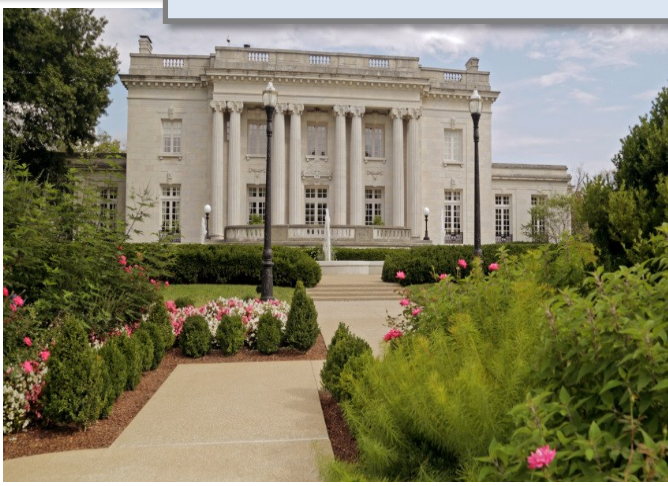
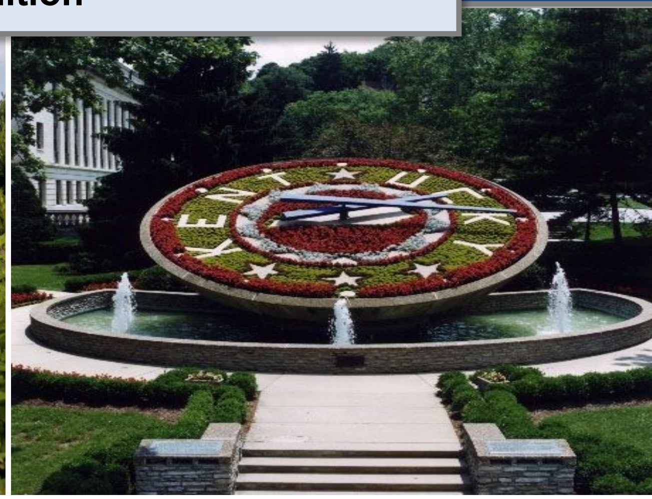
COMMONWEALTH OF KENTUCKY

KENTUCKY ASSET/LIABILITY COMMISSION
SEMI-ANNUAL REPORT

For the period ending December 31, 2018

44th Edition





Matthew G. Bevin, Governor, Commonwealth of Kentucky

William M. Landrum III, Secretary, Finance and Administration Cabinet

Ryan Barrow, Executive Director, Office of Financial Management

Kentucky
UNBRIDLED SPIRIT ™

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may be viewed at:

http://finance.ky.gov/services/ofm/Pages/semi-annualreports.aspx

The Commonwealth's Comprehensive Annual Financial Report (CAFR)

may be viewed at:

http://finance.ky.gov/services/statewideacct/Pages/ReportsandPublications.aspx

The Municipal Securities Rulemaking Board (MSRB)

Electronic Municipal Market Access (EMMA)

website is located at:

http://emma.msrb.org/

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INTRODUCTION

The Kentucky Asset/Liability Commission (ALCo or the Commission) presents its 44th semi-annual report to the Capital Projects and Bond Oversight Committee and the Interim Joint Committee on Appropriations and Revenue pursuant to KRS 56.863 (11) for the period beginning July 1, 2018 through December 31, 2018.

Provided in the report is the current structure of the Commonwealth's investment and debt portfolios and the strategy used to reduce both the impact of variable revenue receipts on the budget of the Commonwealth and fluctuating interest rates on the interest-sensitive assets and interest-sensitive liabilities of the Commonwealth. Additionally, an analysis of the Commonwealth's outstanding debt is provided as well as a description of all ALCo financial agreements entered into during the reporting period. And finally, the report makes available a summary of gains and losses associated with outstanding ALCo financial agreements

Several factors on both the state and national level had an impact on activity during the reporting period. The most significant factors were:

On the national level

- On December 19, 2018 the Federal Reserve Board of Governors voted unanimously to raise the target range for the federal funds rate by 25 basis points to 2.25% - 2.50%.
- The unemployment rate continued the trend lower ending 2018 at 3.9% from 4.0% in June and 4.1% in December 2017.
- The annual rate of economic growth as measured by GDP grew during the second half of 2018. The seasonally adjusted rate for the third and fourth quarter was 3.4% and 2.6%, respectively.
- Inflation increased during 2018 but remained muted for the second half of the year with the core rate (ex-energy and food) ending at 2.2%.

On the state level

- General Fund receipts totaled $5.6 billion for the first six months of Fiscal Year (FY) 2019, representing a 3.7% increase over the same period in 2018. The official General Fund revenue estimate for FY19 calls for revenue to grow 3.3% compared to FY18 actual receipts. Based on the first half results, General Fund revenues must increase 3.0% for the remainder of the FY to meet the official estimate of $11.198 billion.
- Road Fund receipts totaled $771.3 million for the first six months of FY 2019, representing a 4.3% increase over the same period in 2018. The official Road Fund revenue estimate for FY19 calls for revenue to fall 0.3% compared to FY18 actual receipts. Based on the first half results, Road Fund revenues can decrease 4.7% for the remainder of the FY and meet the official estimate of $1.506 billion.
- Kentucky personal income grew by 3.7% in the second quarter of FY19 which is near the 3.5% average for the last eight quarters.
- Wages and salaries grew by 3.5% in the second quarter, but nonfarm employment was slow, growing only 1% in the second quarter.
- Kentucky's seasonally adjusted unemployment rate stood at 4.4% at the end of December 2018 down slightly from 4.5% a year ago.
- Large unfunded pension liabilities continue to put stress on the Commonwealth's credit rating.
- Implementation of bond authorizations from prior-year sessions of the General Assembly continued. Bond issues for the period are discussed later in the report.

INVESTMENT MANAGEMENT

Market Overview

Economic activity in the United States appears to have increased at a solid pace over the second half of 2018, and the labor market strengthened further. Inflation has been near the Federal Open Market Committee's (FOMC) longer-run objective of 2%, aside from the transitory effects of recent energy price movements. In this environment, the FOMC judged that current and prospective economic conditions called for a further gradual removal of policy accommodation. In particular, the FOMC raised the target range for the federal funds rate twice in the second half of 2018, putting its target rate at 2.25% to 2.50% following the December meeting. In light of softer global economic and financial conditions late in the year and muted inflation pressures, the FOMC indicated it will be patient as it determines what future adjustments to the federal funds rate may be appropriate to support the Committee's congressionally mandated objectives of maximum employment and price stability.

Employment

The labor market has continued to strengthen since the middle of 2018. Nonfarm Payroll employment growth has remained strong, averaging 224,000 per month since June 2018. The unemployment rate has been relatively unchanged over this period, averaging just under 4%, a low level by historical standards, while the labor force participation rate has moved up despite the ongoing downward influence from an aging population. Wage growth has also picked up recently.

Inflation

Consumer price inflation, as measured by the 12-month change in the price index for personal consumption expenditures, moved down from a little above the FOMC's objective of 2% in the middle of 2018 to an estimated 1.7% in December, restrained by recent declines in consumer energy prices. The 12-month measure of inflation that excludes food and energy items (core inflation), which historically has been a better indicator of where overall inflation will be in the future than the headline measure that includes those items, is estimated to have been 1.9% in December, up 0.25% point from a year ago. Survey-based measures of longer-run inflation expectations have generally been stable, though market-based measures of inflation compensation have moved down some since the first half of 2018.

Economic Growth

Available indicators suggest that real gross domestic product (GDP) increased at a solid rate in the second half of last year and rose a little under 3% for the year as a whole, a noticeable pickup from the pace in recent years. Consumer spending expanded at a strong rate for most of the second half, supported by robust job gains, past increases in household wealth, and higher disposable income due in part to the Tax Cuts and Jobs Act, though spending appears to have weakened toward year-end. Business investment grew as well, though growth seems to have slowed somewhat from a sizable gain in the first half. However, housing market activity declined in 2018 amid rising mortgage interest rates and higher material and labor costs. Indicators of both consumer and business sentiment remain at favorable levels, but some measures have softened since mid-year, likely a reflection of financial market volatility and increased concerns about the global outlook.

INVESTMENT MANAGEMENT

Financial conditions for businesses and households have become less supportive of economic growth since July. Financial market participants' appetite for risk deteriorated markedly in the latter part of last year amid investor concerns about downside risks to the growth outlook and rising trade tensions between the United States and China. As a result, Treasury yields and risky asset prices declined substantially between early October and late December in the midst of heightened volatility. Since July the expected path of the federal funds rate over the next several years shifted down, long-term Treasury yields and mortgage rates moved lower, broad measures of U.S. equity prices increased somewhat, and spreads of yields on corporate bonds over those on comparable-maturity Treasury securities widened modestly. Credit to large nonfinancial firms remained solid in the second half of 2018; corporate bond issuance slowed considerably toward the end of the year. Despite increases in interest rates for consumer loans, consumer credit expanded at a solid pace, and financing conditions for consumers largely remain supportive of growth in household spending.

Interest Rates

As the labor market continued to strengthen and economic activity expanded at a strong rate, the FOMC increased the target range for the federal funds rate gradually over the second half of 2018. Specifically, the FOMC decided to raise the federal funds rate in September and in December, bringing it to the range of 2.25% to 2.50%.

In December, against the backdrop of increased concerns about global growth, trade tensions, and volatility in financial markets, the Committee indicated it would monitor global economic and financial developments and assess their implications for the economic outlook. Nonetheless, the Committee noted that it will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate to support these outcomes. FOMC communications continued to emphasize that the Committee's approach to setting the stance of policy should be guided by the implications of incoming data for the economic outlook. In particular, the timing and size of future adjustments to the target range for the federal funds rate will depend on the Committee's assessment of realized and expected economic conditions relative to its maximum-employment objective and its 2% inflation objective.

Equities

Broad U.S. stock market indexes increased somewhat since the middle of last year amid substantial volatility. Concerns over the sustainability of corporate earnings growth, the global growth outlook, international trade tensions, and some Federal Reserve communications that were perceived as less accommodative than expected weighed on investor sentiment. There were considerable differences in stock returns across sectors, reflecting their varying degrees of sensitivities to energy price declines, trade tensions, and rising interest rates. In particular, stock prices of companies in the utilities sector, which tend to benefit from falling interest rates, and in the health-care sector outperformed broader indexes. Conversely, stock prices in the energy sector underperformed the broad indexes, as oil prices dropped sharply. Basic materials, a sector that was particularly sensitive to concerns about the global growth outlook and trade tensions, also underperformed. Bank

INVESTMENT MANAGEMENT

stock prices declined slightly, as the yield curve flattened and funding costs rose. Measures of implied and realized stock price volatility for the S&P 500 index, the VIX and the 20-day realized volatility, increased sharply in the fourth quarter of 2018 to near the high levels observed in early February 2018 amid sharp equity price declines.

