Commonwealth of Virginia
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Report to the Governor and the General Assembly of Virginia

VRS Oversight Report

DECEMBER 2017

JLARC
JOINT LEGISLATIVE AUDIT AND REVIEW COMMISSION

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Overview

The Virginia Retirement System (VRS) administers retirement plans for employees of state and local governments. The two largest plans are the Teachers Plan and the State Employees Plan (Figure 1). Other pension plans include the individual retirement plans for 593 local political subdivisions and plans for state police officers (SPORS), other Virginia state law officers (VaLORS), and judges (JRS). VRS also administers several defined contribution retirement plans. In addition to retirement plans, VRS administers post-employment benefit programs. These include life insurance, sickness and disability, long-term care, and the retiree health insurance credit program. VRS also conducts eligibility determinations and fund administration for Virginia's Line of Duty Act.

VRS serves approximately 690,000 members, retirees, and beneficiaries. Active members include current state and local employees and teachers in Virginia's public school divisions. Others served by VRS include retirees, their designated beneficiaries, and "deferred" members, who are not actively employed and are not collecting benefits.

The financial assets used to pay VRS benefits are pooled in the VRS trust fund, which held $76.0 billion in assets as of September 30, 2017. Ranked by value of assets, VRS is the nation's 20th largest public or private pension fund. In FY17, VRS paid $4.5 billion in retirement benefits and $0.4 billion in other post-employment benefits, not including benefits paid through the defined contribution plans.

VRS receives funds from three main sources: employer contributions, member contributions, and investment income. In FY17, VRS received $6.8 billion in net additions to the trust fund (accounting for expenses and benefits paid out).

Investment income is critical to the health of the VRS trust fund, accounting for two-thirds of total additions in FY17. VRS investments generated a return of 11.7 percent for the one-year period ending September 30, 2017. The total annualized return over the 10-year period was 4.9 percent, which is below the 7.0 percent long-term (30+ year) rate of return that has been assumed by VRS for its investments.

FIGURE 1
VRS pension plans by assets

SOURCE: VRS 2017 valuation report.
NOTE: Figures show total actuarial value of assets attributable to each retirement plan as of June 30, 2017. Trust fund assets attributable to other benefit programs are not shown. Figure for local plans is the aggregate of assets for political subdivisions that participate in VRS. Local plans hold more assets than the State Employees plan because they have typically been fully funded by local employer contributions, whereas State Employees plan has not been fully funded in the past. The State Employees plan is larger than the local plans as measured by pension obligation.

FIGURE 2
VRS fast facts

MEMBERSHIP as of September 30, 2017

342,226	Actively employed members[a]
203,503	Retired members & beneficiaries
143,910	Inactive members
689,639	Total

NET ADDITIONS for fiscal year ending June 30, 2017[b]

$2.6 billion	Employer contributions
$1.1 billion	Member contributions
$8.2 billion	Net investment income
–$5.1 billion	Benefits paid and other expenses[c]
$6.8 billion	Net additions

ASSETS as of September 30, 2017

$76.0 billion
Total VRS trust fund assets

INVESTMENT PERFORMANCE as of September 30, 2017

	1 year	3 years	5 years	10 years
Total return	11.7%	7.3%	8.9%	4.9%
Benchmark	11.5%	6.8%	8.4%	4.5%
Excess return	+0.3%[d]	+0.5%	+0.5%	+0.4%

SOURCE: VRS 2017 annual report and 2017 membership and investment department data.
[a] Active membership included 147,211 teachers, 106,814 local government and political subdivision employees, and 88,201 state employees, state police, law enforcement officers, and judges. Within the retirement plans are three different benefit groups. Active membership by benefit group included 181,745 in Plan 1, 88,769 in Plan 2, and 71,712 in the hybrid plan. [b] Includes all additions and deductions to the trust fund for VRS retirement plans and other benefits programs. [c] Includes $4.5 billion in retirement benefit payments, $392 million in other benefits, $120 million in refunds, and $64 million in administrative and other expenses. [d] Does not sum due to rounding.

1. Trust fund investments

Management of the trust fund investments is one of the core responsibilities of VRS. The VRS Board of Trustees sets investment policies for managing the trust fund, including the desired asset allocation for the fund. The investment department manages investment programs within the guidelines set by the board. The investment department manages approximately one-third of the assets in-house and contracts with external managers to manage other assets.

Investment performance and asset allocation

The VRS trust fund held $76.0 billion in assets as of September 30, 2017, an increase of $6.5 billion from a year ago. Approximately $26.3 billion of the trust fund was managed in-house, including all fixed income and some public equities, real assets, and cash. The remaining $49.8 billion was managed by external managers under VRS supervision.

The trust fund's investment returns were mixed relative to the long-term return assumption, but the fund has outperformed its benchmarks. For the one-year period ending September 30, the trust fund's investments achieved a return of 11.7 percent. The fund's one-year, three-year, and five-year returns have exceeded the 7.0 percent long-term (30+ year) rate of return that has been assumed by VRS for its investments; while the 10-year return (4.9 percent) was below the long-term rate of return. The total fund met or outperformed its benchmark for all periods, short and long term (Figure 3).

The VRS board adopts a **long-term return assumption** based on the advice of the VRS investment staff and plan actuary, and surveys from investment managers and consultants. This is the rate of return expected over the next 30+ years, based on projections of future market performance.

The long-term return assumption is one of the key assumptions used to determine the plan's funded status and employer contribution rates. The current long-term return assumption is 7%.

