ARKANSAS TEACHER RETIREMENT SYSTEM

May 20, 2020

1400 West Third Street

BOARD ROOM

Little Rock, AR 72201

Board of Trustees Meeting

4:10 p.m.

AGENDA
ARKANSAS TEACHER RETIREMENT SYSTEM
BOARD OF TRUSTEES

May 20, 2020
4:10 p.m.
1400 West Third Street
Little Rock, AR 72201

I. ***Call to Order/Roll Call.** page 1.

II. ***Adoption of Agenda.** page 2.

III. Executive Summary. *Clint Rhoden, Executive Director* (Attachment No. 1) page 3.

IV. Investment Committee Report. *Robin Nichols, Investment Committee Chair*
  A. General Investment Consultant Report.
    1. ***TALF Investment Review and Recommendations.** (Attachment No. 2) page 5.
      a. ***Recommendation to Commit up to $100 Million Dollars in TCW TALF Opportunities Fund, LP a Fund Focused on Investments in Asset-Backed Securities with Imminent Need.**
        1. ***Resolution 2020-17.** (Attachment No. 3) page 33.
      b. ***Recommendation to Commit up to $100 Million Dollars in AB TALF Opportunity 2020 (Delaware) Fund, L.P. a Fund Focused on Investments in Asset-Backed Securities with Imminent Need.**
        1. ***Resolution 2020-18.** (Attachment No. 4) page 35.

V. Other Business.

VI. ***Adjourn.**

* Action Item

2020-05-19 10:38:11.369736

EXECUTIVE SUMMARY

TO: Board of Trustees

FROM: ATRS Staff

RE: Executive Summary

DATE: May 20, 2020

IV. Investment Committee Report.

A. General Investment Consultant Report. ***Aon Hewitt Investment Consulting.***

1. TALF Investment Review and Recommendations. PJ Kelly and Katie Comstock of Aon Hewitt Investment Consulting (AHIC) will provide the Board with an educational presentation on Term Asset-Backed Securities Loan Facility (TALF) investments and recommendations.

TALF refers to investments in securitized products made from loans associated with the Federal Reserves Bank's Term Asset-Backed Securities Loan Facility. The loans are fully secured by collateralized investments and are similar to a 2009 program that produced successful results for investors. The recommendations below are for up to $100 million dollars each for TCW and AB. However due to high demand for these strategies, the expected allocation available for ATRS may be considerably lower.

a. Recommendation to Commit up to $100 Million Dollars in TCW TALF Opportunities Fund, LP a Fund Focused on Investments in Asset-Backed Securities with Imminent Need. Founded in 1971 and headquartered in Los Angeles, the TCW Group (TCW) has extensive experience in fixed income and securitized investments. The firm has over $200 billion dollars in assets under management with approximately $100 billion dollars invested in securitized investments similar to the proposed fund. The investment team is led by Tad Rivelle, Laird Landmann, and Stephen Kane. This team has over 20 years of experience working together and is the same team that produced successful results for investors from a similar strategy in 2009. TCW is targeting high single digit to low teen returns for the fund.

Due to the fact that there is no scheduled meeting of the Arkansas Legislative Council before the anticipated closing date, Imminent Need is requested. Both Aon Hewitt Investment Consulting and ATRS staff recommend an investment of up to $100 million dollars in TCW TALF Opportunities Fund, LP with Imminent Need.

b. **Recommendation to Commit up to $100 Million Dollars in AB TALF Opportunity 2020 (Delaware) Fund, L.P. a Fund Focused on Investments in Asset-Backed Securities with Imminent Need.** Headquartered in New York, Alliance Bernstein (AB) was formed in 2000 though a merger of Alliance Capital and Bernstein. Both of these firms had been in existence since at least 1971 prior to the merger. AB manages almost $300 billion dollars in fixed income securities. The experienced investment team is led by Michael Cantor and produced successful results with similar strategies in 2009. AB is targeting a 10-15% return for the fund.

Due to the fact that there is no scheduled meeting of the Arkansas Legislative Council before the anticipated closing date, Imminent Need is requested. Both Aon Hewitt Investment Consulting and ATRS staff recommend an investment of up to $100 million dollars in AB TALF Opportunity 2020 (Delaware) Fund, L.P. with Imminent Need.

V. Other Business

VI. Adjourn

Arkansas Teacher Retirement System

TALF 2.0 Recommendation

May 20, 2020

Empower Results®

Executive Summary

Aon recommends ATRS make an investment in the TALF opportunity through two managers, TCW and AllianceBernstein

- TALF: Term Asset-Backed Securities Loan Facility
- Today's discussion is intended to provide an education on the TALF program and a recommendation for an investment in the TALF opportunity
- The TALF program is intended to launch in the beginning of June, necessitating quick action on the part of interested investors
- TALF program offers an attractive opportunity for ATRS:
  - Favorable risk/return profile at an attractive price
  - Exposure to high quality structured credit, backed by the Federal Reserve
  - Truly an opportunistic investment; current expectations for program to end in September 2020
  - Precedent: Many investors experienced success in the 2009 TALF program, earning teen IRRs over a 3 - 4 year time period

Empower Results®

Term Asset-Backed Securities Loan Facility (TALF) Overview

What is TALF?

- TALF is a Federal Reserve credit facility intended to help meet the credit needs of consumers and businesses by facilitating the issuance of asset-backed securities (ABS) and promote the stability of the ABS market
- Under the program, the Fed will commit up to $100 billion in loans which will have a term of 3 years and will be fully secured by the related eligible ABS
- During the Great Financial Crisis (GFC), the Fed utilized TALF for similar purposes and under the same general terms and conditions. All loans made by TALF 1.0 were repaid with interest over the life of the program (approx. 5 ½ years)

Who can Borrow under TALF?

- All U.S. companies that own eligible collateral and maintain an account relationship with a primary dealer are eligible
- The eligible collateral under TALF 2.0 is very similar to TALF 1.0 and is further defined on the next slide. All ABS must have a credit rating in the highest rating category
- Collateral that is pledged for a TALF 2.0 loan will be valued and assigned a haircut
- The borrower (the TALF Fund in this case) will pay an interest rate which varies depending on the type of collateral pledged and will pay an administrative fee of 10 bps per loan

Why Invest?

