

COMMONWEALTH OF PENNSYLVANIA  
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

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Public Investment Memorandum

**Apollo European Principal Finance Fund III (Dollar A), L.P.**

High Yield Commitment

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**James F. Del Gaudio**  
Portfolio Manager

**September 15, 2016**



**Recommendation:**

Staff, together with Portfolio Advisors LLC, recommends the Board commit up to \$200 million to Apollo European Principal Finance Fund III (Dollar A), L.P. (the “Fund”, “EPF III”, or “Fund III”). Apollo Global Management, LLC (“Apollo” or the “Firm”) is seeking to raise EPF III to continue the Firm’s European distressed investment strategy and will utilize the dedicated investment team of Apollo’s European Principal Finance business (“EPF”).

**Firm Overview:**

Founded in 1990, Apollo is a global alternative investment manager with ~\$186 billion of assets under management across three business segments (private equity, credit and real estate) as of June 30, 2016. Apollo has 960 employees, with offices in New York, Los Angeles, Houston, Chicago, Bethesda, Toronto, London, Frankfurt, Madrid, Luxembourg, Mumbai, Delhi, Singapore, Hong Kong and Shanghai. The Firm is led by its three managing partners, Leon Black, Joshua Harris and Marc Rowan, who have worked together for nearly 30 years and lead a seasoned team of 361 investment professionals. Apollo is a publicly traded company, which trades as “APO” on the New York Stock Exchange. The table below summarizes Apollo’s AUM and strategic focus by business segment as of June 30, 2016:

Segment	AUM <sup>1</sup>	Focus
Private Equity	\$41 billion	<ul style="list-style-type: none"> <li>• Opportunistic Buyouts</li> <li>• Distressed Investments</li> <li>• Corporate Carve-Outs</li> </ul>
Credit	\$134 billion	<ul style="list-style-type: none"> <li>• Performing Credit</li> <li>• Liquid Opportunistic</li> <li>• Illiquid Opportunistic</li> <li>• <b>European Principal Finance</b></li> <li>• Private Origination</li> <li>• Structured Credit</li> <li>• Athene (Insurance / Annuities)</li> </ul>
Real Estate	\$11 billion	<ul style="list-style-type: none"> <li>• Residential &amp; Commercial</li> <li>• PE &amp; Distressed</li> <li>• Performing Fixed Income</li> </ul>

*(1) Assets Under Management (“AUM”) – refers to the investments Apollo manages or with respect to which Apollo has control, including capital Apollo has the right to call from its investors pursuant to their capital commitments to various funds.*

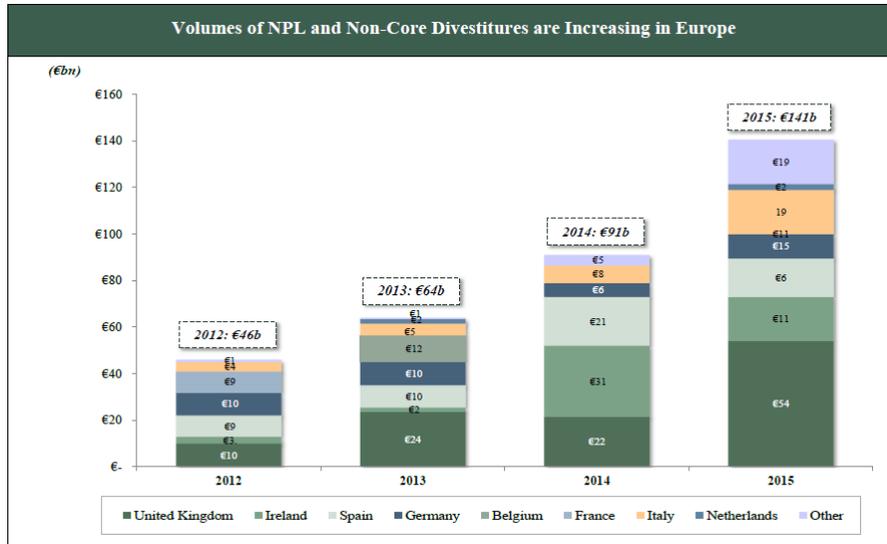
**Market Opportunity:**

Apollo established EPF in late 2007 to take advantage of the long-term deleveraging cycle of the European financial system that the Firm expected heading into the global recession. Over the past eight-plus years, Fund III’s predecessor funds, Apollo European Principal Finance Fund, L.P. (“EPF I”) and Apollo European Principal Finance Fund II, L.P. (“EPF II”), to which PSERS previously committed \$200 million in 2012, have been active buyers of many credit-oriented assets as well as foreclosed collateral that European banks and other financial institutions have been compelled to sell due to increasing regulatory pressures and liquidity requirements, including non-performing loans (“NPLs”), distressed or repossessed real estate (“Real Estate Owned” or “REO”), other hard assets, and consumer loans, among others. While the opportunity set to acquire NPLs and other non-core assets has evolved since EPF’s inception (both in terms of asset type and geography), the European market continues to represent an attractive investment opportunity with the potential for Fund III to generate strong risk-adjusted returns.