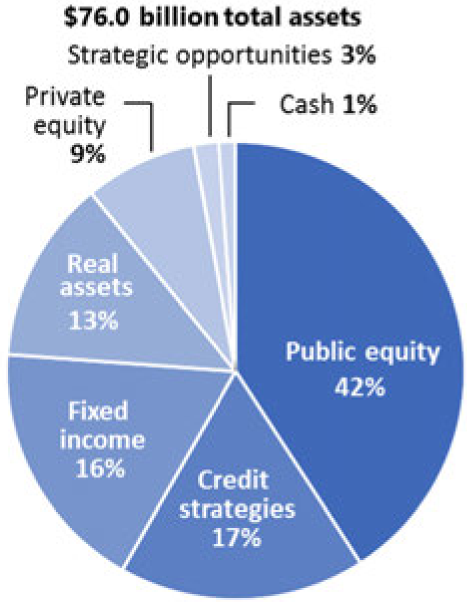
Public equity. The public equity program continues to be the largest VRS asset class, with $31.6 billion in assets. The program consists of stocks and other equity securities for publicly traded companies in the U.S. and abroad. Public equity investments are typically higher-risk than bonds and are expected to provide long-term capital growth and inflation protection. Forty-one percent of the program's assets are managed in-house. The program met or outperformed its benchmark for all periods except the fiscal year to date (first quarter of FY18). This was a period of particularly high market returns, and according to VRS staff, the fund's public equity investment portfolio often lags in such market environments.

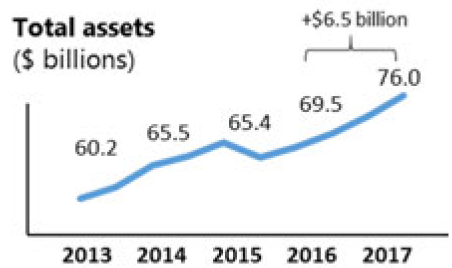
Credit strategies. The credit strategies program is the second-largest VRS asset class, with $13.1 billion in assets. The program includes investments in emerging market debt, high yield bonds, convertible bonds, bank loans, and direct lending. Credit strategies investments are intended to provide higher income than traditional stock and bond investments and risk-adjusted returns. All of the program's assets are managed externally. The program outperformed its benchmarks for all periods.

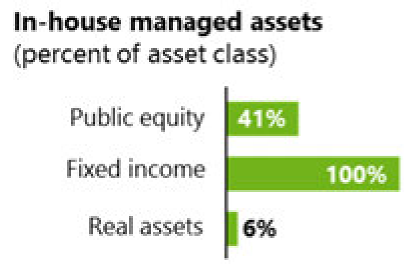
Fixed income. The fixed income program is the third-largest VRS asset class, with $12.4 billion in assets. The program consists of U.S. dollar-denominated securities, such as bonds and money market instruments, that pay a specific interest rate. Fixed income investments are typically lower risk relative to most other asset classes and are expected to generate steady returns even in down equity markets. All fixed income assets are managed in-house. The program outperformed its benchmarks for all periods.

FIGURE 3
Asset allocation and trust fund investment performance

ASSET ALLOCATION
as of September 30, 2017







TRUST FUND INVESTMENT PERFORMANCE
for the period ending September 30, 2017

	FY to date	1 year	3 years	5 years	10 years
Total fund	3.1%	11.7%	7.3%	8.9%	4.9%
VRS custom benchmark	3.1	11.5	6.8	8.4	4.5
Public equity	4.4	17.4	8.3	11.3	4.8
Benchmark	4.7	17.4	7.8	10.6	4.3
Credit strategies	2.4	8.3	5.2	6.5	6.0
Benchmark	2.1	7.1	5.1	5.7	4.9
Fixed income	1.0	0.7	3.3	2.6	5.0
Benchmark	0.8	0.1	2.7	2.1	4.4
Real assets	2.0	10.2	11.2	11.6	5.9
Benchmark	1.5	7.0	9.3	9.9	5.8
Private equity	4.2	20.1	11.4	14.6	9.6
Benchmark	4.2	21.8	9.3	14.6	8.6
Strategic opportunities	3.4	10.1	3.9	n/a	n/a
Benchmark	3.8	11.5	5.5	n/a	n/a

SOURCE: VRS investment department data.
NOTE: Asset allocations do not sum to 100 percent due to rounding.

Real assets. The real assets program is the fourth-largest VRS asset class, with $9.6 billion in assets.* The program includes investments in real estate, infrastructure, and natural resources such as timber. Real assets investments are expected to reduce volatility of the total fund by offering returns that do not have a high statistical correlation to the public equity market. Most VRS real assets are managed externally. The program outperformed its benchmarks for all periods.

Private equity. The private equity program is the smallest of the five major asset classes, with $6.9 billion in assets.* Private equity is an alternative to traditional public equity and generally consists of ownership in companies that are not listed on public exchanges. Private equity investments are "opportunistic" investments that are intended to outperform public equity markets over the long term and enhance total fund returns. All private equity assets are managed externally. The program met or outperformed its benchmarks in the three-year, five-year, and 10-year periods but underperformed in the one-year period. The program achieved its intended purpose—to earn higher returns than the public equity program—in all periods except the fiscal year-to-date (first quarter of FY18). During the one-year period, program performance (20.1 percent) did not keep pace with the private equity benchmark (21.8 percent).

Strategic opportunities. The strategic opportunities portfolio is the smallest asset class, with $1.9 billion in assets. The portfolio allows VRS to gain experience with new investment approaches. Individual investments in this portfolio include three multi-asset class public investment managers and two multi-asset class private investment managers. All strategic opportunities assets are managed externally. The portfolio underperformed its benchmarks for the one-year and three-year periods, which are the only periods to report because this portfolio was established in 2013. Underperformance resulted because the portfolio did not fare well against its equity-dominated benchmark in the current strong market environment. VRS staff indicated that this is to be expected, as the portfolio is intended to diversify away from equity and the associated risk and focus on absolute returns. Furthermore, according to VRS staff, this portfolio contributes additional value by providing opportunities for the investment department to acquire exposure to new investment opportunities.

Investment policies and programs

The VRS board sets investment policies, and the professionals in the investment department implement programs to fulfill those policies. The board has not made any significant changes to investment policies, benchmarks, or asset allocation over the past six months.