- The investor is able to purchase high quality collateral utilizing deep leverage at very attractive financing rates and terms from the Fed
- The level of leverage offered by the Fed creates the potential for investors to achieve returns atypical for this asset class under normal market conditions

Aon
Empower Results®

TALF 2.0 Program Overview

Overview	▪ The Federal Reserve Bank of New York has announced the Term Asset-Backed Securities Loan Facility (“TALF”), under which eligible U.S. strategies can access up to $100 billion in loans to purchase AAA rated securitized credit.
Purpose	▪ To inject liquidity into the ABS market by facilitating issuance of ABS/securitized credit, reducing consumers’ increased interest burden. ▪ Due to the recent volatility in the market, widening spreads in the ABS market increased borrowing costs for consumers

Operation	▪ The Fed will require haircuts from investors in the form of equity, which ranges from 5% to 22%, depending on the collateral type & maturity.
	▪ Structure of the borrowing
	    ▪ TALF loans are not marked-to-market for margin (i.e., no margin calls); loans are up to 3 years without prepayment penalties.
	▪ Participating strategies earn levered return on the assets (details on next slide).
	▪ Example of a loss scenario:
	    ▪ $1B ABS security with $100M invested capital (i.e., 10% haircut) experiencing 2% loss equates to 20% loss for the investor ($20M = 2% loss on $1B = 20% of $100M investor capital).
	    ▪ The TALF loans are non-recourse so the investor can only lose up to the invested capital.

Eligible Securities	▪ Newly-issued (after 23 March, 2020), AAA rated ABS for auto loans, credit card loans, equipment loans, floorplan loans, premium finance loans, small business loans, and student loans. ▪ Newly-issued AAA static CLOs. ▪ AAA rated legacy, conduit CMBS.
When	▪ The start date of TALF has not been announced yet. ▪ TALF 2.0 was originally announced 23 March 2020; revisions and additional details were announced 9 April 2020.

Sources: JP Morgan, The Federal Reserve: https://www.federalreserve.gov/monetarypolicy/talf.htm

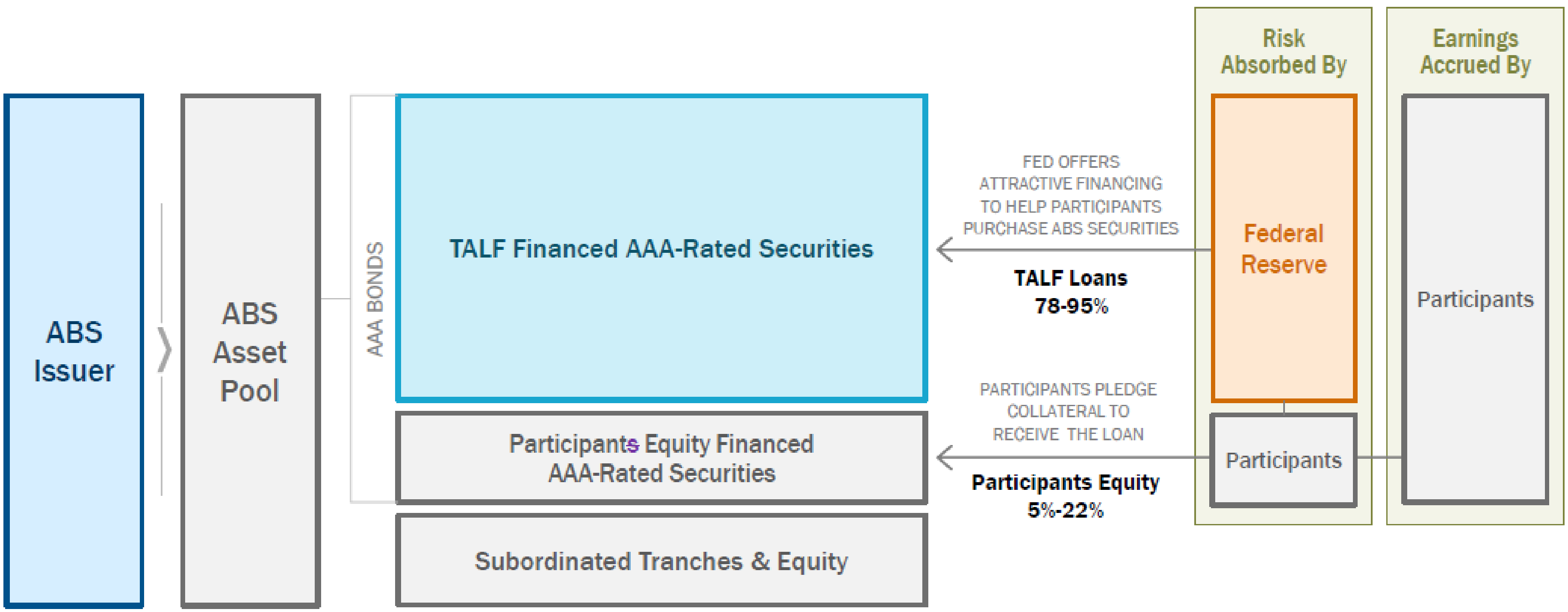
TALF 2.0 Mechanics

- **Step 1:** Investor identifies eligible new issue ABS or legacy CMBS securities they would like to purchase (must be AAA rated). This primarily occurs through primary dealers.
- **Step 2:** Investor informs NY Fed of the eligible collateral and size of the loan. There are no restrictions on the number of times an investor may apply for a loan, as each security will need to be approved by the NY Fed.
- **Step 3:** When approved by the NY Fed, investor/borrower delivers the securities, margin collateral and fee to the Fed via the primary dealer.
- **Step 4:** NY Fed will loan 78%-95% of the value of the assets depending on the type of underlying credit issuer. The term of this loan will be three years, although the investor may pay it back at any time.
- **Step 5:** The investor will earn the interest income on the entire balance of the security minus the cost of financing they must pay back to the NY Fed.
- **Step 6:** After three years, the investor must repay the loan to the NY Fed. The investor may pay this loan back earlier at their discretion. This will be done by using proceeds from the maturity of the bond or selling the asset should the bond extend longer than three year

TALF 2.0 Mechanics (cont'd)

KEY CONSIDERATIONS

- ONLY AAA ASSETS ELIGIBLE
- FEDERAL RESERVE PROVIDES ATTRACTIVE FINANCING
- NO MARKED-TO-MARKET OVER COURSE OF TALF 2.0 PROGRAM



