Exhibit 2

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF NEW YORK

In the matter of the application of U.S. BANK NATIONAL ASSOCIATION, WELLS FARGO BANK, NATIONAL ASSOCIATION, WILMINGTON TRUST, NATIONAL ASSOCIATION, WILMINGTON TRUST COMPANY, and CITIBANK, NATIONAL ASSOCIATION (as Trustees, Indenture Trustees, Securities Administrators, Paying Agents, and/or Calculation Agents of Certain Residential Mortgage-Backed Securitization Trusts), Petitioners, For Judicial Instructions under CPLR Article 77 on the Distribution of a Settlement Payment.	Index No.

Affidavit of Glenn Hubbard

April 4, 2018

I. QUALIFICATIONS

1. My name is Glenn Hubbard. I hold the Russell L. Carson Professorship in Finance and Economics in the Graduate School of Business of Columbia University, where I am also the Dean. In addition, I am a Professor of Economics in the Department of Economics of the Faculty of Arts and Sciences. At the National Bureau of Economic Research, I am a research associate in programs on corporate finance, public economics, industrial organization, monetary economics, and economic fluctuations and growth. Prior to joining the Columbia faculty as Professor of Economics and Finance in 1988, I taught in the Department of Economics at Northwestern University. I have also served as Visiting Professor of Business Administration at Harvard Business School, John M. Olin Visiting Professor at the University of Chicago, Visiting Professor and Research Fellow of the Energy and Environmental Policy Center at the John F. Kennedy School of Government, and John M. Olin Fellow at the National Bureau of Economic Research. I hold A.M. and Ph.D. Degrees in economics from Harvard University, and B.A. and B.S. degrees from the University of Central Florida, *summa cum laude*.

2. From 2001 to 2003, I served as Chairman of the President's Council of Economic Advisers; over that time period, I also served as Chairman of the Economic Policy Committee for the Organization for Economic Cooperation and Development (OECD) in Paris. From 1991 to 1993, I served as Deputy Assistant Secretary (Tax Analysis) of the United States Department of Treasury, where I was responsible for economic analysis of tax policy, the administration's revenue estimates, and health care policy issues. I have also been an adviser or consultant to the Board of Governors of the Federal Reserve System, Social Security Administration, Congressional Budget Office, Federal Reserve Bank of New York, Internal Revenue Service, International Trade Commission, National Science Foundation, United States Department of Energy, and United States Department of the Treasury.

3. My professional work has centered on problems in finance, public economics, industrial organization, monetary economics, and natural resource economics. As an economist, I have examined

the evolution and behavior of a wide range of firms and industries. I have authored more than 100 research articles, edited a number of books, and authored leading textbooks on money and financial markets, intermediate macroeconomics, and principles of economics.

4. My *curriculum vitae*, which is attached as **Appendix A**, provides more biographical details and lists my writings. **Appendix B** lists the testimony that I have provided as an expert witness during the past four years.

II. ASSIGNMENT

5. I understand that as part of the settlement of litigation claims against Lehman Brothers related to residential mortgage-backed securities ("RMBS"), three banks that serve as trustee, securities administrator, or paying agent for the specific RMBS trusts at issue (Citibank, US Bank, and Wells Fargo; collectively, the "Trust Administrators") will establish escrow accounts with the settlement proceeds from that litigation and serve as Escrow Agent in relation to those accounts.[1] I understand that the Escrow Agents are to manage the Escrow Accounts with a primary objective of preserving the value of the accounts. In other words, the overriding investment objective of the Escrow Accounts is the safety of the principal (that is, the settlement proceeds). I have been retained by counsel for the three banks serving as Trust Administrators/Escrow Agents to opine on whether the proposed investments the Trust Administrator/Escrow Agents selected are appropriate investments for the Escrow Accounts given the overriding objective of safeguarding principal.[2]

6. In forming my opinion, I have relied on various public documents. **Appendix C** contains a list of the documents I relied upon in preparation of this report.

7. I am being compensated in this matter at my hourly rate of $1,500. Others working under my direction and supervision have assisted me in preparation of this report, and I receive additional

[1] I refer to these accounts collectively as the "Escrow Accounts."
[2] Counsel for the Trust Administrators/Escrow Agents are Alston & Bird LLP, Morgan Lewis & Bockius LLP, Faegre Baker Daniels LLP, Hahn & Hessen LLP, and Mayer Brown LLP.

compensation based on their professional fees associated with my work on this matter. My compensation is not dependent on the nature of my opinions or the potential outcomes of this case.

III. SUMMARY OF CONCLUSIONS

8. Based on my review of information regarding the proposed investment funds and the overriding investment objective of the Escrow Accounts, it is my opinion that the investment fund selections for each of the Trust Administrator/Escrow Agents set forth on **Exhibit 1** of this affidavit represent reasonable vehicles for investing the Escrow Accounts. This conclusion is based on a number of key considerations:

- The risks associated with government money market funds such as the proposed investment funds are minimized given the strong credit quality and liquidity of the underlying investments, which are primarily composed of Treasury bills and notes.
- These funds are also exposed to only limited interest rate risk given the short duration of underlying investments.
- The structure of government money market funds and strong creditworthiness of the underlying assets is designed to maintain a stable net asset value. As a result, these proposed investment funds represent a reasonable investment vehicle for the Escrow Accounts.
- I understand that the Trust Administrator/Escrow Agents will not benefit from their selection of the proposed investment funds. None of them serves as managers or advisors of the respective funds they are proposing, and I understand they will not receive referral fees based on investing in particular funds.

I lay out the basis for my opinion in more detail in the following sections.

IV. KEY RISK FACTORS FOR ASSESSING THE SAFETY OF AN INVESTMENT

9. All investments carry some level of risk given that investors and investment managers cannot predict the future with certainty. It is a well-established principle in finance that there is a positive relation between the level of risk on an investment and the expected return. In other words, the higher the level of risk, the higher the expected return that is necessary to compensate an investor for bearing that risk. In order to evaluate the appropriateness of an investment, it is therefore necessary to consider both the investment objectives of an investor (in this case, the Trust Administrator/Escrow Agents) and the

different types of risks inherent to the underlying investments. For the purposes of evaluating the appropriateness of the Escrow Account investments, there are three main types of risk that are most relevant to the Escrow Agents' investment decisions: credit risk, liquidity risk, and interest-rate risk. I describe each of these risks in more detail below, before addressing the specific proposed investments in **Section V**. Given that the overriding objective of the Escrow Agents is to safeguard the principal of the settlement amounts, appropriate investments will attempt to minimize the exposure of the Escrow Accounts to these risks.

1. Credit Risk

10. Credit risk (also referred to as default risk) is the risk that a bond issuer will fail to make timely payments of interest and/or repay the amount borrowed.[3] If the bond issuer defaults, payments to bondholders may be delayed, negotiated to a reduced amount, or possibly not paid at all, resulting in losses to the investor.[4] Investors must therefore evaluate the credit risk associated with a security by evaluating the creditworthiness of a bond issuer and its ability to make principal and interest payments in a timely manner. One factor that investors may consider in evaluating credit risk is an issuer's or investment's credit rating. Credit rating agencies provide alphabetical letter grades that represent the agency's assessment of the ability of an issuer (for example, a company or government) to meet its financial obligations.[5] More generally, the written assessments of the credit rating agencies can provide valuable information about the factors influencing the rating agencies' opinions about the creditworthiness of an issuer.

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[3] Frank J. Fabozzi. (2000). *Fixed Income Analysis*. New Hope: Frank J. Fabozzi Associates ("Fabozzi"), 45.
[4] "Understanding Bond Risk," Financial Industry Regulatory Authority, available at http://www.finra.org/investors/understanding-bond-risk.
[5] U.S. Securities and Exchange Commission, "Updated Investor Bulletin: The ABCs of Credit Ratings," October 12, 2017, available at https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_creditratings.