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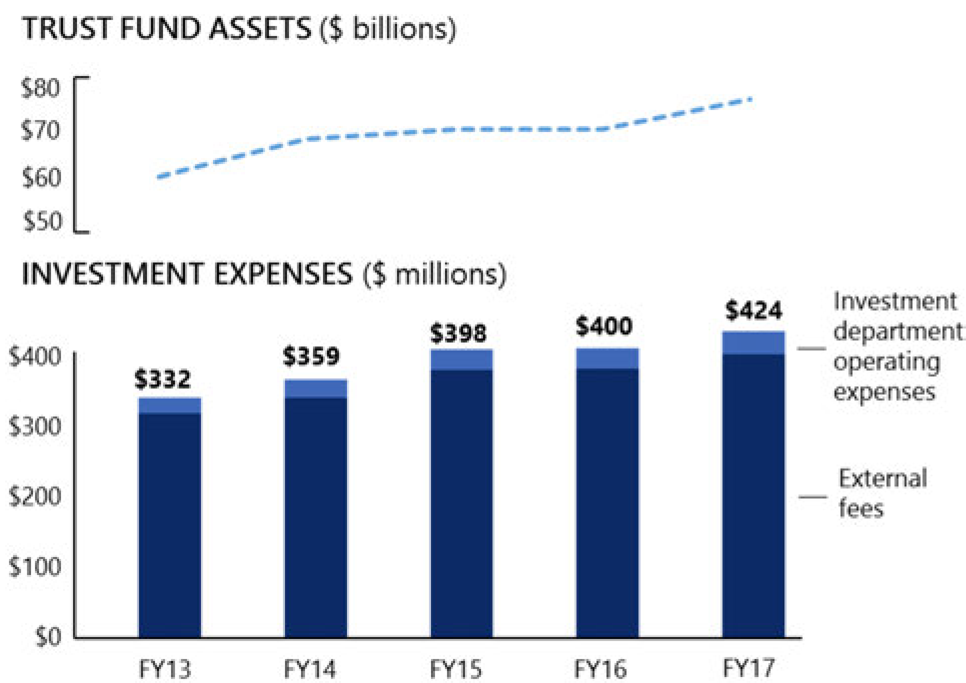
*Performance figures for the real assets and private equity programs do not reflect managers' actual valuations of these investments as of September 30, 2017 because valuations of real assets and private equity have a timing lag behind other assets. Instead, performance figures are based on valuations as of June 30, 2017, adjusted for cash flows during the quarter that ended September 30, 2017.

VRS investment expenses increased, along with the value of the trust fund, but remained lower than peers

VRS investment expenses include external fees, paid mostly to outside investment managers, and the VRS investment department's operating expenses. External fees account for over 90 percent of investment expenses.

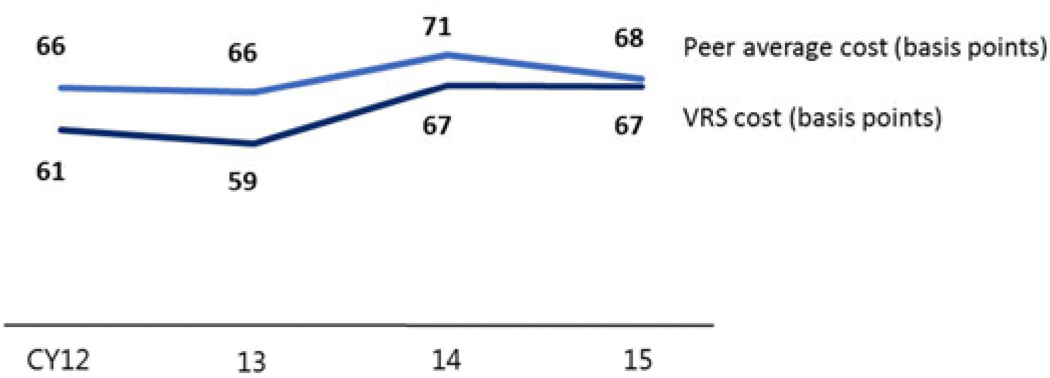
VRS investment expenses have increased over time, but this is mostly a function of the growing value of assets held in the VRS trust fund (Figure 4). Investment expenses increased by an average of 6.4 percent per year, for a total increase of $92 million since FY13. This growth was driven by the trust fund, which also grew by an average of 6.4 percent per year over the same five-year period. VRS investment expenses as a percentage of total trust fund investments were between .54 and .59 percent during this time. Most of VRS's investment expenses are fees paid to external managers based on the value of the assets they hold. As the trust fund grew, so did the value of assets held by external managers and, correspondingly, the total fees they were paid.

FIGURE 4
Trend in VRS investment expenses compared to trust fund assets



SOURCE: VRS annual reports and investment department data.
NOTE: External fees include management and performance fees paid to third parties that invest VRS assets. They also include fees paid to the bank that serves as the trust fund's custodian and legal fees. Investment department operating expenses include all staff, IT, facility, and contract services fees (other than those captured in external fees) related to the investment department's routine operations.

FIGURE 5
VRS investment expenses compared to peers



SOURCE: CEM investment benchmarking reports to the VRS board.
NOTE: In conducting its analysis, CEM makes adjustments to VRS expenses and the assets they are measured against so that they are comparable to peers. Benchmark comparisons for 2016 and 2017 are not yet available.

VRS investment department expenses represent a small but growing part of overall investment expenses. These expenses grew from $21 million in FY13 to $31 million in FY17, an increase of 48 percent. The main drivers of growth were staffing and IT expenses. VRS added or filled several full-time positions in the investment department over this time period and purchased new software systems, data feeds, and licenses. A substantial portion of these expense increases were attributable to the expansion of the in-house asset management group. VRS also hired staff to further help oversee its external managers and added new risk management and research capabilities.

Although VRS investment expenses have increased overall, they remain lower than the investment expenses of peer retirement systems. VRS has hired an investment benchmarking consultant, CEM Benchmarking, to annually review its investment expenses and compare them to peers. CEM looked at VRS expenses as a percentage of the trust fund, measured in basis points. CEM reported that VRS investment expenses increased from 61 to 67 basis points from 2012 to 2015. However, VRS expenses were one to seven basis points lower than the peer average over the same time period, adjusted for fund size and asset mix (Figure 5). The difference in basis points between VRS and its peer average was the equivalent of $7 million to $41 million in lower total investment expenses in a given year.

