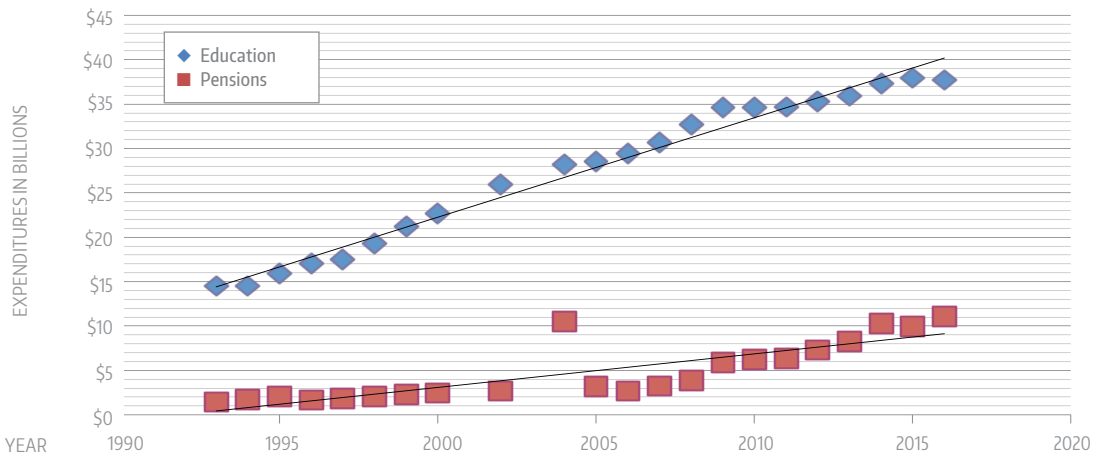
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ILLINOIS

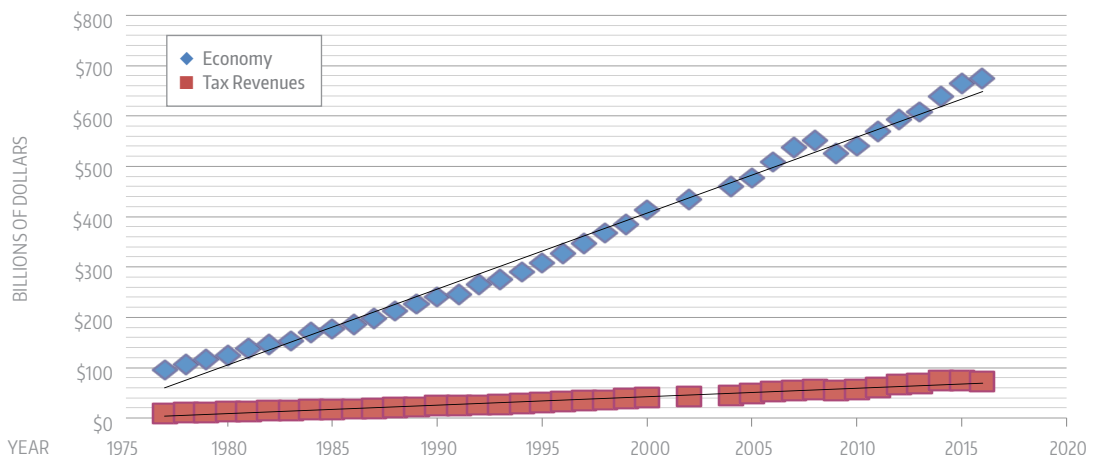
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Trends in State and Local Expenditures on Education and Pensions, Illinois, 1993-2016



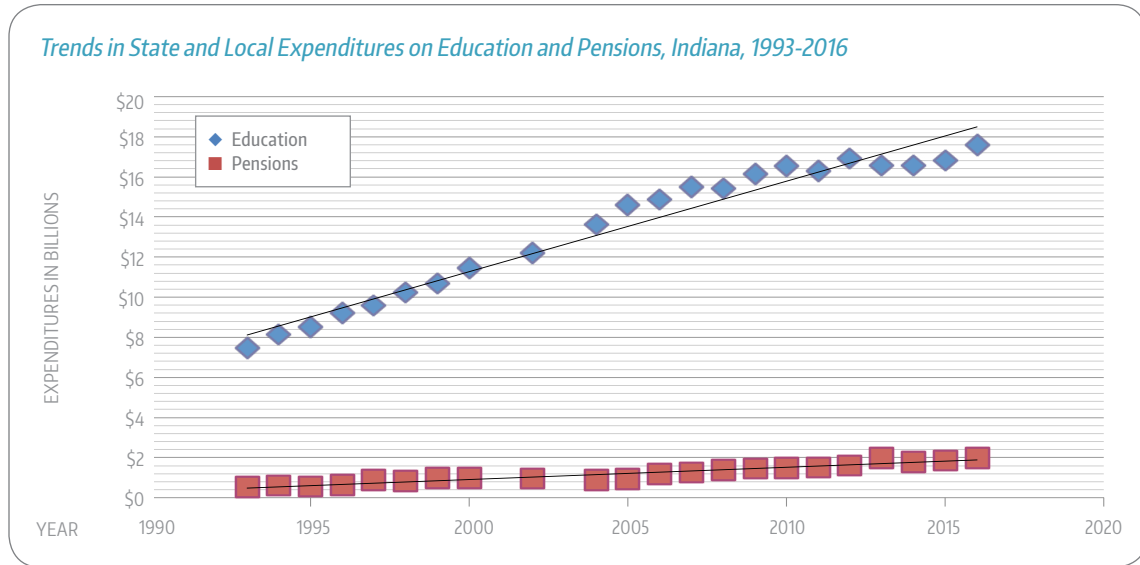
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Trends in Economy and Revenues, Illinois, 1977-2016

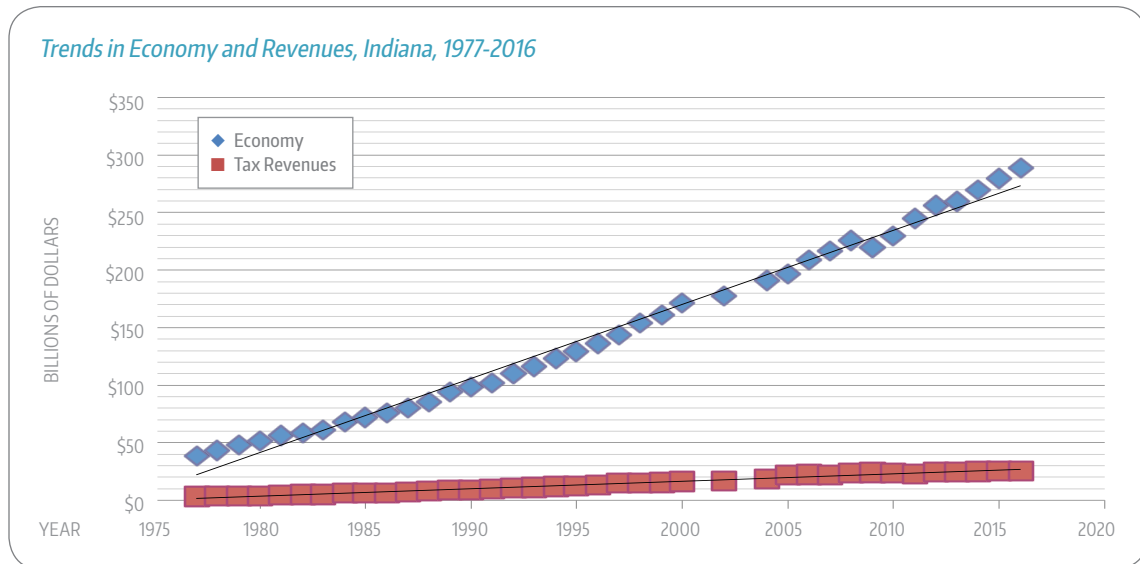


INDIANA

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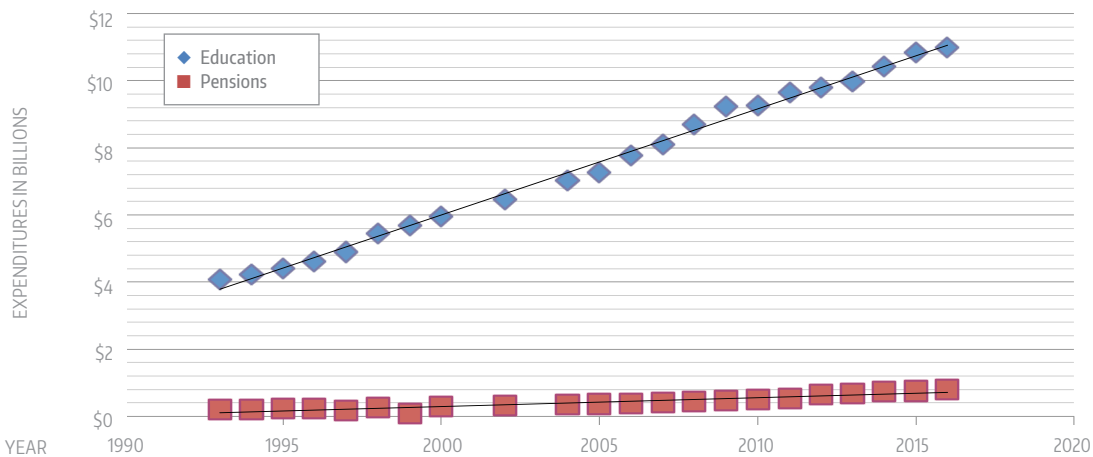
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IOWA

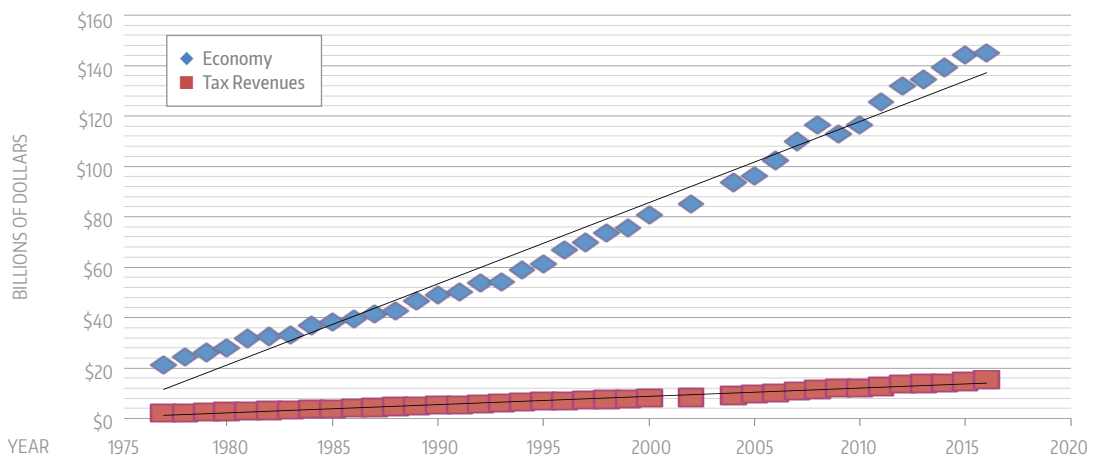
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Trends in State and Local Expenditures on Education and Pensions, Iowa, 1993-2016



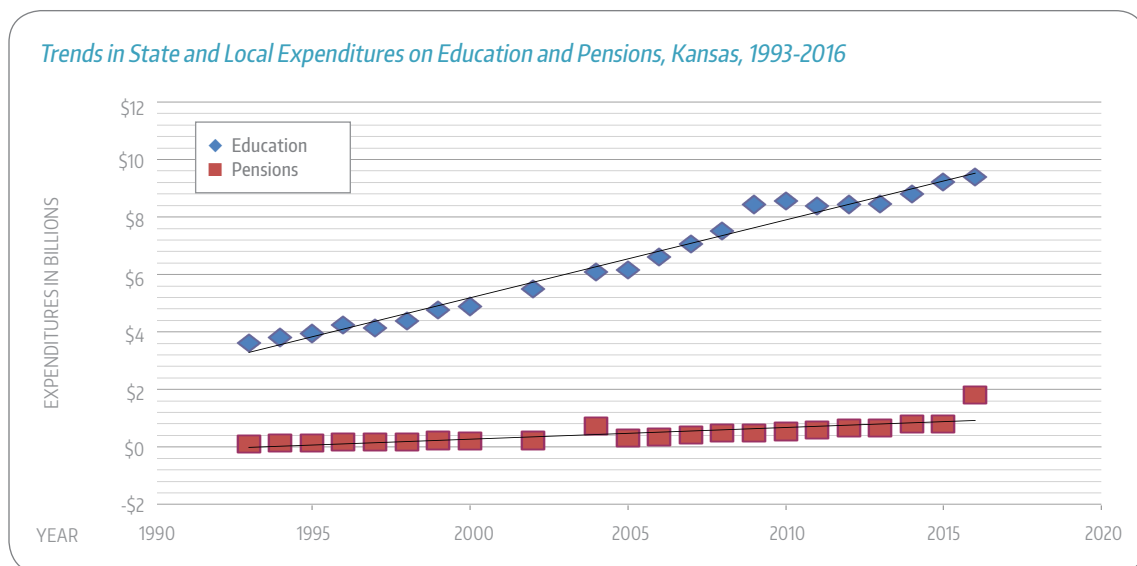
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Trends in Economy and Revenues, Iowa, 1977-2016

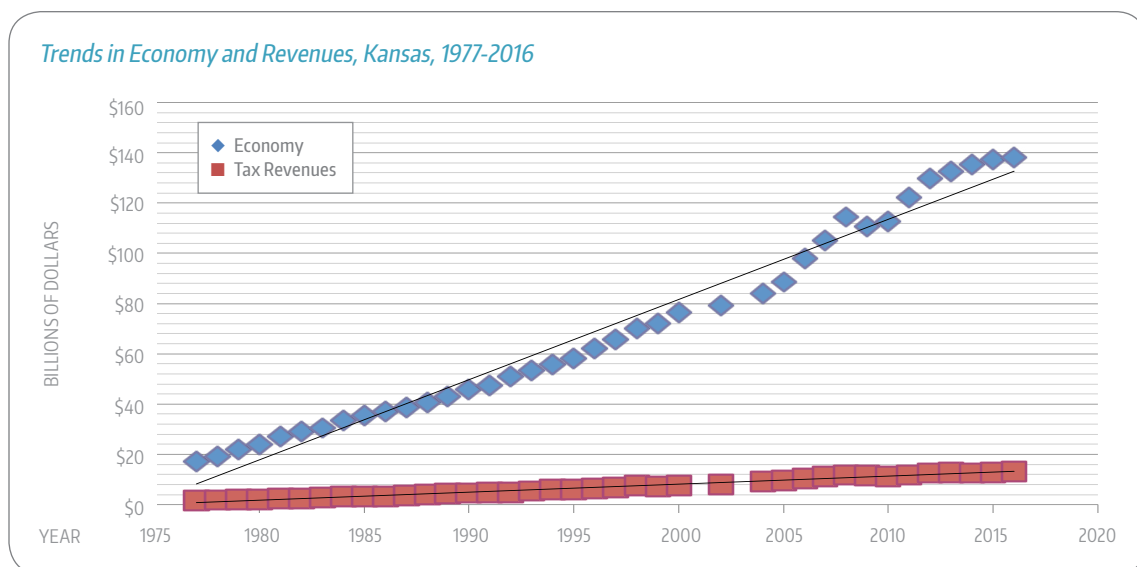


KANSAS

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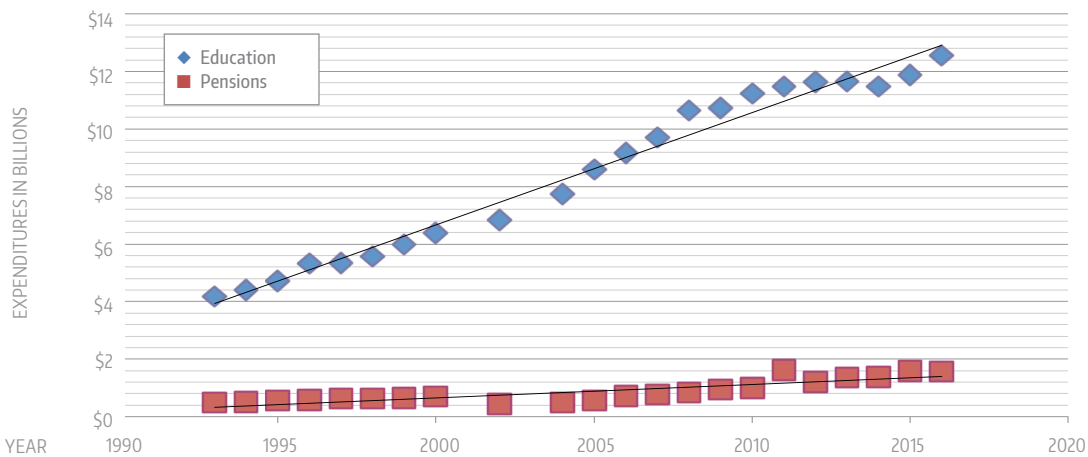
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KENTUCKY

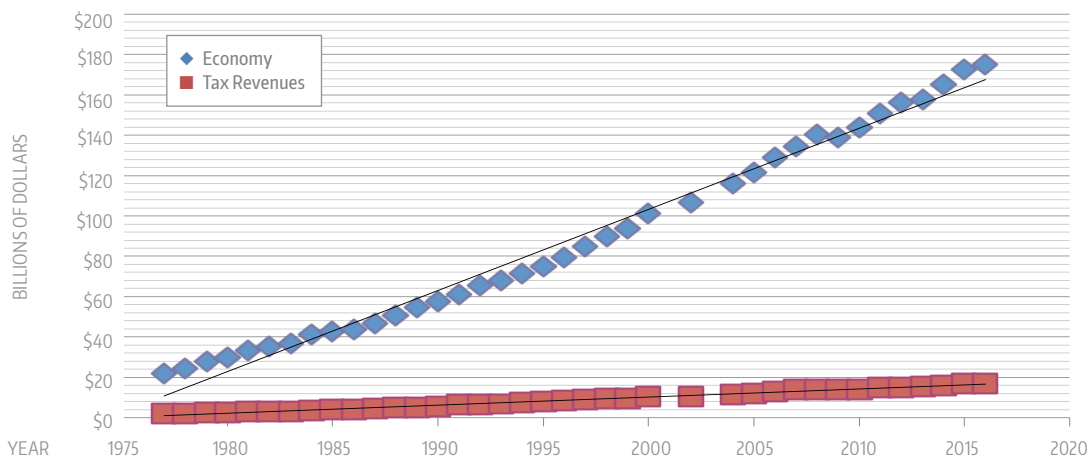
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Trends in State and Local Expenditures on Education and Pensions, Kentucky, 1993-2016