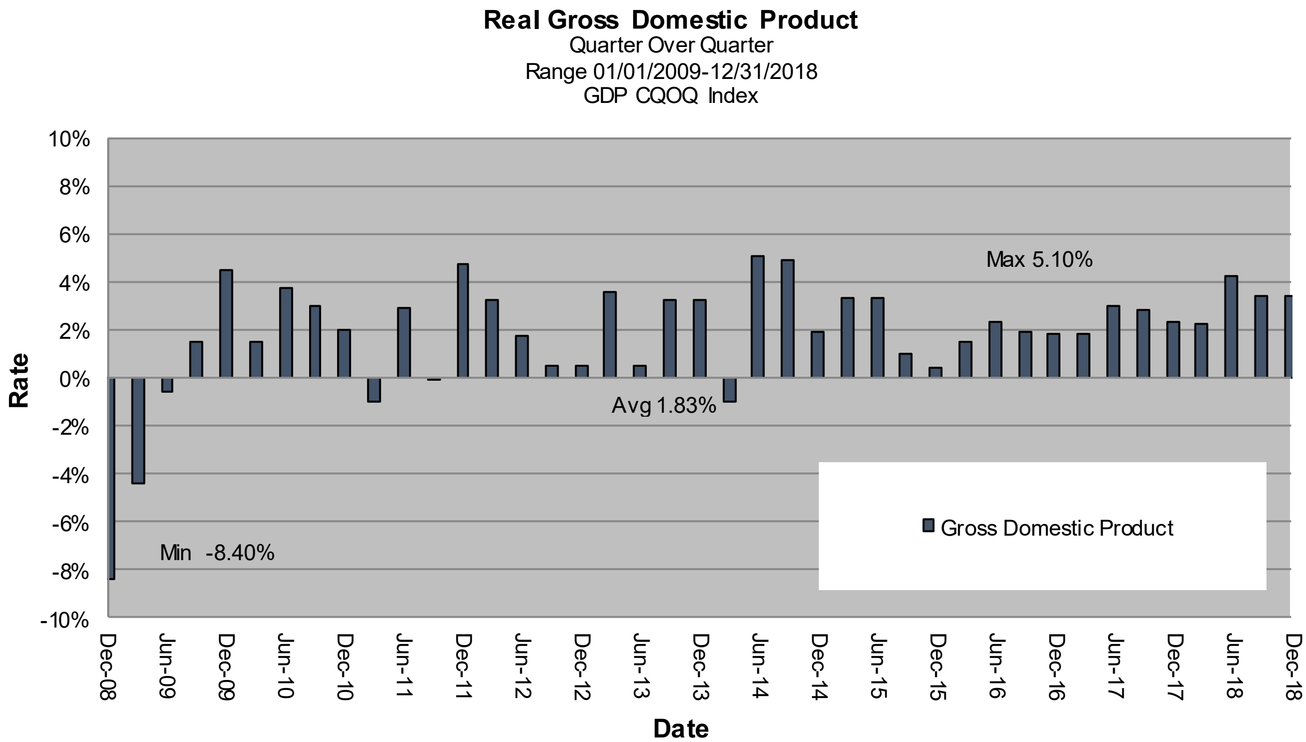
Outlook

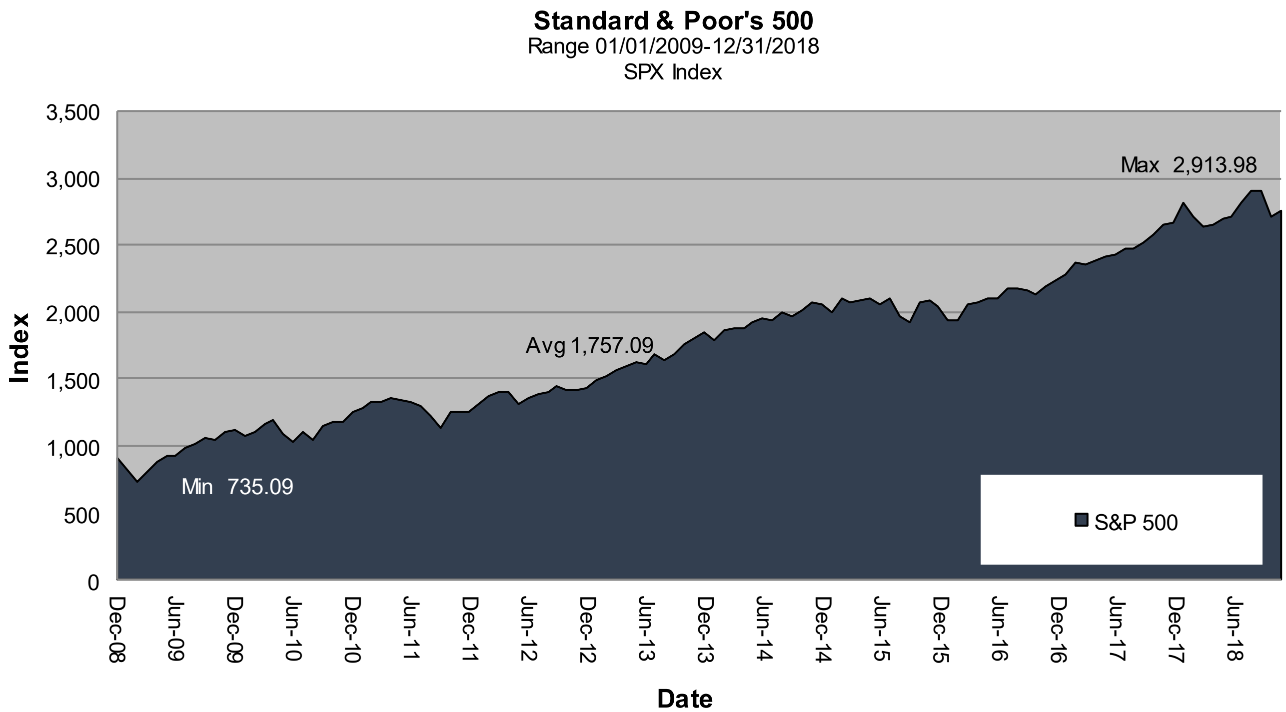
With some stronger than expected incoming data on economic activity and the recent tightening in financial conditions, particularly the decline in equity prices, the U.S. economic forecast prepared by the staff for the December FOMC meeting was little revised. The staff continued to expect that real GDP growth would be strong, although somewhat slower than the rapid pace of growth in 2018. Over the 2019-20 period, real GDP was forecast to rise at a rate above the staff's estimate of potential output growth and then slow to a pace below it in 2021. The unemployment rate was projected to decline further below the staff's estimate of its longer-run natural rate but to bottom out by 2020 and begin to edge up in 2021. With labor market conditions already tight, the staff continued to assume that projected employment gains would manifest in smaller than usual downward pressure on the unemployment rate and in larger than usual upward pressure on the labor force participation rate.

Core Personal Consumption Expenditures (PCE) price inflation was forecast to move up to 2% in 2019 and remain at that level through the medium term; total inflation was forecast to be a little below core inflation in 2019, reflecting projected declines in energy prices, and then to run at the same level as core inflation over the following two years. The staff's medium-term projections for both total and core PCE price inflation were little revised.

INVESTMENT MANAGEMENT

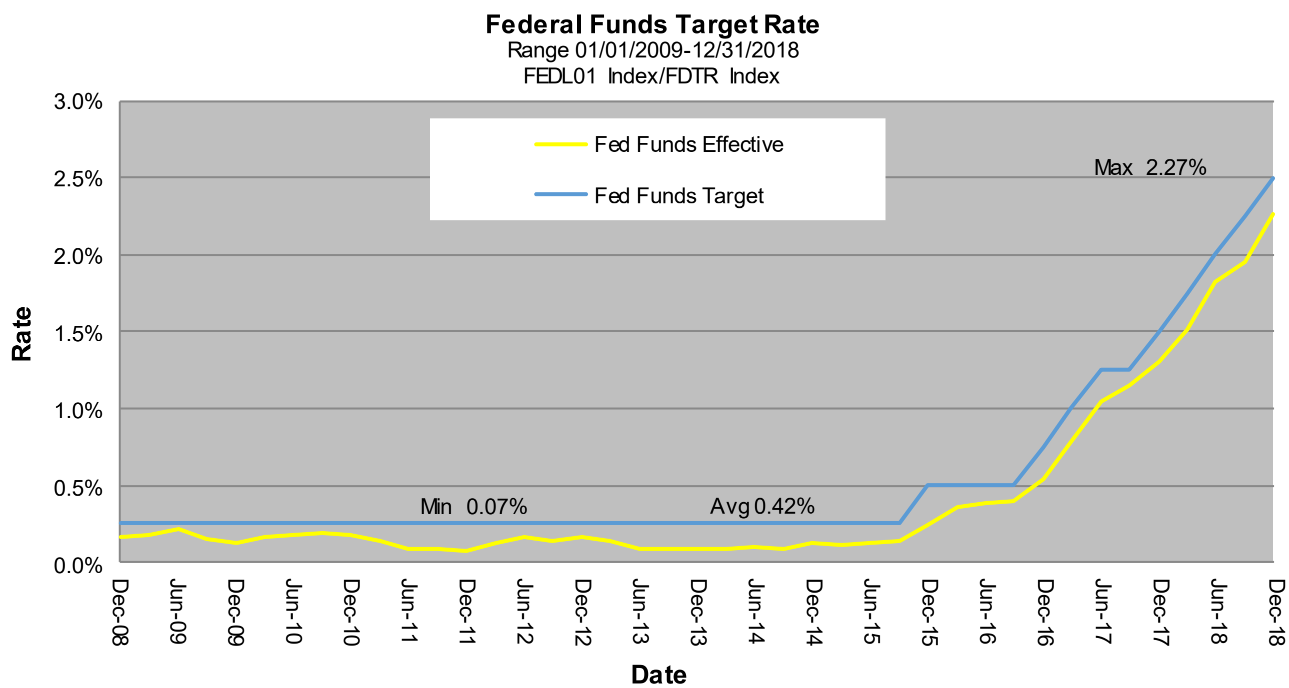
Real Gross Domestic Product & Standard & Poor's 500