Empower Results®

Potential Return Examples

Asset	Weighted Average Life (Yrs)	Indicative Spread (bps)	Asset Yield	Financing Cost	Haircut	IRR
AAA ABS						
Credit Card - Bank	2.9	95	1.3%	1.35%	6%	1.2%
Credit Card - Retail	2.4	200	2.4%	1.35%	8%	14.4%
Prime Auto - Loan	3.5	135	1.8%	1.35%	9%	5.8%
Prime Auto - Lease	2.2	160	2.0%	1.35%	12%	6.8%
Subprime Auto	1.6	165	2.1%	1.33%	10%	8.5%
Auto - Motorcycle	1.8	100	1.4%	1.31%	8%	2.1%
Fleetlease - Rental	2.5	350	3.9%	1.35%	14%	19.6%
Fleetlease - Commercial	2.5	275	3.2%	1.35%	11%	17.7%
Floorplan - Auto	4.4	225	2.7%	1.35%	16%	9.6%
Equipment	2.2	185	2.3%	1.34%	7%	14.5%
Student Loan - Private	***2.5***	***250***	***2.9%***	***1.35%***	***10%***	***16.8%***
Small Business - SMB (504)	10	80	1.4%	0.85%	9%	7.3%
Premium Finance - Insurance	2	275	3.2%	1.35%	7%	27.1%
AAA CMBS						
Conduit LCF	8	185	2.4%	1.34%	19%	7.1%
CLO AAA						
Static	2.5	230	2.7%	1.52%	20%	7.4%

Source: TCW, data as of 4/23/2020

Calculating Returns

- Asset Yield
  - 2.9%
- Spread Between Asset Yield and Financing Cost
  - 2.9% - 1.35% = 1.55%
- Leverage
  - 10% haircut = 10x leverage
  - Or
  - 10% investor capital + 90% borrowing
- Total Return = Asset Yield + Spread * Leverage
- 100% of asset yield for the 10% investor capital = 2.9%
- 100% of spread income for the 90% borrowing = 1.55% * 9 = 13.95%
- 2.9% + 13.95% = 16.85%

TALF Investment Primary Considerations

What opportunity are we trying to take advantage of?

- Compelling opportunity to earn high current income with potential to achieve high single-digit to mid-teen net IRR on a portfolio primarily comprised of levered AAA rated asset-backed securities
- Seek to benefit from short opportunity window - program intended to run through September 2020
- Seek diversifying source of return to equity

What risks (new or increased) do such investments bring?

- **Credit Risks**
  - TALF-eligible AAA assets historically have experienced low levels of volatility and losses; however, there is no guarantee that the same outcome will be repeated during TALF 2.0
  - In the case of any credit loss, it will hit the investor capital first
  - As a non-recourse loan, in the event of a loss, investor will lose only up to the invested capital
  - The Fed experienced no losses during TALF 1.0
  - Increased credit enhancements across AAA assets provide further cushion for adverse scenarios
- **Program Risk**
  - The Fed has the flexibility to change the investments and structure of the program
  - Successful run of TALF 1.0 provides a sound roadmap for TALF 2.0

TALF Investment Primary Considerations (cont'd)

What risks (new or increased) do such investments bring? (cont'd)

- **Implementation Risks**
  - The demand for TALF-eligible assets is expected to be high once the lending window opens, causing spreads to potentially tighten rapidly when managers start to invest and possibly reducing the attractiveness of these opportunities
    - Managers who are not operationally ready to invest from day one may be impacted adversely
  - Manager selection is important, focus on exhibited skill in ABS security selection and TALF 1.0 experience
  - Total amount of capital called for investment may be less the total amount committed
  - Money may be returned to investors earlier than stated if investment opportunities do not materialize
- **Leverage Risk**
  - Leverage is an inherent part of the TALF program, thus large losses are a possibility
  - However, AAA rated losses have historically been extremely rare, the Fed experienced no losses during TALF 1.0 and losses would be offset by interest payments received prior to maturity
  - Identifying appropriate and skilled managers also mitigates this risk
- **Liquidity Risk**
  - 3 – 5 year lock up; this level of illiquidity must be acceptable to participate
  - Quarterly distributions and principal repayment over the life of the investment are expected

Implementation and Manager Selection

- Quick implementation necessary:
  - Program expected to begin in early June
  - Opportunities can dissipate sooner than anticipated given the smaller program size, high demand and existing infrastructure on behalf of managers
  - Therefore, it is important that managers are operationally ready on day one of the program
- Due to the abbreviated timeline, Aon completed due diligence on a limited number of strategies focusing on firms with strong capabilities in securitized products and TALF 1.0 experience
- Manager selection was focused on TALF only strategies
- Managers differentiate strategies by security selection and amount of leverage utilized
- Given the high demand for this opportunity, most offerings have been well-oversubscribed from early on and gaining allocations has been difficult

Empower Results®

Recommendation

- Aon recommends committing up to $100M each to TCW and AllianceBernstein (AB), with the expectation that the capital called will be significantly less
  - As of May 15th, we expect capacity of $27M with AB and $40M with TCW

TCW TALF Opportunities Fund

- Extensive experience with over $100 billion in securitized product AUM as of March 2020
- Credit research capabilities a core strength, particularly in the structured products areas
- TCW’s product will only invest in TALF-eligible assets, which is preferred
- One of the largest participating managers during TALF 1.0
- The same investment team that successfully managed the TALF fund in 2009 will be managing the new TALF fund

AllianceBernstein TALF 2020 Opportunity

- Supported by a $295 billion global fixed income platform
- Experienced team and sizable securitized platform provides the resources to successfully implement the TALF 2.0 strategy
- AB’s securitized team successfully participated in TALF 1.0 and two other government programs during the GFC
- TALF-only strategy aiming to achieve 10-15%

Empower Results®

TALF Characteristics Summary

Investment Characteristics and Terms

Return Objective	HSD - LDD	
Return Volatility	Low	
Inflation Sensitivity	Low	
Beta Exposures	Low to U.S. equities and core US bonds	
Beta Consistency	High	
Correlation with Core Asset Classes	Low to U.S. equities and core US bonds	
Transparency	Quarterly summary reports available along with audited annual financial statements.	
Liquidity	Illiquid. Approx. 5 year life	
Conventionality	Low	
Ability to Benchmark	Low	
Event Risk	Low	
Minimum	$1 million	
Fees	0.50% base with tiered incentive schedule • 0.5% for >10% IRR • 0.25% for 8-10% IRR • 0.125% for 7-8% IRR	• 0.50% base • 10% incentive subject to an 8% preferred return and general partner catch up provision
Leverage	Inherent in TALF program. Varies depending on haircut schedule assigned to each asset class, generally 5-20x through the lending facility. No additional leverage is expected.	