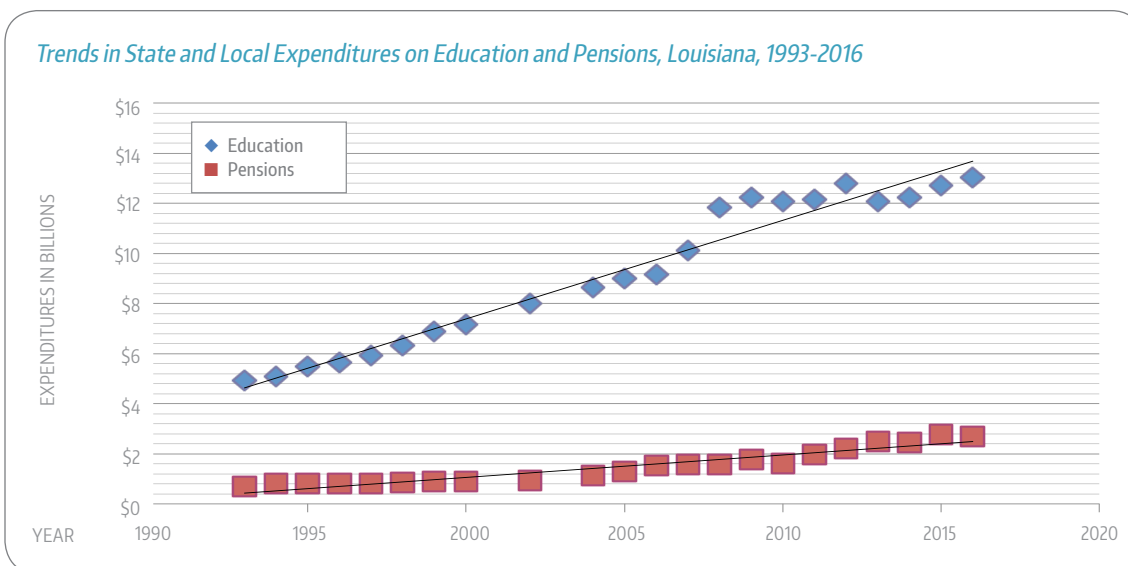
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Trends in Economy and Revenues, Kentucky, 1977-2016

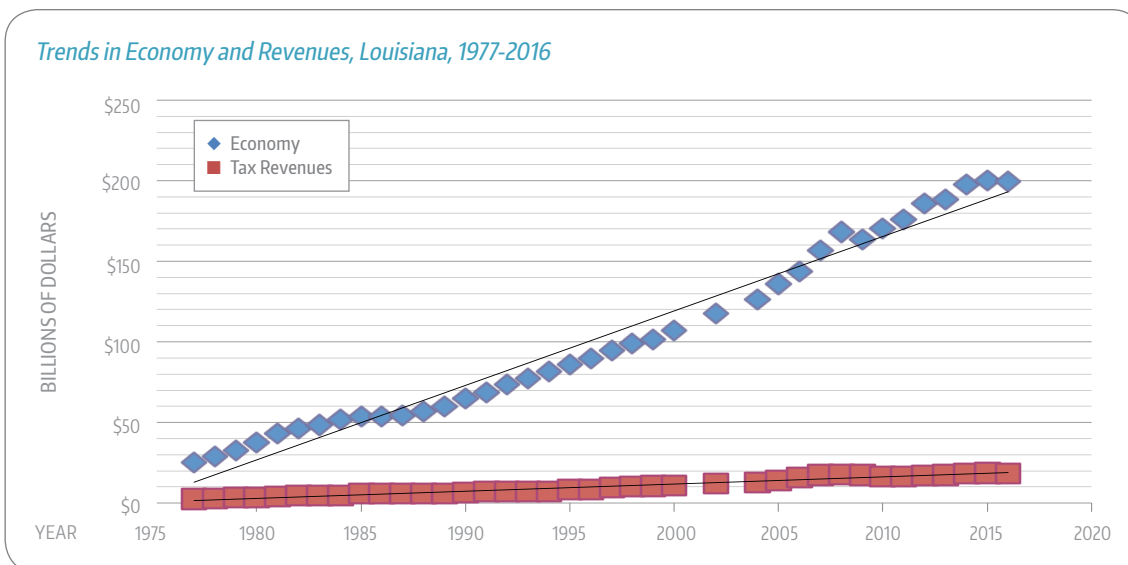


LOUISIANA

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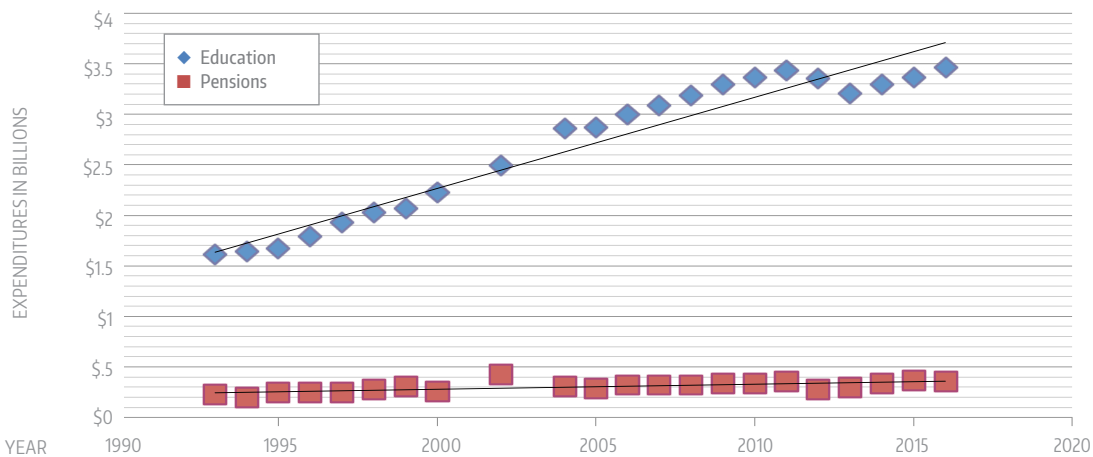
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MAINE

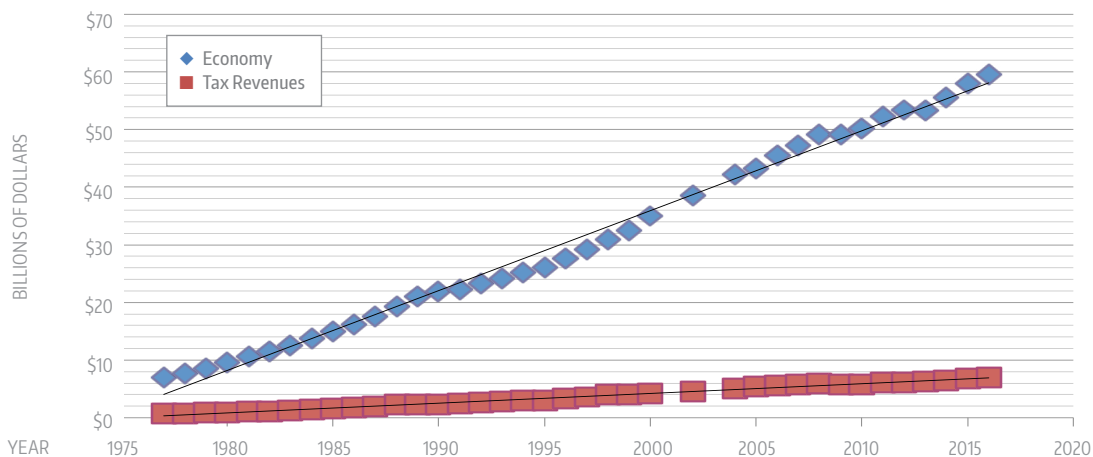
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Trends in State and Local Expenditures on Education and Pensions, Maine, 1993-2016



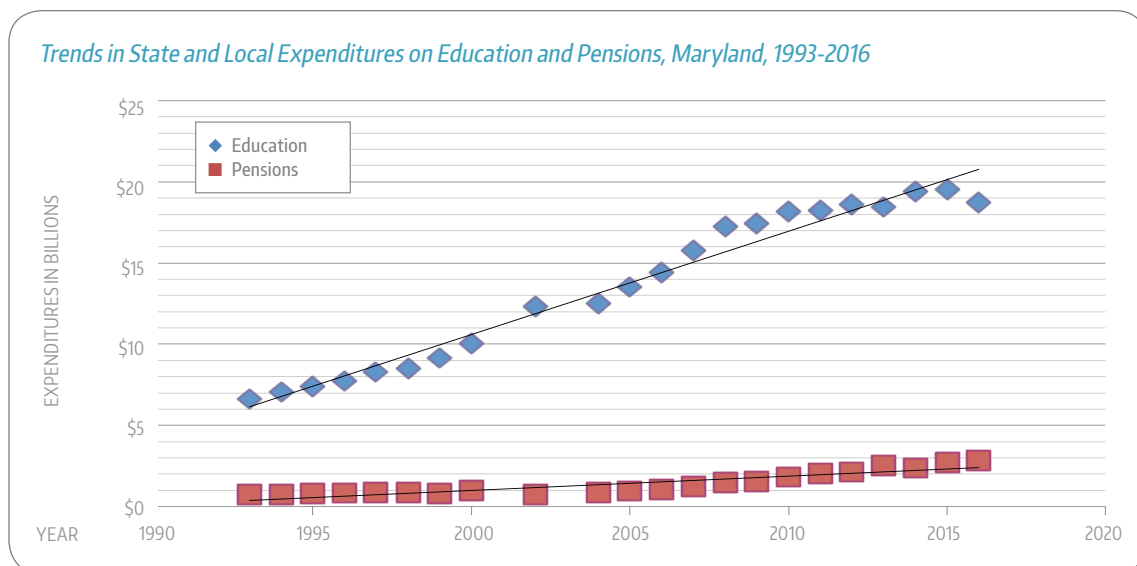
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Trends in Economy and Revenues, Maine, 1977-2016

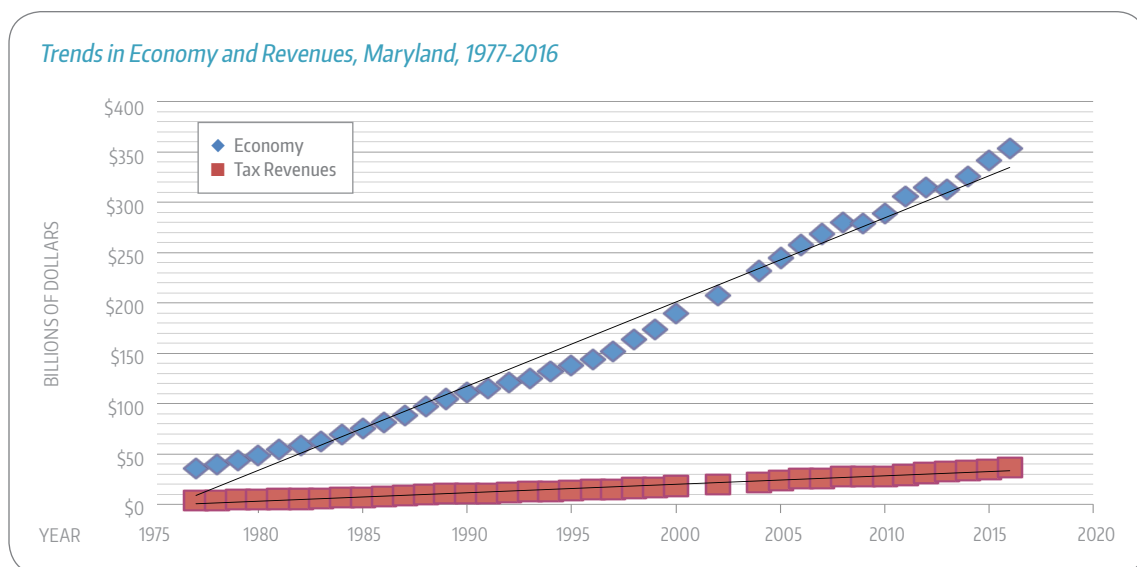


MARYLAND

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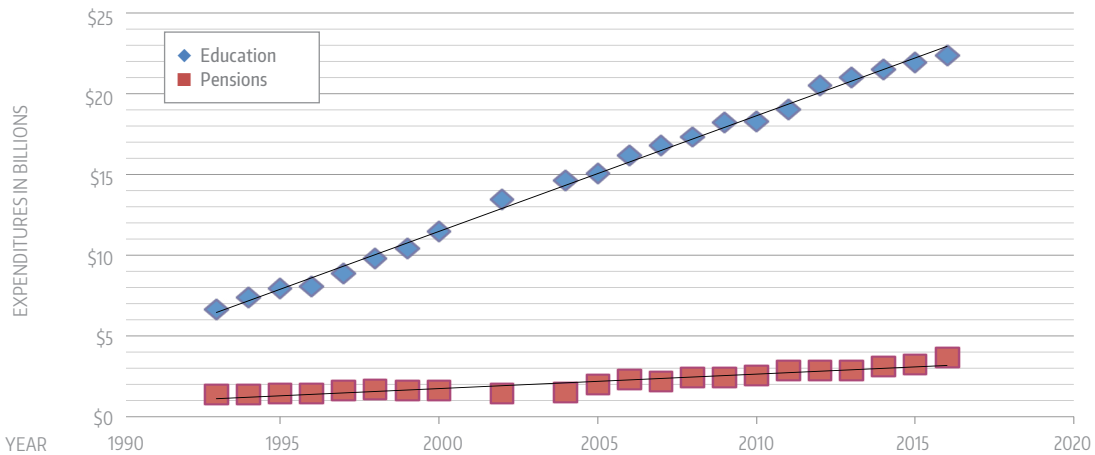
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MASSACHUSETTS

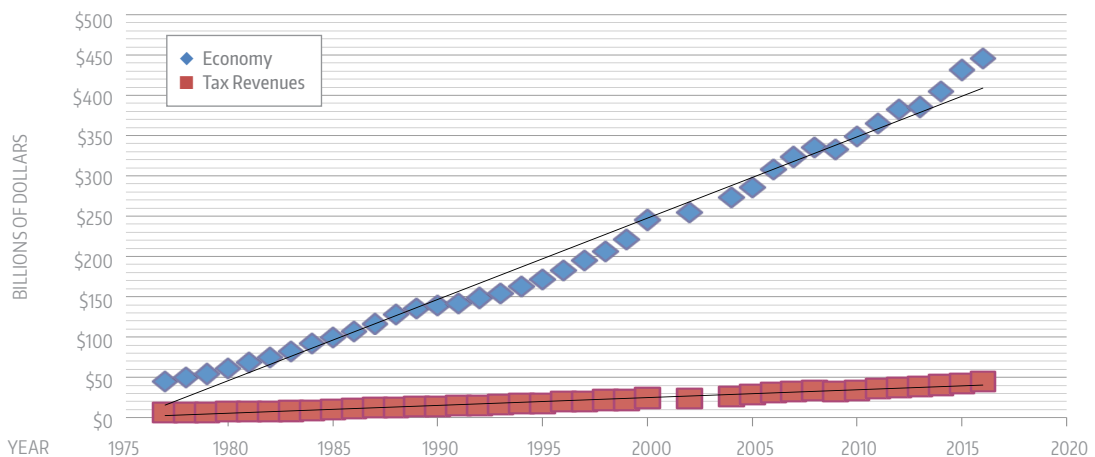
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Trends in State and Local Expenditures on Education and Pensions, Massachusetts, 1993-2016



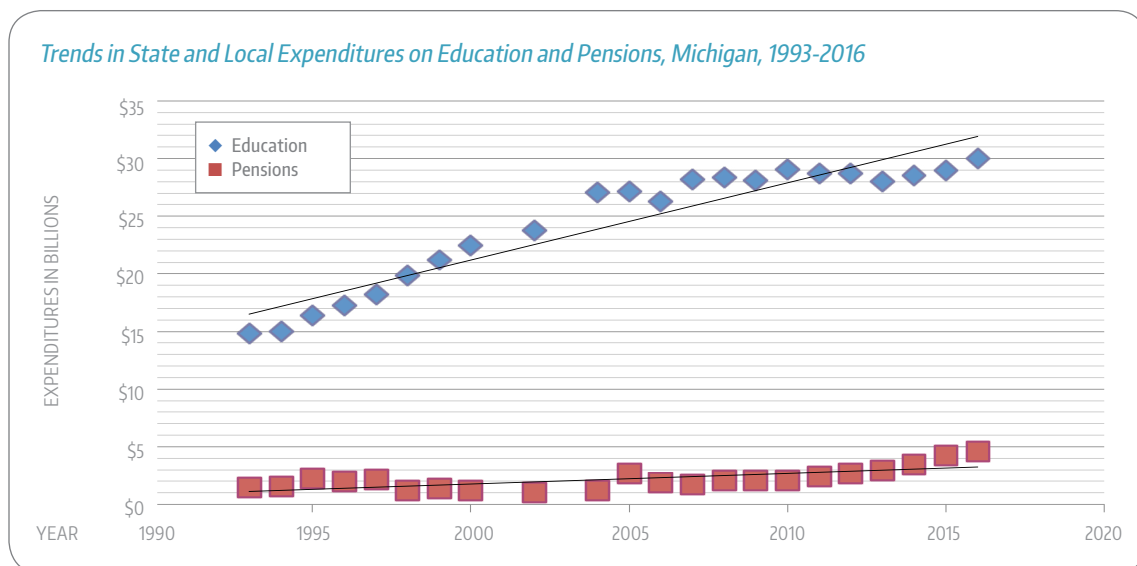
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Trends in Economy and Revenues, Massachusetts, 1977-2016