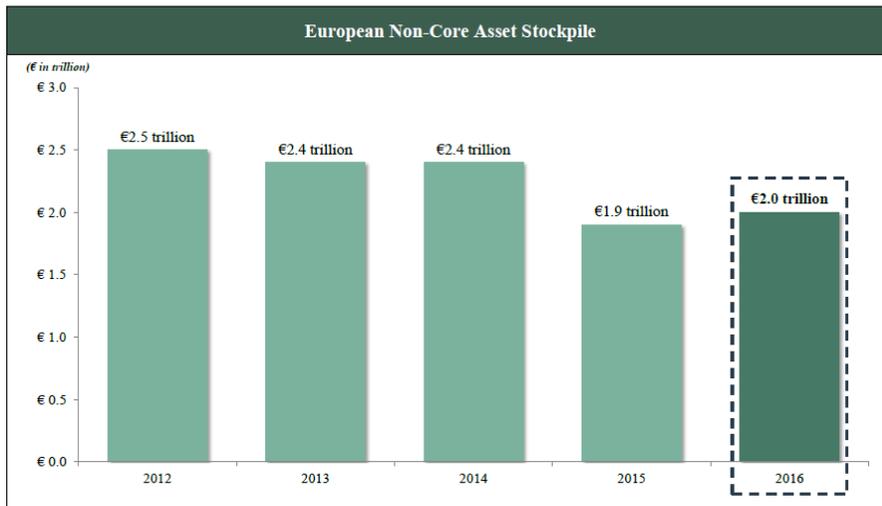
Amidst the uncertain and generally tepid European economic environment, as well as the surprise shock of Brexit, European banks continue to struggle to meet ongoing and increasingly rigorous regulatory requirements, and to improve overall profitability in today’s low interest-rate environment (exacerbated by the ECB’s quantitative easing initiatives). On the regulatory side, past, present and future regulatory programs have all served to effectively force banks, insurance companies, and certain other financial institutions to increase the amount and quality of liquidity held on their respective balance sheets. The regulations are quite punitive for non-performing assets, making such assets very capital-intensive and inefficient for financial institutions to continue to hold. On the profitability side, the European banking sector’s business model and forward earnings prospects are currently facing multiple threats and public bank stocks have traded down with many valued at significant discounts to tangible book value.



As a result, banks, insurance companies and other regulated financial institutions are incentivized to dispose of such non-performing assets, and have been forced to reevaluate their business models going forward. Despite increasing divestiture activity from European financial institutions (as evidenced in the first chart below), the glut of remaining NPLs and non-core assets on European bank balance sheets remains immense at ~€2 trillion (as evidenced in the second chart below).



Source: PwC "Portfolio Advisory Group Market update Q4 2015".



Sources: PwC European Bank Restructuring Conference, March 8, 2016 and Oliver Wyman.

**Portfolio Fit:**

A commitment to EPF III will be allocated to PSERS' High Yield - Opportunistic portfolio. As of June 30, 2016, the High Yield portfolio (based on total exposure) was allocated 51% Opportunistic, 25% Senior Loans, 13% Mezzanine and 11% Real Assets. PSERS' High Yield allocation (based on market value) was ~7.7% versus a policy target of 6.0% as of June 30, 2016. Staff is comfortable with the current level of exposure given the risk/return attributes of private credit versus public high yield and in September, 2016, PSERS increased the High Yield allocation target to 8.0% (up from 6.0%). A commitment to Fund III will allow PSERS to continue its relationship with a high-conviction manager that is well positioned to execute on the near-term market opportunity that exists as a result of the ongoing deleveraging of European financial institutions and significant volume of non-core assets remaining on their balance sheets. EPF's return target is in-line with PSERS' objective of generating low- to mid-teen net returns over the life of the Fund.



The table below summarizes PSERS' projected exposure inclusive of a recommended \$200 million commitment to the Fund:

Investment Type (\$mm)	Active Commitments <sup>1</sup>	%	Market Value	%	Unfunded <sup>1</sup>	%	Total Exposure <sup>1</sup>	%
Opportunistic	\$ 4,121.5	48.5%	\$ 1,949.8	51.8%	\$ 1,448.0	53.6%	\$ 3,397.8	52.5%
Senior Loans	2,665.0	31.3%	903.8	24.0%	639.8	23.7%	1,543.6	23.9%
Mezzanine	867.6	10.2%	334.3	8.9%	500.2	18.5%	834.5	12.9%
Real Assets	851.2	10.0%	578.3	15.4%	114.7	4.2%	693.0	10.7%
<b>Total</b>	<b>\$ 8,505.2</b>	<b>100.0%</b>	<b>\$ 3,766.3</b>	<b>100.0%</b>	<b>\$ 2,702.7</b>	<b>100.0%</b>	<b>\$ 6,469.0</b>	<b>100.0%</b>