Empower Results®

Memo

	The Board of Trustees
To	**Arkansas Teacher Retirement System (ATRS)**
From	PJ Kelly, Katie Comstock
Cc	Rod Graves
Date	May 20, 2020
Re	TALF 2.0 Investment Recommendation

Summary and Recommendation

An investment in the Term Asset-Backed Securities Loan Facility (TALF) provides a compelling opportunity to earn high current income with the potential to achieve a high single-digit to mid-teen net IRR on a portfolio primarily comprised of levered AAA rated asset-backed securities (ABS). The TALF program was originally launched in 2009 and was largely successful, earning low double digit returns over a roughly 3-year time period. Aon believes this second round of TALF is an attractive investment opportunity for ATRS that fits within the Opportunistic/Alternatives portfolio. The TALF opportunity should reward those that act quickly, and that benefit will diminish as markets normalize. Accordingly, we present this recommendation at an interim meeting to the Board.

Aon recommends ATRS commit up to $100M to TCW's TALF Opportunities Fund and another $100M to Alliance Bernstein's TALF Opportunity 2020 Fund. Given the demand for this opportunity and based on information as of May 15th, we expect capacity for approximately 30% of the desired commitment. This would amount to approximately $67M, or roughly 0.5% of Total Fund assets. The TALF program is expected to earn an attractive return at a reasonable level of risk and time period (3-5 years). Both TCW and AllianceBernstein are well-experienced managers in the structured products space that ran successful TALF 1.0 programs.

Background

Term Asset-Backed Securities Loan Facility
TALF is a Federal Reserve credit facility intended to help meet the credit needs of consumers and businesses by facilitating the issuance of asset-backed securities (ABS) and promote the stability of the ABS market.

The US Federal Reserve (Fed) first launched the TALF program in 2009 to bring back the abruptly halted asset backed security (ABS) market, injecting liquidity and enabling consumers to continue to borrow. The program was deemed a success, as measured from multiple facets. The Fed lent a total of $71 billion through TALF, which supported roughly 6 million consumer loans.

On March 23, 2020, the Fed announced TALF 2.0 to "help meet the credit needs of consumers and businesses by facilitating the issuance of ABS and improving the market conditions for ABS more generally." Under the program, the Fed will commit up to $100 billion in loans which will have a term of 3 years and will be fully secured by the related eligible ABS. The Fed intends to run this program until September 30, 2020, after which the window of lending closes. There is a possibility that the window gets extended, as was the case in TALF 1.0, depending on the market environment.

Details
The New York Fed will lend to a special purpose vehicle ("SPV") on a non-recourse basis, and the SPV initially will make up to $100 billion of loans available. ABS assets of AAA rating are eligible to participate in the program. These asset sectors include auto, credit card, equipment, floorplan, premium finance, small business, student loans, and certain types of CLOs and CMBS. For eligible ABS assets, the Fed provides lending based on the market value minus a "haircut," which ranges from 5% to 20%. This haircut is funded through the investor capital, and a manager will pay the haircut and borrow the remaining amount from the Fed to purchase ABS assets. The haircut depends on the sector of the asset and its average life. For example, prime credit card ABS with less than 1 year of maturity has a 5% haircut. On the other end of the spectrum, static CLOs with 6-7 years of maturity has a 22% haircut.

Why Invest
The primary edge available to investors is the leverage provided by the government under TALF. Depending on the asset type and maturity, assets eligible for TALF may be levered between five and 20 times. A participating manager then hopes to earn a return based on the spread between the coupon on the assets and the cost of financing charged by the Fed, multiplied by the amount of

leverage used. Ultimately, the investor is able to purchase high quality collateral utilizing deep leverage at very attractive financing rates from the Fed. The level of leverage offered by the Fed creates the potential for investors to achieve returns atypical for this asset class under normal market conditions.

Key Risks and Considerations

Below we highlight the main risks associated with an investment in the TALF opportunity.

- **Credit Risks**: While TALF-eligible AAA assets historically have experienced low levels of volatility and losses, credit risk does exist. The Fed experienced no loss during TALF 1.0, however, there is no guarantee that the same outcome will be repeated during TALF 2.0. In the case of any credit loss, it will hit the investor capital first. As a non-recourse loan, in the event of a loss, investors will lose only up to the invested capital. This structure is to protect the taxpayers in the case of severe loss scenarios materializing. Increased credit enhancements across AAA assets also provide further cushion for such adverse scenarios.

- **Implementation Risks**: The demand for TALF-eligible assets is expected to be high once the lending window opens (which is still to be determined). Spreads may tighten rapidly when managers start to invest, possibly reducing the attractive opportunities. Those managers who are not operationally ready to invest from day one may be impacted adversely due to these dynamics. TCW is intending to have a final close before June and ready to invest as soon as the window opens. Manager selection is also very important and should be focused on those with exhibited skill in ABS selection and TALF 1.0 experience. Another item to be aware of is that the total amount of capital called for investment may not equal the total amount committed. Money may be returned to investors earlier than stated fund life if investment opportunities do not materialize.

- **Leverage Risk:** Leverage is an inherent part of the TALF program, thus large losses are a possibility. However, AAA rated losses have historically been extremely rare, and any losses would be offset by interest payments received prior to maturity. Additionally, the Fed experienced no losses during TALF 1.0. Identifying appropriate and skilled managers mitigates this risk.

- **Liquidity Risk:** TALF programs typically have a 3 – 5 year lock up. Investors must be comfortable with this level of illiquidity to participate. The recommended allocation size (approx. 0.6% of Total Fund assets) does not pose concern to ATRS's liquidity profile. Quarterly distributions and principal repayment over the life of the investment are expected.

- **Program Risk:** The Fed has the flexibility to change the investments and structure of the program**.** While details are still being finalized, the successful run of TALF 1.0 provides a sound roadmap for TALF 2.0.

Implementation and Manager Selection

TALF is available to most large U.S.-based asset managers. Thus, most of the differentiation among competing TALF products arises from security selection – not only selecting a desired level of leverage and spread, and thus a targeted return, but also choosing those assets which promise the least risk of principal impairment. It is important to identify a structured products team that has been investing in ABS for several years and believes it has an edge in ABS security selection.

The Fed announced the TALF program at the end of March and recently communicated intentions to begin the TALF program at the beginning of June. Due to the abbreviated time-line, Aon identified a limited number of investment managers offering a TALF program to due diligence. We focused on a number of important metrics, including our views of the securitized capabilities of each firm, their investment processes, and investment team experience. Aon's initial list included three TALF-only strategies and two broader securitized opportunities that only invest a portion of the strategy in TALF eligible assets. Given the current composition of the Opportunistic/Alternatives asset class and the quick turnaround time for due diligence, Aon believes the TALF-only strategy is the best fit for ATRS. Additionally, due to the high demand, most managers became oversubscribed very quickly.