2. Liquidity Risk

11. The liquidity of an investment relates to how quickly and at what cost that investment can be sold in the market.[6] Liquidity risk refers to the risk that the investor will have to sell an investment below its fair market value if they wish to sell an asset quickly.[7] An investor may evaluate an investment's liquidity by looking at its bid-ask spread, a common indicator of an investment's liquidity. The bid-ask spread is the difference between the price at which a dealer is willing to sell a security (the "ask" price) and the price at which the dealer is willing to buy the security (the "bid" price). The wider the bid-ask spread, the less liquid the investment.[8]

12. The liquidity of investments can vary significantly over time depending on market conditions. For example, during the financial crisis of 2007-2009, the liquidity of mortgage-backed securities declined as defaults rose on the underlying mortgages and investors became concerned about market transparency, diminishing demand for the securities.[9] This lack of liquidity was exacerbated by investor uncertainty about the value of the securities, as "bids [became] rare for many issues" in what was previously a relatively liquid market.[10] Press articles and research papers indicate the market for non-agency mortgage-backed securities remained relatively illiquid even after the financial crisis.[11]

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[6] John Downes and Jordan Elliot Goodman (2003). *Barron's Finance & Investment Handbook*. New York: Barron's Educational Series, 550.

[7] R. Glenn Hubbard and Anthony Patrick O'Brien. (2018.) *Money, Banking, and the Financial System*. New York: Pearson ("Hubbard and O'Brien"), 148. If the market for a bond is illiquid, there is limited demand to purchase the bond. As a result, a seller likely will have to discount the price of the bond to attract a buyer, resulting in a loss compared to the bond's fair market value.

[8] Fabozzi, 47.

[9] Hubbard and O'Brien, 148.

[10] "Reasonable Valuation of Illiquid Mortgage-Backed Securities," *Value Matters*, Mercer Capital, November 16, 2007, Vol. 2007-11, available at https://mercercapital.com/assets/Mercer-Capital_Value-Matters-2007-11.pdf.

[11] Dan McCrum and Henny Sender, "Investors Give Mortgage Assets a Wide Berth," *Financial Times*, December 20, 2011, available at http://www.ft.com/intl/cms/s/0/c041e6ea-24d9-11e1-8bf9-00144feabdc0.html; James Vickery and Joshua Wright, "TBA Trading and Liquidity in the Agency MBS Market," *FRBNY Economic Policy Review*, May 2013, p. 3.

3. Interest-rate risk

13. Interest-rate risk refers to the risk that the price of a bond will change with market interest rates, as bond prices decline as interest rates rise (and vice versa).[12] Among the considerations affecting the interest-rate risk of a bond are the bond maturity and coupon rate. Interest-rate risk is higher for bonds with longer maturities and/or lower coupon rates, as these bonds tend to be the most price-sensitive to changes in interest rates.[13]

V. EVALUATING THE PROPOSED INVESTMENTS OF THE ESCROW ACCOUNTS

A. Overview of Proposed Investments

14. Each of the Trust Administrator/Escrow Agents has proposed investing their portion of the Escrow Accounts in one or more institutional government money market funds ("MMFs"). These funds are:

- Federated Treasury Obligations Fund
- Federated U.S. Treasury Cash Reserves
- Fidelity Investments Treasury Only Portfolio
- Goldman Sachs Financial Square Treasury Instruments Fund
- Morgan Stanley Treasury Securities Portfolio

I refer to these funds collectively as the "proposed investment funds." **Exhibit 1** provides information about each of the funds, including which Trust Administrators have proposed the fund and each fund's stated principal investment strategies.

[12] Hubbard and O'Brien, 79.
[13] Hubbard and O'Brien, 79.

15. MMFs are short-term investment vehicles that are generally designed to be highly liquid and have a stable value.[14] Rule 2a-7 of the Investment Company Act specifies a variety of restrictions on the type and characteristics of investments in which a MMF can invest. For example, the rule specifies that all investments should have a remaining maturity of 397 days or less and that the dollar-weighted average maturity of the portfolio should be 60 calendar days or less, while also establishing requirements for investment diversification and portfolio liquidity.[15]

16. Government MMFs are a specialized type of MMF that invest in three major types of securities (in addition to cash): (1) U.S. Treasury bills and notes; (2) other U.S. government obligations; and (3) fully collateralized repurchase agreements. Based on Rule 2a-7, a government MMF must: "invest 99.5 percent or more of its total assets in cash, government securities, and/or repurchase agreements that are collateralized fully."[16] I describe briefly each of these investments below.

17. U.S. Treasury bills and notes: U.S. Treasury bills and notes are debt obligations of the U.S. government, and thus are supported by the "full faith and credit" of the U.S. government. Treasury bills (or "T-bills") are shorter-term securities that are issued at maturities of one-year or less; by contrast, Treasury notes and bonds have maturities of between two and 30 years. Because of restrictions on the maturity of investments under Rule 2a-7, MMFs will not invest in Treasury notes until the remaining maturity on those notes is less than 397 days.[17]

18. Other U.S. government obligations: In addition to Treasury securities, some government MMFs also invest in government securities issued by entities that are part of or sponsored by the U.S.

[14] Prior to the financial crisis, MMFs kept stable net asset values of $1 per share, even if there were small day-to-day changes in the underlying value of the assets. During the financial crisis, however, the Reserve Fund, a large, well-known MMF, "broke the buck" (that is, paid investors redeeming their shares less than $1 per share). This departure from past behavior led the SEC to amend Rule 2a-7 to allow only government MMFs and retail MMFs to maintain stable net asset values, effective in 2016. Hubbard and O'Brien, 363-364, 377, Rule 2a-7(28)(c)(1).
[15] Rule 2a-7(d).
[16] Rule 2a-7(a)(14).
[17] The exception to this is floating rate Treasury notes, as the remaining maturity of those notes is considered to be one day. Rule 2a-7(i)(1).

government. These investments can include debt whose repayment is guaranteed by the U.S. Treasury, as well as debt issued by government-sponsored enterprises ("GSEs") such as the Federal Home Loan Bank System or Federal Farm Credit System that does not have an explicit government guarantee.

19. Fully collateralized repurchase agreements: Repurchase agreements (or "repos") are similar to a form of collateralized, short-term borrowing.[18] Repos are structured so that the purchaser in the transaction (in this case, the fund) buys securities subject to an agreement from the seller to repurchase the securities at a specified date and price. In the case of government MMFs, repurchase agreements are permissible investments if they are fully-collateralized.[19] In the event that the seller fails to repurchase the security, then the buyer can use the collateral so that it does not suffer losses as long as the value of the collateral remains greater than the amount of the transaction.

20. In the following sections, I discuss the risks associated with the underlying investments in the proposed funds and the implications for the safety of investments in the funds themselves.

B. Risks Associated with the Investments Underlying the Proposed Funds

21. As noted above, government MMFs can invest in U.S. Treasury bills and notes, other U.S. government obligations, and fully collateralized repurchase agreements. Most of the proposed funds invest entirely in U.S. Treasury bills and notes, although one of the funds also invests in fully collateralized repurchase agreements. In each of the sections below, I first assess the risks associated with US. Treasury bills and notes. I then address any additional risk considerations associated with fully collateralized repurchase agreements.

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[18] Hubbard & O'Brien, 353-354.

[19] Under Rule 2a-7, repurchase agreements are "collateralized fully" if the value of the collateral is always equal to or greater than the agreed-upon repurchase price, the collateral is either cash or U.S. government securities, and several operational requirements are met. See Investment Company Act, §270.2a-7(a)(5) and §270.5b-3. Of the proposed investment funds, the Federated Treasury Obligations Fund had positions in fully collateralized repurchase agreements as of the most recent portfolio holdings reports.