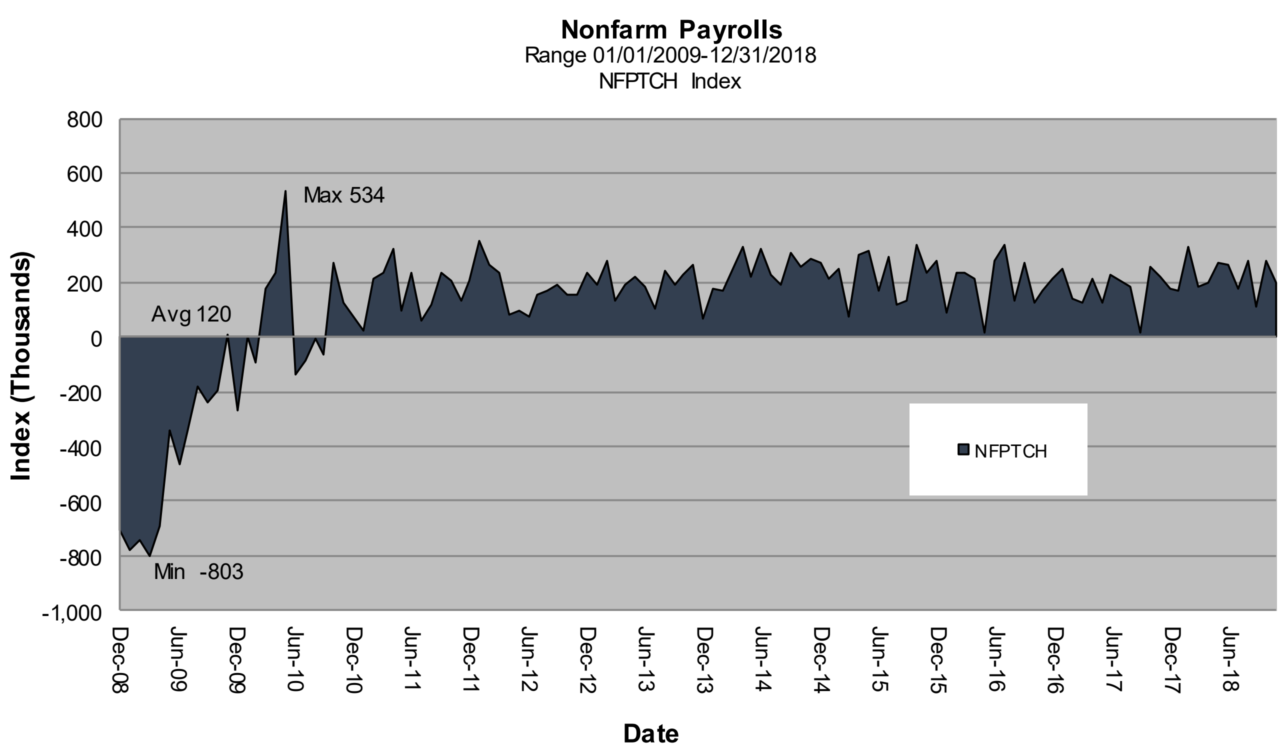




INVESTMENT MANAGEMENT

Federal Funds Target Rate & NonFarm Payrolls





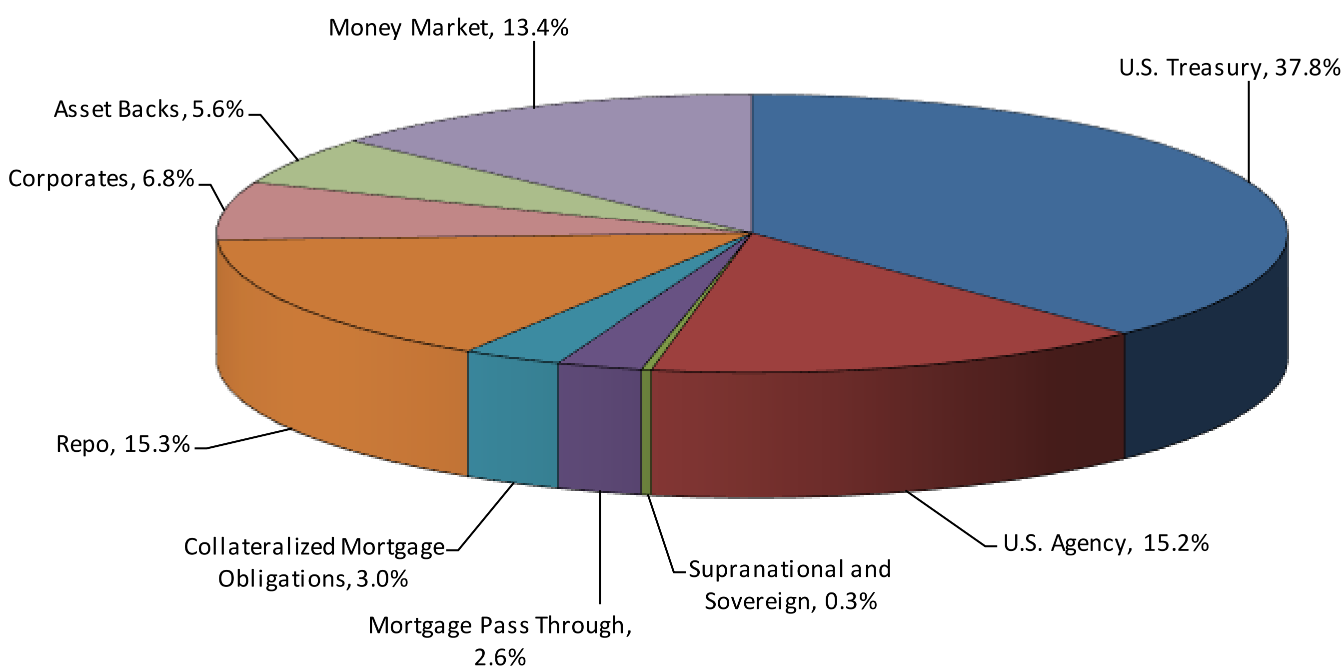
INVESTMENT MANAGEMENT

Portfolio Management

For six months ended December 31, 2018, the Commonwealth's investment portfolio was approximately $3.5 billion. The portfolio was invested in U.S. Treasury Securities (37.8%), U.S. Agency Securities (15.2%), Sovereign (0.3%), Mortgage Pass Through Securities (2.6%), Collateralized Mortgage Obligations (3.0%), Repurchase Agreements (Repo) (15.3%), Corporate Securities (6.8%), Asset Backed Securities (5.6%), and Money Market Securities (13.4%). The portfolio had a market yield of 2.50% and an effective duration of 0.42 years.

The total portfolio is broken down into three investment pools. The pool balances as of December 31, 2018 was -$259.5 million (Short Term Pool), $1.7 billion (Limited Term Pool) and $2.1 billion (Intermediate Term Pool).

Distribution of Investments as of December 31, 2018

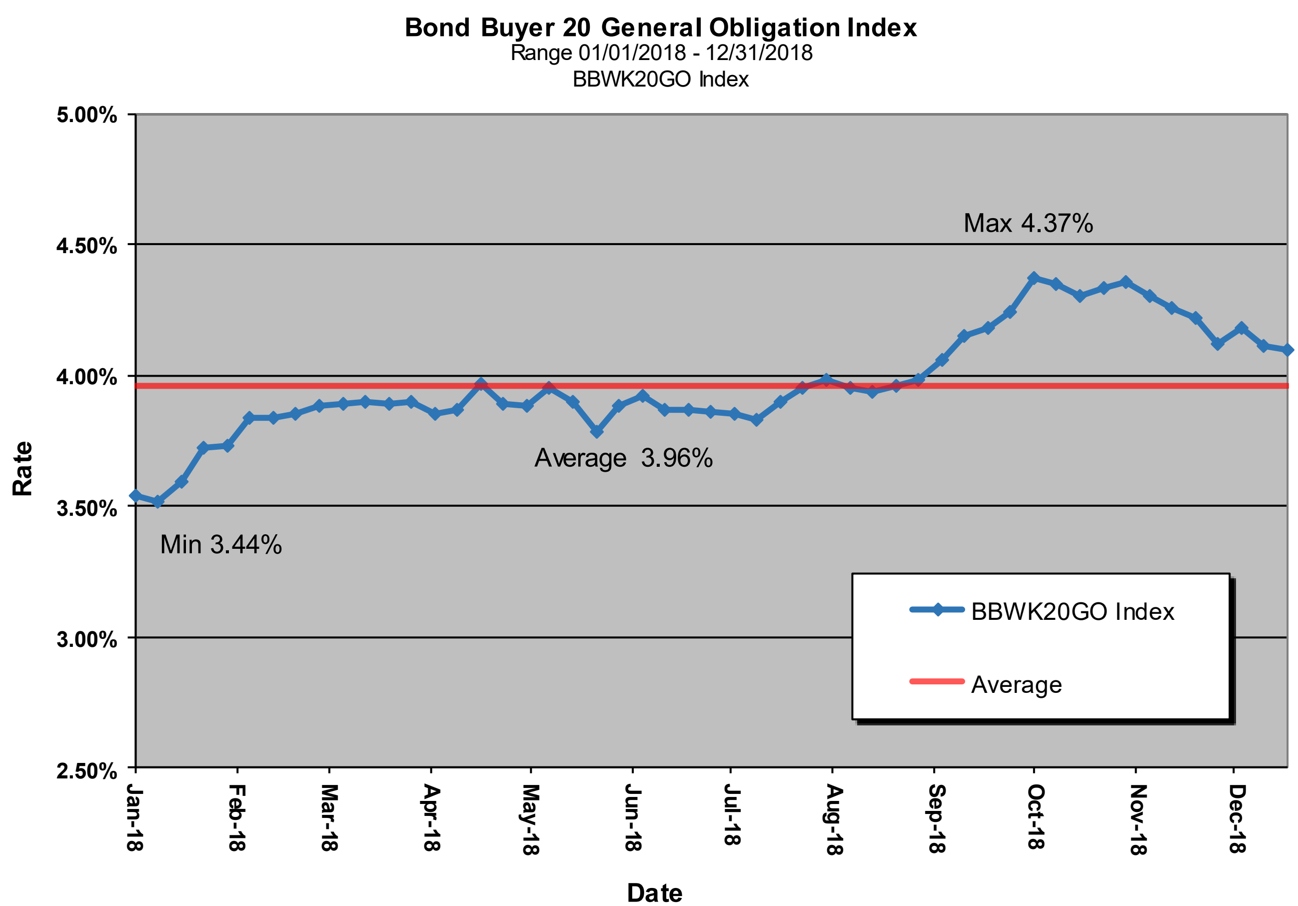


INVESTMENT MANAGEMENT

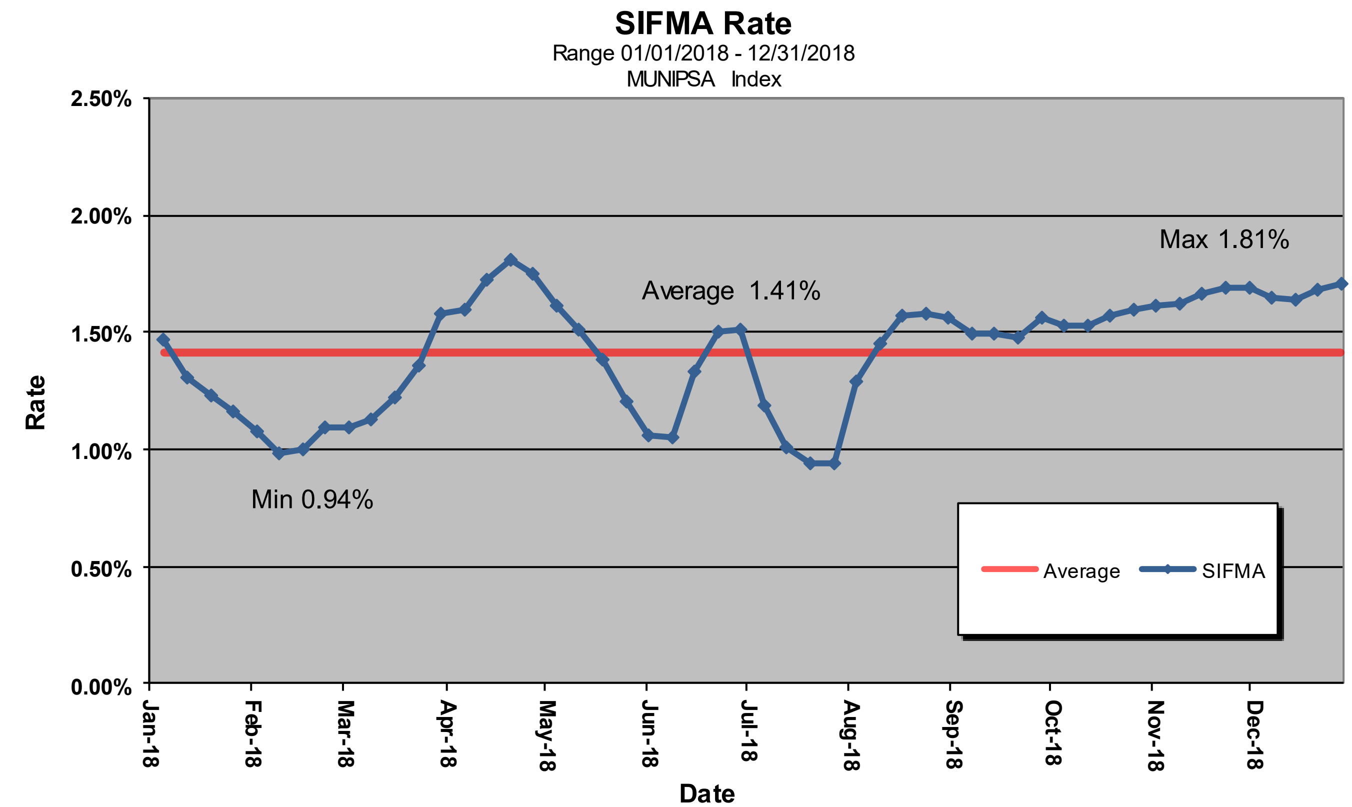
Tax-Exempt Interest Rates and Relationships