In-house asset management reduced fees paid to external investment managers

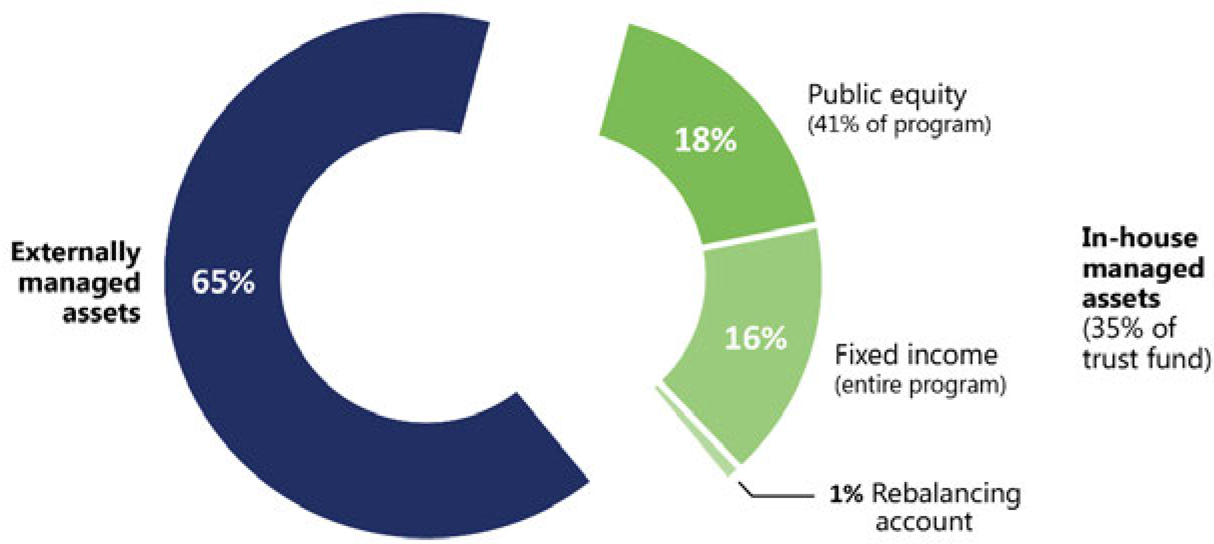
VRS manages a portion of the trust fund's assets in-house, with the goal of reducing costs while maintaining a high return on investments. At the end of FY17, 35 percent of the trust fund was managed in-house (Figure 6). In-house managed assets included the entire fixed income program and over 40 percent of the public equity program.

VRS staff indicated that in-house management of assets has resulted in substantial cost savings while providing a high return relative to benchmarks. According to a VRS consultant, approximately $41 million is saved annually by managing assets in-house instead of paying fees to outside managers. These annual savings remain in the fund to be reinvested, which compounds the savings over time.

In-house managed public equity assets outperformed their benchmarks for the one-, three-, five-, and 10-year periods ending June 30, 2017. These assets generated an annualized return of 6.8 percent over the 10-year period, 110 basis points above the 10-year benchmark.

In-house managed fixed income assets outperformed their benchmarks for all periods ending June 30, 2017. The assets outperformed the 10-year benchmark by 50 basis points and generated an annualized return of 5.5 percent over that period.

FIGURE 6
VRS in-house and externally managed assets as of June 30, 2017



SOURCE: VRS investment department data, 2017.
NOTE: The rebalancing account may include fixed income, equity, and cash exposure. In-house managed real assets are grouped into the public equity program for reporting purposes.

2. Defined contribution plans

VRS manages several defined contribution plans for its members. All state employees and many local VRS members may be eligible to participate in one or more of the plans (Table 1). Participants in these plans have their own accounts, and individual participants determine how their money is invested. The defined contribution plans are similar in structure to private sector 401(k) plans and personally owned individual retirement accounts (IRAs).

TABLE 1
VRS defined contribution plans

Plan	Description	Assets ($M)
Deferred compensation and cash match	State employees, and some local VRS members, can choose to make voluntary contributions to their Commonwealth 457 deferred compensation plan to supplement their retirement income. Most state employees receive a modest cash match from employers in their Virginia 401(a) cash match plan. [a]	$2,985
Optional plan for higher education [b]	Faculty at public colleges and universities may make an irrevocable one-time decision to participate in this defined contribution plan instead of the State Employees Plan. Employers are required to make contributions to participant accounts, and employees hired after July 1, 2010, are also required to contribute.	$1,155
Hybrid	State and local members of the hybrid plan are required to contribute to their Hybrid 401(a) plan and can choose to make voluntary contributions to their Hybrid 457 plan. Employers make mandatory contributions to participant accounts and match a portion of voluntary contributions made by members. Members are also enrolled in the hybrid plan's defined benefit component.	$214
Other [c]	Optional retirement plans can be offered as alternatives for political appointees (in place of the VRS State Employee plan) and school superintendents (in place of the VRS Teachers plan).	$16

SOURCE: VRS administration and investment department data.

[a] Most political subdivisions do not have a cash match plan. [b] The following higher education institutions administer their own optional plans: George Mason University, Virginia Commonwealth University, the University of Virginia, Virginia Tech. The College of William and Mary will begin to offer its own plan effective January 1, 2018. Faculty at these institutions are not eligible to participate in the VRS optional plan for higher education. [c] The amounts held in the other plans are as follows: Optional Retirement Plan for Political Appointees, $15.5 million; Optional Retirement Plan for School Superintendents, $0.2 million; and Virginia Supplemental Retirement Plan for certain educators, $0.1 million.

Some of the VRS defined contribution plans are intended to provide primary retirement benefits, whereas others are intended to supplement pension benefits. The aggregate value of participant accounts held in the VRS-managed defined contribution plans was $4.4 billion as of September 30, 2017.

Plan performance

Participants in the VRS defined contribution plans may choose from 21 different investment options available through the defined contribution plan (DCP) lineup. These options include (1) diversified target-date portfolios, (2) individual investment options, and (3) self-directed brokerage accounts. Participants pay a flat administrative fee every year and additional investment fees according to the options they select. Participants in the Optional Retirement Plan for Higher Education may choose to invest in options available through VRS's DCP lineup or in options available under two other providers, TIAA and Fidelity. Participants pay investment, administrative, and other fees based on the provider they choose and the investment options they select.