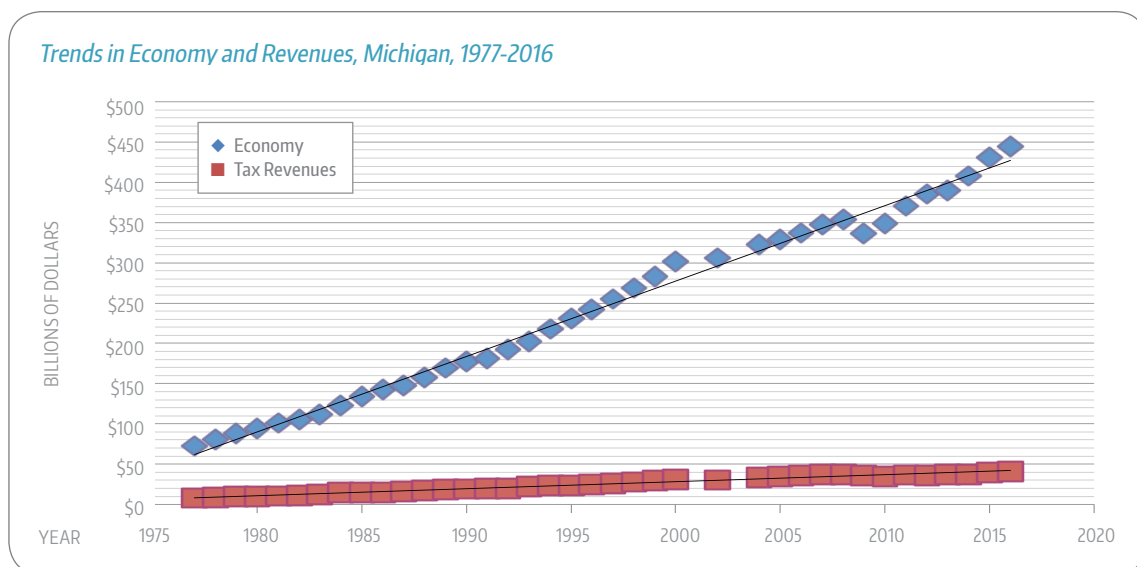


MICHIGAN

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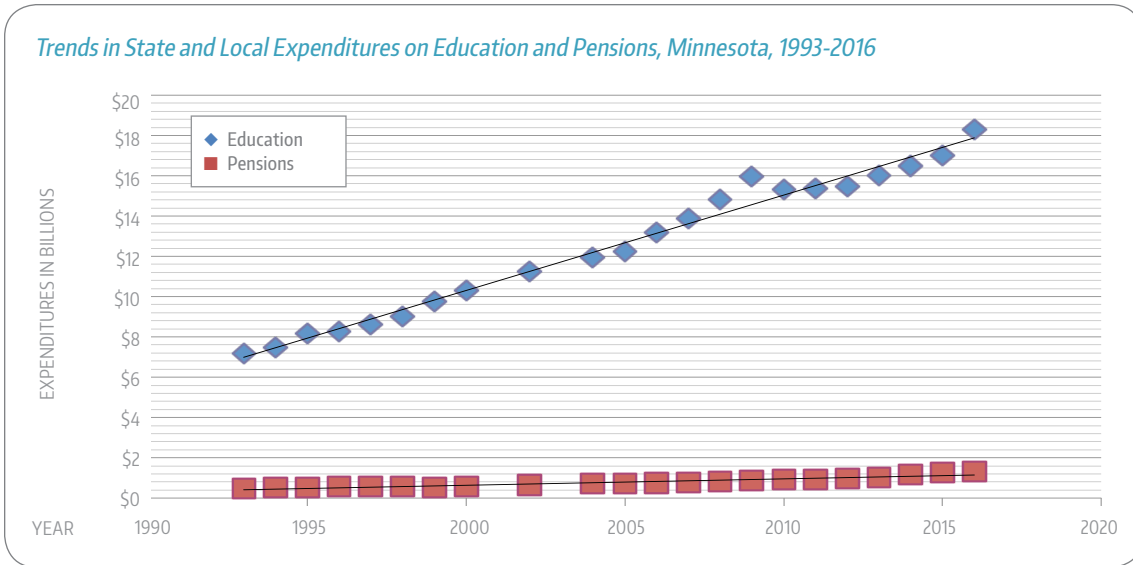


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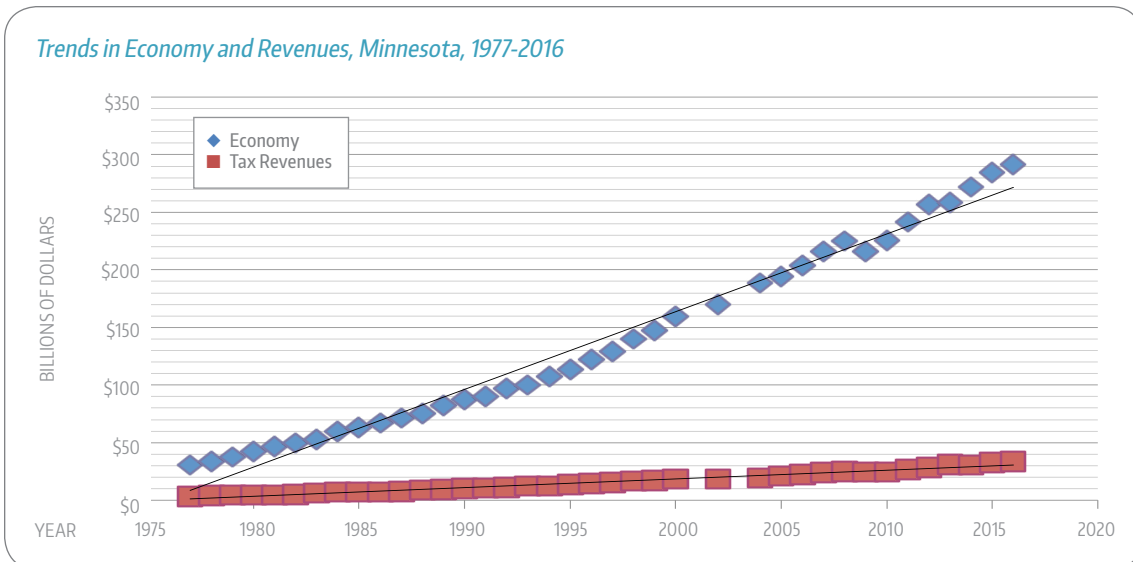


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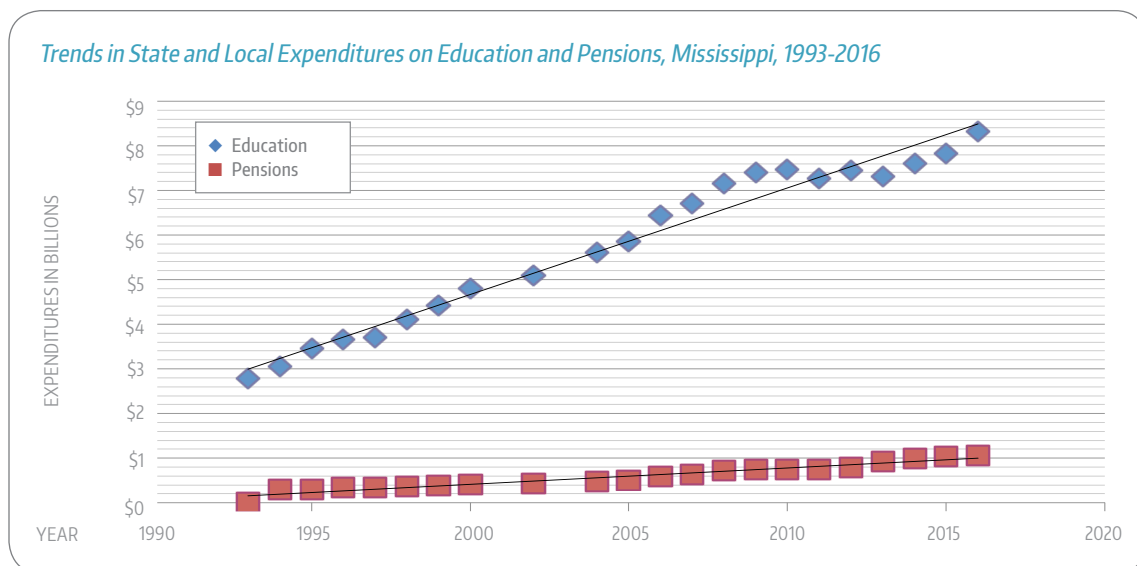


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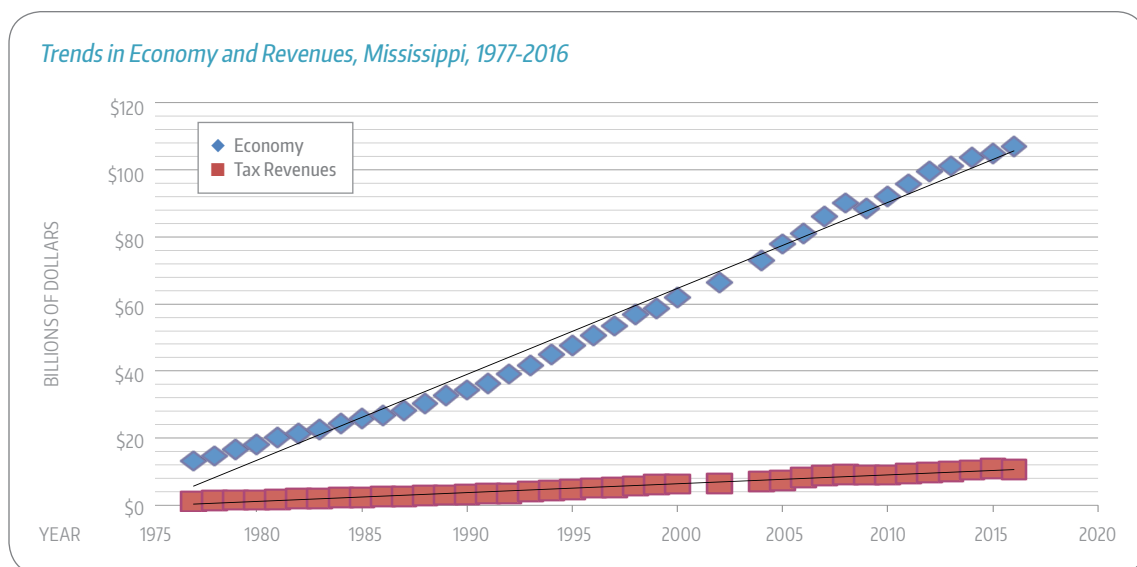


MISSISSIPPI

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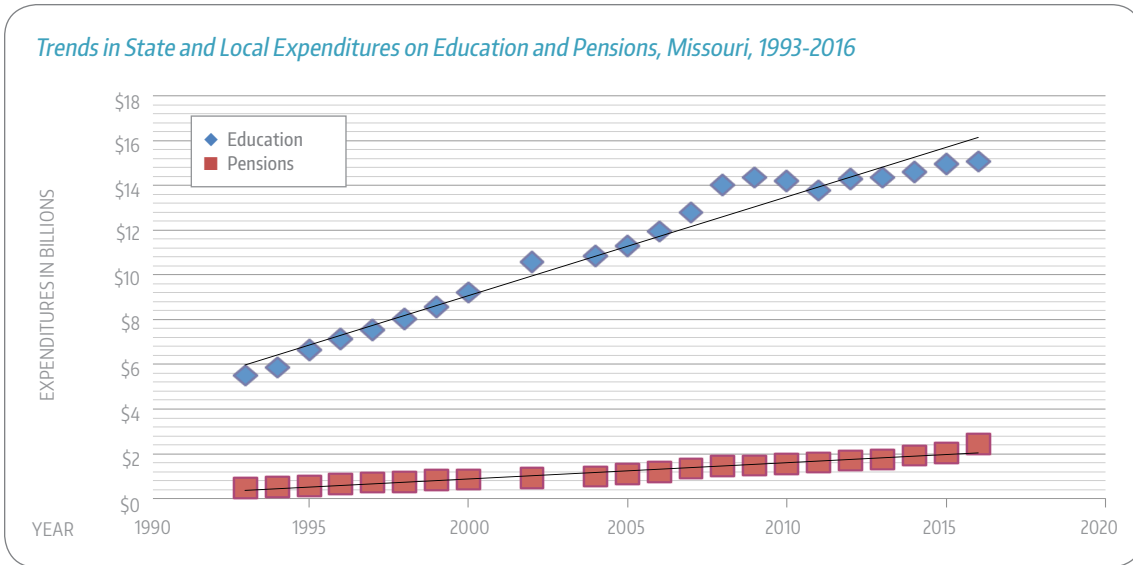


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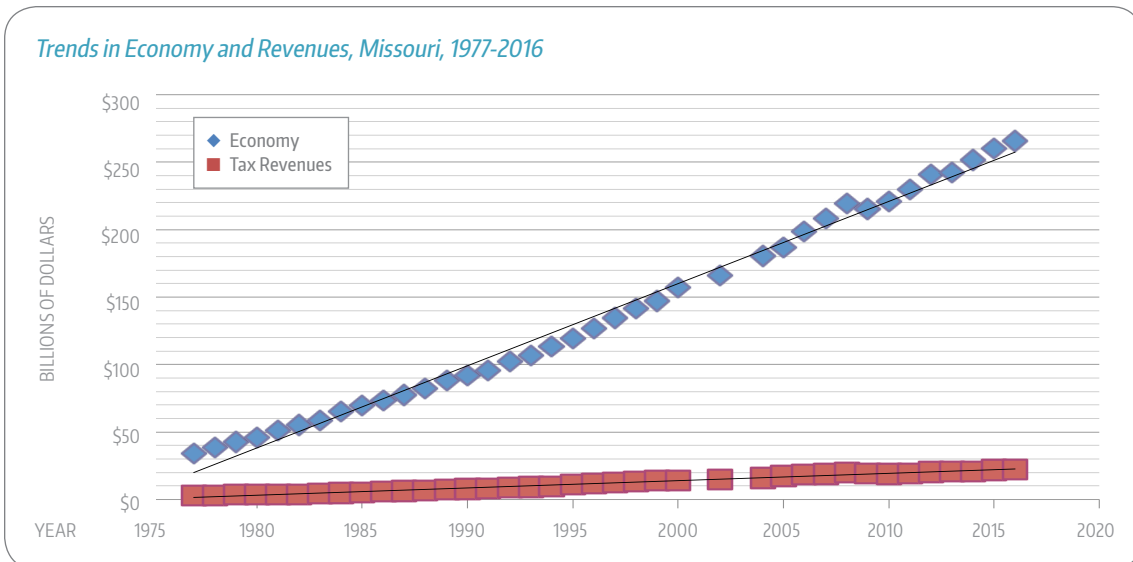


MISSOURI

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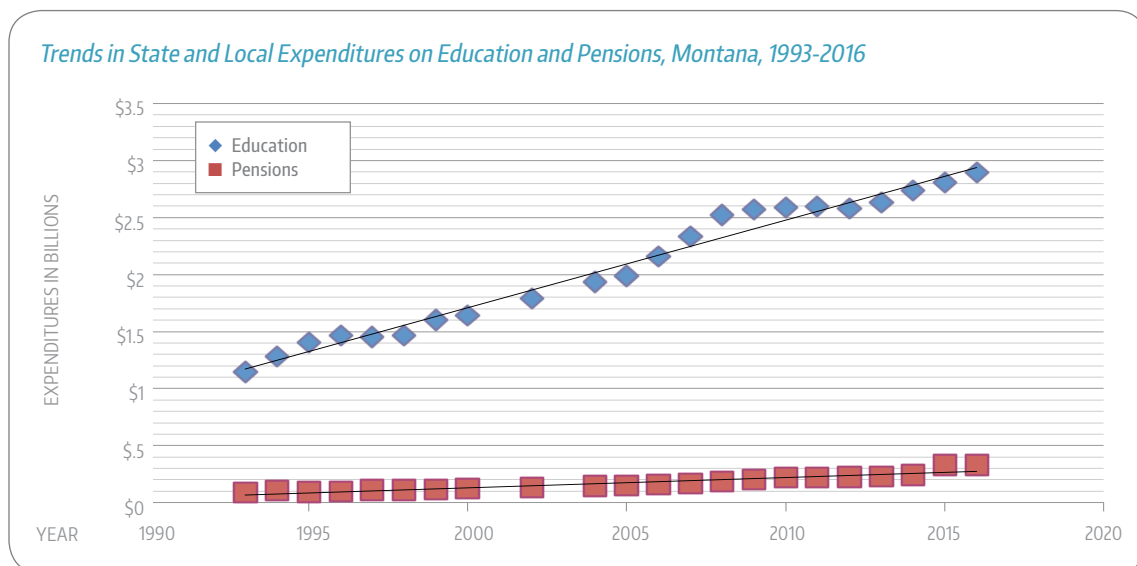


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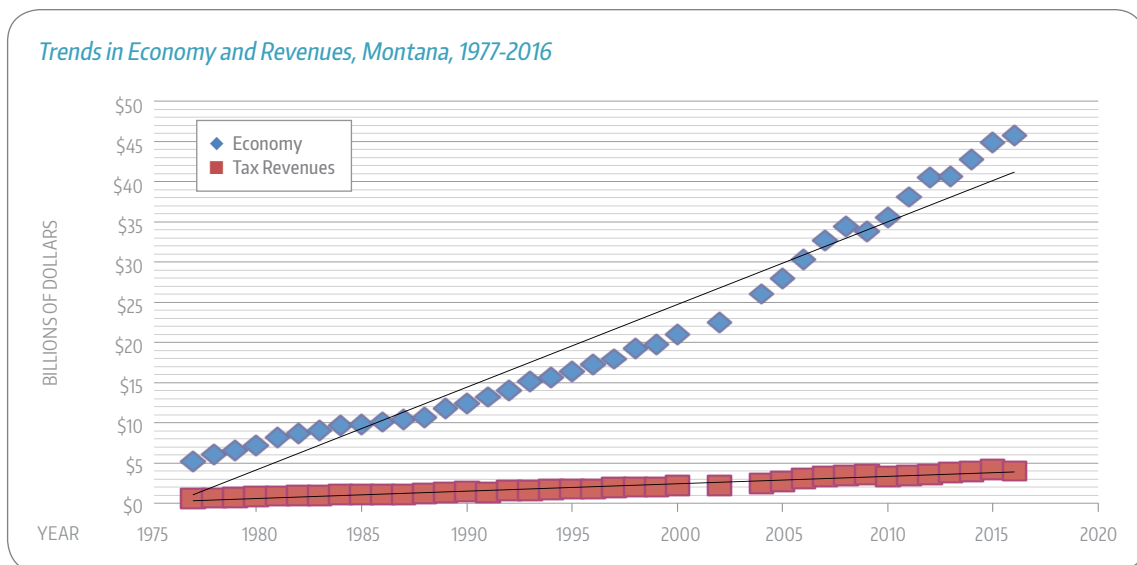


MONTANA

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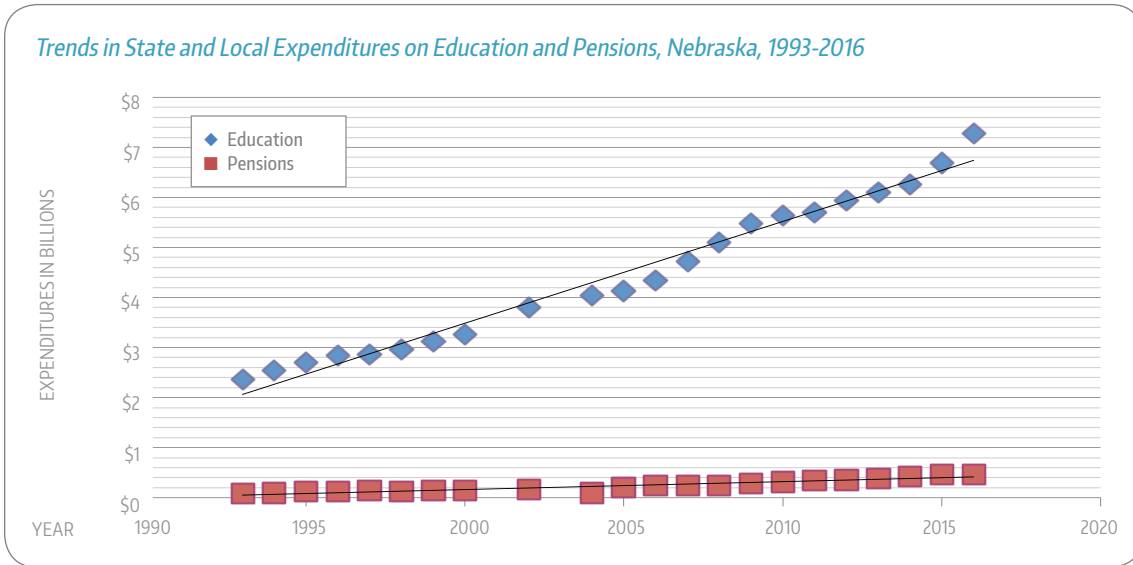