1. Credit Risk

a) Treasury Bills and Notes

22. As I discussed above, credit risk is the risk that a bond issuer will fail to make payments to bond holders. In the context of U.S. Treasury bills and notes, this risk is the risk that the U.S. Treasury will be unable to make scheduled payments of principal and interest to its debtholders. U.S. Treasury securities have long been considered to be an extraordinarily safe investment with effectively no default risk.[20] This is particularly true for U.S. Treasury bills given their short maturities.[21]

23. In recent years, there have been a number of occasions on which the creditworthiness of the U.S. Treasury has been questioned due to political disagreements over required increases in the debt ceiling. By law, Congress must approve increases in the debt ceiling to allow the Treasury to issue additional government debt, which is necessary for the government to repay maturing debt and remain current on its other funding needs.[22]

24. For example, in August 2011, Standard & Poor's ("S&P") downgraded the U.S. credit rating from AAA to AA+ after the United States hit its debt ceiling and came close to default before Congress and the Obama administration reached a deal on fiscal consolidation.[23] The downgrade reflected concerns that the: "effectiveness, stability, and predictability of American policymaking and political institutions have weakened at a time of ongoing fiscal and economic challenges."[24] However, S&P maintained the U.S. short-term credit rating (which is applicable to short-term obligations like Treasury bills) at its highest possible rating category of A-1+.[25] Moody's did not downgrade its U.S. credit rating,

[20] Hubbard and O'Brien, 53.
[21] This also holds true for the Treasury notes in the proposed investments given their limited remaining duration.
[22] Sage Belz and David Wessel, "The Hutchins Center Explains: The debt limit," *The Brookings Institute*, August 3, 2017, available at https://www.brookings.edu/blog/up-front/2017/08/03/the-hutchins-center-explains-the-debt-limit/.
[23] S&P, "Research Update: United States of America Long-Term Rating Lowered To 'AA+' On Political Risks And Rising Debt Burden; Outlook Negative," August 6, 2011 ("S&P (2011)"), available at https://www.standardandpoors.com//en_AP/web/guest/article/-/view/sourceId/6802837.
[24] S&P (2011), "Overview."
[25] S&P (2011). "A-1" is the highest short-term category for S&P ratings, and when designated with a "+" indicates an "extremely strong" capacity to meet financial obligations ("S&P Global Ratings Definitions," available at

although it assigned a negative rating outlook at that time.[26] Even after the S&P rating downgrade, most investors did not appear worried about an increase in the default risk on U.S. Treasury securities.[27]

25. As long as there is a legal requirement for Congress to increase the debt ceiling regularly, there exists the possibility that Congress will fail to act in a timely manner such that the U.S. government becomes unable to meet all of its financial commitments. There is thus a theoretical possibility that the United States could default by failing to pay interest or principal on its Treasury securities in a timely manner. I nonetheless view such a scenario as unlikely, as a default by the United States would have much broader deleterious effects on financial markets and on the U.S. economy. Consistent with this, both S&P and Moody's currently assign the United States a "stable" rating outlook despite ongoing political battles over the debt ceiling. For example, Moody's notes that:

> Moody's view is that the debt ceiling will ultimately be raised and that the US will continue to meet its debt service obligations on time and in full. Should the debt ceiling not be raised by the time extraordinary measures are exhausted, Moody's assumes that interest payments will be prioritized… In the event, however unlikely, that the US were to miss an interest payment, Moody's would consider it a default. Generally, missing an interest payment is not consistent with a Aaa rating and Moody's would most likely downgrade the rating for all treasury bonds, barring extraordinary mitigating circumstances. Even in that event, the rating would most likely remain close to Aaa, reflecting Moody's expectation that any default would be quickly resolved with little if any loss to investors.[28]

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https://www.standardandpoors.com/en_EU/delegate/getPDF?articleId=1824955&type=COMMENTS&subType=REGULATORY).

[26] Moody's, "Moody's confirms U.S.'s Aaa Rating, assigns negative outlook," August 2, 2011, available at https://www.moodys.com/research/Moodys-confirms-US-Aaa-Rating-assigns-negative-outlook--PR_223568.

[27] Hubbard and O'Brien, 141. ("Note that the rating agencies are offering opinions. Investors in financial markets may disagree with these opinions. A difference of opinion was evident in 2011, when S&P cut its rating on long-term U.S. government debt from AAA to AA+ because it believed that if the federal government continued to run large budget deficits, the government's ability to continue to make the interest and principal payments might be affected. However, most investors did not seem any more worried about default risk on U.S. Treasury bonds after S&P lowered its rating than they had been before.")

[28] Moody's, "Moody's answers Frequently Asked Questions about the Debt Ceiling," September 5, 2017, available at https://www.moodys.com/research/Moodys-answers-Frequently-Asked-Questions-about-the-Debt-Ceiling--PR_372173.

b) Fully collateralized repurchase agreements

26. Counterparty credit risk, the risk of default by a fund's trading partner for a repurchase agreement, is the main risk associated with these investments.[29] However, in the case of the proposed investment funds, all repurchase agreements are fully collateralized with Treasury securities; the vast majority of these repurchase agreements also are of very short duration.[30] High quality collateral such as Treasury securities maximizes "certainty about [the collateral's] value and ease of liquidation in the event of a default."[31] The credit risk associated with these agreements is thus minimized given the use of high quality collateral and the short duration of the agreements.

2. Liquidity Risk

27. Overall, the market for U.S. Treasury securities is "the deepest and most liquid government securities market in the world."[32] Within the market for Treasury securities, the market for U.S. Treasury bills is "substantially more liquid than the market for notes… the differences in liquidity are evidenced by the differences in the bid-ask spread, the brokerage fees, and the standard size of a transaction."[33] Given the high level of liquidity in the Treasury debt market in general, and more specifically in the market for Treasury bills, liquidity risk for the Treasury securities held by the proposed investment funds is low. Given the overnight nature of most of the repurchase agreements, these investments also can be considered highly liquid.

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[29] International Capital Market Association ("ICMA"), "Frequently Asked Questions about Repo: Is repo riskless?," ("ICMA FAQ") available at https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/repo-and-collateral-markets/icma-ercc-publications/frequently-asked-questions-on-repo/15-is-repo-riskless/.
[30] Based on a review of the most recent portfolio holdings for the fund with repurchase agreements, approximately three-quarters of outstanding repurchase agreements were overnight, while 80 percent matured in one week or less.
[31] ICMA FAQ.
[32] James Clark and Gabriel Mann, "A Deeper Look at Liquidity Conditions in the Treasury Market," Treasury Notes, U.S. Department of the Treasury, May 6, 2016, available at https://www.treasury.gov/connect/blog/Pages/A-Deeper-Look-at-Liquidity-Conditions-in-the-Treasury-Market.aspx.
[33] Yakov Amihud and Haim Mendelson, "Liquidity, Maturity, and the Yields on U.S. Treasury Securities," *The Journal of Finance*, 1991, 46(4): 1411-1425 ("The typical bid-ask spread on bills is on the order of 1/128 of a point compared with 1/32 on notes (both per $100 face value)").

3. Interest-rate risk

28. Although the credit risk and liquidity risk associated with Treasury securities are low, investors do face interest-rate risk.[34] As I discussed above, a security's interest-rate risk is related to its maturity and coupon rate. A common way to evaluate a security's interest-rate risk is to consider its duration.[35] Because interest-rate risk increases with duration and Treasury bills and notes have a short duration, they have limited exposure to interest-rate risk. Some of the funds invest in floating rate Treasury notes, whose interest rates periodically adjust to changes in market interest rates. The adjustable rates further limit these investments' interest-rate risk.