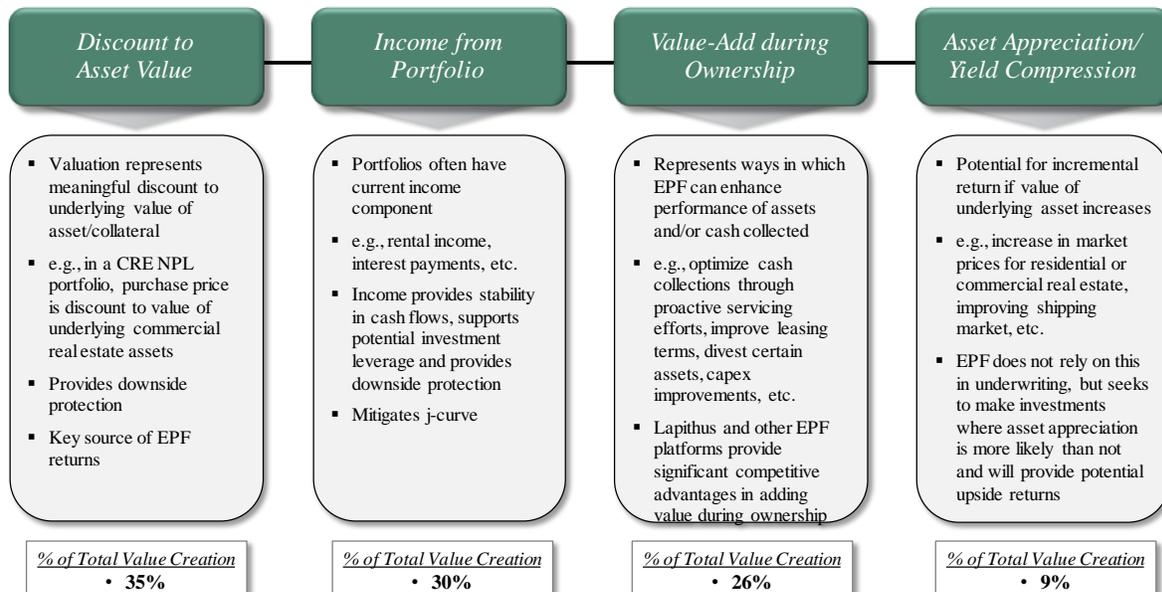
(1) Include post Q2'2016 pending/closed commitments.

As part of the EPF III diligence process, staff analyzed three additional managers within PSERS' High Yield and Private Debt portfolios that have strong capabilities and devote meaningful resources to the European NPL/non-core asset opportunity. This analysis focused on Apollo, Bain Capital Credit, Cerberus Capital Management, and TPG Special Situations Partners. While these four firms have the potential to compete in certain geographies and for certain asset types, the supply of European NPLs and non-core assets is immense (i.e., €2 trillion as per Oliver Wyman and PwC) and well in excess of the capital that has been raised to pursue this opportunity. Furthermore, EPF III is almost entirely focused on Europe, whereas the other three firms employ global investment mandates. Therefore, we believe these firms to be more complementary than competitive in their respective approaches to the space.

**Investment Strategy:**

EPF III will continue the strategy of its two predecessor funds by acquiring NPLs and non-core assets from European financial institutions. Apollo expects that the Fund will be opportunistic across asset types and geographies, but will primarily focus on five key countries: the UK, Ireland, Spain, Germany and Italy. The EPF team seeks to build a diversified portfolio of 30 – 35 investments that require ~\$100 million to \$300 million of equity per deal with two to four-year average hold periods.

EPF focuses on four key value creation drivers: (i) discount to asset value; (ii) income from the portfolio; (iii) value-add during ownership; and (iv) asset price appreciation/yield compression. EPF believes that buying assets at a discount provides meaningful downside protection and enables them to produce attractive risk-adjusted returns. Apollo does not attribute significant value to asset price appreciation/yield compression since this is largely out of EPF's control as it is dependent on market conditions and movements. The Fund will seek to be opportunistic in exiting investments once EPF has determined that its value-creation initiatives have been realized. The graphic below summarizes these key drivers and the percentage of EPF I and EPF II value creation derived from each driver:





Given the nature of NPLs and other granular portfolios of non-performing or non-core assets, these investments typically require significant attention post-acquisition. This is because portfolios of NPLs or distressed real estate can have hundreds or thousands of underlying loans and/or assets, each of which must be worked out individually. Therefore, equally as important as acquiring portfolios at attractive prices is the ability to convert those loans and assets into actual cash proceeds. As such, early in EPF I's life, Apollo established a captive servicer, Lapithus, which provides EPF with a unified pan-European approach to servicing and asset management. This includes a full range of customized loan servicing, real estate property management, and collection services. As of June 30, 2016, Lapithus had 102 total professionals across offices in London, Dublin, Luxembourg and Frankfurt and manages €11.5 billion of assets.