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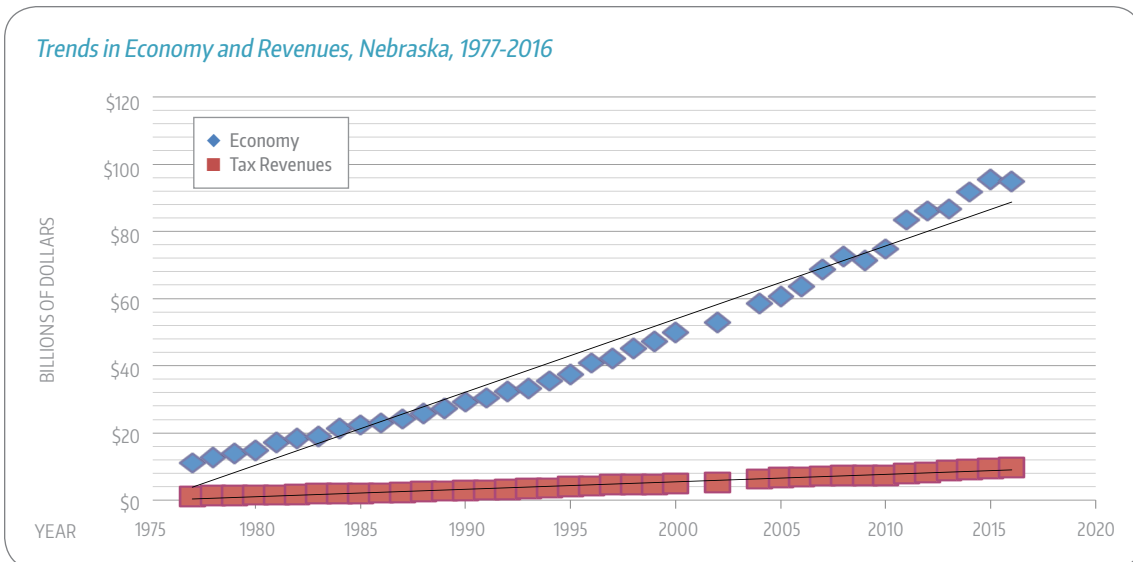


NEBRASKA

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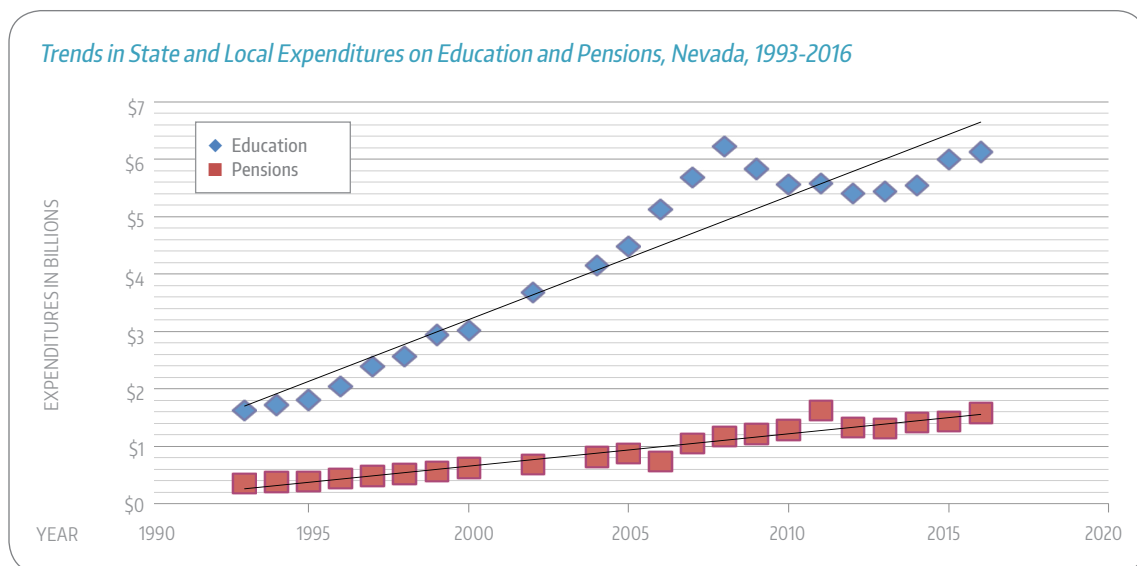


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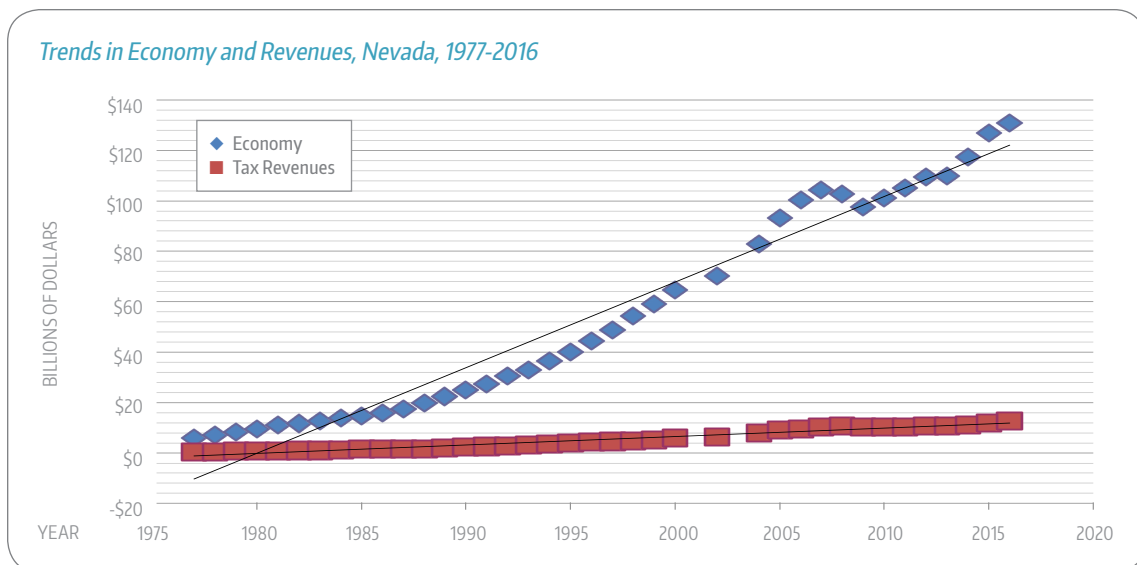


NEVADA

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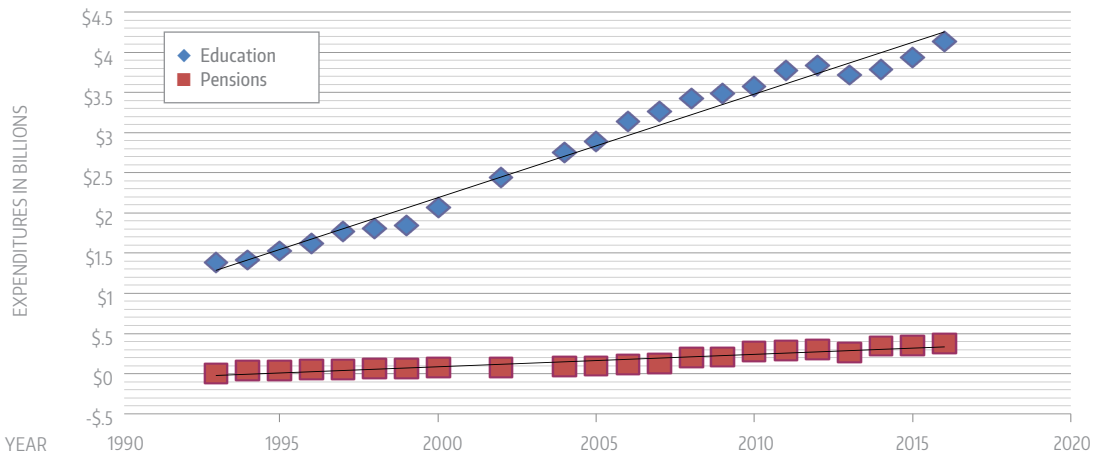
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NEW HAMPSHIRE

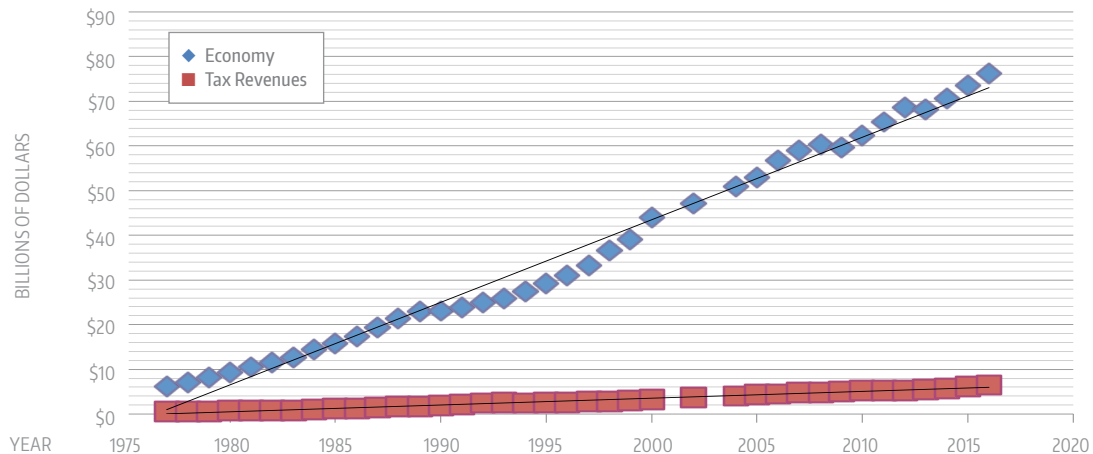
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Trends in State and Local Expenditures on Education and Pensions, New Hampshire, 1993-2016



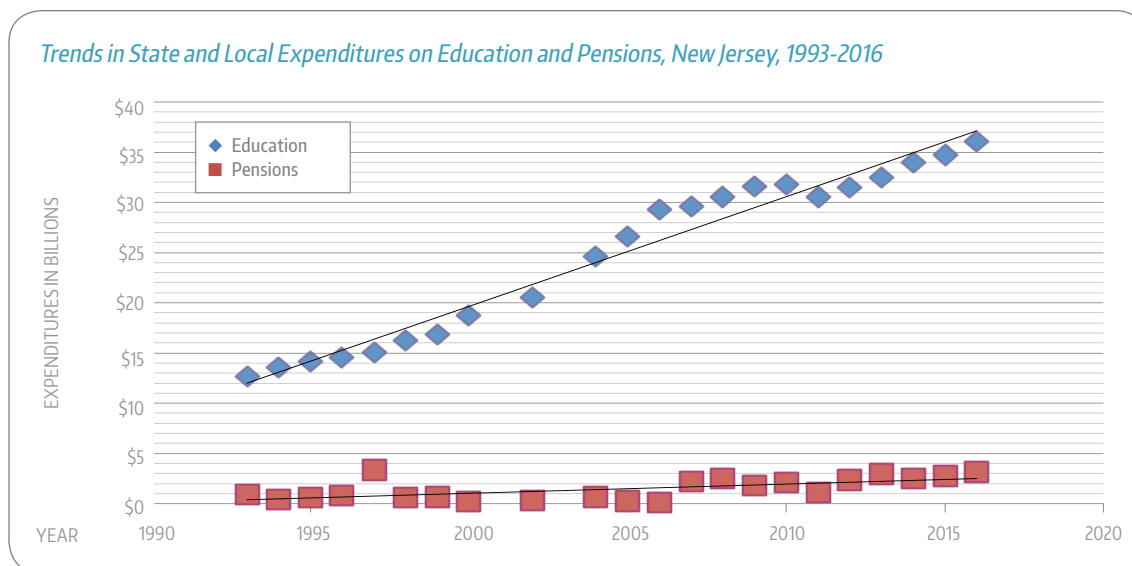
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Trends in Economy and Revenues, New Hampshire, 1977-2016

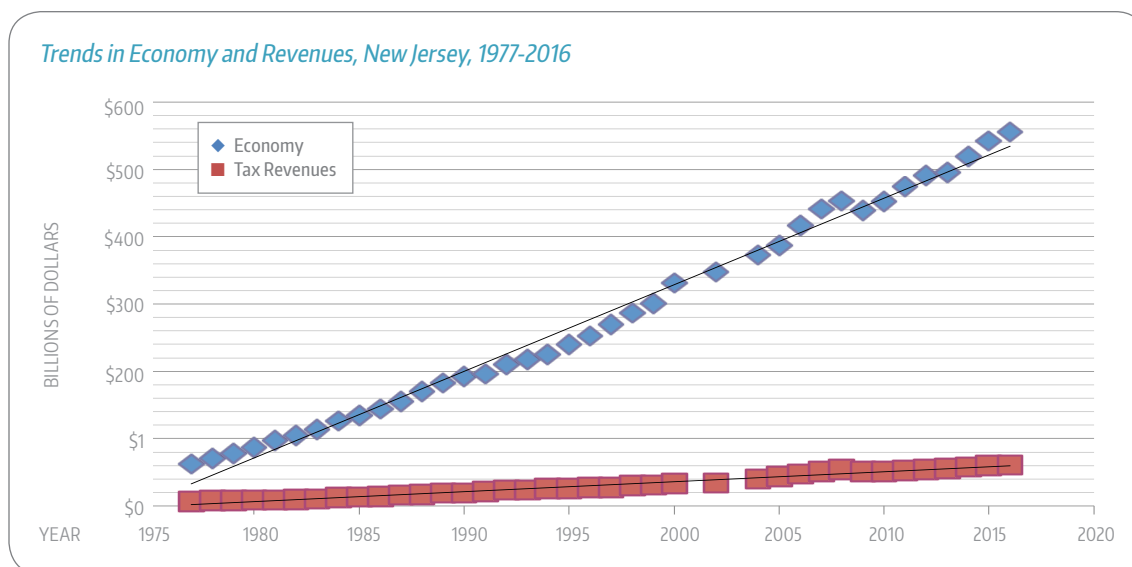


NEW JERSEY

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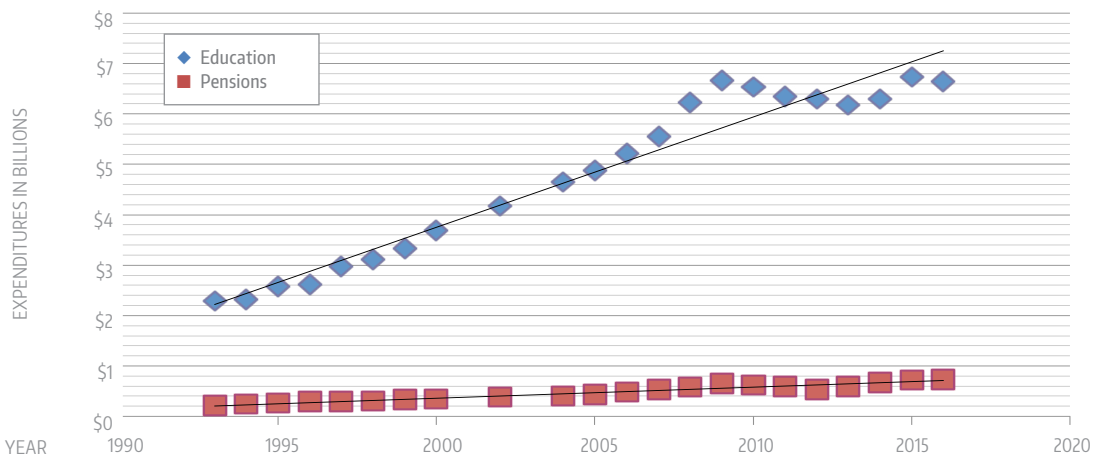
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NEW MEXICO

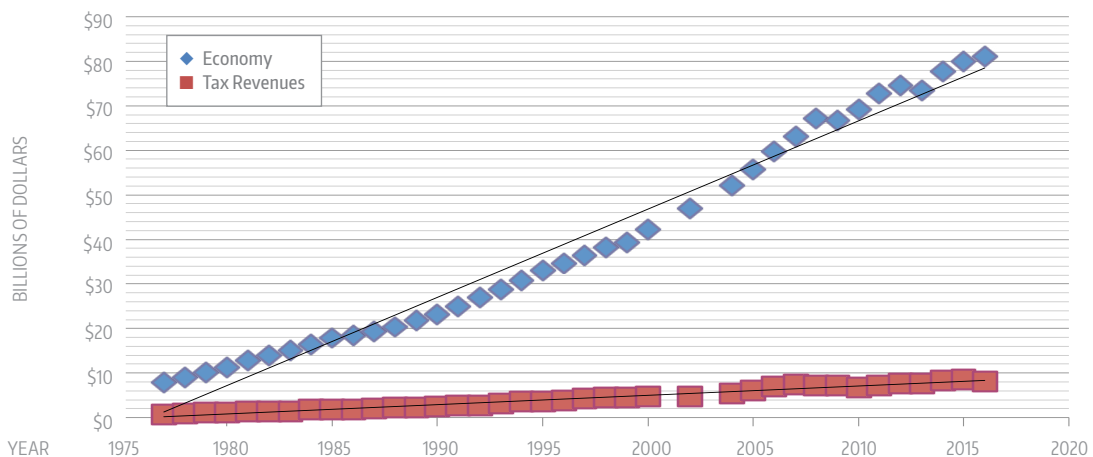
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Trends in State and Local Expenditures on Education and Pensions, New Mexico, 1993-2016



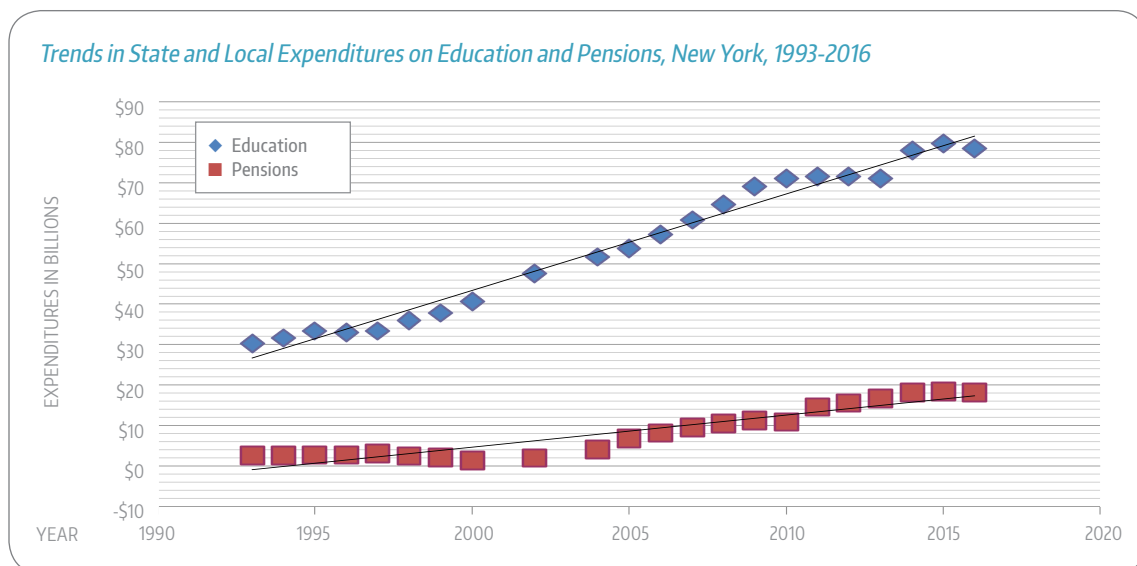
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Trends in Economy and Revenues, New Mexico, 1977-2016