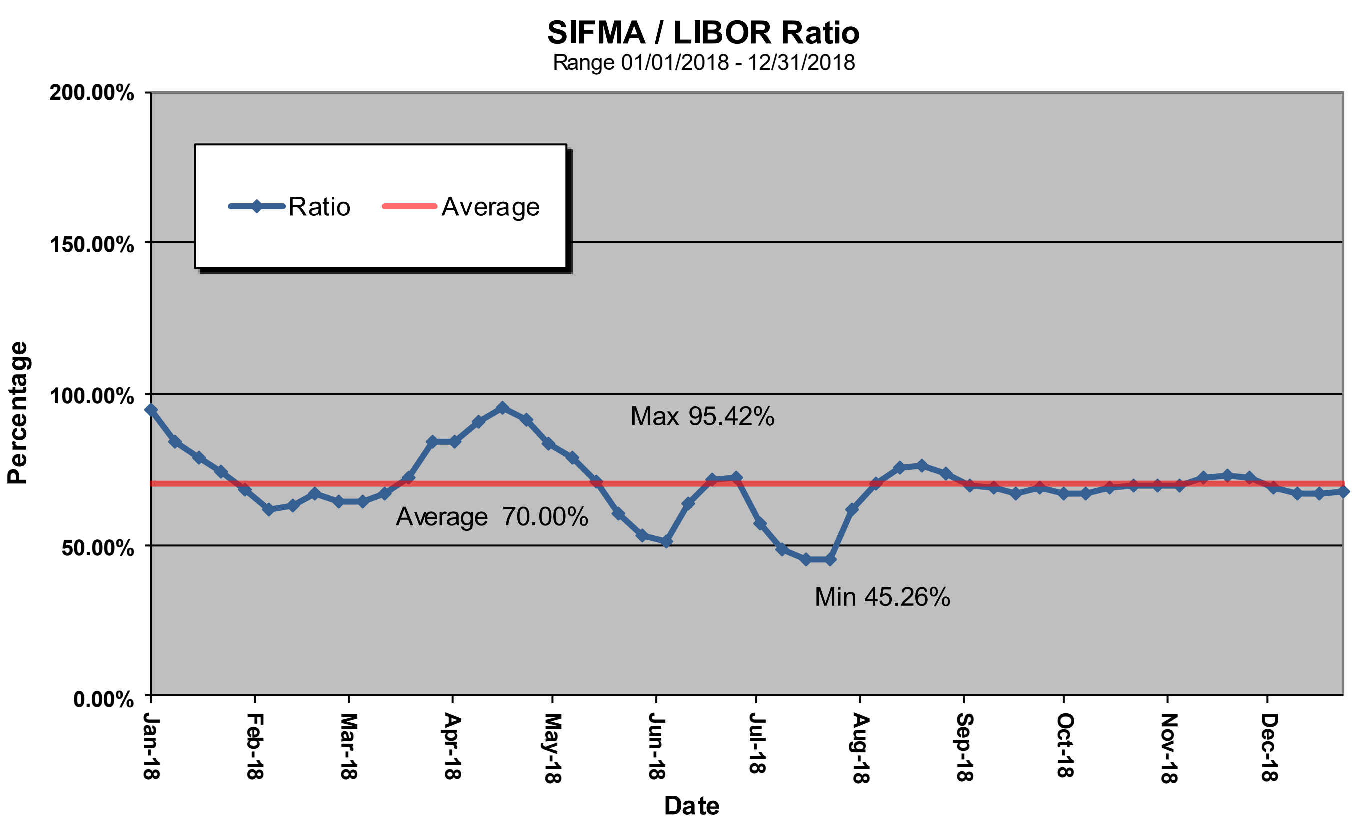
The Bond Buyer 20-year General Obligation Index averaged 3.96% for Calendar Year 2018. The high was 4.37% in mid-October and the low was 3.44% at the beginning of January.

The Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Index averaged 1.42% for Calendar Year 2018. The high was 1.81% in December; the low was 0.94% in July. The 30-day USD London Interbank Offered Rate (LIBOR) averaged 2.03% for Calendar Year 2018. The high was 2.52% at the end of December and the low was 1.55%% in January. During the Calendar Year, SIFMA traded at a high of 95.42% of the 30-day LIBOR near the end of April, at a low of 45.26% at the end of July, and at an average of 70.00%.



SIFMA & SIFMA/LIBOR Ratio





CREDIT MANAGEMENT

2018 Recap and 2019 Outlook

Business investment growth has moderated after strong gains early in 2018 as corporate financing conditions tightened somewhat but remained accommodative overall. The apparent slowdown reflects, in part, more moderate growth in investment in equipment and intangibles as well as a likely decline in investment in nonresidential structures after strong gains earlier in the year. Forward-looking indicators of business spending, such as business sentiment, capital spending plans, and profit expectations from industry analysts, have softened recently but remain positive overall. And while new orders of capital goods flattened out toward the end of last year, the backlog of unfilled orders for this equipment has continued to rise.

Spreads of yields on nonfinancial corporate bonds over those on comparable maturity Treasury securities widened modestly, since the middle of 2018 as investors' risk appetite appeared to recede. Nonetheless, a net decrease in Treasury yields has left interest rates on corporate bonds still low by historical standards, and financing conditions appear to have remained accommodative overall. Aggregate net flows of credit to large nonfinancial firms remained solid in the third quarter. The gross issuance of corporate bonds and new issuance of leveraged loans both fell considerably toward the end of the year, mirroring movements in financial market volatility.

Respondents to the Senior Loan Officer Opinion Survey on Bank Lending Practices, or SLOOS, reported that lending standards for commercial and industrial (C&I) loans remained basically unchanged in the fourth quarter after having reported easing standards over the past several quarters. However, banks reported tightening lending standards on all categories of commercial real estate (CRE) loans in the fourth quarter on net.

Meanwhile, financing conditions for small businesses have remained generally accommodative. Lending volumes to small businesses rebounded a bit in recent months, and indicators of recent loan performance stayed strong.

The most significant credit event was the downgrade of General Electric by the three major credit rating agencies (Moody's, S&P and Fitch) during the third quarter. As a result, General Electric was removed from the Corporate Credit Approved list due to the company falling below the minimum credit rating of A3/A-/A- or better. No General Electric positions were held as the impending downgrade was expected.

Credit Process

Our credit strategy invests in creditworthy corporate issuers having a long-term rating of A3/A-/A- or better as rated by Moody's, S&P, or Fitch. The strategy focuses on adding value through a disciplined approach in the credit selection process. With independent research and prudent diversification with respect to industries and issuers, our goal is to deliver consistent longer-term investment performance over U.S. Treasuries.

Default Monitoring

The Bloomberg credit risk model is OFM's main tool for default monitoring. The default likelihood model is based on the Merton distance-to-default (DD) measure, along with additional economically and statistically relevant factors. Firms are assigned a default risk measure as a high-level summary of their credit health using an explicit mapping from default likelihood to default risk.

CREDIT MANAGEMENT

A daily report is generated using our approved list and their peers enabling us to track market activity in selected names including Credit Default Swaps (CDS).

Industry/Company Analysis

We use a combination top-down and bottom-up approach for investing. The top-down approach refers to understanding the current (and future) business cycle or the "big picture" of the economy and financial world in order to identify attractive industries. Once industries are identified, a bottom-up approach is utilized where we focus on specific company fundamentals, picking the strongest companies within a sector.

Fundamental analysis is then performed looking at competitive position, market share, operating history/trends, management strategy/execution, and financial statement ratio analysis.

Approved List

Once analysis has been completed, the State Investment Commission approves the list on a quarterly basis. During the second half of 2018, the only change was removing General Electric from the approval list. The Corporate Credits Approved list as of December 2018 is found in Appendix A.

State Investment Commission

The State Investment Commission (SIC) is responsible for investment oversight with members of the Commission being the Governor (Chair), the State Treasurer (Vice Chair), the Finance and Administration Cabinet Secretary and two Gubernatorial Appointees. The investment objectives are three-fold: preservation of principal, maintain liquidity to meet cash needs and maximization of returns. The Office of Financial Management is staff to the SIC and follows KRS 42.500, 200 KAR 14.011, 14.081, 14.091 and 14.200 when making investment decisions.

DEBT MANAGEMENT

Authorized But Unissued Debt

As of December 31, 2018, the Commonwealth's 2018-2020 budget includes authorized debt service for over $1.28 billion of projects supported by the General Fund, Agency Funds, and the Road Fund, which were approved during prior sessions of the General Assembly. This pipeline of projects is anticipated to be financed over a number of future biennia bond transactions. The speed at which this financing takes place is dependent upon factors managed by and between the project sponsors, the Office of the State Budget Director and the Office of Financial Management.

2010 Extraordinary (Special) Session

The 2010 Extraordinary (Special) Session of the General Assembly delivered House Bill 1 (Executive Branch Budget other than Transportation Cabinet) and House Bill 3 (Kentucky Transportation Cabinet Budget) to the Governor on May 29, 2010, establishing an Executive Branch Budget for the biennium ending June 30, 2012. The Governor took final action on the bills on June 4, 2010. Together, the bills authorized bond financing for projects totaling $1,980.2 million to support various capital initiatives of the Commonwealth. Of the total authorization, $507.4 million is General Fund supported, $515.3 million is Agency Restricted Fund supported, $522.5 million is supported by Road Fund appropriations and $435 million is Federal Highway Trust Fund supported through Grant Anticipation Revenue Vehicle Bonds designated for the US-68/KY-80 Lake Barkley and Kentucky Lake Bridges Project and the Louisville-Southern Indiana Ohio River Bridges Project. A portion of the General Fund, Agency Restricted Fund, Road Fund and Federal Highway Trust Fund authorizations have been permanently financed.

2012 Regular Session

The 2012 Regular Session of the General Assembly delivered House Bill 265 (Executive Branch Budget other than Transportation Cabinet) to the Governor on March 30, 2012 and House Bill 2 (Kentucky Transportation Cabinet Budget) to the Governor on April 20, 2012, establishing an Executive Branch Budget for the biennium ending June 30, 2014. The Governor took final action on House Bill 265 on April 13, 2012 and took final action on House Bill 2 on May 2, 2012. Together, the bills authorized bond financing for projects totaling $238.86 million to support various capital initiatives of the Commonwealth. Of the total authorization, $182.86 million is General Fund supported, $12.5 million is supported by Road Fund appropriations, and $43.5 million is Agency Restricted Fund supported. A portion of the General Fund authorization and the total Agency Restricted Fund authorizations listed above have been permanently financed .

2014 Regular Session

The 2014 Regular Session of the General Assembly delivered House Bill 235 (Executive Branch Budget other than Transportation Cabinet) to the Governor on March 31, 2014 and House Bill 236 (Kentucky Transportation Cabinet Budget) to the Governor on April 15, 2014, establishing an Executive Branch Budget for the biennium ending June 30, 2016. The Governor took final action on House Bill 235 on April 11, 2014 and took final action on House Bill 236 on April 25, 2014. Together, the bills authorize bond financing for projects

DEBT MANAGEMENT

totaling a net amount of $1,364.05 million to support various capital initiatives of the Commonwealth due to $105 million in previously authorized debt that was de-authorized in House Bill 235. Of the total authorization, $742.77 million is General Fund supported, $721.28 million is supported by Agency Restricted Fund appropriations, and $5.0 million is Road Fund supported. A portion of the General Fund and Agency Restricted Fund, and all of the Road Fund authorizations listed above have been permanently financed.