Defined contribution plan

Target-date portfolios. Participants may select a diversified investment portfolio in accordance with their target retirement date. These portfolios include a broad spectrum of investments, such as different types of stock, bond, and real estate funds. The mix of investments is automatically adjusted over time to become more conservative as the participant approaches retirement age. The target-date portfolios, which hold $985 million in assets, met or exceeded all of their performance benchmarks (Table 2).

Individual options. Participants may select from one or more individual options to build a customized investment portfolio based on their personal preferences. The options include different types of stock, bond, money market, and real estate funds, and a fund that reflects the investments held by the VRS trust fund. The individual options, which hold $2.2 billion in assets, met or exceeded nearly all of their performance benchmarks (Table 2). One option failed to meet its one-year benchmark.

Self-directed brokerage accounts. The brokerage accounts allow participants to select from thousands of publicly traded mutual funds, exchange-traded funds, and individual securities. Participants who use brokerage accounts have full control over their investments, down to the individual securities held in their portfolio. The brokerage accounts hold $41 million in assets. Because all investment decisions are made by the account holders, no performance benchmarks for the brokerage accounts are used.

Optional Retirement Plan for Higher Education

Participants in the Optional Retirement Plan for Higher Education (ORPHE) can choose to invest with TIAA, Fidelity, or in the VRS DCP lineup. Under TIAA, participants may select a diversified portfolio option or build a custom portfolio from different types of stock, bond, money market, and real estate funds. Under Fidelity, participants may select a target-date portfolio or build a portfolio from a choice of investment options. The TIAA and Fidelity programs hold just over $1 billion in assets. The investment options under TIAA and Fidelity underperformed many of their benchmarks (Table 2).

An additional $50 million is held with private providers that VRS no longer partners with under the higher education retirement plan. VRS does not track investment performance for these deselected providers because participants can no longer contribute to them through the plan.

TABLE 2
Investment performance of VRS defined contribution plans

for the period ending September 30, 2017

	1 year	3 years	5 years	10 years
Options available for all plans				
Target date portfolios				
Met or exceeded benchmark	10	9	9	7
Total number of options	10	9	9	7
Individual options				
Met or exceeded benchmark	9	10	10	9
Total number of options	10	10	10	9
Additional options under the higher education plan				
TIAA				
Met or exceeded benchmark	6	4	3	4
Total number of options	10	10	10	10
Fidelity				
Met or exceeded benchmark	5	6	6	7
Total number of options	11	11	11	11

SOURCE: VRS investment department data.
NOTE: (1) Options at top are available to all plan participants. (2) Total number of investment options reported for a given period can change because longer-term performance data is not available for newer options. (3) Performance of target-date and individual options is reported net of investment fees but not administrative fees. Performance of the additional options under the higher education plan is reported net of investment and embedded record-keeping and plan administration fees, where applicable. (4) Some funds are passively managed. Passively managed investment options are expected to trail their benchmarks by the expense ratio (fees) charged by the investment managers. Actively managed options are expected to outperform the market and were measured against the benchmark without adjustment for manager fees. Capital preservation investment options, such as stable value and money market funds, are expected to generate returns at or above zero and were assessed relative to that benchmark. (5) Fidelity did not provide VRS with performance data for the "Fidelity Freedom Funds" at the time of the compilation of this report; these funds, therefore, are not included.

3. Trust fund rates and funding

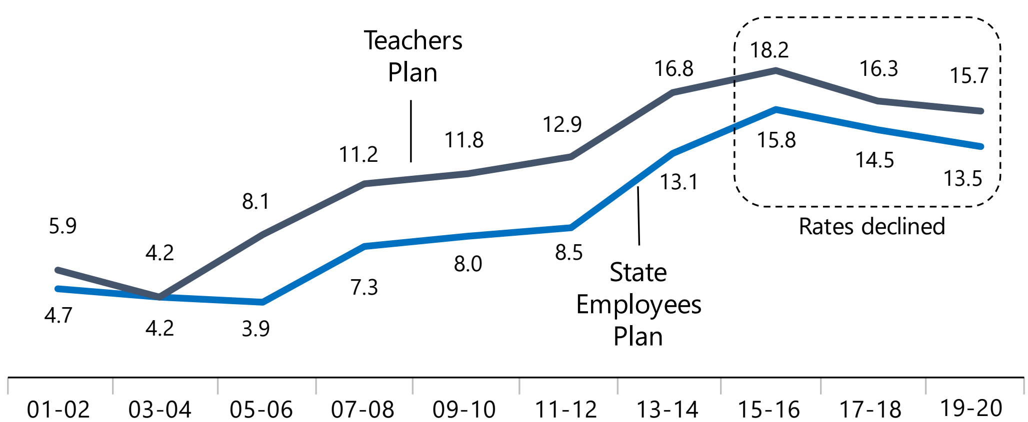
Employer contributions, paid by the state and local political subdivisions through contribution rates, are one of the main sources of funding for VRS retirement plans. Every two years, the VRS board certifies the employer contribution rates that are needed to fully fund the plans, as determined by its actuary. Employer contribution rates for the Teachers Plan, State Employees Plan, and other state-supported plans must be enacted each biennium in the Appropriation Act. The Code requires employers in the 593 local plans to pay the rates certified by the VRS board, with some exceptions.

The VRS actuary reports annually on the funded status of the retirement plans. Funded status is a key indicator of the financial health of the plans.

Employer contribution rates have decreased and are scheduled to be fully funded by the state

The VRS board certified the employer contribution rates that were recommended by its actuary for the FY19–FY20 biennium. The board-certified rates decreased from the preceding biennium for all plans, including the Teachers and State Employees plans. This is the second consecutive biennium in which board-certified rates have decreased (Figure 8). Board-certified rates decreased due to strong performance by VRS investments, the state's commitment to fully funding the plans, the ongoing impact of 2010 and 2012 legislative reforms of the retirement system, and special one-time payments approved by the General Assembly in recent years. Lower rates make the plans more affordable for the state and for local political subdivisions.