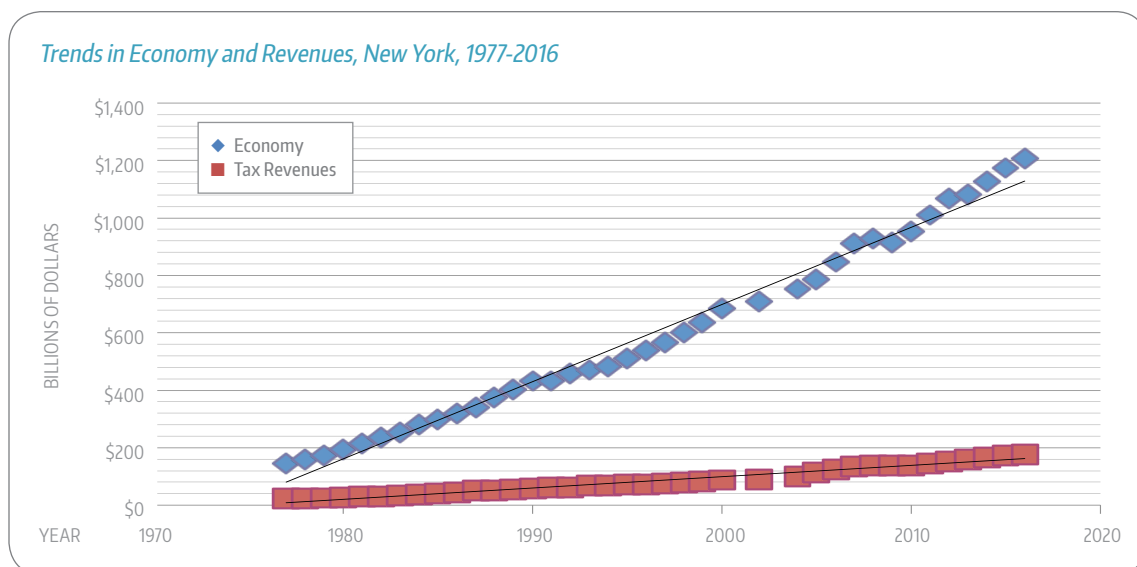


NEW YORK

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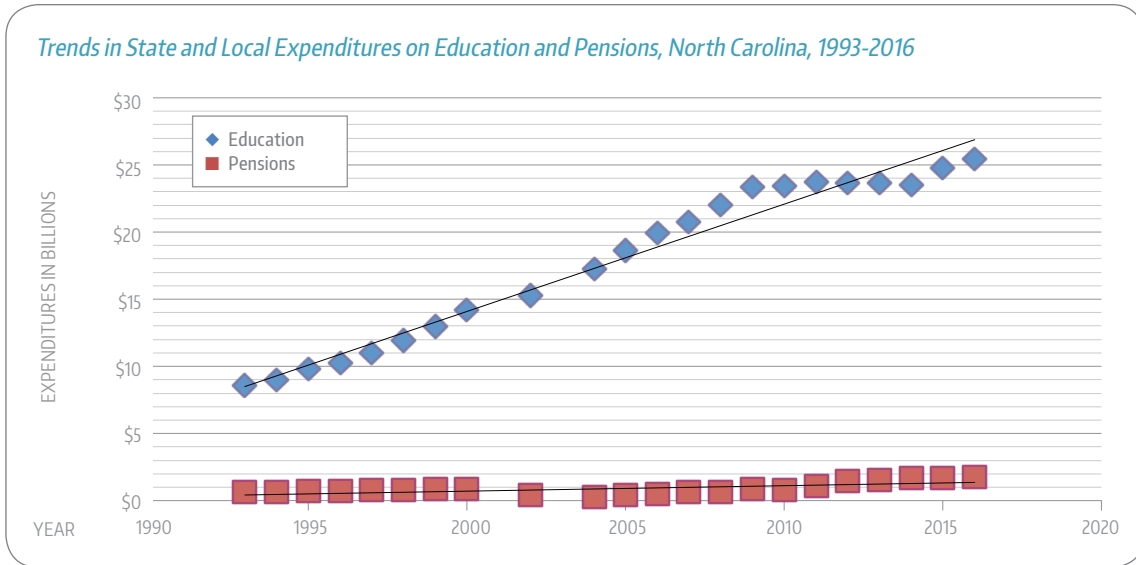


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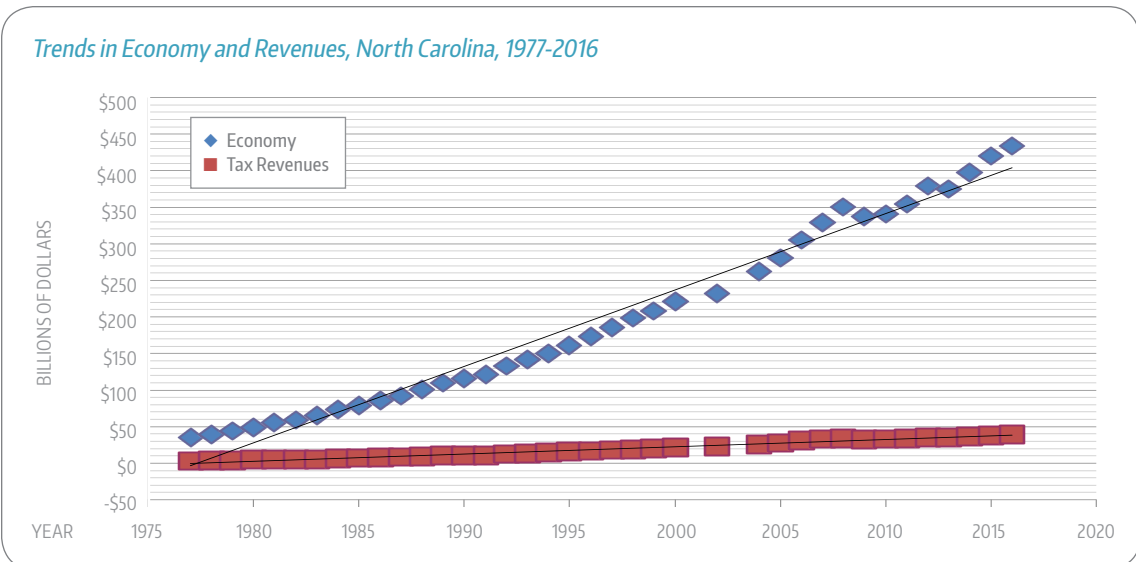


NORTH CAROLINA

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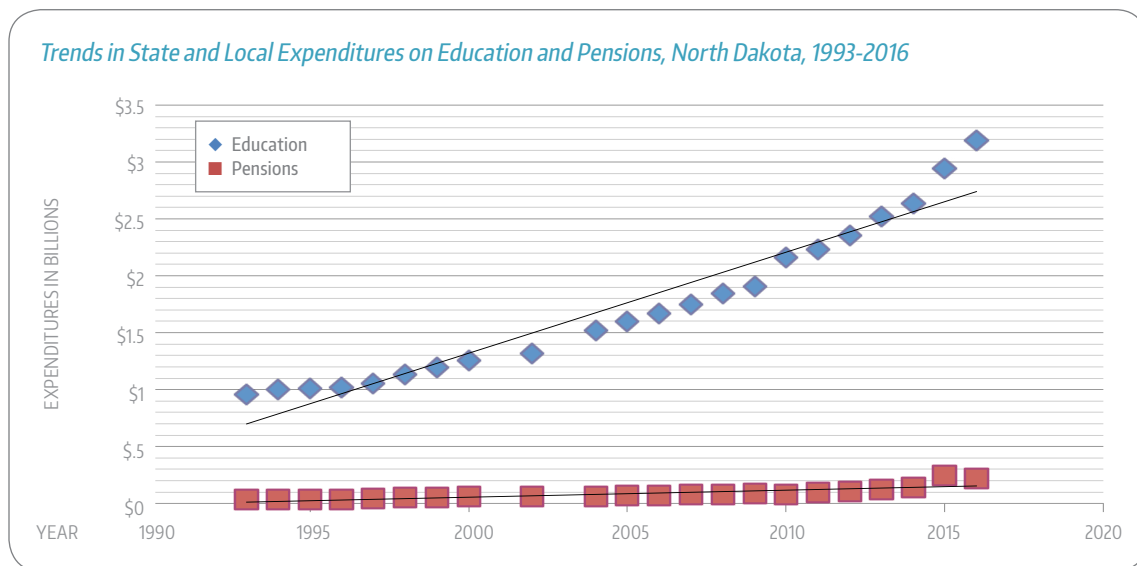


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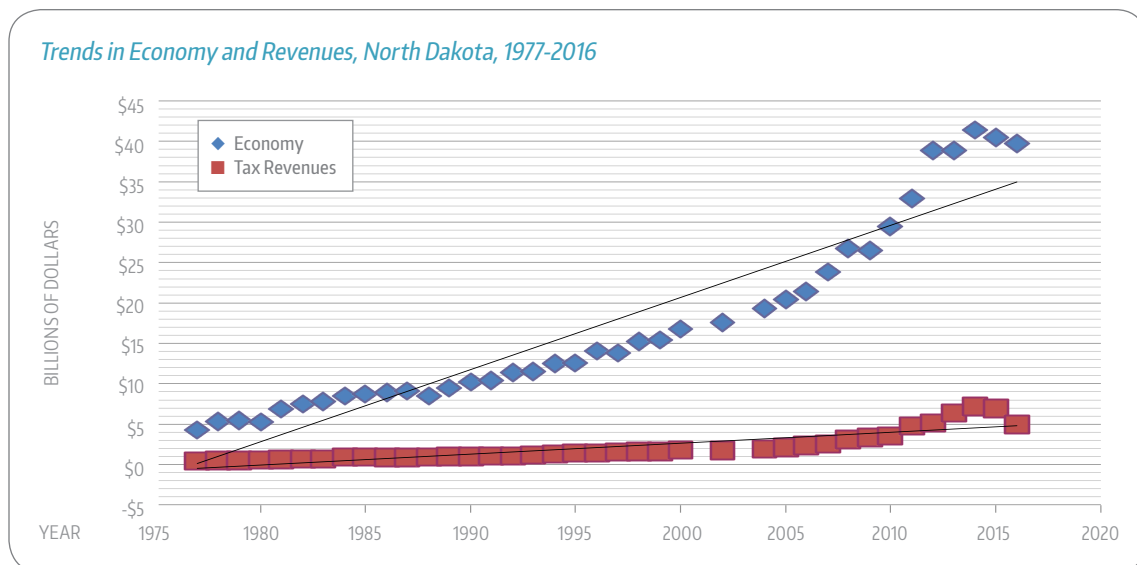


NORTH DAKOTA

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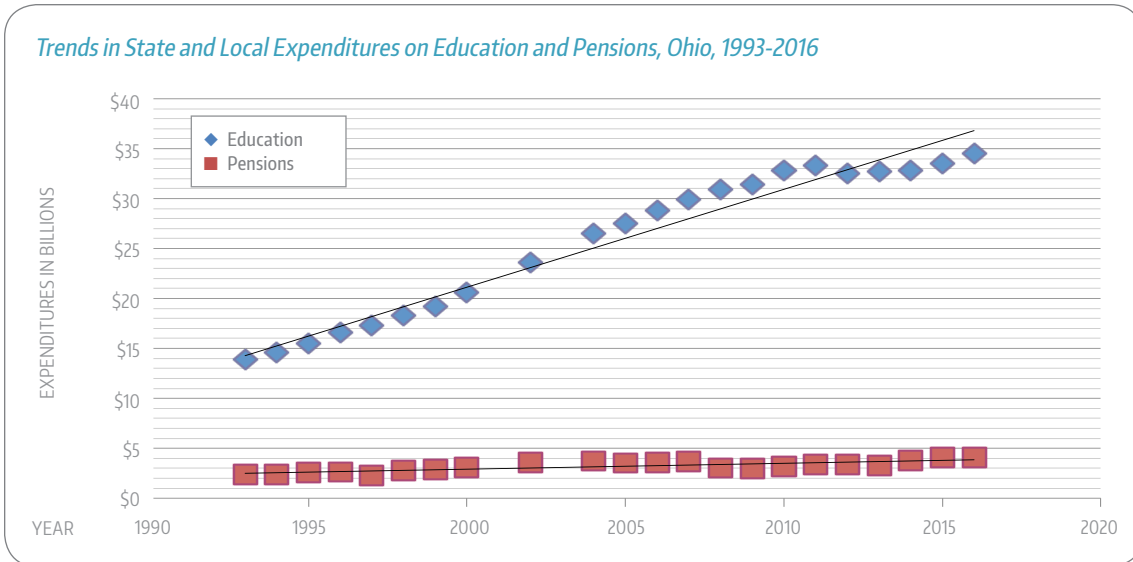


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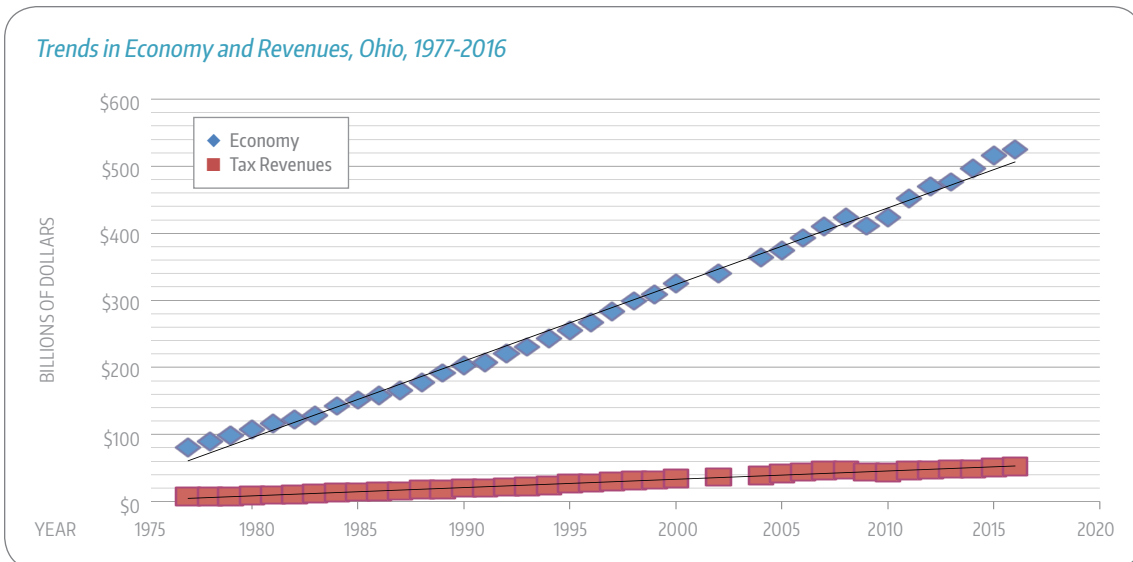


OHIO

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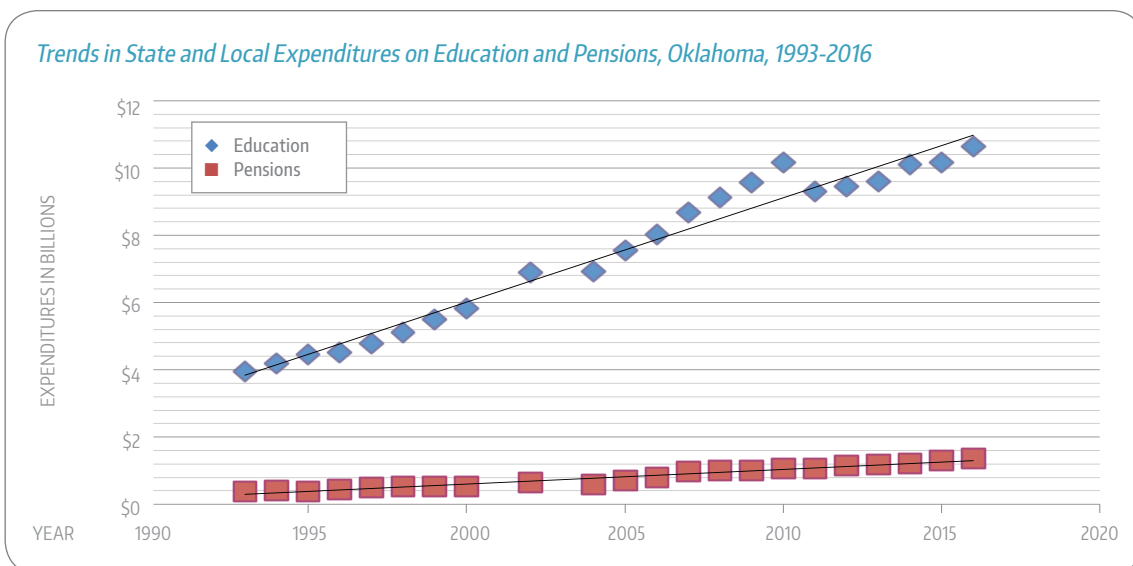


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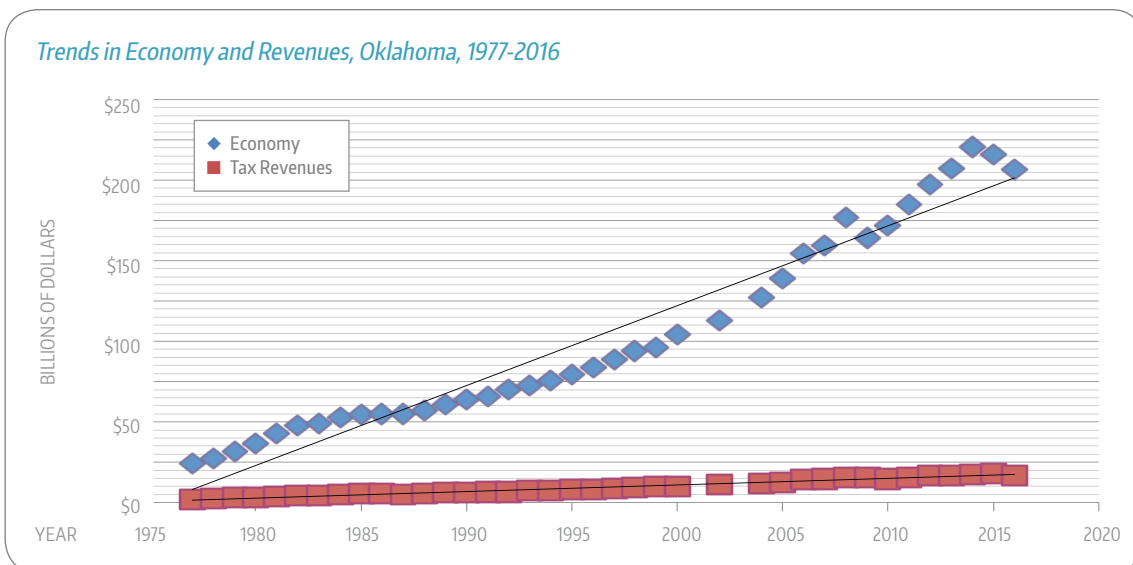