### **Investment Structure:**

EPF is highly focused on downside protection and mitigating perceived risks and believes the single greatest way to mitigate downside risks and preserve capital is to "buy right". As such, EPF seeks to acquire assets at meaningful discounts to their intrinsic value. EPF is unlikely to proceed with an investment if there is not a clear path to recovering its capital, even in their downside scenarios. Apollo will not rely on significant expected growth or asset appreciation, nor will they use excessive levels of leverage in order to generate targeted returns. Instead, EPF must believe that an investment will produce acceptable unlevered returns (~8% - 16% depending on the asset type and geography) based on drivers generally within its control and for the perceived levels of risk associated with the underlying assets, geographies, etc., in order for them to pursue the opportunity. That said, EPF will seek to employ modest leverage (~60% LTV) in its investments to enhance return potential. In order to incorporate leverage, EPF will assess the characteristics of the underlying portfolio, focusing on the presence and quality of any current income that could provide a more consistent stream of cash flows which is better able to support additional debt financing. EPF typically seeks to structure financings such that the fund is able to share in the collections from a portfolio prior to repaying all of the debt which helps de-risk the investment and does not create backend-weighted returns for the Fund. In addition, EPF focuses on matching the duration of any leverage with the duration of the underlying assets (i.e., EPF will not use short-term financing with long-duration assets). Including leverage, Apollo seeks to generate ~20% gross returns for the Fund, resulting in fund-level net returns of ~15%.

### **Investment Instruments:**

Since EPF's inception, EPF I and EPF II have been active buyers of many credit-oriented assets as well as foreclosed collateral that European banks and other financial institutions have been compelled to sell due to increasing regulatory pressures and liquidity requirements, including residential and commercial NPLs, distressed or repossessed real estate ("REO"), consumer loans, distressed hospitality assets, distressed shipping loans or assets, and servicing or lending platforms. The table below provides a summary of the principal investment instruments that fall within the Fund's investment mandate:

<b>Instrument</b>	<b>Description</b>
<b>Residential &amp; Commercial NPLs</b>	Portfolios of non-performing loans (i.e., borrower is delinquent for greater than ~90 days) typically backed by residential real estate or commercial real estate collateral. EPF, through its captive servicer Lapithus, seeks to work out the portfolios on a loan-by-loan basis and will employ various resolution methods including discounted payoffs, amended loan terms, consensual restructurings, and enforcement on the loan to take ownership of the underlying collateral.
<b>REO</b>	Real Estate Owned assets that are held directly on a bank or financial institution's balance sheet. Essentially a later stage NPL where the financial institution has already undertaken the enforcement procedures and now owns the collateral directly. EPF seeks to manage, service and add value to REO assets in the same way it would if it had purchased the assets in loan form.
<b>Consumer Loans</b>	Portfolios of performing consumer loans (i.e., credit card receivables, auto-loans, point-of-sale loans) purchased at significant discounts due to a distressed or forced seller. EPF may also seek to acquire an associated servicing platform in connection with the purchase of the consumer loan portfolio, typically when a financial institution has deemed an entire business or asset class as "non-core" and is seeking an entire exit.
<b>Hospitality Assets</b>	Portfolios of NPLs backed by hotel collateral or hotel REO assets. Given the specific operating nature of hotels, EPF has developed a dedicated team within Lapithus led by hospitality industry veterans to assist in managing, servicing and adding value to hotel assets.



<b>Shipping Loans/Assets</b>	Opportunistic approach to acquiring non-performing loans backed by shipping collateral, or shipping assets owned directly on a financial institution's balance sheet or by a closed-end fund. Shipping assets represent a meaningful portion of NPL and non-core assets on European bank balance sheets, particularly in Germany. In order to assist in the diligence, underwriting and operating of shipping assets, EPF has established a JV structure with a long-standing German shipping company. EPF expects exposure to shipping to be minimal going forward, but to the extent compelling opportunities arise, it feels it is well positioned to analyze through the JV relationship.
<b>Servicing/Lending Platforms</b>	In addition to EPF's captive servicing platform, Lapithus, EPF may also seek to acquire other specialized servicing platforms on an opportunistic basis. For example, in EPF II, the fund acquired the Spanish special servicing platform from Santander, which today services over €50 billion of AUM and provides EPF with meaningful real time insight as to the trends and conditions in the Spanish real estate market.

### Investment Team:

EPF is led by an experienced senior team of seven partners that have on average over 22 years of relevant experience and is supported by a team of 14 principals and associates. The investment team is further augmented by nine operating executives who are exclusive to Apollo, but are not employees of the Firm. The EPF team also benefits from the ~100+ servicing professionals that are employed by Lapithus. EPF's Investment Committee ("IC") is comprised of a combination of the EPF dedicated partners as well as Sanjay Patel (Head of Apollo Europe and Managing Partner of EPF), Jim Zelter (Head of Apollo Credit), Marc Rowan (Apollo co-founder) and Joshua Harris (Apollo co-founder). EPF requires a consensus from its IC for an investment to proceed. However, in practice, EPF is unlikely to proceed with an investment unless there is unanimous consent at the IC level. All members of the IC, including EPF's senior team, are listed in the table below:

Name	Role	Yrs. Experience Apollo / Total	Prior Experience
Josh Harris (NYC)	Co-Founder, Sr. Managing Director & Director of Apollo Global Management	26 / 29	Drexel Burnham Lambert
Marc Rowan (NYC)	Co-Founder, Sr. Managing Director & Director of Apollo Global Management	26 / 31	Drexel Burnham Lambert
James Zelter (NYC)	Apollo Credit Managing Partner & CIO	10 / 29	Citigroup, Goldman Sachs
Sanjay Patel (London)	Head of Europe & EPF Managing Partner	6 / 29	Goldman Sachs, Greenwich Street Capital
Fred Khedouri (London)	Chairman EPF Investment Committee, Partner	8 / 29	Bear Stearns
Skardon Baker (London)	Partner	4 / 17	The Carlyle Group, Oaktree Capital Management, JP Morgan
Sebastian-Dominik Jais (London/Frankfurt)	Partner	6 / 12	Hudson Advisors
Steve McElwain (London)	Partner	4 / 18	Shinsei Bank, Ernst & Young
Roger Orff (London)	Partner	6 / 30	Citigroup, Goldman Sachs
Andrés Rubio (London/Madrid)	Partner	4 / 24	Globalist Capital Management, Morgan Stanley, Cerberus

### Investment Highlights:

<b>Sizeable Market Opportunity</b>
Apollo expects the ongoing deleveraging cycle in Europe to continue for at least five to ten years as banks and other financial institutions strive to comply with increasing regulations, struggle to regain profitability, and are faced with an estimated €2 trillion of non-performing and non-core assets on their balance sheets. While the majority of these assets are likely to be worked-out internally, EPF and industry consultants expect ~€700 to €800 billion to come to market, which would equate to an expected five to ten years of significant divestiture activity for the market to work through. Furthermore, NPLs are not a static asset class; as banks continue to make new loans a portion of those inevitably become non-performing over time. Particularly in light of the Brexit outcome and resulting market volatility and pressure on banks, EPF expects the opportunity set to potentially grow over the near to medium term.



### Investment Pipeline

The EPF team is cultivating an active pipeline across their target geographies (UK, Ireland, Spain, Germany and Italy). In the UK, the team continues to be active in pursuing NPL and REO portfolios. As a result of Brexit, Apollo also expects there will be opportunities to buy higher quality real estate portfolios from UK-based funds forced to liquidate their portfolios. EPF remains active in Ireland as banks look to wind-down their remaining NPL and non-core groups. In Spain, EPF continues to have an active pipeline across asset classes. In Germany, EPF continues to focus on commercial real estate. Lastly, in Italy the team is focused on owning distressed real estate or consumer credit, as NPLs are difficult to own given the current enforcement regime.

### Breadth & Experience of EPF Team

The EPF investment team is led by an experienced senior team of seven partners that average over 22 years of relevant experience. This team is supported by 14 principals and associates, many of which possess native language skills and experience investing in a variety of European markets. EPF has transacted across the continent and has experience navigating the legal complexities of many jurisdictions. While the EPF team has experienced turnover (*see Investment / Risk Considerations*), the current team (including six of the seven partners) has been in place throughout the duration of EPF II and is largely responsible for its investment activities. Furthermore, the partners of EPF have developed numerous relationships with a wide range of banks, insurance companies, executives, operators and other industry participants that they are able to draw upon and utilize in sourcing proprietary transactions.

### Track Record of Generating Strong Risk-Adjusted Returns

Across both EPF I & EPF II combined, Apollo has invested €4.7 billion in equity across 57 deals through June 30, 2016. These investments have generated a total value of €6.8 billion, or a 1.4x gross multiple of invested capital ("MOIC"), corresponding to a 22.4% gross internal rate of return ("IRR"), excluding the impact of LP equity bridge financing. From EPF's inception (2007) through June 30, 2016, EPF I generated a gross IRR of 23.4% (16.9% net), while EPF II has produced a gross IRR of 20.4% (11.3% net) since its inception in 2012 (including all currency sleeves). Overall, the net total value to paid-in capital ("TVPI") of the two funds stands at 1.3x and the net IRR at 14.8%. Of the 57 deals, 29 have been realized to date, generating a 1.7x gross MOIC / 27.1% gross IRR. Notable is the low overall loss ratio across both funds (~3.7% of invested capital), with EPF II experiencing no realized losses to date.

Due to the nature of EPF's investments – namely, that they tend to be portfolios of credit-oriented assets with tangible underlying collateral value – EPF views its return profile as a hybrid between private equity and credit. That is, EPF seeks to produce what are generally considered to be private equity returns (~20% gross IRR) while fundamentally taking credit-like risk. The majority of EPF's investments are comprised of hard assets including distressed or repossessed real estate and non-performing loans for which EPF ultimately assumes control of the hard assets backing the loans. During diligence, Staff engaged Apollo on the relative value of the EPF strategy versus a more traditional corporate distressed strategy seen in the U.S. Interestingly, and somewhat intuitively, the EPF strategy presents a lower risk path to generating ~20% returns compared to single-name corporate distressed, albeit a narrower band of expected returns with less potential for outsized returns. This is due to the broad diversification associated with granular loan portfolios backed predominately by real estate compared to single name corporate exposure. By leveraging the knowledge and experience of its servicing platforms, EPF develops and executes details asset management plans, on an asset-by-asset or loan-by-loan basis.