TCW TALF Opportunities Fund

TCW is a well-established, global asset manager with approximately $212B in assets under management (AUM). Approximately 90% of TCW's AUM are invested in fixed income strategies and approximately 50% are invested in securitized products. We find TCW's credit research capabilities, especially in the structured products area, as one of its core strengths. TCW's $100 billion securitized platform and its experience as one of the largest participating managers during TALF 1.0 stand out among its peers. Further, the same talented and experienced team that successfully managed TALF 1.0 is managing TALF 2.0. Tad Rivelle (Fixed Income CIO), Laird Landmann, and Stephen Kane are well regarded investment professionals that have worked together for over 20 years and are the architects of the investment process employed.

Aon believes TCW is a strong fit to manage a TALF investment. The firm and the team not only have a very tenured experience investing in structured products, the team was successful running one of the largest TALF 1.0 programs during the Great Financial Crisis. TCW's $100 billion securitized platform provides the resources and relationships to successfully navigate the market during the TALF 2.0 program. The TCW Opportunities Fund will be comprised of 100% in TALF eligible assets and will not use TALF financing to purchase assets with IRR projections less than 5%.

AllianceBernstein TALF Opportunity 2020 Fund

AllianceBernstein (AB) is a diversified business that is largely split between equities and fixed income. The TALF strategy will be supported by a $295 billion global fixed income platform. AB's securitized team successfully participated in TALF 1.0 and two other government programs during the GFC. The

The AB TALF Opportunity 2020 Fund is a TALF-only strategy that aims to achieve a 10-15% return by investing in TALF-eligible securities. We believe the experienced team and sizable securitized platform provides the resources to successfully implement the TALF 2.0 strategy.

Please see the Appendix for more information.

APPENDIX – Contents

1) Aon InBrief: TCW TALF Opportunities Fund
2) Aon InBrief: AllianceBernstein TALF Opportunity 2020 Fund

Aon InBrief: The TCW Group, Inc.

TALF Opportunities Fund

Review Date	Overall Rating	Previous Overall Rating
May 2020	Buy	New Rating

Overall Rating

As a TALF-only strategy, TCW TALF Opportunities Fund aims to achieve high-single-digit to low- teen- returns by investing in TALF-eligible securities through the TALF program. The same experienced team that successfully invested during TALF 1.0 is leading the efforts, and its $100 billion securitized platform provides the resources and relationships to successfully navigate the market during the TALF 2.0 program.

Investment Manager Evaluation

Rating Sheet

Factor	Rating	Previous Rating	Comments
Business	3	*New Rating*	TCW acquired MetWest in early 2010 to manage the fixed income mandates of the combined firm. 44.07% of TCW is owned by employees, 31.18% is owned by Carlyle and the remainder is owned by Nippon Life Insurance Company. The Carlyle ownership is in a 15-year fund vehicle that closed in 2016, providing more stability than a typical private equity owner
Investment Staff	4	*New Rating*	TCW's $100 billion securitized platform and its experience as one of the largest participating managers during TALF 1.0 stand out among its peers. As a background, all of TCW's fixed income strategies are managed by a team of generalist portfolio managers with an average of over 20 years of investment management experience. They are supported by a roster of specialist portfolio managers and research analysts, who focus on their areas of expertise.
Investment Process	3	*New Rating*	The Securitized Product Working Group, which consists of generalist portfolio managers and securitized product specialist, reviews relative value, sets risk budgets, establishes trading targets, and approves new structure/trading program. General investment process at TCW entails the generalist portfolio managers responsible for developing a fundamental economic outlook and specialist portfolio managers and research analysts providing sector-specific idea generation.

Rating Sheet			
Factor	**Rating**	**Previous Rating**	**Comments**
Risk Management	3	*New Rating*	TCW has a dedicated risk management team that performs scenario analysis, compiles risk metrics, and aids in portfolio compliance. TCW's risk management team is supported by the technology department because TCW strongly prefers proprietary over third party systems. TCW does not think of risk in terms of tracking error, but rather on an absolute basis.
Operational Due Diligence	A1 Pass	*New Rating*	In terms of compliance, the firm has appropriate control procedures and systems that are in line with industry standards. TCW uses numerous proprietary and third-party systems to satisfy operational control requirements.
Performance Analysis	3	*New Rating*	TCW's return targets are realistic given the current market conditions. It has a floor of 5% IRR, below which TCW intends to return investor's capital.
Terms & Conditions	3	*New Rating*	TCW offers two fee structures to choose from, and both fee structures are favorable compared to those of other TALF-only strategies. Client service is also very responsive.
Overall Rating	Buy	*New Rating*	As a TALF-only strategy, TCW TALF Opportunities Fund aims to achieve high-single-digit to low- teen- returns by investing in TALF-eligible securities through the TALF program. The same experienced team that successfully invested during TALF 1.0 is leading the efforts, and its $100 billion securitized platform provides the resources and relationships to successfully navigate the market during the TALF 2.0 program.
ESG	2	*New Rating*	There is limited room for ESG considerations to play a critical role in the investment decision making process. The Fund Management Team is aware of potential ESG risks in the investment strategy and has taken some steps to identify, evaluate and potentially mitigate these risks.

Ratings Explanation

Below we describe the criteria which we use to rate fund management organizations and their specific investment products. Our manager research process assesses each component using both our qualitative and Aon InForm criteria. With the exception of Operational Due Diligence ("ODD"), each component is assessed as follows:

Qualitative Outcome	
1 = Weak	
2 = Average	
3 = Above Average	
4 = Strong	

The ODD factor is assessed a rating and can be interpreted as follows:

Overall ODD Rating	What does this mean?
A1	No material operational concerns – the firm's operations largely align with a well-controlled operating environment.
A2	The firm's operations largely align with a well-controlled operating environment, with limited exceptions – managers may be rated within this category due to resource limitations or where isolated areas do not align with best practice.
Conditional Pass ("CP")	Specific operational concerns noted that the firm has agreed to address in a reasonable timeframe; upon resolution, we will review the firm's rating.
F	Material operational concerns that introduce the potential for economic or reputational exposure exist – we recommend investors do not invest and/or divest current holdings.

Aon Hewitt previously assigned ODD ratings of pass, conditional pass, or fail for the ODD factor. We are in the process of refreshing all ODD ratings to the new terminology. During the transition period, the prior ratings, as follows, may persist in some deliverables until the ODD factor rating is converted to the above noted letter ratings.