OKLAHOMA

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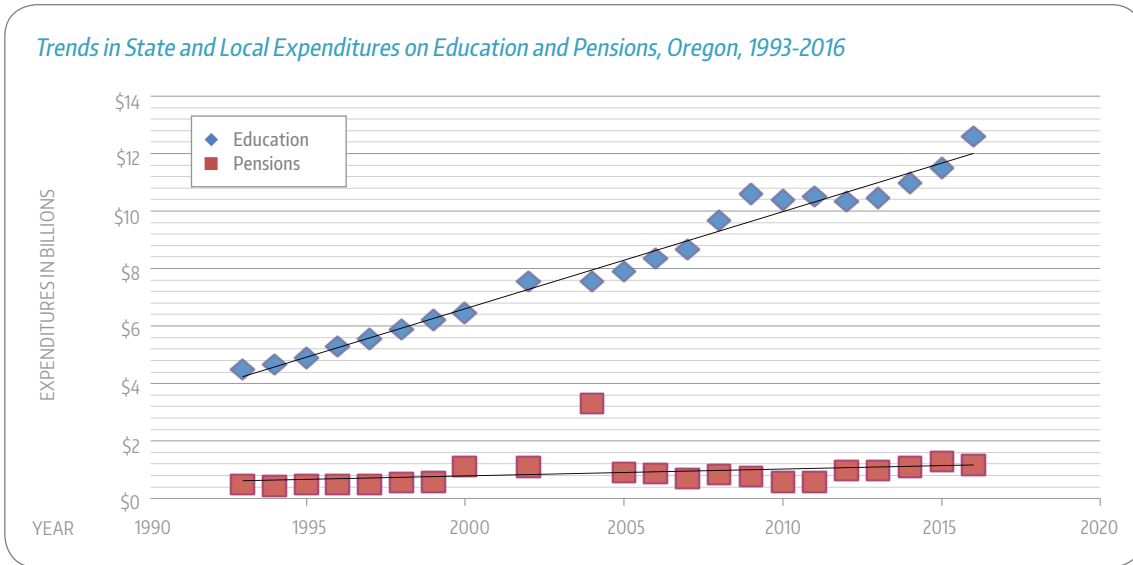


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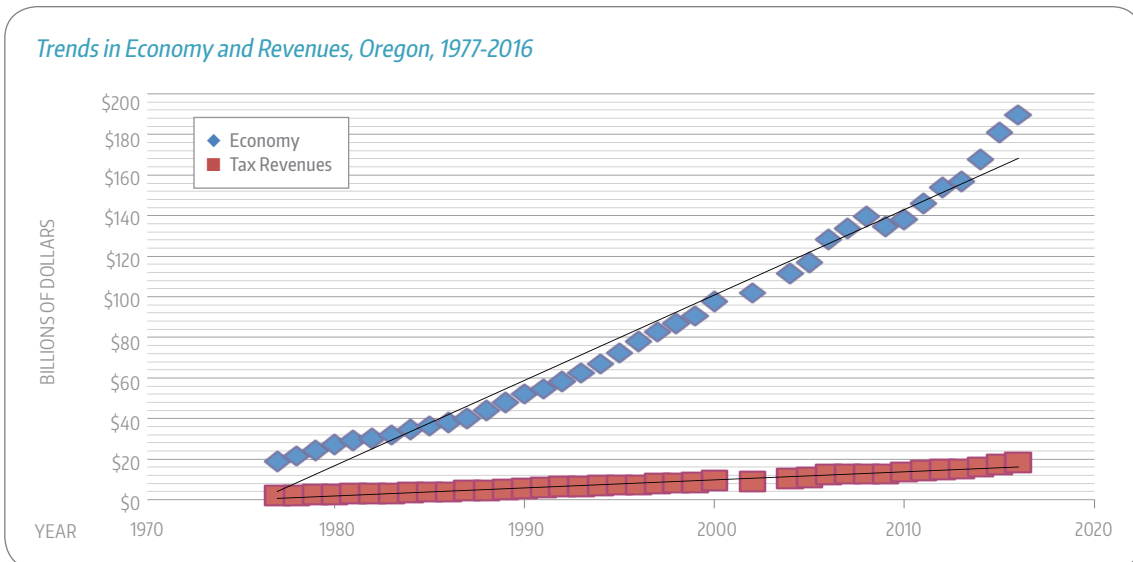


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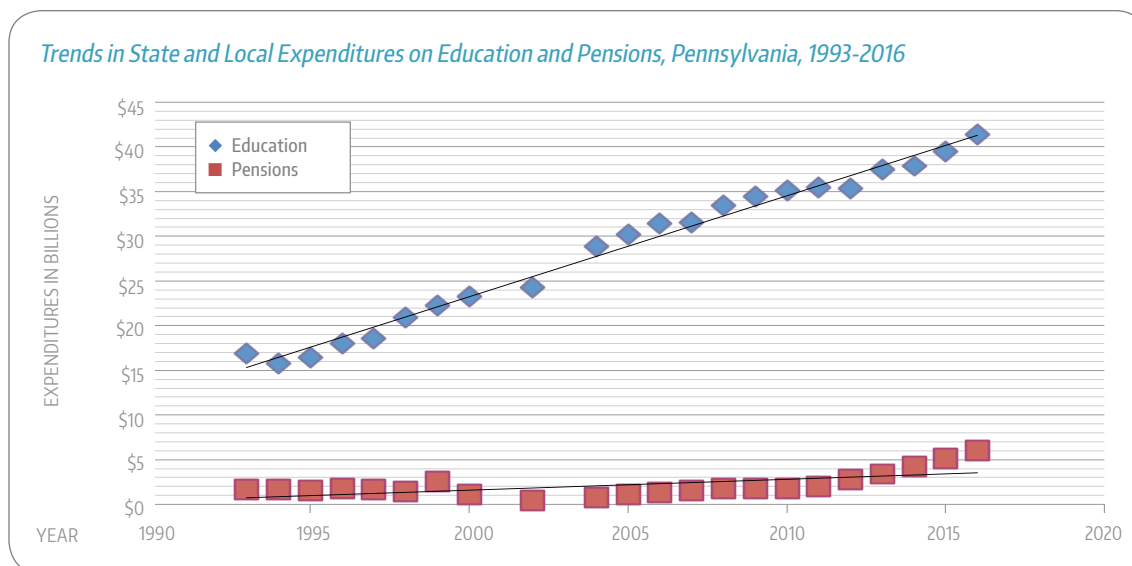


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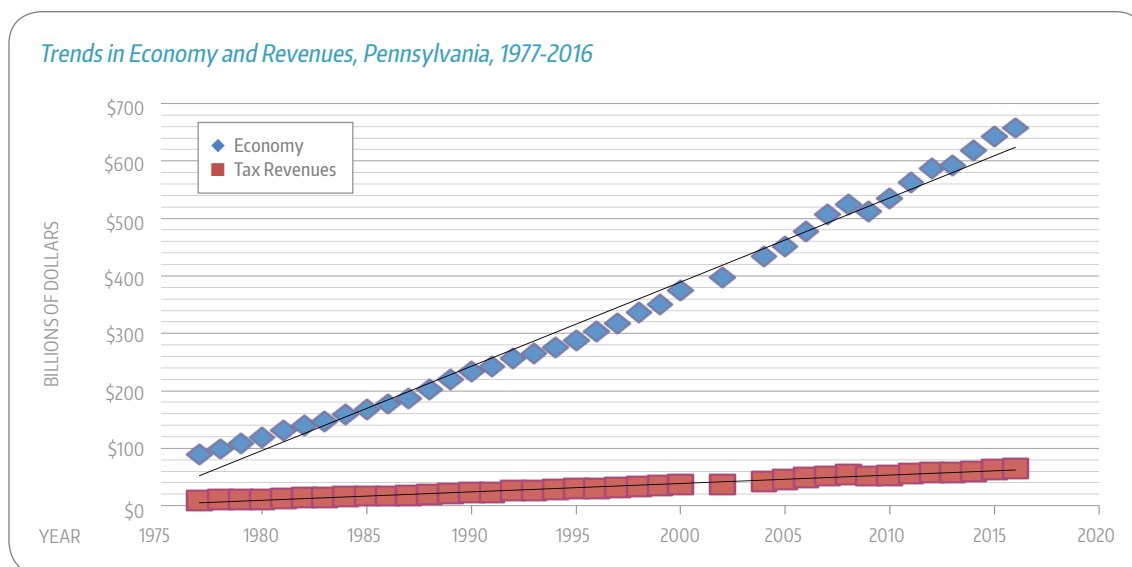


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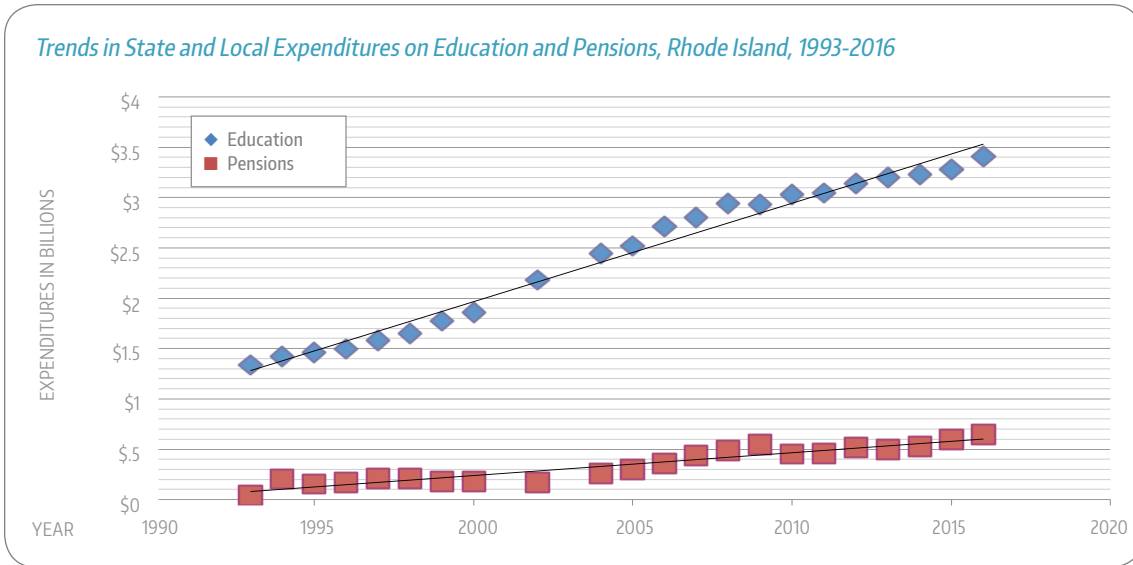


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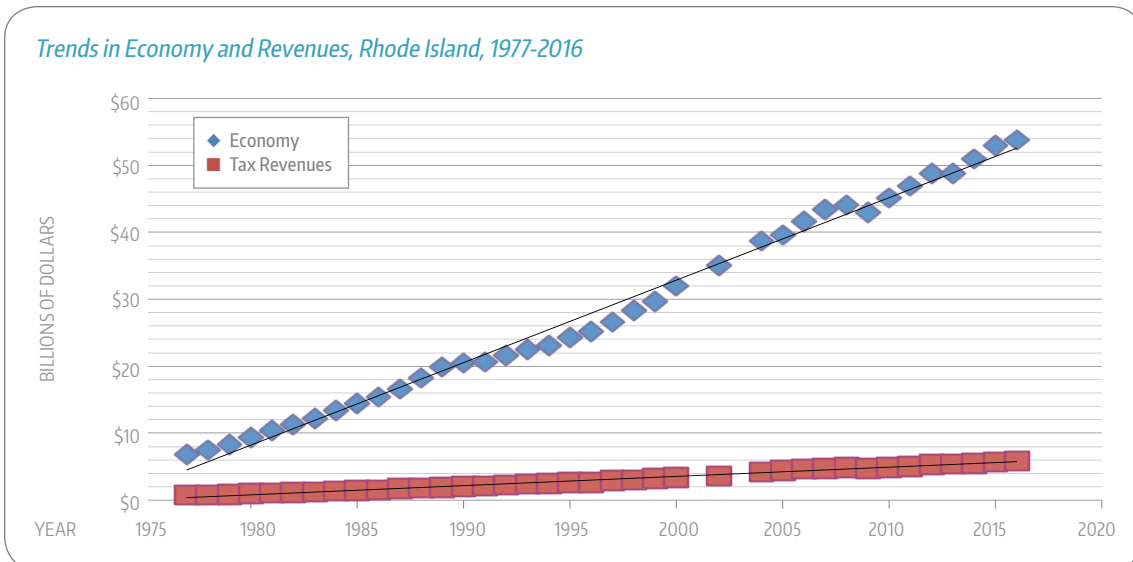


RHODE ISLAND

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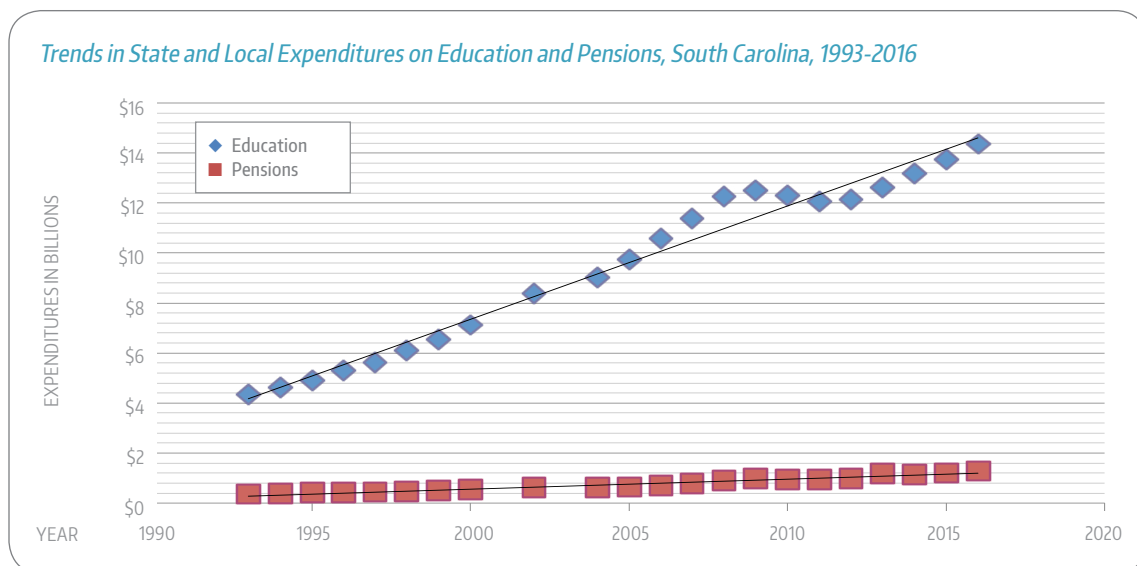


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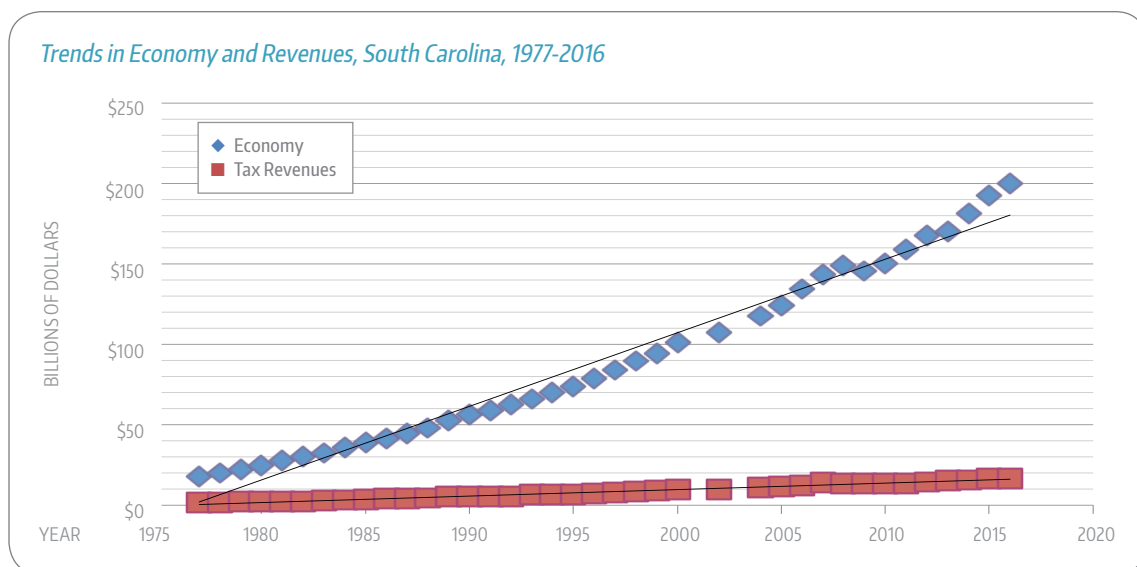