C. Risks Associated with the Proposed Government Money Market Funds

29. In addition to assessing the risks of the underlying holdings of the proposed investment funds, it is also important to consider whether government MMFs are an appropriate investment vehicle given the Escrow Accounts' investment objectives. From this perspective, there are two key factors to consider: first, whether the proposed investment funds are likely to safeguard the value of the Escrow Accounts' principal; and second, whether the funds will have adequate liquidity to meet demands for withdrawal from the Escrow Accounts.

1. Safeguarding of Principal

30. Given that government MMFs maintain a stable $1 net asset value, they should by definition be able to maintain the value of the funds' principal as long as they are not forced to "break the buck." Given the strong credit quality of the underlying assets of the funds, as well as the requirements the funds must meet under Rule 2a-7, they are clearly designed so that such an event does not occur. From that perspective, I am not aware of a class of alternative investment vehicles that would be more likely to safeguard the value of the Escrow Accounts' principal than government MMFs.

[34] Hubbard and O'Brien, 54.
[35] Fabozzi, 116.

2. Meeting Escrow Account Liquidity Needs

31. Government MMFs also appear to be an appropriate investment vehicle from the standpoint of their ability to meet the liquidity needs of the Escrow Accounts. This conclusion is based on two factors: first, the highly liquid nature of the underlying holdings of the proposed investment funds; and second, the fact that all of the proposed funds have chosen not to incorporate gates or redemption fees that might limit the ability of the Escrow Accounts to make withdrawals from the funds. While government MMFs are allowed to adopt gates and fees, the SEC indicates that at least sixty days written notice should be given to fund investors in advance of such a change in fund policy.[36] This notice would provide the Trust Administrator/Escrow Agents with sufficient time to find an alternative investment vehicle if a proposed investment fund was no longer considered to meet the Escrow Accounts' investment objectives.

VI. THE TRUST ADMINISTRATOR/ESCROW AGENTS WILL NOT BENEFIT FROM THE INVESTMENT OF THE ESCROW ACCOUNTS IN THEIR PROPOSED INVESTMENTS

32. I understand that the Escrow Agents will not benefit from placing the Escrow Accounts in the proposed investment funds. None of the Escrow Agents will receive any fees, interest, or other monetary benefit under the Proposed Escrow Agreements.

A. Trust Administrator/Escrow Agents Do Not Manage and Are Not Otherwise Affiliated with the Proposed Investment Funds

33. Based on a review of each proposed investment funds' Statement of Additional Information, none of the Trust Administrator/Escrow Agents are managers or advisors of any of the proposed investment funds. While some of the funds do have outstanding repurchase agreements with affiliates of some Trust Administrator/Escrow Agents, such trading transactions should not pose a conflict

[36] U.S. Securities and Exchange Commission, "Money Market Reform; Amendments to Form PF," Final Rule, October 14, 2014, footnote 630, available at https://www.sec.gov/rules/final/2014/33-9616.pdf.

of interest for the Trust Administrator/Escrow Agents or result in the Trust Administrator/Escrow Agents receiving inappropriate compensation from the proposed investment funds. The managers of each investment fund have a fiduciary duty to the investors of their funds, so entering into any non-market transaction designed to benefit a Trust Administrator/Escrow Agent would be a clear violation of that fiduciary duty.

B. Trust Administrator/Escrow Agents Will Not Receive Referral Fees for Investing the Escrow Accounts in the Proposed Investment Funds

34. Counsel has also informed me that none of the Trust Administrator/Escrow Agents will receive referral fees for investing the Escrow Accounts in the proposed investment funds. As a result, I understand that the Trust Administrator/Escrow Agents will not benefit from the selection of particular investment funds.

R. Glenn Hubbard

R. Glenn Hubbard
April 4, 2018

Appendices A-C

Privileged and Confidential

APPENDIX A

ROBERT GLENN HUBBARD

Curriculum Vitae

PERSONAL DATA

Born: In Orlando, Florida.
Marital Status: Married, two children.

FIELDS OF SPECIALIZATION

Public Economics, Corporate Finance and Financial Institutions, Macroeconomics, Industrial Organization, Natural Resource Economics, Public Policy.

EDUCATION

Ph.D., Economics, Harvard University, May 1983.
Dissertation: *Three Essays on Government Debt and Asset Markets*, supervised by Benjamin M. Friedman, Jerry A. Hausman, and Martin S. Feldstein.

A.M., Economics, Harvard University, May 1981.

B.A., B.S., Economics, University of Central Florida, June 1979, *summa cum laude*.

HONORS AND AWARDS

Distinguished Eagle Scout Award, National Boy Scouts of America, November 2017.

Visionary Award, Council for Economic Education, 2016.

Silver Beaver Award, Boy Scouts of America, 2014.

Medal of Honor, Foreign Policy Association, 2014.

Homer Jones Lecture, Federal Reserve Bank of St. Louis, 2013.

Fiftieth Anniversary Award of Scholarship, University of Central Florida, 2013.

Franklin Delano Roosevelt Distinguished Service Award, Greater New York Council, Boy Scouts of America, 2012.

Bloomberg Markets, 50 Most Influential Members of the Global Financial Community, 2012.

National Association of Corporate Directors, Directorship 100: People to Watch, 2011.

Joint American Economic Association/American Finance Association Distinguished Speaker, 2008.

Cairncross Lecture, University of Oxford, 2007.

Fellow of the National Association of Business Economists, 2005.

William F. Butler Memorial Award, New York Association of Business Economists Award, 2005.

Exceptional Service Award, The White House, 2002.

Michelle Akers Award for Distinguished Service, University of Central Florida, 2001.

Alumni Hall of Fame, University of Central Florida, 2000.

Best Paper Award for Corporate Finance, Western Finance Association, 1998.

Exceptional Service Award, U.S. Department of the Treasury, 1992.

Distinguished Alumnus Award, University of Central Florida, 1991.

John M. Olin Fellowship, National Bureau of Economic Research, 1987-1988.

Teaching Commendations, Graduate School of Business, Columbia University.

Northwestern University Associated Student Government Teaching Awards, announced in 1985, 1986, and 1987.

Graduate Distinctions: National Science Foundation Fellowship, Alfred P. Sloan Foundation Fellowship.

Undergraduate Distinctions: National Merit Scholarship, National Society of Professional Engineers Award, Florida Society of Professional Engineers Award, National Council of Teachers of English Award, Omicron Delta Kappa, Financial Management Association Honor Society.

POSITIONS HELD

2004-present	Dean, Graduate School of Business, Columbia University
1994-present	Russell L. Carson Professor of Economics and Finance, Graduate School of Business, Columbia University
1997-present	Professor of Economics, Faculty of Arts and Sciences, Columbia University
2017-present	Co-Chair, Aspen Institute Future of Work Initiative National Advisory Council
2017-present	Member, Aspen Institute Economic Strategy Group
2007-2017	Panel of Economic Advisors, Federal Reserve Bank of New York (also 1993-2001)
2003-2012	Featured commentator, *Nightly Business Report*
2003-2010	Featured commentator, *Marketplace*
2003-2007	Visiting Scholar American Enterprise Institute (also 1995-2001)
1999-2004	Co-Director, Columbia Business School Entrepreneurship Program
2004-2005	Viewpoint Columnist, *Business Week*
2004-2006	Member, Panel of Economic Advisors, Congressional Budget Office
2001-2003	Chairman, President's Council of Economic Advisers
2001-2003	Chairman, Economic Policy Committee, Organization for Economic Cooperation and Development
2001-2003	Member, White House National Economic Council and National Security Council
2001-2003	Member, President's Council on Science and Technology
1997-1998	Visiting Professor of Business Administration, Harvard Business School
1995-2001	Visiting Scholar and Director of Tax Policy Program, American Enterprise Institute
1994-1997	Senior Vice Dean, Graduate School of Business, Columbia University
1994	MCI Fellow, American Council for Capital Formation
1994	John M. Olin Visiting Professor, Center for the Study of Economy and the State, University of Chicago
1991-1993	Deputy Assistant Secretary (Tax Analysis), U.S. Department of the Treasury
1988-present	Professor of Economics and Finance, Graduate School of Business, Columbia University
1987-1988	John M. Olin Fellow in residence at the National Bureau of Economic Research
1983-1988	Assistant Professor of Economics, Northwestern University, with half-time research appointment in the Center for Urban Affairs and Policy Research
1985	Visiting Scholar, Center for Business and Government, John F. Kennedy School of Government, Harvard University