FIGURE 10
Board-certified employer contribution rates for Teachers and State Employees plans



SOURCE: VRS annual reports and historical actuarial data.
NOTE: Board-certified rates reflect the percentage of payroll that each VRS-participating employer would need to contribute to VRS to pay off each plan or program's liabilities, as calculated by the VRS actuary. Rates must be enacted by the governor and General Assembly in the annual Appropriation Act. Prior to the 2017-2018 biennium the governor and the General Assembly did not fully fund the rate, so the rates enacted in the Appropriation Act may not match board-certified rates for all past years.

Although board-certified rates have decreased for all plans for the FY19-FY20 biennium, the FY19-FY20 board-certified rates will represent a slight increase to the actual rates being paid by employers for the State Employee plan (from 13.49 to 13.52 percent) and VaLORS plan (from 21.05 to 21.61 percent) compared to the FY17-FY18 biennium. This is due to a special one-time $189 million payment approved by the 2016 General Assembly that resulted in actual funded rates that were lower than the board-certified rates for most plans in those years (Table 3).

TABLE 3
Actual and required employer contribution rates

	Actual funded rate		Rate required by statute [a]	
	FY17 [b]	FY18 [b]	FY19	FY20
Teachers	14.66%	16.32%	15.68%	15.68%
State Employees	13.49	13.49	13.52	13.52
VaLORS	21.05	21.05	21.61	21.61
SPORS	28.54	28.54	24.88	24.88
JRS	41.97	41.97	34.39	34.39

SOURCE: Appropriation Acts, 2016-2017 and VRS letter to the governor and General Assembly.
[a] The rate required by statute is equal to 100 percent of the contribution rates certified by the board for all fiscal years beginning with FY19 (§ 51.1-145 of the Code of Virginia). [b] 2016 Appropriation Act increased FY17 and FY18 employer contribution rates for State Employees, VaLORS, SPORS, and JRS plans to 100% of actuarially recommended rate, after taking into account repayment of deferred contributions from the 2010-2012 biennium. Rate for the Teachers Plan set at statutory minimum 89.84% of actuarially recommended rate in FY17 and 100% in FY18.

Virginia statute requires the state to fully fund the board-certified rates starting in FY19. However, the General Assembly chose to fully fund the employer contribution rates that were certified by the VRS board ahead of the statutory funding schedule. By FY18, the state was paying 100 percent of board certified rates for all plans.

Virginia's statutory schedule for fully funding rates requires the state to pay 100% of the board-certified employer contribution rates by FY19. The schedule, which was enacted in 2012, gradually increased the portion of funding required for each plan in each biennium.

Rates are expected to stay close to their current levels for the foreseeable future, assuming investments meet the assumed 7.0 percent rate of return. Rates are not forecast to drop significantly until after 2042, when the state and school divisions finish paying off the legacy unfunded liabilities.

Employer contributions are also paid by local governments and political subdivisions in support of the 593 local plans. The VRS actuary calculates a unique rate for each local plan, and rates are certified by the VRS board. Local employers have historically been required to pay the full board-certified rate for their individual plans, with a few exceptions in recent years. The average of the board-certified employer contribution rates for local plans decreased from 8.15 percent for FY17-FY18 to 7.6 percent for FY19-FY20. The average rate is much lower than the rates for the state plans because local plans generally have smaller unfunded liabilities. The average rate for local plans has steadily decreased over the past five years. However, trends for individual local plans vary depending on the unique experience of each employer.

Funded status of VRS plans continued to improve

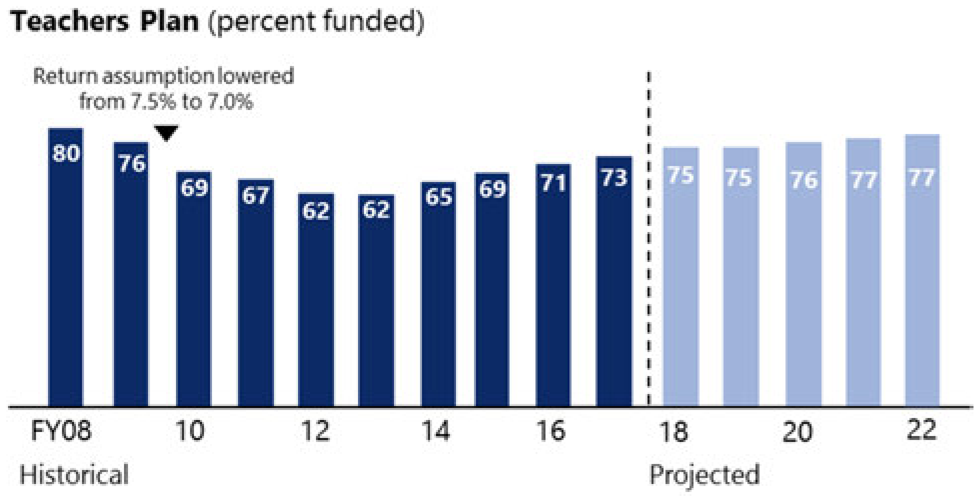
The health of a pension plan is commonly measured by its funded status, which is the ratio of plan assets to liabilities. The funded status of the State Employees and Teachers plans improved in FY17 for the fourth year in a row (Figure 11). This upward trend reverses the steady decline in funded status that the plans experienced during and after the 2008-2009 economic recession. The funded status of the State Employees and Teachers plans is expected to continue to increase at a slow rate over the next five years, assuming investments meet the assumed 7.0 percent rate of return. The funded status of the other state-supported plans, SPORS, VaLORS, and JRS, also increased for the fourth year in a row.