SOUTH CAROLINA

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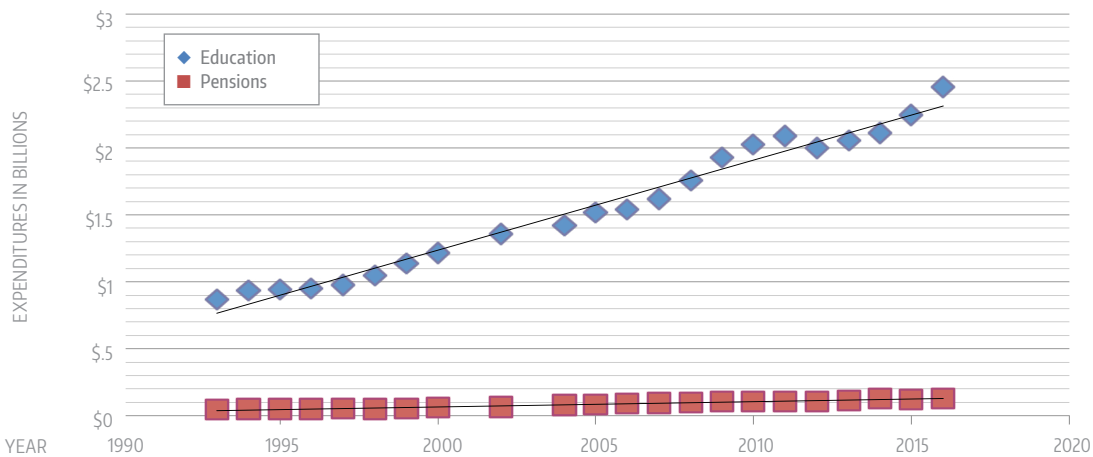
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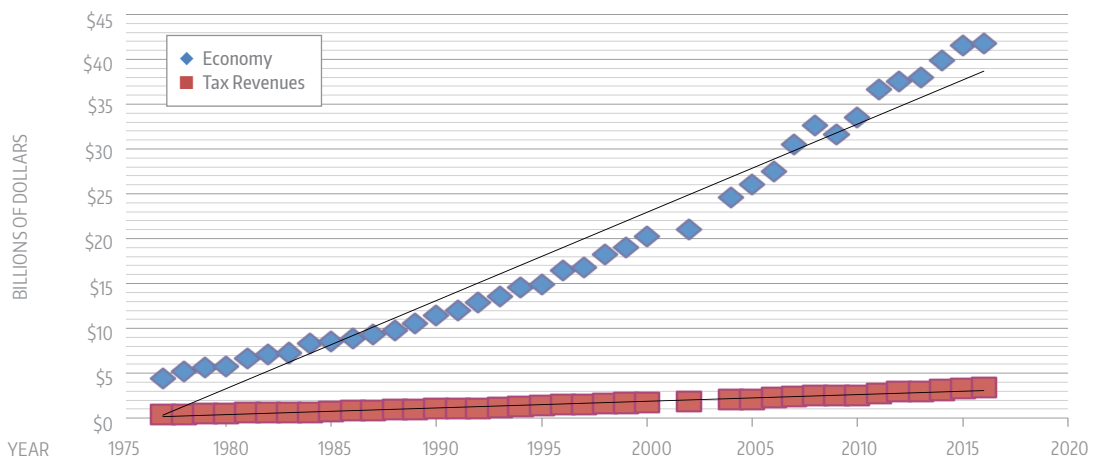
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Trends in State and Local Expenditures on Education and Pensions, South Dakota, 1993-2016



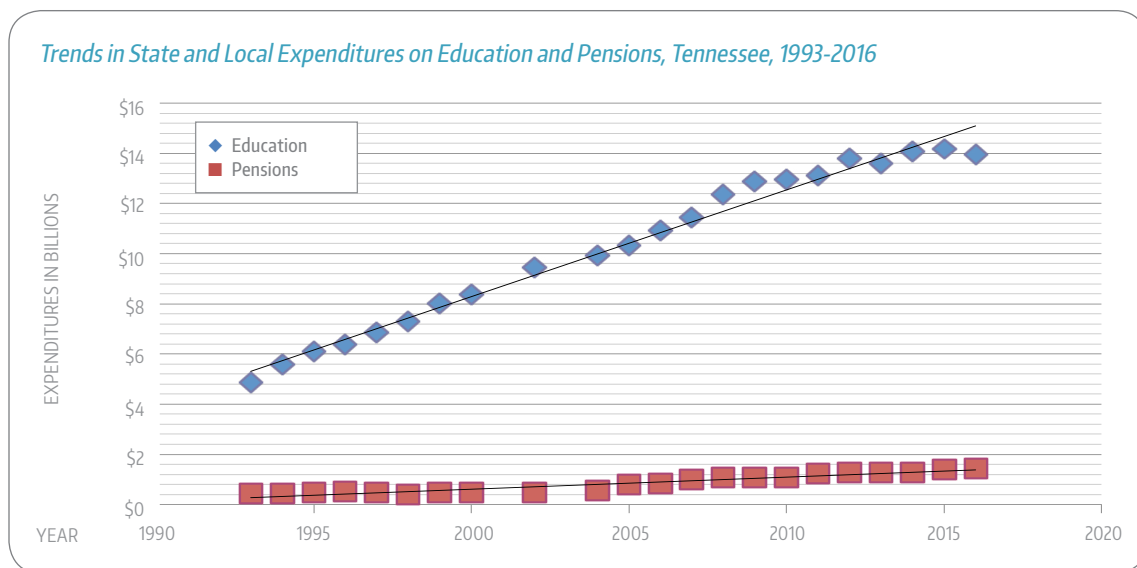
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Trends in Economy and Revenues, South Dakota, 1977-2016

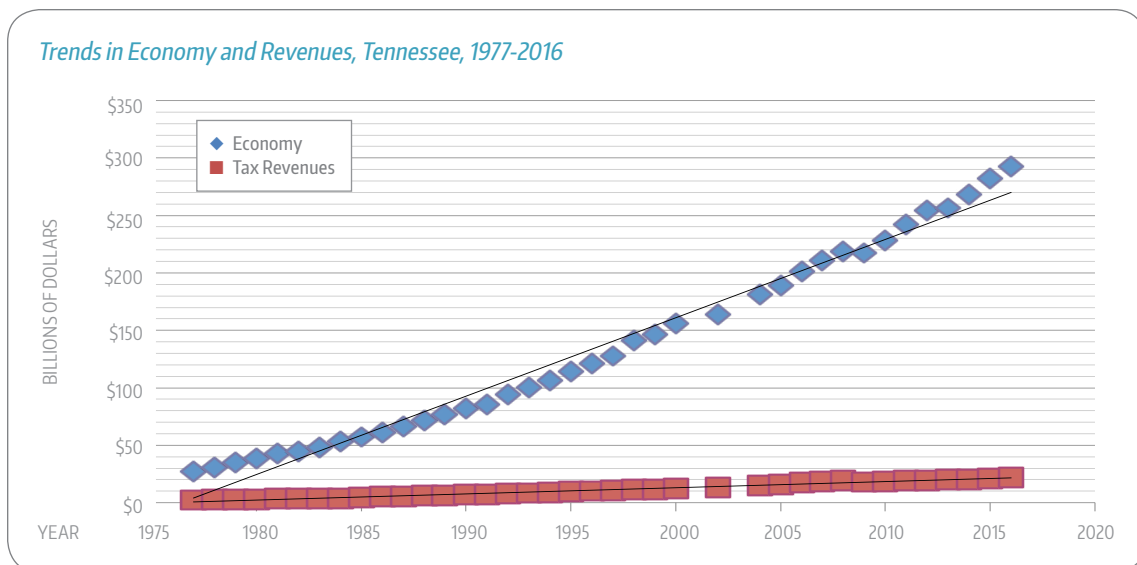


TENNESSEE

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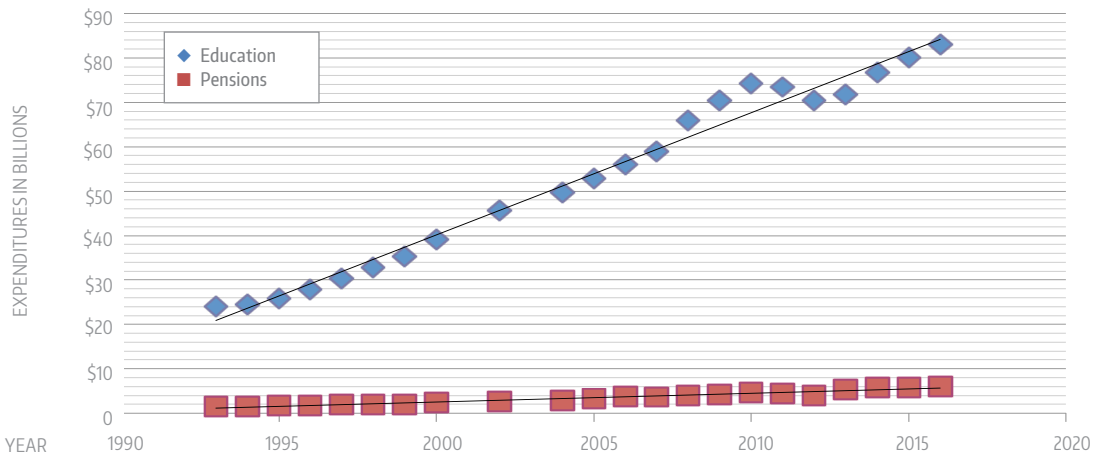
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TEXAS

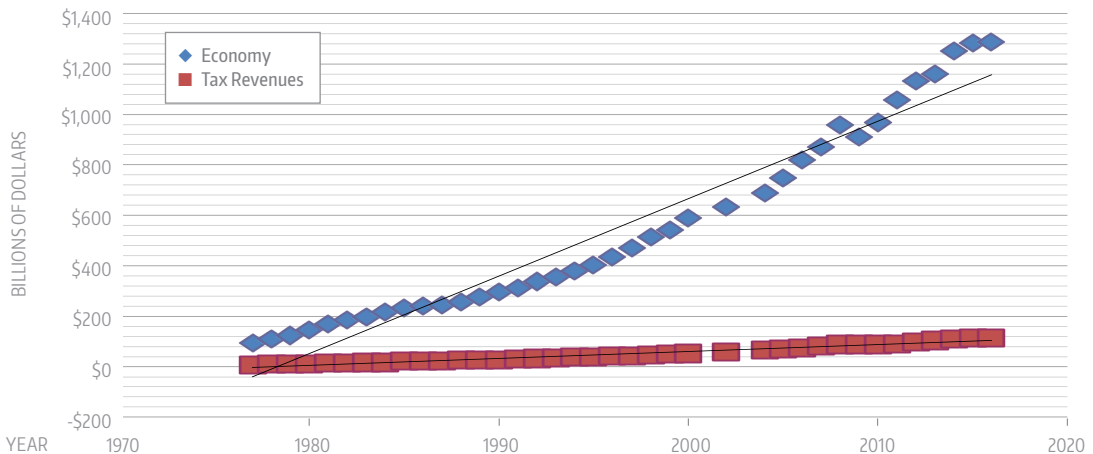
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Trends in State and Local Expenditures on Education and Pensions, Texas, 1993-2016



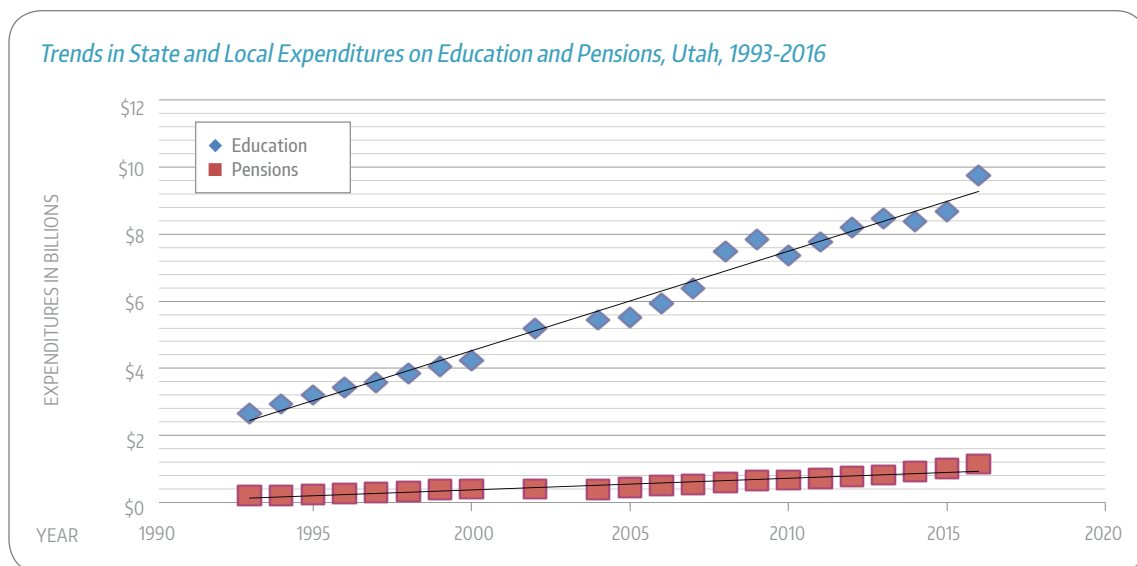
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Trends in Economy and Revenues, Texas, 1977-2016

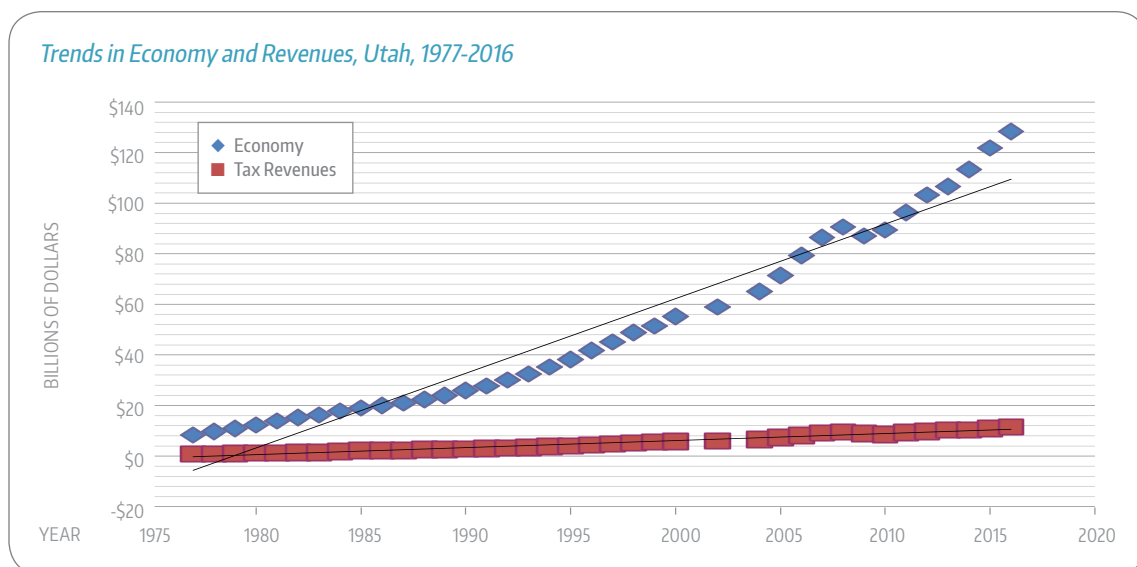


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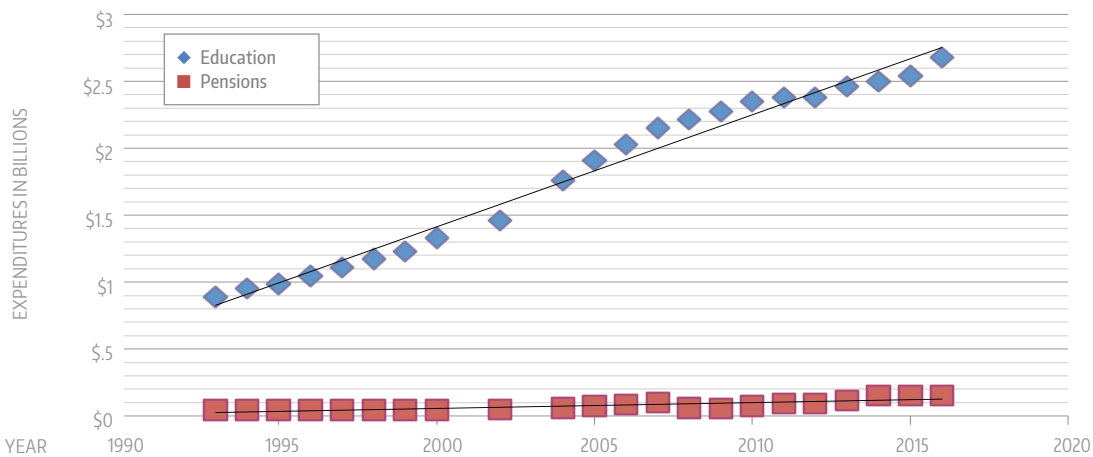
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VERMONT

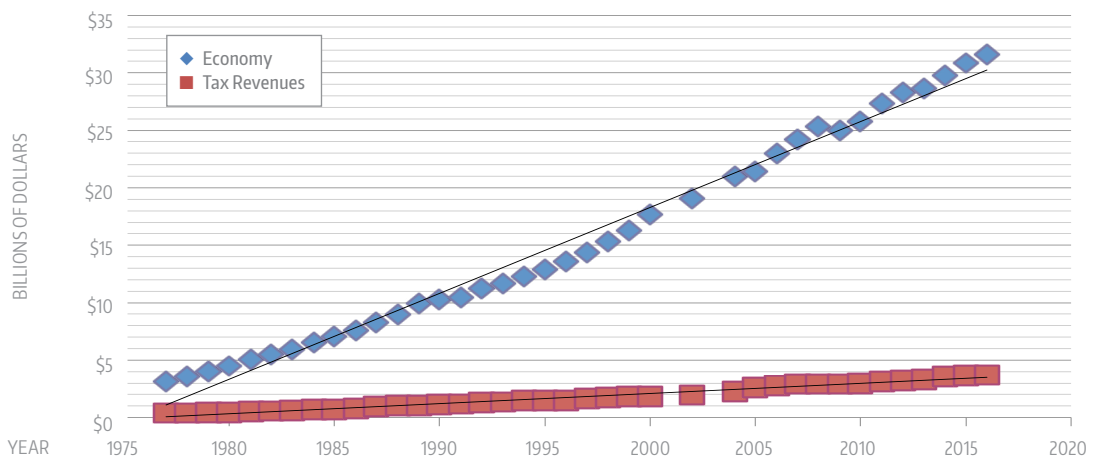
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Trends in State and Local Expenditures on Education and Pensions, Vermont, 1993-2016



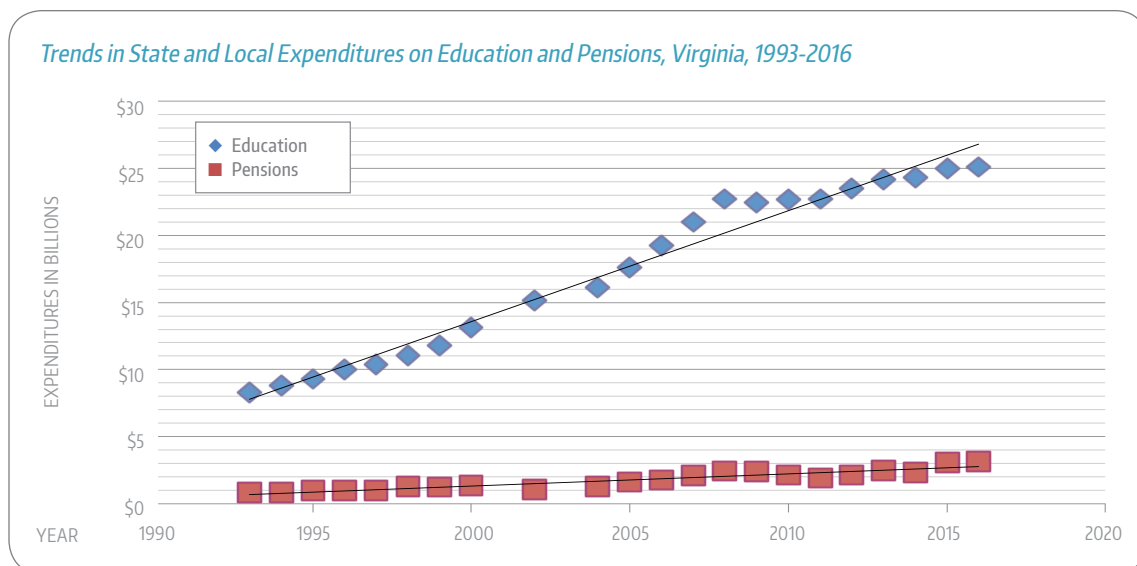
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Trends in Economy and Revenues, Vermont, 1977-2016