1981-1983	Teaching Fellow (Department of Economics) and Resident Tutor in Economics (Dunster House), Harvard University

Privileged and Confidential

DIRECTORSHIPS

2007-present	Met Life (Lead independent director)
2006-2008	Capmark Financial Corporation; Information Services Group
2004-present	ADP, Inc.; BlackRock Closed-End Funds
2004-2014	KKR Financial Corporation (Lead independent director)
2004-2008	Duke Realty Corporation
2004-2006	Dex Media/R.H. Donnelley
2003-2005	ITU Ventures
2000-2001	Angel Society, LLC; Information Technology University, LLC

CONSULTING OR ADVISORY RELATIONSHIPS

2016-present	55 Capital
2014-present	Fiscal Note
2007-present	Consulting or Speaking Engagements at Some Point: U.S. Department of Justice, Internal Revenue Service, Abbott, Access Midstream, Airgas, AlixPartners, Alternative Investment Group, Amazon, American Century, America's Health Insurance Plans, ApexBrasil, Association for Corporate Growth, Atlantic Point, Bank of America, Bank of New York Mellon, Barclays Services Corporation, BBVA Compass, BGC, BNP Paribas, Brevan Howard, Calamos, Capital Research, Carlyle Group, Citigroup, Commonfund, Compagnie Financiere Tradition, ComScore, Credit Suisse, Dell, Deutsche Bank, Donald Fewer, FactSet, Fidelity, Franklin Resources, Freddie Mac, Gartner, Goldman Sachs, Good, Government of Greece, Sue Ann Hamm, The Hartford, Intel, Investcorp, JP Morgan Chase, Key Bank, Kosmos, Macquarie, Microsoft, Morgan Stanley, Mylan, NAREIT, National Rural Utilities Cooperative Finance Corporation, New York Bankers Association, NMS Group, Nationwide, Ocwen, Oracle, Patriarch, Pension Real Estate Association, Pershing Square, PNC, Principal Management Corporation, Prium, Promontory, Rabobank, Real Estate Roundtable, Related Properties, Reynolds American, Royal Bank of Canada, Royal Bank of Scotland, Rural/Metro, SIG, Solera, SunTrust, Telia Sonera, Trust Company of the West, Tullett Prebon, Visa, Walter Energy, William Walters, Wells Fargo
2005-2009	Arcapita
2005-2010	Nomura Holdings America
2008	Laurus Funds
2005-2008	Chart Venture Partners
2003-2009	Ripplewood Holdings

POSTS IN NON-PROFIT ORGANIZATIONS

2006-present	Co-Chair, Committee on Capital Markets Regulation
2004-present	Member, Advisory Board, National Center on Addiction and Substance Abuse
2003-present	Member, Manhattan District Council Board, Boy Scouts of America
2017-present	Trustee, Fifth Avenue Presbyterian Church, New York
2012-2015	Trustee, Fifth Avenue Presbyterian Church, New York
2010-2011	Co-Chair, The Study Group on Corporate Boards
2008-2011	Elder, Fifth Avenue Presbyterian Church
2008-2010	Chairman, Economic Club of New York
2006-2008	Member, Board of Directors, Resources for the Future
2003-2008	Trustee, Tax Foundation
2004-2010	Trustee, Economic Club of New York
2004-2007	Trustee, Fifth Avenue Presbyterian Church, New York

PROFESSIONAL ACTIVITIES

1987-present	Research Associate, National Bureau of Economic Research (Monetary Economics, Corporate Finance, Public Economics, Economic Fluctuations, Industrial Organization)
2007-present	Life Member, Council on Foreign Relations
2017-present	Member, U.S.-China Economic and Security Review Commission
2003	Member, Committee of Visitors, National Science Foundation
2000	Panelist, Graduate Fellowship Selection Committee, National Science Foundation
1999-2001	Director, Project on Nonprofit Organizations, National Bureau of Economic Research
1997-2001	Member, COSSA-Liaison Committee, American Economic Association
1993-2001	Board of Advisors, Institutional Investor Project, School of Law, Columbia University
1995-1999	Member, Board of Academic Consultants, American Law Institute
1997	Member, Grants Panel for Integrative Graduate Education and Research Training Program, National Science Foundation
1994-1996	Member, Economics Grants Panel, National Science Foundation
1993-1996	Member, Federal Taxation and Finance Committee, National Tax Association
1990-1995	Co-organized research program on International Aspects of Taxation at the National Bureau of Economic Research, Cambridge, Massachusetts
1995	Member, Program Committee, American Economic Association Meeting
1983-1987	Faculty Research Fellow, National Bureau of Economic Research
1983-1986	Adjunct Faculty Research Fellow, Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, Cambridge, Massachusetts
1986, 1988, 1994	Member of the Brookings Panel on Economic Activity
1985, 1987	Special guest of the Brookings Panel on Economic Activity
1990-1991	Organized research program on Environmental Economics and Public Policy at the National Bureau of Economic Research, Cambridge, Massachusetts
1988-1990	Co-organized research program on Dynamic Models of Firms and Industries at the National Bureau of Economic Research, Cambridge, Massachusetts
1985-1989	Organized research program and workshops on contracting in financial markets at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts
1988	Organized Economic Fluctuations program on Industrial Economics and Macroeconomics, National Bureau of Economic Research, Stanford, California
1986-1988	Organized research program and workshop on links between macroeconomics and industrial organization at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts
1991	Member, Program Committee, Econometric Society Winter Meetings

1982-1983	Member, Energy Modeling Forum VII Study Group, Stanford University, Stanford, California
1981-present	Consultant on research projects with private corporations and government and international agencies, including the Internal Revenue Service, Social Security Administration, U.S. Department of Energy, U.S. Department of State, U.S. Department of Treasury, and U.S. International Trade Commission; National Science Foundation; The World Bank; Board of Governors of the Federal Reserve System; Federal Reserve Bank of New York; Congressional Budget Office
Member:	American Economic Association, American Finance Association, Association for Public Policy and Management, Econometric Society, International Association of Energy Economists, National Tax Association, the Royal Economic Society, and the Institute for Management Science
Referee:	*American Economic Review; Canadian Journal of Economics; Columbia Journal of World Business; Econometrica; Economic Journal; Energy Economics; Energy Journal; International Finance; International Tax and Public Finance; Journal of Business; Journal of Business and Economic Statistics; Journal of Economic History; Journal of Economic Literature; Journal of Finance; Journal of Financial Economics; Journal of Financial Intermediation; Journal of Financial and Quantitative Analysis, Journal of Financial Services Research; Journal of Industrial Economics; Journal of International Money and Finance; Journal of Law and Economics; Journal of Macroeconomics; Journal of Money, Credit, and Banking; Journal of Monetary Economics; Journal of Political Economy; Journal of Public Economics; Journal of Regulatory Economics; Journal of Small Business Finance; Management Science; National Tax Journal; Quarterly Journal of Economics; Quarterly Review of Economics and Finance; RAND Journal of Economics; Review of Economic Dynamics; Review of Economic Studies; Review of Economics and Statistics; Review of Financial Economics; Scandinavian Journal of Economics; Southern Economic Journal; National Science Foundation*; C.V. Starr Center for Applied Economics (New York University); Addison-Wesley Publishing Company; Ballinger Press; Cambridge University Press; Harvard Business School Press; MIT Press; W.W. Norton; Oxford University Press
Associate Editor:	*Journal of Applied Corporate Finance*
Former Associate Editor:	*Federal Reserve Bank of New York Economic Policy Review; International Finance*; *International Tax and Public Finance; Journal of Industrial Economics; Journal of Macroeconomics; Journal of Small Business Finance; National Tax Journal*

PUBLICATIONS AND PAPERS

Edited Volumes

Transition Costs of Fundamental Tax Reform (with K.A. Hassett), Washington, DC: AEI Press, 2001.