### Integrated Apollo Platform

Apollo has active funds and platforms in Europe with the flexibility to buy virtually all types of assets at various target return levels (~6% to 20%+) and different durations, which the Firm believes makes Apollo a preferred capital solution provider for deleveraging European banks. Apollo has significant experience investing in the European financial services sector and currently manages ~€26 billion of assets on regulated European financial institution balance sheets. Apollo believes that its ability to propose capital solutions to a bank or other financial institution that may include buying entire operating businesses or subsidiaries (private equity), portfolios of NPLs or other non-core assets including real estate (EPF), or playing a role in other capital structure capacities (credit), enables the Firm to develop a more strategic dialogue with potential sellers that can help lead to exclusive or bilateral discussions on actionable investment opportunities. The fact that EPF's managing partner, Sanjay Patel, also heads up Apollo's European investment activities, certainly ensures this integration within the broader Apollo platform with a strong advocate for EPF.



### Active Portfolio Management / Captive Servicing Relationships

Lapithus was formed in 2010 as a pan-European special servicer and asset manager controlled by and integrated with the EPF team. This includes a full range of customized loan servicing, real estate property management, and collection services. In instances where EPF may choose to use a specialty third-party servicer, Lapithus will serve as master servicer. In addition to Lapithus, Apollo has invested in and/or developed additional servicing platforms and capabilities, including: (i) Altamira, Spain's largest special servicer; (ii) EVO Bank to efficiently hold performing credit assets; (iii) a hospitality servicing and asset management platform housed within Lapithus (Lapithus Hotel Management); and (iv) a shipping joint venture with an established ship operator to service shipping NPLs and distressed assets. While there are potential conflicts with regard to the engagement of an affiliated servicer as the Fund's servicer (see *Investment / Risk Considerations*), Staff and Portfolio Advisors believe Apollo has taken the necessary steps to identify, mitigate and disclose these conflicts consistent with its fiduciary duty.

### Recycling / Efficient use of Investor Capital

Inherent in EPF's strategy is the current income stream from interim cash collections on investments and portfolio resolutions. These distributions are callable and expected to be made on a quarterly basis, or more frequently if deemed necessary. Recycling capital provisions will generally result in capital calls being made to investors from deemed callable distributions. In addition to allowing the fund to potentially earn incremental profit on the same dollar of committed capital, the early return of capital typical in EPF's strategy creates an attractive deployment profile for investors. EPF I called ~152% of total commitments over the life of the fund, yet investors never had more than 58% of their total commitment size outstanding at any given point. Similarly, although still in the final year of its commitment period, EPF II has called ~134% of its total capital commitments, yet investors have only ~82% of their total commitment size outstanding. EPF expects that Fund III will have a similar deployment profile whereby the early return of capital serves to reduce the total percentage of commitments outstanding, while the redeployment enables investors to earn incremental profit, allowing investors to generate attractive multiples of committed capital ("MOCC").

## Investment / Risk Considerations:

### European Macro Environment / Impact of Brexit Decision

The European economy continues to be underpinned by a high level of uncertainty. However, volatility, fear and downward trends tend to favor firms like Apollo. Apollo has been bearish on European economy for some time, noting the disconnect between underlying fundamentals and inflated market valuations and asset prices. As such, they have generally underwritten investments assuming a benign or declining macro environment without relying on economic growth to generate target returns. Apollo is a value-oriented investor and focuses on downside protection, employing leverage judiciously.

With regard to the Brexit decision, EPF is comfortable with their UK exposure (~19% of EPF II assets) since most of what they own are relatively granular not reliant on foreign institutional demand. EPF also employs a comprehensive hedging program to mitigate FX exposure risks. As such, EPF II's USD-sleeve (in which PSERS previously invested) has experienced little impact as a result of the GBP's post-Brexit decline. With regard to future investments, EPF expects Brexit will be a positive event for the Fund and to the extent banks continue to face pressure, Apollo expects there will be more volatility and opportunity for EPF to create compelling acquisition opportunities from distressed financial institutions.

### Competition

While competition for non-core assets certainly exists in Europe as a result of ongoing bank deleveraging, the current supply is immense (i.e., €2+ trillion as per PwC and Oliver Wyman) and well in excess of the capital that has been raised to pursue the opportunity (estimated at \$8 - \$13 billion excluding EPF III). With regard to PSERS' existing portfolio (Apollo, Bain Capital Credit, Cerberus Capital Management, and TPG Special Situations Partners), we believe our managers to be more complementary than competitive in their respective approaches. As far as additional competition, EPF believes Lone Star to be among its primary competitors (along with Cerberus) for NPL portfolios, with both firms having strong performance, captive servicers and significant infrastructure for managing NPLs. The EPF team will also encounter several other firms in the process of acquiring certain asset types (i.e., hospitality assets, shipping assets, higher-quality real estate and performing assets). While the competitive landscape is expected to evolve going forward, with select market entrants joining and others leaving, EPF employs a highly experienced team, and possesses the infrastructure and market reputation to continue to differentiate it and make EPF a longstanding partner of choice for selling institutions.