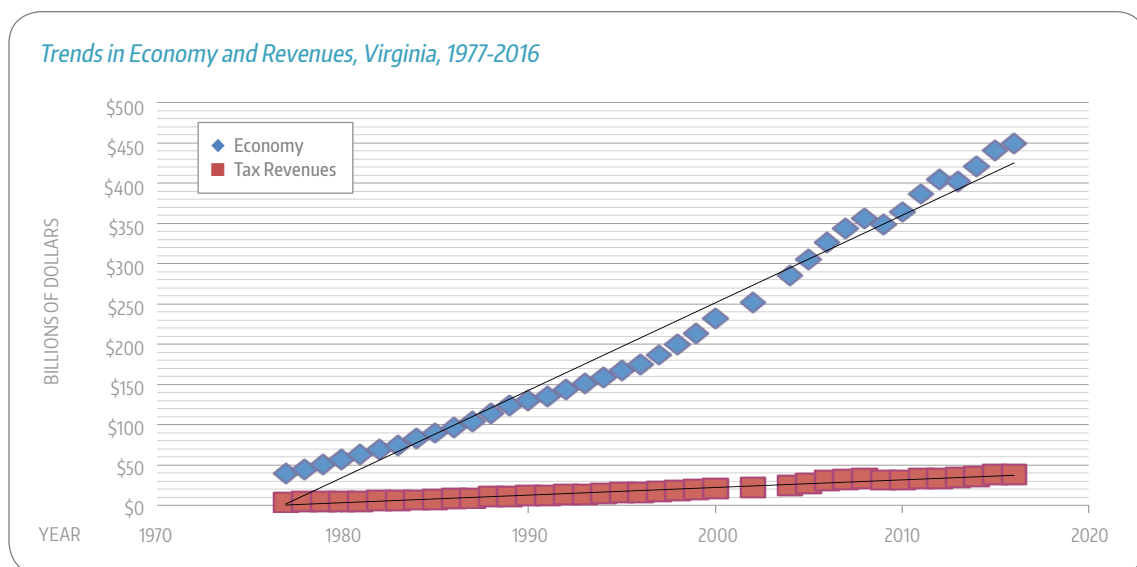


VIRGINIA

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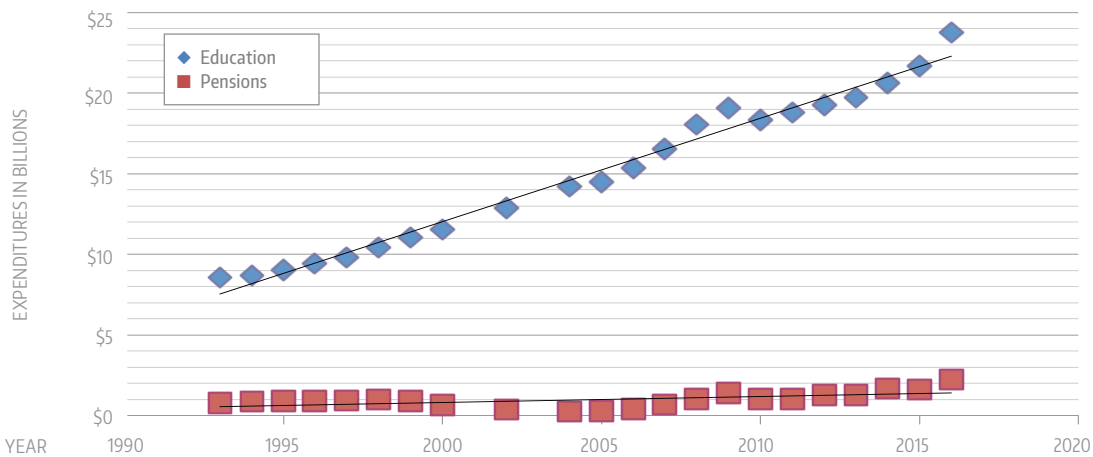
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WASHINGTON

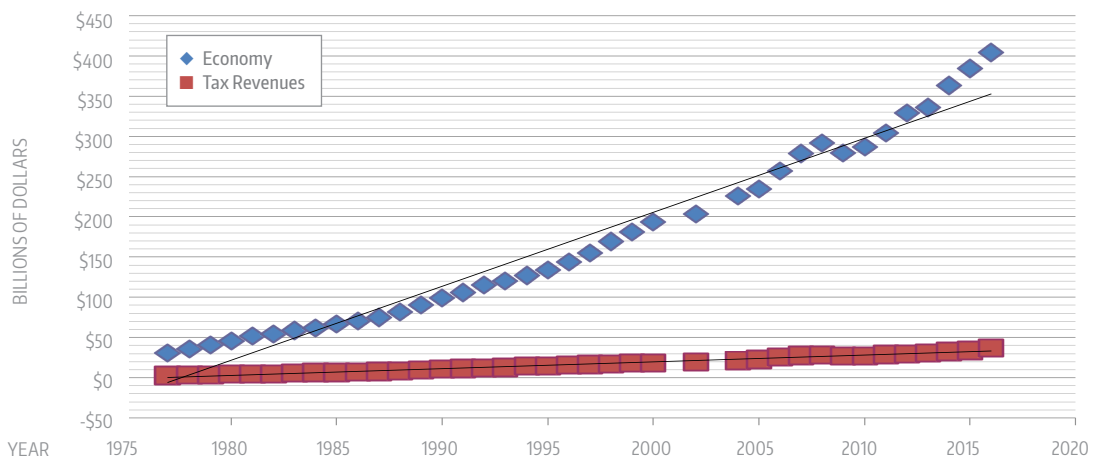
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Trends in State and Local Expenditures on Education and Pensions, Washington, 1993-2016



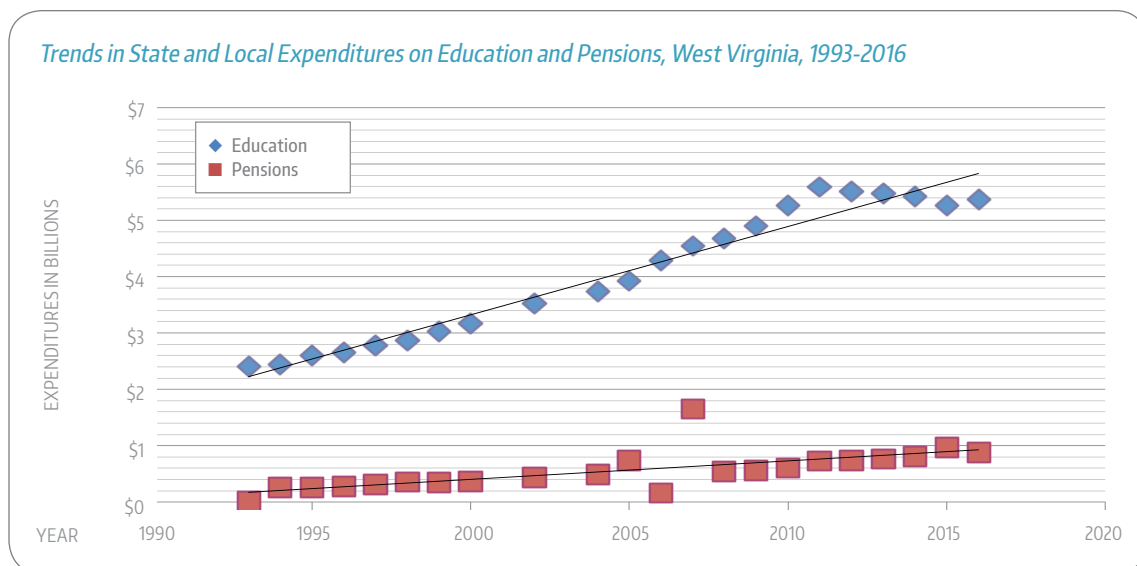
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Trends in Economy and Revenues, Washington, 1977-2016

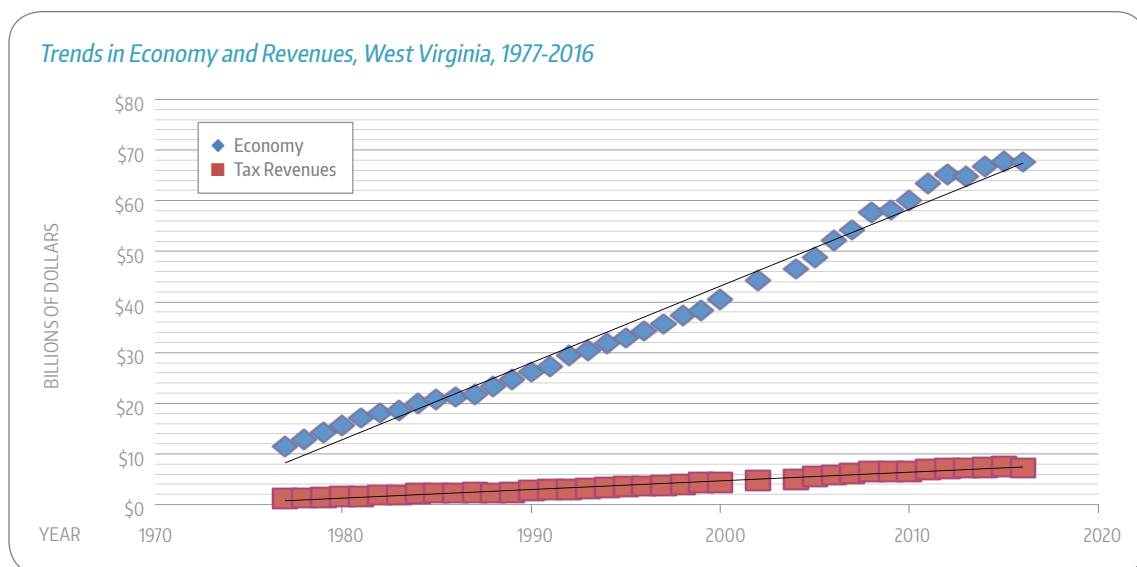


WEST VIRGINIA

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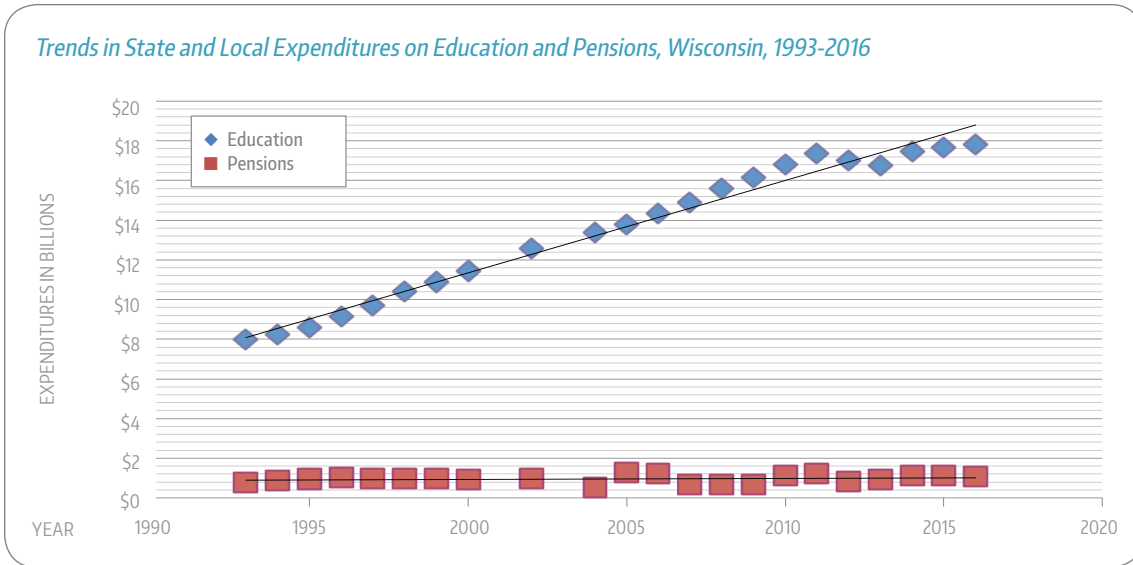


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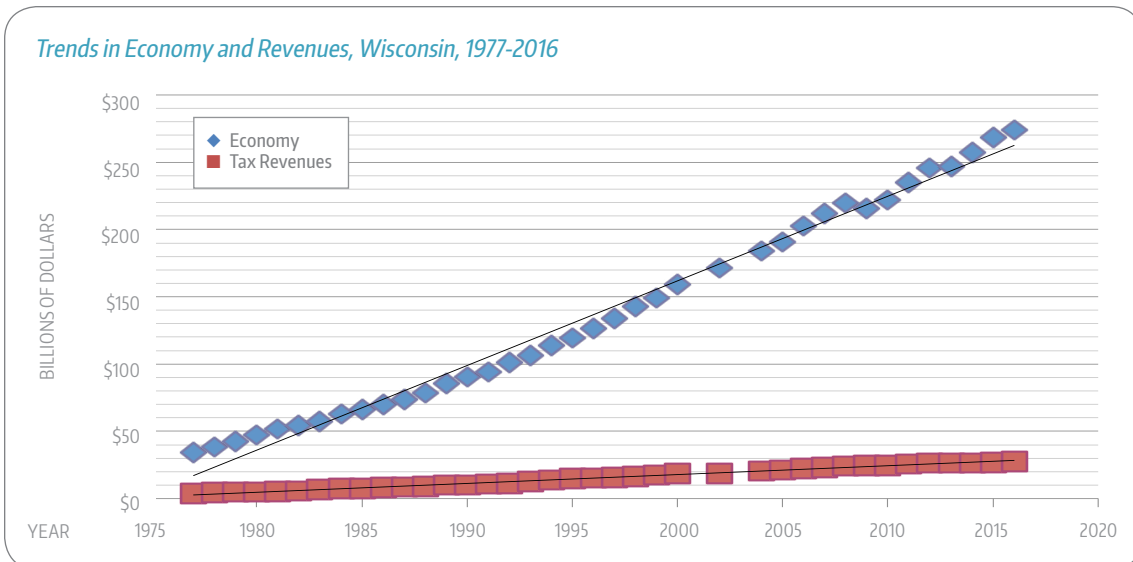


WISCONSIN

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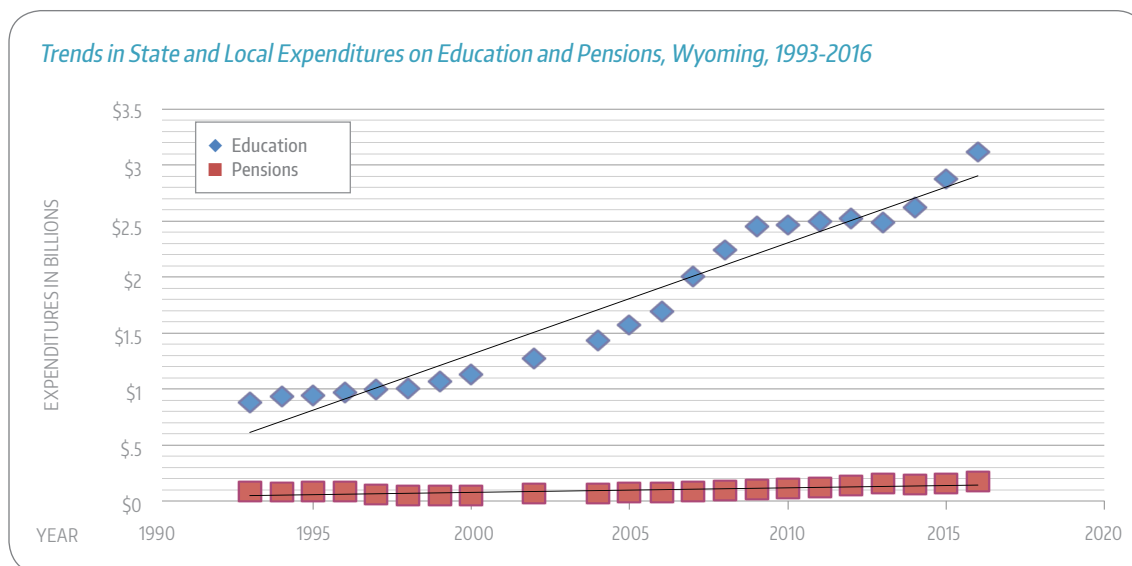


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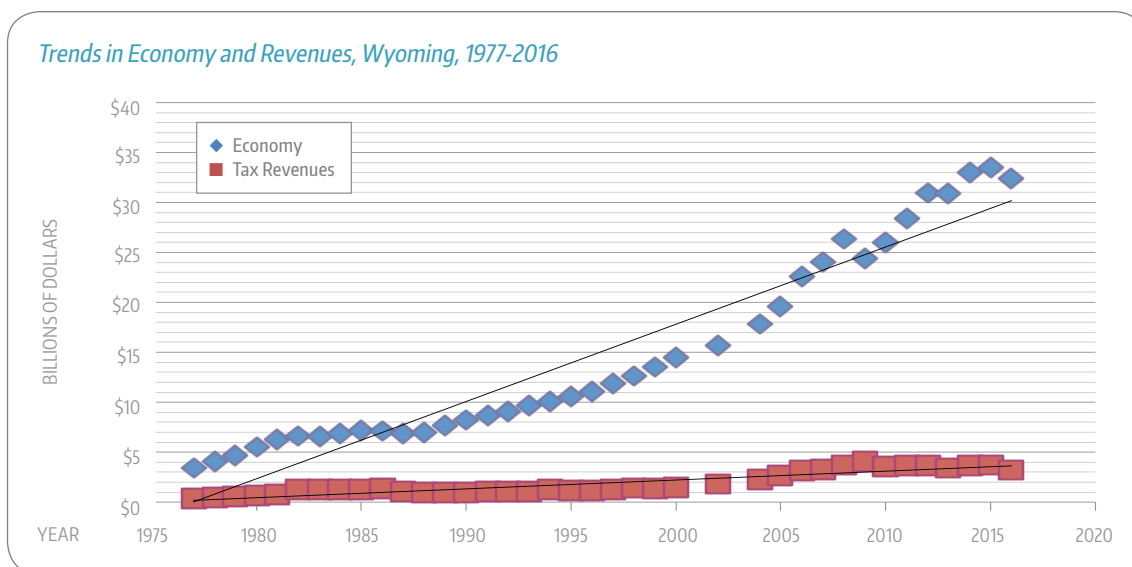


WYOMING

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**National Conference on
Public Employee Retirement Systems**

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