Inequality and Tax Policy (with K.A. Hassett), Washington, DC: AEI Press, 2001.

Effects of Taxation on Multinational Corporations (with M. Feldstein and J.R. Hines), Chicago: University of Chicago Press, 1995.

Taxing Multinational Corporations (with M. Feldstein and J. R. Hines), Chicago: University of Chicago Press, 1995.

Studies in International Taxation (with A. Giovannini and J. B. Slemrod), Chicago: University of Chicago Press, 1993.

Financial Markets and Financial Crises, Chicago: University of Chicago Press, 1991.

Asymmetric Information, Corporate Finance, and Investment, Chicago: University of Chicago Press, 1990.

Books

Balance (with T. Kane), Simon and Schuster, 2013.

Healthy, Wealthy, and Wise (with J.F. Cogan and D.P. Kessler), Hoover Institution Press and AEI Press, 1st ed., 2005; 2nd ed., 2011.

Seeds of Destruction (with P. Navarro), FT Publishing, 2010.

The Mutual Fund Industry: Competition and Investor Welfare (with M.F. Koehn, S.I. Ornstein, M. Van Audenrode, and J. Royer), New York: Columbia Business School Publishing, 2010.

The Aid Trap: Hard Truths About Ending Poverty (with W. Duggan), Columbia Business School Publishing, 2009.

Textbooks

Principles of Economics (with A.P. O'Brien), Pearson Prentice Hall, 1st ed., 2006; 2nd ed., 2008; 3rd ed., 2010; 4th ed., 2013; 5th ed., 2015; 6th ed., 2017; 7th ed., 2019.

Money, Banking, and the Financial System (with A.P. O'Brien), Pearson Prentice Hall, 1st ed., 2012; 2nd ed., 2013.

Macroeconomics (with A.P. O'Brien and M. Rafferty), Pearson Prentice Hall, 1st ed., 2012; 2nd ed., 2014; 3rd ed., 2018.

Money, the Financial System, and the Economy, Reading: Addison-Wesley Publishing Company, 1st ed., 1994; 2nd ed., 1997; 3rd ed., 2000; 4th ed., 2002; 5th ed., 2004; 6th ed., 2007.

Publications

Articles

"Establishing Credible Rules for Fed Emergency Lending" (with C. Calomiris, D. Holtz-Eakin, A.H. Meltzer, and H.S. Scott), *Journal of Financial Economic Policy* 8 (2017): 260-267.

"The Response of Deferred Executive Compensation to Changes in Tax Rates" (with A. Gorry, K.A. Hassett, and A. Mathur), *Journal of Public Economics* 151 (2017): 28-40.

"Country Characteristics and the Incidence of Capital Income Taxation on Wages: An Empirical Assessment" (with C. Azemar), *Canadian Journal of Economics* 48 (2015): 1762-1802.

"Taxing Capital's Gains: Capital's Ideas and Tax Policy in the Twenty-First Century", *National Tax Journal*, 68 (2015): 409-424.

Reforming the Tax Preference for Employer Health Insurance" (with J. Bankman, J.F. Cogan, and D.P. Kessler), *Tax Policy and the Economy*, volume 26, Cambridge, University of Chicago Press, 2012.

"The Effect of Tax Preferences on Health Spending" (with J.F. Cogan and D.P. Kessler), *National Tax Journal*, 64 (2011): 795-816.

"The Effect of Medicare Coverage for the Disabled on the Market for Private Insurance" (with J.F. Cogan and D.P. Kessler), *Journal of Health Economics* 29 (2010): 418-428.

"The Effect of Massachusetts' Health Reform on Employer-Sponsored Insurance Premiums" (with J.F. Cogan and D.P. Kessler), *Forum for Health Economics and Policy*, 2010.

"The Mortgage Market Meltdown and House Prices" (with C. Mayer), *The B.E. Journal of Economic Analysis & Policy* 9: Issue 3 (Symposium), Article 8 (2009).

"Competition in the Mutual Fund Industry: Evidence and Implications for Policy" (with J. Coates), *Journal of Corporation Law*, 33 (Fall 2007).

"Evaluating Effects of Tax Preferences on Health Care Spending and Federal Revenues" (with J.F. Cogan and D.P. Kessler), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 21, Cambridge: MIT Press, 2007.

"To Bundle or Not to Bundle: Firms' Choices Under Pure Building" (with A. Saha and J. Lee), *International Journal of the Economics of Business* 14 (2007): 59-83.

"The Economic Effects of Federal Participation in Terrorism Risk" (with B. Deal and P. Hess), Risk Management and Insurance Review 8 (2005): 177-209.

"The Effects of Progressive Income Taxation on Job Turnover" (with W.M. Gentry), *Journal of Public Economics* 88 (September 2004): 2301-2322.

"Business, Knowledge, and Global Growth", *Capitalism and Society*, 1 (2006).

"Precautionary Savings and the Governance of Nonprofit Organizations" (with R. Fisman), *Journal of Public Economics*, 2005.

"Government Debt and Interest Rates" (with E. Engen), in M. Gertler and K. Rogoff, *NBER Macroeconomics Annual 2004*, Cambridge: MIT Press, 2005.

"Entrepreneurship and Household Saving" (with W.M. Gentry), *Advances in Economic Analysis and Policy*, 4 (2004).

"Taxing Multinationals" (with M. Devereux), *International Taxation and Public Finance* 10(2003):469-487.

"The Effect of the Tax Reform Act of 1986 on the Location of Assets in Financial Services Firms" (with R. Altshuler), *Journal of Public Economics* 87 (January 2003):109-127.

"The Role of Nonprofit Endowments" (with R. Fisman), in E. Glaeser, ed., *The Governance of Not-For-Profit Organizations*, Chicago: University of Chicago Press, 2003.

"Are There Bank Effects in Borrowers' Costs of Funds?: Evidence from a Matched Sample of Borrowers and Banks" (with K.N. Kuttner and D.N. Palia), *Journal of Business* 75 (October 2002): 559-581.

"The Share Price Effects of Dividend Taxes and Tax Imputation Credits" (with T.S. Harris and D. Kemsley), *Journal of Public Economics* 79 (March 2001): 569-596.

"Tax Policy and Entrepreneurial Entry" (with W.M. Gentry), *American Economic Review* 90 (May 2000).: 283-287.

"Understanding the Determinants of Managerial Ownership and the Link Between Ownership and Performance" (with C.P. Himmelberg and D. Palia), *Journal of Financial Economics* 53 (1999): 353-384.

"A Reexamination of the Conglomerate Merger Wave in the 1960s" (with D. Palia), *Journal of Finance* 54 (June 1999): 1131-1152.

"Inflation and the User Cost of Capital: Does Inflation Still Matter?" (with D. Cohen and K.A. Hassett), in M. Feldstein, ed., *The Costs and Benefits of Achieving Price Stability*, Chicago: University of Chicago Press, 1999.