### Team Turnover

Since December 2010, three partners and eight principals have left the EPF team; among them David Abrams, who co-founded EPF and was its managing partner since inception in 2007. While it is not typically desirable to experience this level of senior turnover, the current team is now much deeper (21 investment professionals compared to eight in 2007), with more capacity and experience to execute the Fund's investment strategy. It is also important to note that the current team (including six of the seven partners) has been in place throughout the duration of EPF II and is largely responsible for its investment activities. Fred Khedouri (a partner and named key person for EPF III) has been on the IC since joining the Firm in 2008 and currently serves as chairman of the EPF IC. Lastly, the team is also better integrated within the larger Apollo platform, supported by the leadership of Sanjay Patel, who heads up Apollo's European investment activities and serves as managing partner of EPF.

### Engagement of an Affiliated Fund Servicer (Lapithus)

There are inherent conflicts of interest to consider when fees are paid to related parties. The Fund expects to engage Lapithus, currently owned by EPF II, to service its portfolio investments. Lapithus will be paid a fee for its service commensurate with the fee being paid by EPF II to Lapithus for similar services. While it is possible that such fees may be higher than the fees charged by other loan servicers for similar services, we believe this risk is largely mitigated given Lapithus is managed on a cost basis versus being operated for a profit. Lapithus, originally an EPF I portfolio company and transferred to EPF II (subject to advisory board approval from both funds) is currently 100% owned by EPF II. It is anticipated that Lapithus will eventually be transferred to EPF III during the Fund's investment period at cost plus an 8% preferred return; eliminating the potential for this investment to generate carried interest for Apollo.

### FX Hedging / Currency Management

The Fund may enter into foreign exchange and interest rate swaps, options, and forward purchase and sale contracts and other types of derivative instruments linked to foreign exchange rates and interest rates. Furthermore, EPF will engage in currency hedging in order to attempt to mitigate the currency fluctuation risks resulting from the fact that contributions from and distributions to limited partners of the Dollar Fund A and Dollar Fund B will be denominated in USD while the Fund's investments will generally be made in Euros or another non-dollar currency. Our recommendation is that PSERS commit via the USD-sleeve (Dollar Fund A) which has been set up for investors who do not require blocking that want to make their commitment in USD. As a result, it is anticipated that much of PSERS' currency risk should be mitigated with Apollo hedging both the principal and expected profit of the Fund's underlying investments back to USD.

### Liquidity & Leverage Profile

During the Fund's four-year investment period, Apollo will have the ability to re-invest distributable proceeds. As a result, any investment proceeds will increase PSERS' undrawn commitments (up to the amount of its initial commitment) and will be available for recall. After the expiration of the investment period, the Fund will have up to two years to harvest its investments; subject to extension of up to one year at the discretion of the General Partner, for up to two additional successive one year periods with the consent of the Advisory Board.

Apollo will have the ability to employ leverage at both the fund level and underlying asset level. That said, EPF will only seek to use leverage in investments where the team believes the underlying assets can adequately support the debt financing and does not expect to exceed 60% LTV, which is consistent with EPF II. In addition to deal-level financing and consistent with EPF II, it is anticipated that the Fund will have a subscription line at the fund-level to smooth capital calls and distributions from LPs as well as to potentially help bridge transactions temporarily from close to when permanent term financing is secured. In order to optimize the potential efficiencies from utilizing a fund facility, the EPF team is currently exploring the possibility of securing a larger fund facility for EPF III secured by LP subscriptions. However, the intent is not to increase overall leverage levels, but to use the fund facility in certain instances where being able to close a transaction prior to securing deal-level financing may prove to be an important competitive advantage for the Fund. Overall, the Fund's draft partnership agreement permits the fund to borrow an amount not to exceed 150% of commitments.



**PSERS History & Performance:**

Since 2012, PSERS has committed \$420 million to two Apollo-managed partnerships. PSERS previously committed \$200 million to Apollo European Principal Finance Fund II (Dollar A), L.P. ("EPF II") and \$220 million to Apollo Investment Fund VIII, L.P. ("Fund VIII"). The table below summarizes PSERS' performance as of June 30, 2016:

Fund (\$mm)	Portfolio	Vintage	Commitment	Contributions	Distributions	NAV	Net IRR	MOIC
EPF II	HY	2012	\$ 200.0	\$ 228.5	\$ 99.1	\$ 164.1	9.9%	1.15x
Fund VIII	PD	2013	\$ 220.0	\$ 95.4	\$ 1.8	\$ 101.4	8.6%	1.08x
<b>Total (Apollo)</b>			<b>\$ 420.0</b>	<b>\$ 323.9</b>	<b>\$ 100.9</b>	<b>\$ 265.6</b>	<b>9.6%</b>	<b>1.13x</b>