2016 Regular Session

The 2016 Regular Session of the General Assembly delivered House Bill 303 (Executive Branch Budget other than the Transportation Cabinet) and House Bill 304 (Kentucky Transportation Cabinet Budget) to the Governor on April 15, 2016, establishing an Executive Branch Budget for the biennium ending June 30, 2018. The Governor took final action on House Bill 303 and House Bill 304 on April 27, 2016. Together, the bills authorize bond financing for projects totaling a net amount of $1,251.24 million to support various capital initiatives of the Commonwealth with $9.0 million of previously authorized debt de-authorized in House Bill 303. Of the total authorization, $582.99 million is General Fund supported and $677.25 million is supported by Agency Restricted Fund appropriations. No additional Road Fund supported authorizations were appropriated. A portion of the General Fund and Agency Restricted Fund authorizations listed have been permanently financed.

2017 Regular Session

The 2017 Regular Session of the General Assembly delivered House Bill 13 and House Bill 482 to the Governor on March 30, 2017. House Bill 13 authorized a general fund bond supported project for the Kentucky Department of Veterans' Affairs for the financing of the Bowling Green Veterans Center totaling $10.5 million. House Bill 482 authorized a general fund bond supported project for the Kentucky Economic Development Finance Authority Loan Pool to support programs administered by the Kentucky Economic Development Finance Authority for the sole purpose of facilitating a private sector investment of not less than $1 billion in one or more locations in the Commonwealth. The Governor took final action on House Bill 13 and House Bill 482 on April 11, 2017. The total authorization under House Bill 482 has been permanently financed

2018 Regular Session

The 2018 Regular Session of the General Assembly delivered House Bill 200 (Executive Branch Budget other than Transportation Cabinet) to the Governor on April 2, 2018 and House Bill 201 (Kentucky Transportation Cabinet Budget) to the Governor on April 14, 2018, establishing an Executive Branch Budget for the biennium ending June 30, 2020. The Governor vetoed House Bill 200 on April 9, 2018 and on April 13, 2018 the General Assembly enacted House Bill 200 over the Governor's veto. On April 14, 2018, the General Assembly delivered House Bill 265 (amending the 2018-2020 Executive Branch Budget Bill) to the Governor. The Governor took final action on House Bill 201 on April 26, 2018. House Bill 265 became law without the Governor’s signature on April 27, 2018. Together, the bills authorize bond financing for projects totaling a net amount of $972.7 million to support various capital initiatives of the Commonwealth whereas $26.62 million in previously authorized debt was de-authorized

DEBT MANAGEMENT

in House Bill 200 and House Bill 201. Of the total authorization, $377.69 million is General Fund supported, $602.89 million is supported by Agency Fund appropriations, and $18.75 million is Road Fund supported.

Authorized but Unissued

The balance of prior bond authorizations of the General Assembly dating from 2006 through 2018 totals $1,285.64 million. Of these prior authorizations, $560.41 million is General Fund supported, $662.73 million is Agency Restricted Fund supported, $62.50 million is supported by Road Fund appropriations. HB 201 from the 2018 Regular Session de-authorized the remaining $59.50 million which was authorized for the Federal Highway Trust Fund.

The following table summarizes, in aggregate, the information in connection with authorized but unissued debt of the Commonwealth as described in this section.

Summary of Authorized but Unissued Debt by Fund Type
As of December 31, 2018

Legislative Session (Year)	General Fund (millions)	Agency Fund (millions)	Road Fund (millions)	TOTAL (millions)
2010 and prior*	40.88	17.50	50.00	108.38
2012	13.35	-	12.50	25.85
2014	163.54	9.01	-	172.55
2016	262.32	93.34	-	355.66
2017	10.50	-	-	10.50
2018	369.82	542.89	-	912.70
Bond Pool Proceeds**	(300.00)	-	-	(300.00)
TOTAL	560.41	662.73	62.50	1,285.64

*Prior authorization is from the 2006 Session of the General Assembly.
** SPBC No. 119 bond proceeds.

Looking Forward

The Commission continues to monitor the municipal bond interest rate market and uses this information together with other relevant market data to evaluate whether or not the interim financing program would be an economical tool to begin using once again in conjunction with the fixed rate bonds.

DEBT MANAGEMENT

Ratings Update

The rating agencies continually monitor the Commonwealth's budgetary policies and actual performance in areas such as revenue, the economy, pensions, and debt management. Pension unfunded liabilities high fixed cost and low reserves have continued to put downward pressure on the Commonwealth's credit ratings.

During the reporting period, S&P downgraded the Road Fund Appropriation rating from AA– to A–. The rating downgrade was due in large part to the application of S&P's new rating criteria. Additionally, increasing financial pressures from pension contributions were cited.

The remaining ratings below were either affirmed or remained unchanged from the previous reporting period.

The ratings picture at December 31, 2018 was:

	Moody's	S & P	Fitch
General Obligation Issuer Rating (GO Implied)	Aa3	A	AA-
General Fund Appropriation Rating (GF)	A1	A-	A+
Road Fund Appropriation Rating (RF)	Aa3	A-	A+
Federal Highway Trust Fund Appropriation Rating	A2	AA	A+

DEBT MANAGEMENT

Cash Management Strategies

All cash management strategies are market and interest rate dependent. Historical alternatives are listed below:

Tax and Revenue Anticipation Notes (TRAN)

There were no General Fund TRANs issued during Calendar Year 2018. As in the previous nine fiscal years, current reinvestment yields on TRAN proceeds would not be significantly higher than the cost of funds for a TRAN. At this time, borrowing internally from the state investment pools continues to be the most efficient and cost-effective way to provide short-term liquidity to the General Fund.

Inter-Fund Borrowing

Cash in one fund is loaned to another fund which is experiencing a short-term cash flow shortfall. Historically, funds are loaned to the short-term fund (General Fund).

As of December 31, 2018 the total available liquid resources available to the General Fund was $3.549 billion.

Bond Anticipation Notes (BAN)

A short-term interest-bearing security issued in advance of a larger, future bond issue. Bond anticipation notes are smaller short-term bonds that are issued to generate funds for upcoming projects.

No BANs were issued during the reporting period

Notes (Direct Loans)

"Funding notes" means notes issued under the provisions of KRS 56.860 to 56.869 by the commission for the purpose of funding:

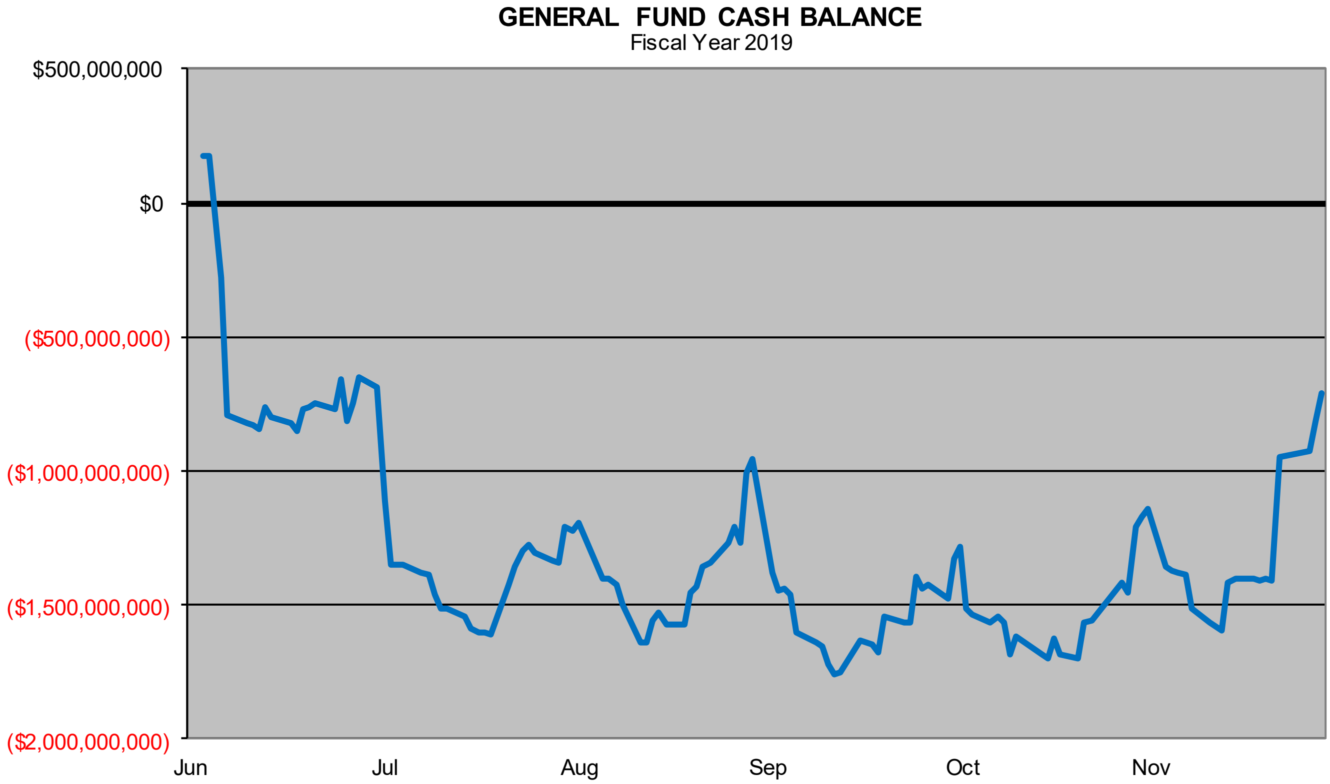
(a) Judgments, with a final maturity of not more than ten (10) years; and

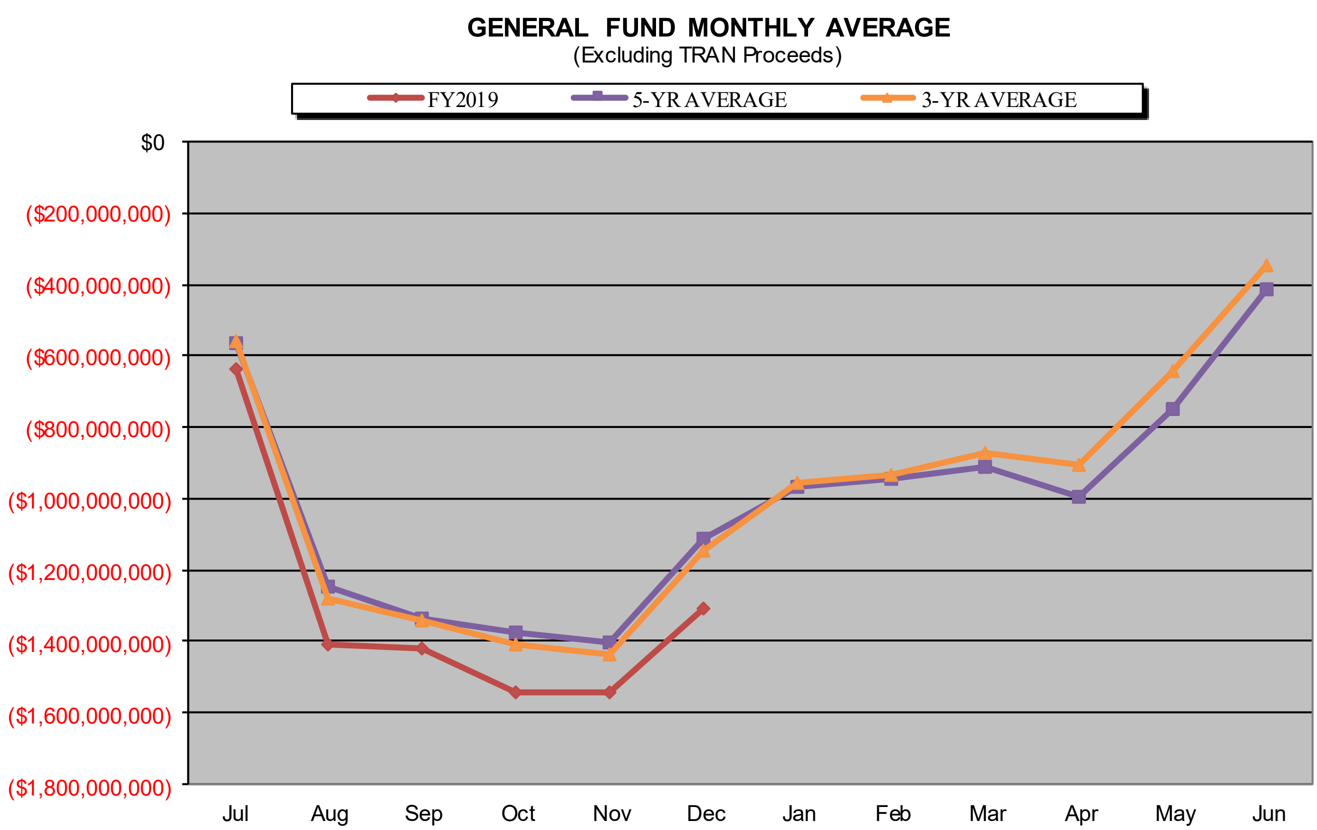
(b) The finance or refinance of obligations owed under KRS 161.550(2) or 161.553(2)

"Project notes" means notes issued under the provisions of KRS 56.860 to 56.869 by the commission with a final maturity of not more than twenty (20) years for the purpose of funding authorized projects, which may include bond anticipation notes.