"Are Investment Incentives Blunted by Changes in Prices of Capital Goods?: International Evidence" (with K.A. Hassett), *International Finance* 1 (October 1998): 103-125.

"Capital-Market Imperfections and Investment," *Journal of Economic Literature* 36 (March 1998): 193-225.

"Fundamental Tax Reform and Corporate Financial Policy" (with W.M. Gentry), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 12, Cambridge: MIT Press, 1998.

"Distributional Implications of Introducing a Broad-Based Consumption Tax" (with W.M. Gentry), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 11, Cambridge: MIT Press, 1997.

"How Different Are Income and Consumption Taxes?," *American Economic Review* 87 (May 1997): 138-142.

"Tax Policy and Investment," (with K.A. Hassett), in A.J. Auerbach, ed., *Fiscal Policy: Lessons from Economic Research*, Cambridge: MIT Press, 1997.

"Assessing the Effectiveness of Saving Incentives" (with J. Skinner), *Journal of Economic Perspectives* 10 (Fall 1996): 73-90.

"The Political Economy of Branching Restrictions and Deposit Insurance: A Model of Monopolistic Competition Among Small and Large Banks" (with N. Economides and D. Palia), *Journal of Law and Economics* 39 (October 1996): 667-704.

"Tax Reforms and Investment: A Cross-Country Comparison" (with J.G. Cummins and K.A. Hassett), *Journal of Public Economics* 62 (1996): 237-273.

"Benefits of Control, Managerial Ownership, and the Stock Returns of Acquiring Firms" (with D. Palia), *RAND Journal of Economics* 26 (Winter 1995): 782-792.

"Executive Pay and Performance: Evidence from the U.S. Banking Industry" (with D. Palia), *Journal of Financial Economics* 39 (1995): 105-130.

"Tax Policy, Internal Finance, and Investment: Evidence from the Undistributed Profits Tax of 1936-1937" (with C. Calomiris), *Journal of Business* 68 (October 1995): 443-482.

"A Reconsideration of Investment Behavior Using Tax Reforms as Natural Experiments" (with J.G. Cummins and K.A. Hassett), *Brookings Papers on Economic Activity* (1994:2): 1-59.

"Precautionary Saving and Social Insurance" (with J. Skinner and S. Zeldes), *Journal of Political Economy* 105 (April 1995): 360-399.

"Expanding the Life-Cycle Model: Precautionary Saving and Public Policy" (with J. Skinner and S. Zeldes), *American Economic Review* 84 (May 1994): 174-179.

"The Tax Sensitivity of Foreign Direct Investment: Evidence from Firm-Level Panel Data" (with J. Cummins), in M. Feldstein, J.R. Hines, and R.G. Hubbard, eds., *Effects of Taxation on Multinational Corporations*, Chicago: University of Chicago Press, 1995.

"International Adjustment Under the Classical Gold Standard: Evidence for the U.S. and Britain, 1879- 1914" (with C. Calomiris), in T. Bauoumi, B. Eichengreen, and M. Taylor, eds., *Modern Perspectives on the Gold Standard*, Cambridge: Cambridge University Press, 1995.

"Internal Finance and Firm-Level Investment" (with A. Kashyap and T. Whited), *Journal of Money, Credit, and Banking* 27 (August 1995): 683-701.

"Do Tax Reforms Affect Investment?" (with J.G. Cummins and K.A. Hassett), in J.M. Poterba, ed., *Tax Policy and the Economy*, vol. 9, Cambridge: MIT Press, 1995.

"The Importance of Precautionary Motives for Explaining Individual and Aggregate Saving" (with J. Skinner and S. Zeldes), *Carnegie-Rochester Conference Series on Public Policy* 40 (June 1994): 59-126.

"Corporate Financial Policy, Taxation, and Macroeconomic Risk" (with M. Gertler), *RAND Journal of Economics* 24 (Summer 1993): 286-303.

"Internal Net Worth and the Investment Process: An Application to U.S. Agriculture" (with A. Kashyap), *Journal of Political Economy* 100 (June 1992): 506-534.

"Long-Term Contracting and Multiple-Price Systems" (with R. Weiner), *Journal of Business* 65 (April 1992): 177-198.

"Efficient Contracting and Market Power: Evidence from the U.S. Natural Gas Industry" (with R. Weiner), *Journal of Law and Economics* 34 (April 1991): 25-67.

"Interest Rate Differentials, Credit Constraints, and Investment Fluctuations" (with M. Gertler and A. Kashyap), in R.G. Hubbard, ed., *Financial Markets and Financial Crises*, Chicago: University of Chicago Press, 1991.

"Taxation, Corporate Capital Structure, and Financial Distress" (with M. Gertler), in L.H. Summers, ed., *Tax Policy and the Economy*, volume 4, Cambridge: MIT Press, 1990.

"Firm Heterogeneity, Internal Finance, and Credit Rationing" (with C. Calomiris), *Economic Journal* 100 (March 1990): 90-104.

"Coming Home to America: Dividend Repatriations in U.S. Multinationals" (with J. Hines), in A. Razin and J.B. Slemrod, eds., *Taxation in the Global Economy*, Chicago: University of Chicago Press, 1990.

"Price Flexibility, Credit Availability, and Economic Fluctuations: Evidence from the U.S., 1894-1909" (with C. Calomiris), *Quarterly Journal of Economics* 104 (August 1989): 429-452.

"Financial Factors in Business Fluctuations" (with M. Gertler), in Federal Reserve Bank of Kansas City, *Financial Market Volatility--Causes, Consequences, and Policy Responses*, 1989.

"Contracting and Price Adjustment in Commodity Markets: Evidence from Copper and Oil" (with R. Weiner), *Review of Economics and Statistics* 71 (February 1989): 80-89.

"Financing Constraints and Corporate Investment" (with S. Fazzari and B.C. Petersen), *Brookings Papers on Economic Activity*, 1988:1: 141-195; Reprinted in Z.J. Acs, ed., *Small Firms and Economic Growth*, Cheltenham, U.K.: Edward Elgar Publishing Ltd., 1995.

"Investment, Financing Decisions, and Tax Policy" (with S. Fazzari and B.C. Petersen), *American Economic Review* 78 (May 1988): 200-205.

"Market Structure and Cyclical Fluctuations in U.S. Manufacturing" (with I. Domowitz and B.C. Petersen), *Review of Economics and Statistics* 70 (February 1988): 55-66.

"Capital Market Imperfections and Tax Policy Analysis in the Life-Cycle Model" (with K. Judd), Annales d' *Economie et de Statistique* 9 (January-March 1988): 111-139.

"Social Security and Individual Welfare: Precautionary Saving, Borrowing Constraints, and the Payroll Tax" (with K. Judd), *American Economic Review* 77 (September 1987): 630-646.

"Oligopoly Supergames: Some Empirical Evidence on Prices and Margins" (with I. Domowitz and B.C. Petersen), *Journal of Industrial Economics* 36 (June 1987): 379-398.

"Uncertain Lifetimes, Pensions, and Individual Saving," in Zvi Bodie, John B. Shoven, and David A. Wise (eds.), *Issues in Pension Economics,* Chicago: University of Chicago Press, 1987, pp. 175-205.

"The Farm Debt Crisis and Public Policy" (with C. Calomiris and J. Stock), *Brookings Papers on Economic Activity*, 1986:2: 441-479.

"Liquidity Constraints, Fiscal Policy, and Consumption" (with K. Judd), *Brookings Papers on Economic Activity*, 1986:1: 1-50.

"The Intertemporal Stability of the Concentration-Margins Relationship" (with I. Domowitz and B.C. Petersen), *Journal of Industrial Economics* 35 (September 1986): 13-34.

"Pension Wealth and Individual Saving: Some New Evidence," *Journal of Money, Credit, and Banking* 18 (May 1986): 167-178.