**Finance Committee Disclosure:**

<b>Relationship with Portfolio Advisors, LLC:</b>	Apollo EPF Fund I Apollo EPF Fund I Apollo EPF Fund II Apollo Investment Fund VI Apollo Investment Fund VII Apollo Investment Fund VIII	PAPEF V: PAPEF VI: PAPEF VII: PAPEF III: PAPEF V: PAPEF VII:	\$15mm \$13mm \$18mm \$15mm \$10mm \$15mm
<b>Introduction Source:</b>	Fund Sponsor		
<b>Placement Agent:</b>	No		
<b>PA Political Contributions:</b>	None Disclosed		
<b>PA Presence:</b>	Yes		
<b>Potential Conflicts:</b>	We are not aware of Apollo having any investment conflicts.		
<b>First Time Fund With PSERS:</b>	No		
<b>PSERS AIC Approval:</b>	September 12, 2016		

**Oversight Responsibility:**

<b>Investment Office:</b>	Charles J. Spiller James F. Del Gaudio	Deputy CIO, Non-Traditional Investments Portfolio Manager
<b>External Consultant:</b>	Portfolio Advisors, LLC	



August 29, 2016

Board of Trustees  
Commonwealth of Pennsylvania  
Public School Employees' Retirement System  
5 North 5<sup>th</sup> Street  
Harrisburg, PA 17101

Re: Apollo European Principal Finance Fund III, L.P.

Dear Trustees:

Apollo Global Management, LLC ("Apollo" or the "Firm") is seeking to raise aggregate capital commitments in the amount of \$3.5 billion for Apollo European Principal Finance Fund III, L.P. (the "Fund" or "EPF III"). Investors can invest either in US Dollar or Euro denominated share classes with currency hedging provided by Apollo. A hard cap has not been established yet. EPF III will continue the investment strategy of the previous funds by purchasing non-core assets from European financial institutions, including portfolios of non-performing loans ("NPLs"), bank repossessed Real Estate ("REO") and other stressed or distressed loans and assets. The General Partner will commit 2.5% of aggregate capital commitments to the Fund. The Fund is targeting a first closing in October 2016 and expects to hold a second closing before year end. The final closing is expected to occur early in 2017.

EPF III will continue the strategy of the two prior funds by acquiring non-core assets from European financial institutions. The European markets have not fully recovered from the impact of the global financial crisis and the European Sovereign Debt crisis. Due to the uncertain economic environment, European banks and insurance companies are struggling to meet increasingly rigorous regulatory requirements and to improve overall profitability. Existing and new regulatory programs such as Basel II and III, Solvency II, the European Council stress tests, and the new minimum Liquidity Coverage Ratio are forcing banks, insurance companies, and other financial institutions to increase the quality of their assets and the liquidity levels on their balance sheets.

Ongoing restructuring efforts have led to a growing volume of non-core assets at European financial institutions. Based on recent market studies by PwC and Oliver Wyman, the current volume of European non-core assets has increased to approximately €2 trillion. This includes the NPL market, which has grown to approximately €1.0 trillion, up from an estimated €400 billion at the launch of EPF I. In addition, there are an additional €1.1 trillion of non-core assets, such as repossessed real estate or shipping assets. The annual volume of disposed non-core assets was approximately €90 billion in 2014 and €140 billion in 2015.

EPF III will seek to achieve attractive risk-adjusted returns by primarily acquiring non-performing and non-core credit-oriented assets from European banks and other financial institutions at discounts to their intrinsic value. Since the launch of EPF I in 2007, Apollo has become a reputable and a preferred partner of



financial institutions in Europe for the structuring of creative solutions for non-core assets. These non-core assets typically include portfolios of NPLs, REOs, distressed real estate and other stressed or distressed loans and assets.

Portfolio Advisors' recommendation is based upon the following analytical factors and is made within the context of Commonwealth of Pennsylvania Public School Employees' Retirement System's ("PSERS") investment guidelines.

- Detailed due diligence, including interviews with industry peers and private equity professionals. The on-site due diligence visit was performed on April 10, 2016.
- Evaluation of the composition of the investment team, how they work together, compensation structure and other factors that help determine whether a group is likely to be able to replicate past successes as currently configured.
- Evaluation of the Fund's proposed investment strategy within the context of the current investment environment.
- The strategy proposed for the Fund is appropriate for the High Yield Fixed Income component of the portfolio.

The individuals at Portfolio Advisors who were primarily involved in the due diligence process for the Fund are:

Peter Schwanitz – Managing Director, Zurich Office

Stephan Fleury – Associate, Zurich Office

Based on the above, Portfolio Advisors recommends that PSERS commit to up to \$200 million in Apollo European Principal Finance Fund III, L.P. Portfolio Advisors makes this recommendation considering the General Partner's qualifications and PSERS' overall investment guidelines.

This recommendation is given solely for the benefit of PSERS and cannot be relied upon by other investors considering an investment in the Fund, since their needs, objectives and circumstances may not be identical to those of PSERS. The scope of this recommendation is limited to the investment merits of the Fund. Portfolio Advisors does not provide legal or other non-investment-related advice.

Sincerely,

WILLIAM J. INDELICATO

MANAGING DIRECTOR