- **Pass** – Our research indicates that the manager has acceptable operational controls and procedures in place.
- **Conditional Pass** – We have specific concerns that the manager needs to address within a reasonable established timeframe.
- **Fail** – Our research indicates that the manager has critical operational weaknesses and we recommend that clients formally review the appointment.

An overall rating is then derived taking into account both the above outcomes for the product. The overall rating can be interpreted as follows:

Overall Rating	What does this mean?
Buy	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products
Buy (Closed)	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products, however it is closed to new investors
Qualified	A number of criteria have been met and we consider the investment manager to be qualified to manage client assets
Sell	We recommend termination of client investments in this product
In Review	The rating is under review as we evaluate factors that may cause us to change the current rating

The comments and assertions reflect our views of the specific investment product and our opinion of its quality. Differences between the qualitative and Aon InForm outcome can occur and if meaningful these will be explained within the Key Monitoring Points section. Although the Aon InForm Assessment forms a valuable part of our manager research process, it does not automatically alter the overall rating where we already have a qualitative assessment. Overall rating changes must go through our qualitative manager vetting process. Similarly, we will not issue a Buy recommendation before fully vetting the manager on a qualitative basis.

The ESG factor is assigned a rating and can be interpreted as follows:

Overall ESG Rating	What does this mean?
4	▪ The Fund Management Team demonstrates high awareness of all known and potentially financially material ESG risks in the investment strategy and, at present, has incorporated appropriate processes to identify, evaluate and potentially mitigate these risks across the entire portfolio.
3	▪ The Fund Management Team demonstrates an above average awareness of potential ESG risks in the investment strategy and has taken essential steps to identify, evaluate and potentially mitigate these risks.
2	▪ The Fund Management Team is aware of potential ESG risks in the investment strategy and has taken some steps to identify, evaluate and potentially mitigate these risks.
1	▪ The Fund Management Team appears unaware or unconcerned with ESG risks in the investment strategy and has not taken any material steps to address ESG considerations in the portfolio.
N/A (Not Applicable)	▪ An evaluation of ESG risks is not directly applicable to this strategy and therefore an ESG rating has not been assessed.
NR (Not Rated)	▪ An evaluation of ESG risks is not yet available for this strategy.

Disclaimer

This document has been produced by Aon's Investment Manager Research Team, a division of Aon plc and is appropriate solely for institutional investors. Nothing in this document should be treated as an authoritative statement of the law on any particular aspect or in any specific case. It should not be taken as financial advice and action should not be taken as a result of this document alone. Consultants will be pleased to answer questions on its contents but cannot give individual financial advice. Individuals are recommended to seek independent financial advice in respect of their own personal circumstances. The information contained herein is given as of the date hereof and does not purport to give information as of any other date. The delivery at any time shall not, under any circumstances, create any implication that there has been a change in the information set forth herein since the date hereof or any obligation to update or provide amendments hereto. The information contained herein is derived from proprietary and non-proprietary sources deemed by Aon to be reliable and are not necessarily all inclusive. Aon does not guarantee the accuracy or completeness of this information and cannot be held accountable for inaccurate data provided by third parties. Reliance upon information in this material is at the sole discretion of the reader.

As of December 31, 2019, Aon had 12,000 strategies in its database across public markets asset classes (excludes private equity, private real estate, and real assets). Aon assigned a quantitative rating of "Qualified" to 41% of strategies and a "Not Recommended" to 19% of strategies in the database. A "Buy" rating cannot be assigned via quantitative analysis. Across public markets asset classes, Aon assigned a qualitative rating of "Buy" to 9% of strategies in the database; "Qualified" to 5% of strategies in the database; "Sell" to 3% of strategies in the database; and "In Review" to <1% of strategies in the database. The remaining strategies in the database are not rated. Excludes Townsend databases and ratings.

Aon does not receive compensation from investment managers for strategy ratings. On occasion, a research analyst may have an economic interest in the security or product being rated. Aon maintains policies and procedures regarding personal securities transactions in a Code of Ethics. A copy of the Code of Ethics, and a statement regarding whether the research analyst rating this security has any financial interest in the security, is available upon written request to the Aon compliance department in your local region, address as listed below.

This document does not constitute an offer of securities or solicitation of any kind and may not be treated as such, i) in any jurisdiction where such an offer or solicitation is against the law; ii) to anyone to whom it is unlawful to make such an offer or solicitation; or iii) if the person making the offer or solicitation is not qualified to do so. If you are unsure as to whether the investment products and services described within this document are suitable for you, we strongly recommend that you seek professional advice from a financial adviser registered in the jurisdiction in which you reside. We have not considered the suitability and/or appropriateness of any investment you may wish to make with us. It is your responsibility to be aware of and to observe all applicable laws and regulations of any relevant jurisdiction, including the one in which you reside.

Aon Hewitt Limited is authorized and regulated by the Financial Conduct Authority. Registered in England & Wales No. 4396810. When distributed in the US, Aon Investments USA Inc. is a registered investment adviser with the Securities and Exchange Commission ("SEC"). Aon Investments USA Inc is a wholly owned, indirect subsidiary of Aon plc. In Canada, Aon Hewitt Inc. and Aon Hewitt Investment Management Inc. ("AHIM") are indirect subsidiaries of Aon plc, a public company trading on the NYSE. Investment advice to Canadian investors is provided through AHIM, a portfolio manager, investment fund manager and exempt market dealer registered under applicable Canadian securities laws. Regional distribution and contact information is provided below. Contact your local Aon representative for contact information relevant to your local country if not included below.

Aon plc/Aon Hewitt Limited Registered office The Aon Centre The Leadenhall Building 122 Leadenhall Street London EC3V 4AN	Aon Investments USA Inc. 200 E. Randolph Street Suite 1500 Chicago, IL 60601 USA	Aon Hewitt Inc./Aon Investments Canada Inc. 20 Bay Street, Suite 2300 Toronto, ON M5J 2N9 Canada

Aon InBrief: AllianceBernstein, L.P.

TALF Opportunity 2020 Fund

Review Date	Overall Rating	Previous Overall Rating
May 2020	Buy	New Rating

Overall Rating

As a TALF-only strategy, AB TALF Opportunity 2020 Fund aims to achieve 10-15% of returns by investing in TALF-eligible securities through the TALF program. AB's securitized team successfully participated in TALF 1.0 and two other government programs during the GFC. The experienced team and sizable securitized platform provides the resources to successfully implement the TALF 2.0 strategy.