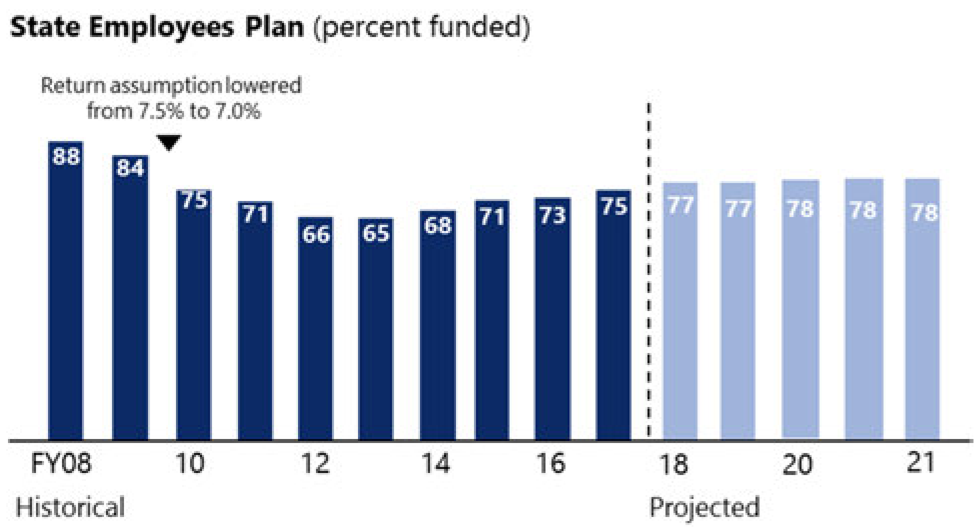
The average funded status of the local plans, adjusted to account for size differences across plans, increased for the fifth year in a row, from 90 percent in FY16 to 92 percent in FY17. Local plans have maintained a higher average funded status than the Teachers plan or the state-supported plans mainly because local employers have generally been required to fully fund their plan contribution rates. However, the funded status of any individual local plan may be higher or lower than the group average.

The funded status of the VRS plans has improved in recent years, in part because of strong investment performance. VRS recognizes the investment gains and losses on the market value of its assets over a five-year period to determine a "smoothed" actuarial value of its assets. This actuarial smoothing minimizes the effects of market volatility and provides greater stability in the contribution rates for employers. The trust fund earned a 9.1 percent return for the five-year period ending June 30 2017, which exceeded the assumed 7.0 percent annual rate of return. The funded status of the plans will continue to improve if returns stay at or above the assumed rate. The funded status will level off or decline if returns are lower.

The funded status of the VRS plans has also been improved through the General Assembly's ongoing commitment to fully funding the rates, which helps to reduce unfunded liabilities and prevents the accrual of new unfunded liabilities.

FIGURE 11
Funded status of Teachers and State Employees plans





SOURCE: VRS actuarial valuation report, 2017, and historical actuarial data.
NOTE: Funded status is reported based on actuarial value of assets, using a five-year smoothing period. Projections assume 7.0% rate of return on investment and 2.5% inflation. The Government Accounting Standards Board (Statement No. 67) requires that the funded status of the plans be reported using the market value of assets, which is how they are reported in VRS financial statements.

4. Benefits administration and agency management

Administration of member benefits is one of the core responsibilities of VRS. In order to carry out this and other duties, the agency must be effectively managed. Notable issues related to benefits administration and agency management include growth in agency spending, increased voluntary contributions of hybrid plan members, and the transfer of administration of the Line of Duty Act program to VRS.

VRS operating expenses increased but remained lower than peers

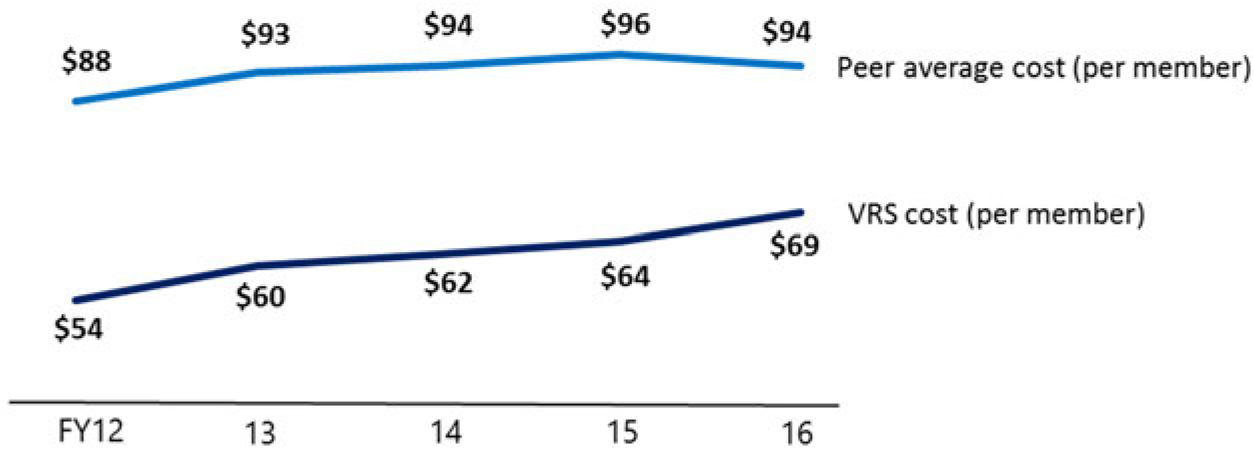
VRS operating expenses include spending related to benefits administration, agency management, and investment department operations (not including external fees). Agency expenses in FY17 were $90 million. Expenses increased by $28 million in the four-year period from FY13 to FY17, with an average growth rate of 9.8 percent per year.

VRS expense increases were attributable to three primary cost drivers. The first driver was implementation of the new hybrid plan. VRS added several new staff positions to administer the new plan, and educational and other materials were developed, printed, and distributed. VRS also incorporated a third-party defined contribution plan administrator to help manage the plan. The second driver was the expansion of the investment department, including addition of new staff positions and development of new IT capabilities. This expansion was commensurate with the overall growth of the total fund as well as the increase in the proportion of assets managed in-house. The third driver was higher IT costs. VRS increased IT salaries to retain senior staff, and its systems were modified so it could properly account for the hybrid plan. Furthermore, VRS continues to modernize its IT systems to add new capabilities, such as improving online member services and further strengthening its cyber security. IT modernization involves migration away from a legacy system to new system. A key element of the migration is the development of new platform to disperse monthly retiree and beneficiary payments.

Other factors contributing to the growth in expenses include the implementation of the Line of Duty Act program and expansion of member counseling services to assist members as benefit offerings expanded and increased in complexity.