No Notes were issued during the reporting period.

DEBT MANAGEMENT





DEBT MANAGEMENT

ALCo Financial Agreements

As of December 31, 2018, ALCo had three financial agreements outstanding, with a net notional exposure amount of $151,555,000. These financial agreements are described in the section below and the terms of these transactions are detailed in Appendix B. No additional ALCo financial agreements were executed during the reporting period.

General Fund – Floating Rate Note Hedges

In May, 2007, ALCo issued $243.08 million of Floating Rate Notes (FRNs) to permanently finance $100 million of General Fund bond supported projects and to advance refund certain outstanding State Property and Buildings Commission (SPBC) bonds for present value savings. The transaction entailed ALCo issuing four FRNs, each paying a rate of interest indexed to 3-Month LIBOR plus a fixed spread. Integrated into the transaction were four separate interest rate swaps which perfectly hedge the floating rates on the FRNs and lock in a fixed rate payable by ALCo on the transaction. The terms of the four interest rate swaps exactly match the notional amount, interest rate, and amortization schedule of the four FRNs and allowed ALCo to elect "super-integrated" tax status on the transaction, whereby it receives similar tax treatment as a fixed rate bond issue under IRS rules.

Under the FRN transaction, the Notes and interest rate swaps were each insured under separate policies by FGIC, which maintained an Aaa/AAA credit rating at the time from Moody's and S&P. Under the terms of the original interest rate swaps, the counterparty (Citibank) could optionally terminate the agreements if the insurer's claims paying rating fell below an A3/A- level. Subsequent to the transaction, FGIC was downgraded multiple times by the credit rating agencies and currently are no longer rated. In December 2008, MBIA (rated A2 by Moody's at the time) reinsured FGIC's municipal insurance portfolio providing additional coverage on the transaction. However, MBIA Insurance Corporation's credit rating was also subsequently downgraded on multiple occasions and is currently rated Caa1 by Moody's and is no longer rated by S&P. In February of 2009, MBIA established a new U.S. public finance financial guaranty insurance company known as National Guaranty Public Finance Corporation (National). National, at no additional charge, provided reinsurance on the FRNs and related swaps. However, on December 22, 2010, S&P downgraded National from A to BBB leaving both of National's claims paying ratings below the required A3/A- level.

In early 2011, ALCo spent considerable time working with Citibank and other parties analyzing a variety of remedies that would prevent the potential early termination of the interest rate swaps. After much consideration, ALCo determined the preferred remedy was one offered by Citibank whereby the remaining notional amount of each interest rate swap would be assigned to a new counterparty under the existing financial terms and at no cost to ALCo or the Commonwealth. On February 14, 2011, ALCo, Citibank and the new counterparty, Deutsche Bank AG, executed the assignment of the remaining notional balances of each swap to Deutsche Bank. The terms of the new interest rate swaps with Deutsche Bank were identical to the original swaps, with two exceptions; 1) the new swaps were not insured and there were no insurer provisions contained in the new agreements, and 2) the credit rating triggers under the automatic termination provisions were now symmetrical for both counterparties (ALCo and Deutsche Bank) at A3/A-. Under the original swaps, ALCo's credit rating triggers were Baa2/BBB, but rating recalibrations by the rating agencies caused municipal issuers to be rated on the same scale as corporations and other debt issuing entities, which facilitated the need for equal credit rating

DEBT MANAGEMENT

triggers for both parties. On July 10, 2014, the credit rating triggers were lowered to Baa3/ BBB- for both counterparties. On January 25 2016, Moody's downgraded Deutsche Bank from A3 to Baa1 reflecting changes in Germany's insolvency legislation which took effect in January 2017. The changes resulted in protection from the subordination of certain senior unsecured debt obligations relative to other senior liabilities, including deposits. Moody's downgraded Deutsche Bank once again on May 23, 2016 from Baa1 to Baa2 reflecting "the increased execution challenges Deutsche Bank faces in achieving its strategic plan." Even with two downgrades, Deutsche Bank continues to be in compliance with the swap agreement credit rating threshold of not falling below Baa3. ALCo continues to monitor the credit of our counterparty for compliance with terms of the agreement.

Details related to the interest rate swaps as of December 31, 2018 are presented in Appendix B.

Asset/Liability Model

The total SPBC debt portfolio as of December 31, 2018 had $3.579 billion of bonds outstanding with a weighted average coupon of 5.00% and a weighted average life of 6.82 years. The average coupon reflects an amount of taxable bonds issued under the Build America Bond Program during 2009 and 2010 as well as continued investor preference for tax-exempt callable premium bonds in the current market at a yield lower than par or discount coupon bonds. The $1.218 billion callable portion had a weighted average coupon of 4.75%.

The SPBC debt structure has 46% of principal maturing in 5-years and 72% of principal maturing in 10-years. The ratios are above the rating agencies' proposed target of 27-30% due in 5 years and 55-60% maturing within 10-years, primarily influenced by debt restructuring and the minimal amount of long-term new money permanent financings within the last several years.

The General Fund had a maximum balance of $175.985 million for the first half of Fiscal Year 2019 and a low of negative $1.761 billion on October 11, 2018.

The average and median balances were a negative $1.314 billion and a negative $1.408 billion, respectively. Since the General Fund continued to have a negative available cash balance for the fiscal year, there is little, if anything, that can be done from an asset management point of view beyond current actions.

From a liability management perspective, total General Fund debt service, net of credits is expected to be $710.932 million for Fiscal Year 2019. In addition, General Fund debt service of $8.291 million is expected to be provided for the Eastern State Hospital financing that was issued through the Lexington-Fayette Urban County Government in 2011. Net interest margin will continue to be negative due to low cash balances versus outstanding fixed rate debt, low level of interest rates, and the callability of the debt portfolio.