Investment Manager Evaluation

Rating Sheet

Factor	Rating	Previous Rating	Comments
Business	3	*New Rating*	AB has a diversified business that is largely split between equities and fixed income, and retail and institutional clients. Assets have grown modestly within the high yield and fixed income platforms. AB is structured as a master limited partnership with Equitable Holdings owning the majority of shares and employees/public owning a minority.
Investment Staff	3	*New Rating*	AB's experienced securitized team successfully invested during TALF 1.0 in a meaningful capacity, along with two other government programs during the GFC. Generally, we view the staff as above average. The fixed income team is based predominantly in the U.S., though AB does have extensive resource across its global offices, including a very large team of global credit analysts.
Investment Process	3	*New Rating*	The securitized assets team is led by the securitized CIO Michael Canter, and the securitized process entails in-house fundamental and quantitative analysis, underpinned by a perspective on the macro-economic environment. AB's general investment process is clearly defined, and the portfolios are constructed on a team-based approach with portfolio managers and analysts entering detailed debate on investment decisions. Both quantitative and qualitative processes are emphasized.

Rating Sheet			
Factor	**Rating**	**Previous Rating**	**Comments**
Risk Management	3	*New Rating*	AB's awareness of risk within bond portfolios is integrated within the investment process. It uses a risk budgeting approach to size positions. There is an independent team that implements portfolio views and is also responsible for checking guidelines. The quantitative team, responsible for scenario analysis is involved in risk discussions with the investment team.
Operational Due Diligence	A1 Pass	*New Rating*	As a public company, the manager has well developed non-investment functions supporting the investment activities of the firm. Internal audit, board of directors and deep compliance groups are well integrated into the firm and its processes. Many well-known service providers in the financial business are used to support many non-investment processes at AB.
Performance Analysis	3	*New Rating*	AB's return targets are realistic given the current market conditions. AB will invest and return investor's capital according to the available opportunities. AB called less than 60% of the committed capital during TALF 1.0, demonstrating its prudent approach in investing in TALF assets.
Terms & Conditions	2	*New Rating*	AB's fee structure is average among TALF-only strategies. Client team is very responsive.
Overall Rating	Buy	*New Rating*	As a TALF-only strategy, AB TALF Opportunity 2020 Fund aims to achieve 10-15% of returns by investing in TALF-eligible securities through the TALF program. AB's securitized team successfully participated in TALF 1.0 and two other government programs during the GFC. The experienced team and sizable securitized platform provides the resources to successfully implement the TALF 2.0 strategy.
ESG	2	*New Rating*	There is limited room for ESG considerations to play a critical role in the investment decision making process. The Fund Management Team is aware of potential ESG risks in the investment strategy and has taken some steps to identify, evaluate and potentially mitigate these risks.

Ratings Explanation

Below we describe the criteria which we use to rate fund management organizations and their specific investment products. Our manager research process assesses each component using both our qualitative and Aon InForm criteria. With the exception of Operational Due Diligence ("ODD"), each component is assessed as follows:

Qualitative Outcome	
1 = Weak	
2 = Average	
3 = Above Average	
4 = Strong	

The ODD factor is assigned a rating and can be interpreted as follows:

Overall ODD Rating	What does this mean?
A1	No material operational concerns – the firm's operations largely align with a well-controlled operating environment.
A2	The firm's operations largely align with a well-controlled operating environment, with limited exceptions – managers may be rated within this category due to resource limitations or where isolated areas do not align with best practice.
Conditional Pass ("CP")	Specific operational concerns noted that the firm has agreed to address in a reasonable timeframe; upon resolution, we will review the firm's rating.
F	Material operational concerns that introduce the potential for economic or reputational exposure exist – we recommend investors do not invest and/or divest current holdings.

Aon Hewitt previously assigned ODD ratings of pass, conditional pass, or fail for the ODD factor. We are in the process of refreshing all ODD ratings to the new terminology. During the transition period, the prior ratings, as follows, may persist in some deliverables until the ODD factor rating is converted to the above noted letter ratings.

- **Pass** – Our research indicates that the manager has acceptable operational controls and procedures in place.
- **Conditional Pass** – We have specific concerns that the manager needs to address within a reasonable established timeframe.
- **Fail** – Our research indicates that the manager has critical operational weaknesses and we recommend that clients formally review the appointment.

An overall rating is then derived taking into account both the above outcomes for the product. The overall rating can be interpreted as follows:

Overall Rating	What does this mean?
Buy	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products
Buy (Closed)	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products, however it is closed to new investors
Qualified	A number of criteria have been met and we consider the investment manager to be qualified to manage client assets
Sell	We recommend termination of client investments in this product
In Review	The rating is under review as we evaluate factors that may cause us to change the current rating

The comments and assertions reflect our views of the specific investment product and our opinion of its quality. Differences between the qualitative and Aon InForm outcome can occur and if meaningful these will be explained within the Key Monitoring Points section. Although the Aon InForm Assessment forms a valuable part of our manager research process, it does not automatically alter the overall rating where we already have a qualitative assessment. Overall rating changes must go through our qualitative manager vetting process. Similarly, we will not issue a Buy recommendation before fully vetting the manager on a qualitative basis.

The ESG factor is assigned a rating and can be interpreted as follows:

Overall ESG Rating	What does this mean?
4	▪ The Fund Management Team demonstrates high awareness of all known and potentially financially material ESG risks in the investment strategy and, at present, has incorporated appropriate processes to identify, evaluate and potentially mitigate these risks across the entire portfolio.
3	▪ The Fund Management Team demonstrates an above average awareness of potential ESG risks in the investment strategy and has taken essential steps to identify, evaluate and potentially mitigate these risks.
2	▪ The Fund Management Team is aware of potential ESG risks in the investment strategy and has taken some steps to identify, evaluate and potentially mitigate these risks.
1	▪ The Fund Management Team appears unaware or unconcerned with ESG risks in the investment strategy and has not taken any material steps to address ESG considerations in the portfolio.
N/A (Not Applicable)	▪ An evaluation of ESG risks is not directly applicable to this strategy and therefore an ESG rating has not been assessed.
NR (Not Rated)	▪ An evaluation of ESG risks is not yet available for this strategy.

Disclaimer

This document has been produced by Aon's Investment Manager Research Team, a division of Aon plc and is appropriate solely for institutional investors. Nothing in this document should be treated as an authoritative statement of the law on any particular aspect or in any specific case. It should not be taken as financial advice and action should not be taken as a result of this document alone. Consultants will be pleased to answer questions on its contents but cannot give individual financial advice. Individuals are recommended to seek independent financial advice in respect of their own personal circumstances. The information contained herein is given as of the date hereof and does not purport to give information as of any other date. The delivery at any time shall not, under any circumstances, create any implication that there has been a change in the information set forth herein since the date hereof or any obligation to update or provide amendments hereto. The information contained herein is derived from proprietary and non-proprietary sources deemed by Aon to be reliable and are not necessarily all inclusive. Aon does not guarantee the accuracy or completeness of this information and cannot be held accountable for inaccurate data provided by third parties. Reliance upon information in this material is at the sole discretion of the reader.