Although VRS expenses increased, its administrative costs compare favorably to peer retirement systems. VRS hires a consultant, CEM Benchmarking, to annually review the administration expenses related to its retirement plans and benchmark them to peers. (This comparison excludes investment expenses and costs associated with administering other benefit programs, such as the retiree health insurance credit program.) CEM reported that VRS retirement plan administration costs were $25 to $34 lower per member than its peer average from FY12 to FY16 (Figure 12). This difference was estimated to be $13 million to $17 million less in administrative expenses in a given year. VRS expenses grew at a faster rate than the peer average, likely because of costs associated with implementing major projects such as the hybrid plan and IT projects.

FIGURE 12
VRS retirement plan administration costs compared to peers



SOURCE: CEM retirement plan administration benchmarking reports to the VRS board.
NOTE: Benchmark comparisons for 2017 are not yet available.

Automatic escalation increased the hybrid plan voluntary contribution participation rate, but participation rate will likely decline until next escalation

The hybrid plan combines elements of a traditional defined benefit retirement plan with a 401(k)-style defined contribution plan. Hybrid plan members include most state employees, teachers, and local employees hired on or after January 1, 2014, and constitute 21 percent of the total active VRS membership as of September 30, 2017. (State employees in the SPORS and VaLORS plans, and local employees with enhanced hazardous duty benefits, are not part of the hybrid plan.) The hybrid plan has lower costs and liabilities than the defined benefit plans it replaced, and is expected to gradually reduce state and local retirement costs as it grows to cover an increasing proportion of the workforce.

To achieve retirement outcomes similar to those of Plan 1 and Plan 2, members of the hybrid plan must make voluntary contributions to the defined contribution component of their plan. Voluntary contributions allow hybrid plan members to benefit from the applicable employer match and thereby enhance their retirement benefit. The percentage of hybrid plan members making voluntary contributions increased in 2017 due to a statutory automatic rate escalation that took place in January. The statutory escalation brought participants into the voluntary contribution component of the program unless they opted out.

As a result of the automatic escalation, nearly 80 percent of hybrid plan members were making voluntary contributions as of March 2017 (compared to 15 percent of members in October 2016). However, that percentage dropped to 64 percent of hybrid plan members by September 30, 2017 and will likely continue to decline over the next few years. This is because employees hired after September 1, 2016 were not subject

Hybrid plan members contribute a total of 5% to 9% of salary toward their retirement benefits.

Members must contribute 4% of salary toward their defined benefit component.

Members are required to contribute 1% of salary to their defined contribution component and may voluntarily contribute up to an additional 4%.

Employers are required to contribute to a member's defined benefit component at the actuarially determined rate. Employers are required to contribute 1% of salary toward a member's defined contribution component and provide up to an additional 2.5% in matching contributions, based on a member's voluntary contributions.

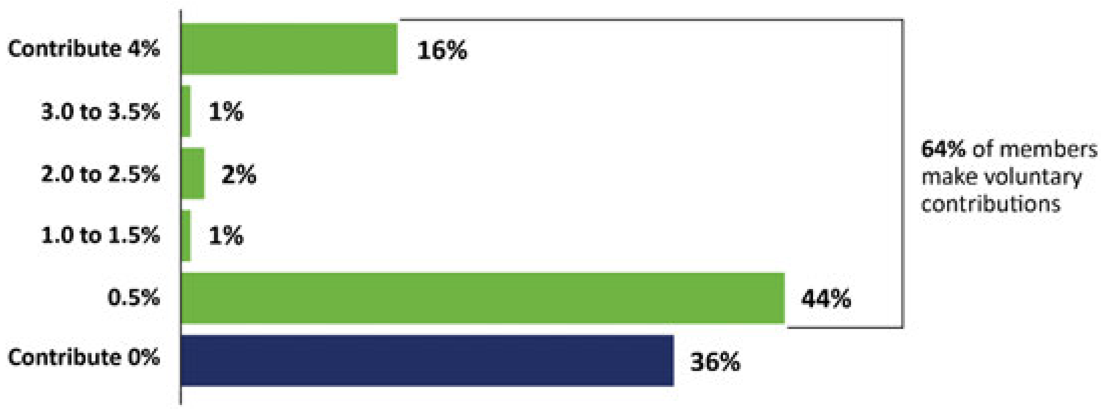
A statutory **automatic escalation** (§ 51.1-169 C.3) of voluntary contributions to the defined contribution component of the hybrid plan occurred in January 2017. Under the automatic escalation, voluntary contributions for members who were not contributing the maximum amount increased by 0.5 percent unless the member actively chose a different increase amount or decided to not allow the increase. Statute requires a 0.5 percent automatic escalation of voluntary contribution rates every three years beginning in 2017.

to automatic escalation in 2017 and will not receive an automatic escalation until the next round in 2020. This will cause the proportion of members who are making voluntary contributions to decline between now and 2020, as most new employees do not initiate the voluntary contribution.

Most hybrid plan members who are making voluntary contributions only contribute the 0.5 percent of their salary that occurred as a result of the automatic escalation (Figure 4). For members who do not actively elect to increase their contribution rates, it will take 24 years to reach the maximum contribution amount of four percent, because the 0.5 percent automatic escalation of their voluntary contribution rate occurs just once every three years.

Most members who have elected to make voluntary contributions beyond the 0.5 percent automatic escalation amount are already making the maximum contribution of four percent.

FIGURE 4
Percentage of hybrid plan members making voluntary contributions by contribution amount, September 2017



SOURCE: VRS.

VRS continues to explore ways to increase voluntary contribution rates of hybrid plan members through campaigns and online tools designed to educate and increase awareness among employers and employees. VRS has implemented self-directed automated escalation, called SmartStep, that allows members to set a schedule to increase their contributions according to their preferences and sends automated reminders to encourage action.

Line of Duty Act eligibility determination transitioned to VRS in 2017

VRS assumed eligibility determinations for the Line of Duty Act (LODA) program in July 2017. The Department of Human Resource Management (DHRM) will administer the LODA health benefit plans. These responsibilities were transferred from the Department of Accounts to VRS and DHRM as part of a series of broad changes the General Assembly made to the LODA program in 2016. These changes originated with a 2014 JLARC report, which identified options for improving the program's administration and financial sustainability.

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