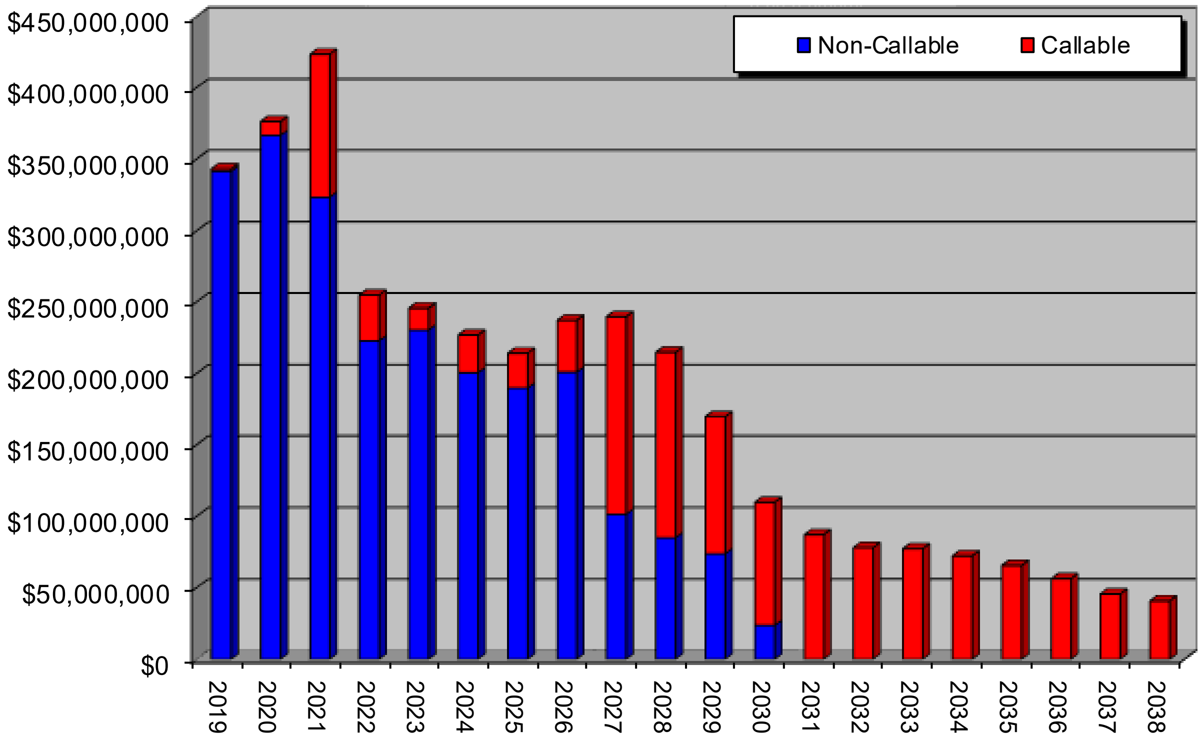
DEBT MANAGEMENT

Looking Foward

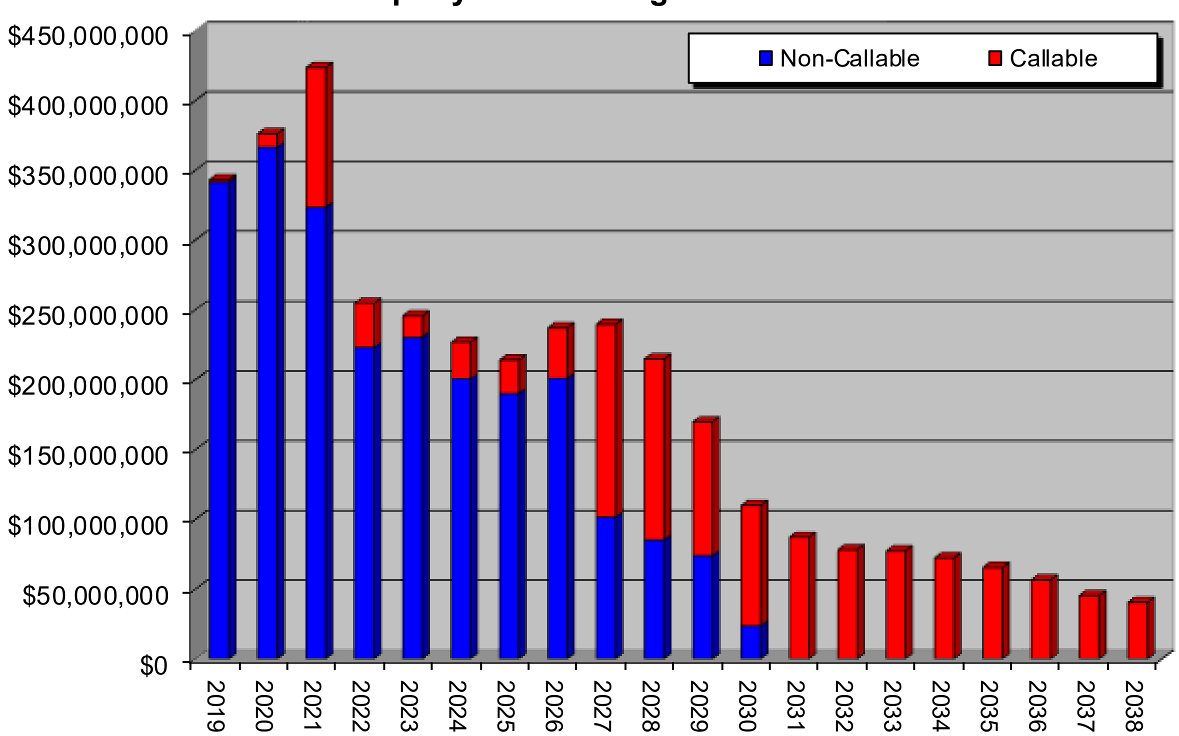
In light of the January 1, 2018 federal tax law change that tightened the parameters by which tax-exempt municipal bonds could be advanced refunded, the Commonwealth has added to the methods of evaluation for examining potential refunding candidates. Since tax advantaged bonds are no longer eligible to be advance refunded on a tax-exempt basis, the Commonwealth now gives consideration to advance refunding its municipal bonds on a taxable basis or through a forward delivery of tax-exempt bonds, however these strategies most often do not produce economic savings. The Commonwealth will continue to refund on a current basis the maturities of bonds which do produce economic savings.

DEBT MANAGEMENT

Call Analysis by Maturity Date
State Property and Buildings Commission Bonds



Call Analysis by Maturity Date
State Property and Buildings Commission Bonds



DEBT MANAGEMENT

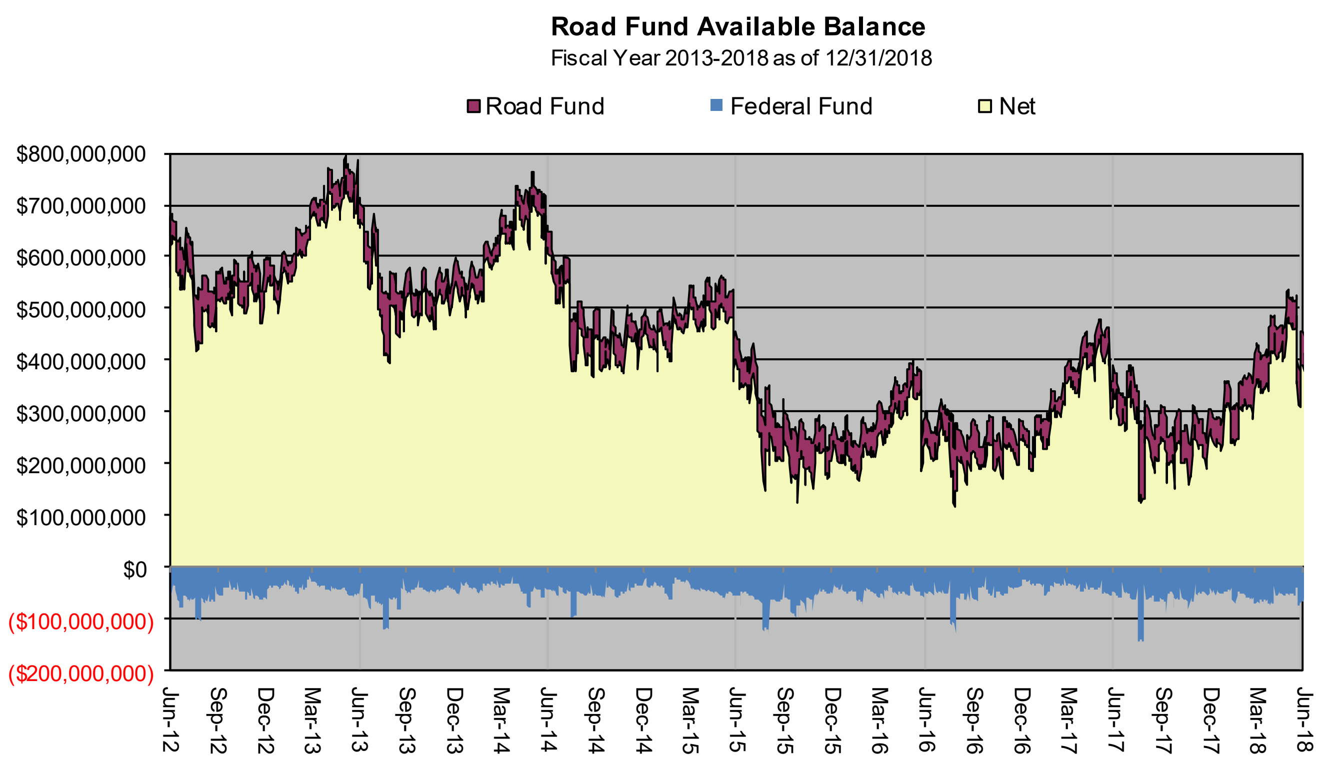
Road Fund

The Road Fund average daily cash balance for the first half of Fiscal Year 2019 was $303 million compared to $236 million for the first half of Fiscal Year 2018. The Road Fund cash was invested in the Intermediate Term Investment Pool which had a duration of 0.68 years as of December 31, 2018. The Road Fund earned a positive $3.799 million on a cash basis for the first half of Fiscal Year 2018 versus a positive $1.038 million for the first half of Fiscal Year 2018. The continued relatively low level of investable balances at certain times during the fiscal year limits the investment opportunities.

As of December 31, 2018, the Turnpike Authority of Kentucky (TAK) had $1.204 billion of bonds outstanding with a weighted average coupon of 4.85% and an average life of 6.63 years.

Road Fund debt service paid in Fiscal Year 2019 is expected to be $166.39 million, resulting in a net interest margin (investment income earned year-to-date less debt service paid) of negative $162.59 million. The negative amount stems from the level of investable balances and a general low level of interest rates on the investment side in addition to the limited callability of fixed rate obligations on the liability side.

No debt related to the road fund was issued or refunded during the reporting period.



SUMMARY

ALCo's approach to managing the Commonwealth's interest-sensitive assets and interest-sensitive liabilities has provided tremendous flexibility and savings in financing the Commonwealth's capital construction program.

Since its inception, ALCo has been instrumental in adding incremental returns on investment income to the Commonwealth's investment portfolio. ALCo has continued to manage General Fund intra-year cashflow deficits through its TRAN program when cost effective. Until Fiscal Year 2010, ALCo had issued a General Fund TRAN each fiscal year since 1998 (with the exception of FY 2004), providing millions of dollars of incremental gains for the General Fund over this time (see Debt Management TRAN section for details). In addition, ALCo's management approach to project funding has allowed the Commonwealth to take advantage of short-term yields and achieve millions of dollars in budgetary savings through debt service lapses, issuance of BANs, and commercial paper when economically feasible.

Over the past ten years, the high cost of acquiring credit/liquidity support for short-term borrowing programs when compared to the low cost of long-term financing favored long-term financing structures. However, ALCo does and will continue to analyze the cost effectiveness of potential interim financing options during near term.

As always, ALCo continues to analyze potential opportunities for savings and to evaluate new financing structures which offer the Commonwealth the ability to diversify risk within its portfolio while taking advantage of market demand for various new or unique products.

APPENDIX

APPENDIX A

STATE INVESTMENT COMMISSION
Corporate Credits Approved For Purchase
as of December 18, 2018

Company Name	Repurchase Agreements	Debt	Notes	Company Name	Repurchase Agreements	Debt	Notes
Apple Inc		Yes	Yes	Microsoft Corp		Yes	Yes
Bank of Montreal	Yes	Yes	Yes	MUFG Bank LTD/NY		Yes	Yes
Bank of Nova Scotia	Yes	Yes	Yes	MUFG Securities Americas Inc	Yes	No	No
Berkshire Hathaway Inc		Yes	Yes	Natixis SA/New York		Yes	Yes
BNP Paribas Securities Corp	Yes	Yes	Yes	Nestle Finance International		Yes	Yes
BNY Mellon NA		Yes	Yes	Oracle Corp		Yes	Yes
Boeing Co/The		Yes	Yes	PepsiCo Inc		Yes	Yes
Canadian Imperial Bank of Comm		Yes	Yes	Pfizer Inc		Yes	Yes
Chevron Corp		Yes	Yes	PNC Bank NA		Yes	Yes
Cisco Systems Inc		Yes	Yes	Praxair Inc		Yes	Yes
Cooperatieve Rabobank		Yes	Yes	Procter & Gamble Co/The		Yes	Yes
Cornell University		Yes	No	Royal Bank of Canada	Yes	Yes	Yes
Costco Wholesale Corp		Yes	Yes	Royal Dutch Shell PLC		Yes	Yes
Deere & Co		Yes	Yes	Salvation Army		Yes	No
Exxon Mobil Corp		Yes	Yes	State Street Corp		Yes	Yes
Exxon Mobil Corp		Yes	Yes	Sumitomo Mitsui Trust Bank		Yes	Yes
Guggenheim Securities, LLC	Yes	No	No	Swedbank AB		Yes	Yes
Home Depot Inc		Yes	Yes	Texas Instruments Inc.		Yes	Yes
Honda Motor Co Ltd		Yes	Yes	Toronto-Dominion Bank/The		Yes	Yes
HSBC Bank USA NA		Yes	Yes	Total SA		Yes	Yes
IBRD - World Bank		Yes	Yes	Toyota Motor Corp		Yes	Yes
Intel Corp		Yes	Yes	UBS AG (U.S.)		Yes	Yes
Intl Business Machines Corp		Yes	Yes	US Bank NA		Yes	Yes
Johnson & Johnson		Yes	Yes	Wal-Mart Stores Inc		Yes	Yes
Lloyds Bank PLC		Yes	Yes	Walt Disney Co/The		Yes	Yes
Merck & Co. Inc.		Yes	Yes	Wells Fargo & Co		Yes	Yes

*Addition:

Removed:

General Electric Co. 10.02.2018

APPENDIX A

STATE INVESTMENT COMMISSION
Securities Lending Agent Approved Counterparties
as of September 25, 2018

Company Name	Securities Lending	REPO
Alaska USA Federal Credit Union	Yes	Yes
Alaska USA Trust Company	Yes	Yes
BMO Capital Markets Corp	Yes	No
Bank of Nova Scotia	Yes	No
Barclays Capital, Inc	Yes	Yes
BNP Paribas Prime Brokerage, Inc.	Yes	No
BNP Paribas Securities Corp.	Yes	No
Cantor Fitzgerald & Co.	Yes	Yes
Citigroup Global Markets Inc	Yes	Yes
Credit Suisse Securities (USA) LLC	Yes	Yes
CYS Investments, Inc.	Yes	Yes
Daiwa Capital Markets America Inc	Yes	Yes
Deutsche Bank Securities Inc.	Yes	Yes
Dynex Capital Inc.	Yes	Yes
Goldman Sachs and Company	Yes	Yes
Hatteras Financial Corp	Yes	Yes
HSBC Securities (USA) Inc	Yes	Yes
ING Financial Markets LLC	Yes	Yes
Jefferies LLC	Yes	Yes
JP Morgan Securities LLC	Yes	No
Merrill Lynch Pierce Fenner & Smith Inc	Yes	Yes
Mizuho Securities USA, Inc	Yes	Yes
Morgan Stanley & Co. LLC	Yes	Yes
NatWest Markets Securities Inc.*	Yes	Yes
Nomura Securities International Inc	Yes	Yes
Pershing LLC	Yes	Yes
Redwood Trust	Yes	Yes
RBC Capital Markets LLC	Yes	No
SG Americas Securities LLC	Yes	Yes
Societe Generale	Yes	Yes
TD Securities (USA), Inc	Yes	Yes
Two Harbors Investment Corp	Yes	Yes
UBS Securities LLC	Yes	Yes
Wells Fargo Securities LLC	Yes	Yes