As of December 31, 2019, Aon had 12,000 strategies in its database across public markets asset classes (excludes private equity, private real estate, and real assets). Aon assigned a quantitative rating of "Qualified" to 41% of strategies and a "Not Recommended" to 19% of strategies in the database. A "Buy" rating cannot be assigned via quantitative analysis. Across public markets asset classes, Aon assigned a qualitative rating of "Buy" to 9% of strategies in the database; "Qualified" to 5% of strategies in the database; "Sell" to 3% of strategies in the database; and "In Review" to <1% of strategies in the database. The remaining strategies in the database are not rated. Excludes Townsend databases and ratings.

Aon does not receive compensation from investment managers for strategy ratings. On occasion, a research analyst may have an economic interest in the security or product being rated. Aon maintains policies and procedures regarding personal securities transactions in a Code of Ethics. A copy of the Code of Ethics, and a statement regarding whether the research analyst rating this security has any financial interest in the security, is available upon written request to the Aon compliance department in your local region, address as listed below.

This document does not constitute an offer of securities or solicitation of any kind and may not be treated as such, i) in any jurisdiction where such an offer or solicitation is against the law; ii) to anyone to whom it is unlawful to make such an offer or solicitation; or iii) if the person making the offer or solicitation is not qualified to do so. If you are unsure as to whether the investment products and services described within this document are suitable for you, we strongly recommend that you seek professional advice from a financial adviser registered in the jurisdiction in which you reside. We have not considered the suitability and/or appropriateness of any investment you may wish to make with us. It is your responsibility to be aware of and to observe all applicable laws and regulations of any relevant jurisdiction, including the one in which you reside.

Aon Hewitt Limited is authorized and regulated by the Financial Conduct Authority. Registered in England & Wales No. 4396810. When distributed in the US, Aon Investments USA Inc. is a registered investment adviser with the Securities and Exchange Commission ("SEC"). Aon Investments USA Inc is a wholly owned, indirect subsidiary of Aon plc. In Canada, Aon Hewitt Inc. and Aon Hewitt Investment Management Inc. ("AHIM") are indirect subsidiaries of Aon plc, a public company trading on the NYSE. Investment advice to Canadian investors is provided through AHIM, a portfolio manager, investment fund manager and exempt market dealer registered under applicable Canadian securities laws. Regional distribution and contact information is provided below. Contact your local Aon representative for contact information relevant to your local country if not included below.

Aon plc/Aon Hewitt Limited
Registered office
The Aon Centre
The Leadenhall Building
122 Leadenhall Street
London
EC3V 4AN

Aon Investments USA Inc.
200 E. Randolph Street
Suite 1500
Chicago, IL 60601
USA

Aon Hewitt Inc./Aon Investments Canada Inc.
20 Bay Street, Suite 2300
Toronto, ON
M5J 2N9
Canada

ARKANSAS TEACHER RETIREMENT SYSTEM
1400 West Third Street
Little Rock, Arkansas 72201

<u>R E S O L U T I O N</u>
No. 2020-17

Approving Investment in TCW TALF Opportunities Fund, LP with Imminent Need

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

WHEREAS, the ATRS Board has reviewed the recommendation of its general investment consultant, Aon Hewitt Investment Consulting, Inc., along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **TCW TALF Opportunities Fund, LP,** a fund focused on asset-backed securities; and

WHEREAS, the ATRS Board approves an investment of up to **$100 million dollars ($100,000,000.00)** in **TCW TALF Opportunities Fund, LP,** and the Board, after its review of the timing in which the closing of the investment in **TCW TALF Opportunities Fund, LP** may need to occur, has determined that there is an imminent need to immediately enter into the partial equity ownership agreement prior to the next scheduled meeting of the Arkansas Legislative Council. The Board also deems it financially appropriate to enter into the partial equity ownership agreement and concludes that to forego the opportunity to promptly implement its investment directives under the prudent investor rule would be inconsistent with its fiduciary duty of care to the members and annuitants;

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **$100 million dollars ($100,000,000.00)** in **TCW TALF Opportunities Fund, LP** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **TCW TALF Opportunities Fund, LP.** The total investment amount is to be determined by ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the Board**;** and

FURTHER, BE IT RESOLVED, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment using the Imminent Need process, if acceptable terms are reached.

Adopted this 20th day of May 2020

____

Mr. Danny Knight, *Chair*
Arkansas Teacher Retirement System

ARKANSAS TEACHER RETIREMENT SYSTEM
1400 West Third Street
Little Rock, Arkansas 72201

<u>**R E S O L U T I O N**</u>
No. 2020-18

Approving Investment in AB TALF Opportunity 2020 (Delaware) Fund, L.P. with Imminent Need

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

WHEREAS, the ATRS Board has reviewed the recommendation of its general investment consultant, Aon Hewitt Investment Consulting, Inc., along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **AB TALF Opportunity 2020 (Delaware) Fund, L.P.,** a fund focused on asset-backed securities; and

WHEREAS, the ATRS Board approves an investment of up to **$100 million dollars ($100,000,000.00)** in **AB TALF Opportunity 2020 (Delaware) Fund L.P.,** and the Board, after its review of the timing in which the closing of the investment in **AB TALF Opportunity 2020 (Delaware) Fund, L.P.** may need to occur, has determined that there is an imminent need to immediately enter into the partial equity ownership agreement prior to the next scheduled meeting of the Arkansas Legislative Council. The Board also deems it financially appropriate to enter into the partial equity ownership agreement and concludes that to forego the opportunity to promptly implement its investment directives under the prudent investor rule would be inconsistent with its fiduciary duty of care to the members and annuitants;

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **$100 million dollars ($100,000,000.00)** in **AB TALF Opportunity 2020 (Delaware) Fund, L.P.** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **AB TALF Opportunity 2020 (Delaware) Fund, L.P.** The total investment amount is to be determined by ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the Board**;** and

FURTHER, BE IT RESOLVED, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment using the Imminent Need process, if acceptable terms are reached.

Adopted this 20th day of May 2020

____

Mr. Danny Knight, *Chair*
Arkansas Teacher Retirement System