APPENDIX B

ALCo Financial Agreements	ALCo FRN Series A Hedge	ALCo FRN Series A Hedge	ALCo FRN Series B Hedge	ALCo FRN Series B Hedge
Fund Source	General Fund	General Fund	General Fund	General Fund
Hedge	2017 FRN	2027 FRN	2021 FRN	2025 FRN
Counter-Party	Deutsche Bank AG	Deutsche Bank AG	Deutsche Bank AG	Deutsche Bank AG
Long-Term Senior Debt Ratings *(Moody's / S&P / Fitch)*		A3/BBB+/BBB+	A3/BBB+/BBB+	A3/BBB+/BBB+
Termination Trigger *(Moody's / S&P)*	Baa3/BBB-	Baa3/BBB-	Baa3/BBB-	Baa3/BBB-
Swap Type	Fixed Pay	Fixed Pay	Fixed Pay	Fixed Pay
Benchmark	67% 3M LIBOR + 40	67% 3M LIBOR + 53	67% 3M LIBOR + 52	67% 3M LIBOR + 55
Reset	Quarterly	Quarterly	Quarterly	Quarterly
Notional Amount	Expired 11/1/17	40,230,000	40,390,000	70,935,000
Amortize (yes/no)	yes	yes	yes	yes
Original Execution Date	5/16/2007	5/16/2007	5/16/2007	5/16/2007
Start Date	5/31/2007	5/31/2007	5/31/2007	5/31/2007
Assignment Date	2/14/2011	2/14/2011	2/14/2011	2/14/2011
Mandatory Early Termination				
End Date	11/1/2017	11/1/2027	11/1/2021	11/1/2025
Fixed Rate pay-(rec)	3.839%	4.066%	4.042%	4.125%
Day Count	30/360	30/360	30/360	30/360
Payment Dates	February 1, May 1, August 1, November 1			
Security Provisions	General Fund Debt Service Appropriations			
Current Market Valuation December 31, 2018 (negative indicates payment owed by ALCo if terminated)	Expired 11/1/17	(3,532,208)	(1,421,382)	(6,696,213)
Interest Earnings (not applicable)				
Total	not applicable	not applicable	not applicable	not applicable

Swap Summary

As of December 31, 2018:

Total Notional Amount Executed		Net Exposure Notional Amount	
General Fund	Road Fund	General Fund	Road Fund
243,080,000	0	151,555,000	0

Total Notional Amount Executed by Counter Party

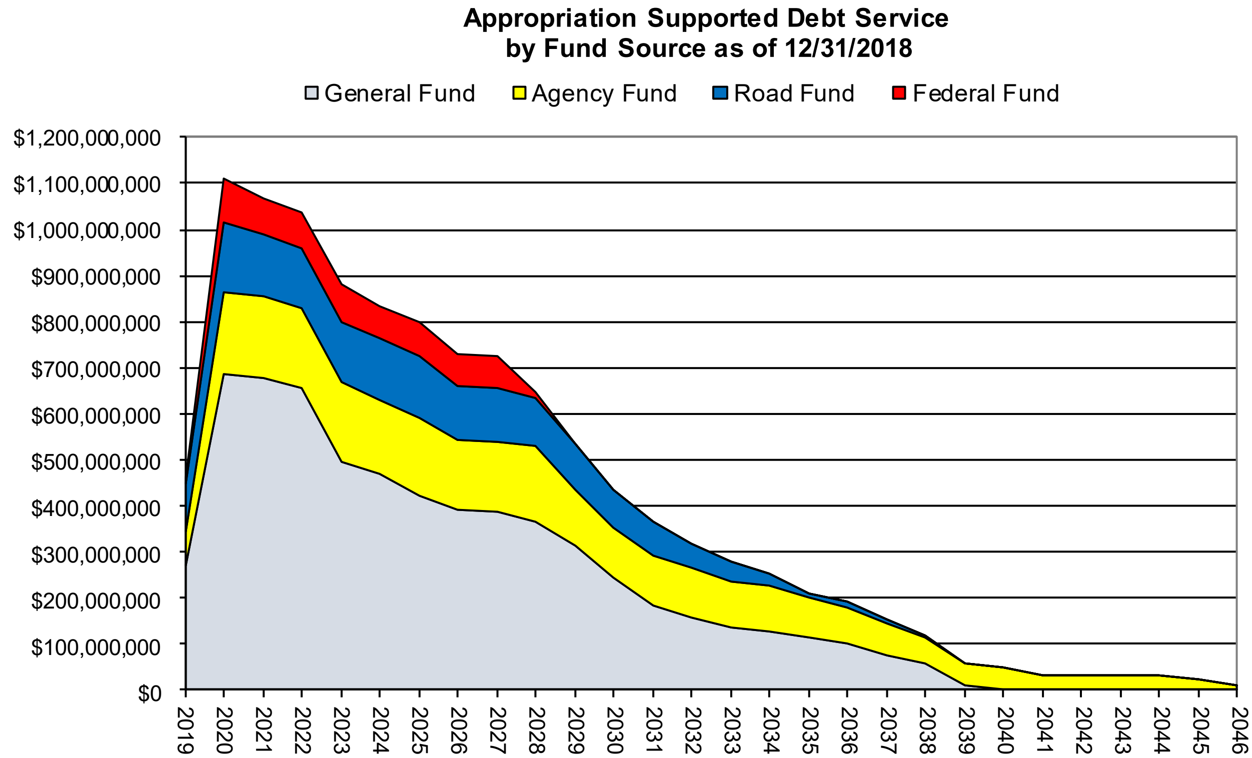
Deutsche Bank (assigned from Citibank on 2/14/2011)

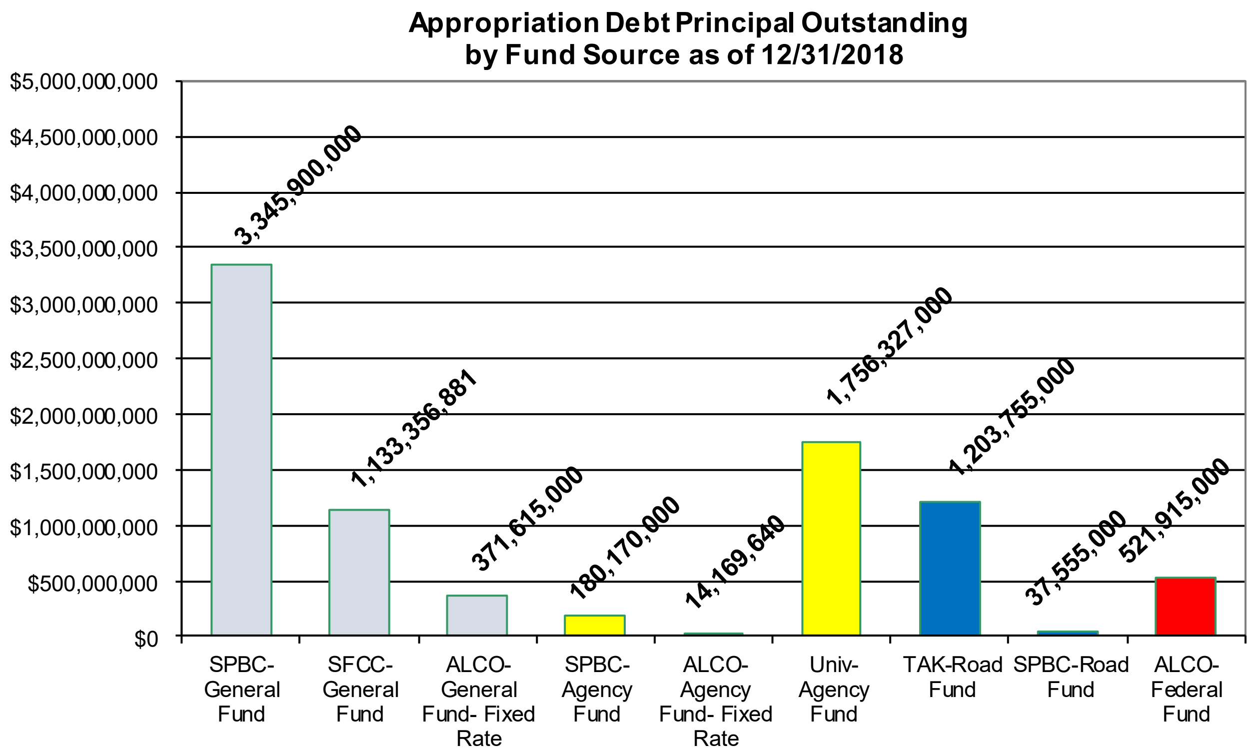
243,080,000

	Debt		10 Percent Net Exposure	
	General Fund	Road Fund	General Fund	Road Fund
Bonds Outstanding	3,717,515,000	1,241,310,000	371,751,500	124,131,000
Authorized but Unissued	560,413,100	62,500,000	56,041,310	6,250,000
Total	4,277,928,100	1,303,810,000	427,792,810	130,381,000

Investment Pool Balance		10 Percent Investment Portfolio	
Other Funds	Net Road Fund	Other Funds	Net Road Fund
3,549,411,923	387,906,656	354,941,192	38,790,666

APPENDIX C





*This data does not include debt issued for judicial center projects and paid for by the Administrative Office of the Courts in the Court of Justice or debt issued by the Lexington -Fayette Urban County Government for the Eastern State Hospital.

APPENDIX D

COMMONWEALTH OF KENTUCKY
ASSET/LIABILITY COMMISSION
SCHEDULE OF NOTES OUTSTANDING
AS OF 12/31/2018

FUND TYPE SERIES TITLE		AMOUNT ISSUED	DATE OF ISSUE	MATURITY DATE	PRINCIPAL OUTSTANDING
General Fund Project & Funding Notes					
2007 A, B Series		$243,080,000	5/2007	11/2027	$151,555,000
2010 1st Series-KTRS Funding Notes		$467,555,000	8/2010	4/2020	$34,350,000
2011 1st Series-KTRS Funding Notes		$269,815,000	3/2011	4/2022	$105,605,000
2013 1st Series-KTRS Funding Notes		$153,290,000	2/2013	4/2023	$80,105,000
	FUND TOTAL	**$1,133,740,000**			**$371,615,000**
Agency Fund Project Notes					
2018 Agency Fund Project Note (KCTCS)		$27,775,000	6/2018	10/2023	$14,169,640
	FUND TOTAL	**$27,775,000**			**$14,169,640**
Federal Hwy Trust Fund Project Notes					
2007 1st Series		$277,910,000	9/2007	9/2019	$42,395,000
2010 1st Series		$89,710,000	3/2010	9/2022	$89,710,000
2013 1st Series		$212,545,000	8/2013	9/2025	$172,640,000
2014 1st Series		$171,940,000	3/2014	9/2026	$132,175,000
2015 1st Series		$106,850,000	10/2015	9/2027	$84,995,000
	FUND TOTAL	**$858,955,000**			**$521,915,000**
ALCo NOTES TOTAL		**$2,020,470,000**			**$907,699,640**

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