"Supply Shocks and Price Adjustment in the World Oil Market," *Quarterly Journal of Economics* 101 (February 1986): 85-102.

"Regulation and Long-Term Contracts in U.S. Natural Gas Markets" (with R. Weiner), *Journal of Industrial Economics* 35 (September 1986): 51-71.

"Business Cycles and the Relationship Between Concentration and Price-Cost Margins" (with I. Domowitz and B.C. Petersen), *RAND Journal of Economics* 17 (Spring 1986): 1-17.

"Inventory Optimization in the U.S. Petroleum Industry: Empirical Analysis and Implications for Energy Emergency Policy" (with R. Weiner), *Management Science 32* (July 1986): 773-790.

"Social Security, Liquidity Constraints, and Pre-Retirement Consumption," *Southern Economic Journal* 51 (October 1985): 471-484.

"Personal Taxation, Pension Wealth, and Portfolio Composition," *Review of Economics and Statistics* 67 (February 1985): 53-60.

"Industry Margins and the Business Cycle: Some New Microeconomic Evidence" (with I. Domowitz and B.C. Petersen), *Economics Letters* 19 (1985): 73-77.

"Oil Supply Shocks and International Policy Coordination" (with R. Weiner), *European Economic Review* 30 (February 1986): 91-106.

"Do IRAs and Keoghs Increase Saving?," *National Tax Journal* 37 (March 1984): 43-54.

The Financial Impacts of Social Security: A Study of Effects on Household Wealth Accumulation and Allocation, in Monograph Series in Finance and Economics, New York University, 1983.

Writings on Public Policy

"Supporting Work, Inclusion, and Mass Prosperity," in M. Strain ed., *The U.S. Labor Market: Questions and Challenges for Public Policy.* Washington, DC: AEI Press, 2016.

"Financial Regulatory Reform: A Progress Report," Federal Reserve Bank of St. Louis *Review* (May/June 2013): 181-197

"Consequences of Government Deficits and Debt," *International Journal of Central Banking* (January 2012).

"Putting Economic Ideas Back into Innovation Policy," in J. Lerner and S. Stern, eds., *The Rate and Direction of Inventive Activity Revisited*. Chicago: University of Chicago Press, 2012.

"Back to the Future: The Marshall Plan" (with W. Duggan), in C. Schramm, ed. Entrepreneurship and Expeditionary Economics, Kansas City: Kauffman Foundation (2011): 8-19.

"The Morning After: A Road Map for Financial Regulatory Reform," in R. B. Porter, R. R. Glauber, and J.J. Healey, eds., *New Directions in Financial Services Regulation*, Cambridge: MIT Press (2011): 77-98.

"The Best Business Education Ever," *BizEd* 6:5 (2007).

"An Action Plan for US Capital Markets," *International Finance* 10:1 (2007): 91-99.

"Nondestructive Creation," *strategy+business* 27 (Summer 2007): 30-35.

"The Productivity Riddle," *strategy+business* 45 (Winter 2006): 28-33.

"Overview of the Japanese Deficit Question," *(with T. Ito),* in *"Tackling Japan's Fiscal Challenges: Strategies to Cope with High Public Debt and Population Aging*, *Palgrave*, Macmillan (October 31, 2006).

"The U.S. Current Account Deficit and Public Policy," *Journal of Policy Modeling* 28 (2006): 665-671.

"Making Markets Work," (with J.F. Cogan and D.P. Kessler), *Health Affairs* 24 (November/December 2005): 1447-1457.

How Capital Markets Enhance Economic Performance and Facilitate Job Creation (with W.C. Dudley), New York: Goldman Sachs Markets Institute, 2004.

"Would a Consumption Tax Favor the Rich?," In A.J. Auerbach and K.A. Hassett, eds., *Toward Fundamental Tax Reform*. Washington, DC: AEI Press, 2005.

"The Economist as Public Intellectual," *Journal of Economic Education* 35 (Fall 2004): 391-394.

"Success Taxes, Entrepreneurship, and Innovation," (with W.M. Gentry), in *Innovation and the Economy*, volume 5, forthcoming.

"Tax Policy and International Competitiveness," *Taxes-The Tax Magazine* (March 2004): 233-241.

"Capital-Market Imperfections, Investment, and the Monetary Transmission Mechanism," in Heinz Hermann, ed., *Investing for the Future*. Frankfurt: Deutsche Bundesbank, 2001.

"The Growth of Institutional Stock Ownership: A Promise Unfulfilled," (with F.R. Edwards), *Journal of Applied Corporate Finance* 13 (Fall 2000): 92-104.

"Telecommunications, the Internet, and the Cost of Capital," in Ingo Vogelsang and Benjamin Compaine, eds., *The Internet Upheaval*, Cambridge: MIT Press, 2000.

"Federal Deposit Insurance: Economic Efficiency or Politics?" (with N. Economides and D. Palia), *Regulation* 22 (1999): 15-17.

Institutional Investors and Corporate Behavior (with G. R. Downes, Jr. and E. Houminer), Washington, D.C., American Enterprise Institute, 1999.

The Magic Mountain: Is There a Budget Surplus? (with K.A. Hassett), Washington, D.C.: American Enterprise Institute, 1999.

Medical School Financing and Research: Problems and Policy Options, Washington, D.C.: American Enterprise Institute, 1999.

"The Golden Goose: Understanding (and Taxing) the Saving of Entrepreneurs," in Gary D. Libecap, ed., *Advances in the Study of Entrepreneurship, Innovation, and Growth*, volume 10, Greenwich: JAI Press, 1998.

"U.S. Tax Policy and Multinational Corporations: Incentives, Problems, and Directions for Reform," in Dale W. Jorgenson and James M. Poterba, eds., *Borderline Case: International Tax Policy, Corporate Research and Development, and Investment*, Washington, D.C.: National Research Council, 1998.

"Distributional Tables and Tax Policy," in David F. Bradford, ed., *Distributional Analysis of Tax Policy*, Washington, D.C.: AEI Press, 1995.

"Is There a 'Credit Channel' for Monetary Policy?," *Federal Reserve Bank of St. Louis Review* 77 (May/June 1995): 63-77.

"U.S. Tax Policy and Foreign Direct Investment: Incentives, Problems, and Reform," *Tax Policy and Economic Growth,* Washington, DC: American Council for Capital Formation, 1995.

"The Use of 'Distribution Tables' in the Tax Policy Process," *National Tax Journal* 46 (December 1993): 527-537.

"Securities Transactions Taxes: Tax Design, Revenue, and Policy Considerations," *Tax Notes* (November 22, 1993): 985-1000.

"Corporate Tax Integration: A View from the Treasury Department," *Journal of Economic Perspectives* (Winter 1993): 115-132; reprinted in P. Roberti, ed., *Financial Markets and Capital Income Taxation in a Global Economy*, Amsterdam: North-Holland, 1998.

"The President's 1992 Health Care White Paper: An Economic Perspective," *National Tax Journal* 45 (September 1992): 347-356.

"Household Income Changes Over Time: Some Basic Questions and Facts," *Tax Notes* (August 24, 1992).

"Household Income Mobility During the 1980s: A Statistical Assessment Based on Tax Return Data" (with J. Nunns and W. Randolph), *Tax Notes* (June 1, 1992).

"Debt Renegotiation," *Institutional Investor* 24 (June 1990).

"Petroleum Regulation and Public Policy" (with R. Weiner), in Leonard Weiss and Michael Klass (eds.), *Regulatory Reform: What Actually Happened,* Boston: Little, Brown, and Company, 1986.

"Natural Gas: The Regulatory Transition" (with R. Braeutigam), in Leonard Weiss and Michael Klass (eds.), *Regulatory Reform: What Actually Happened*, Boston: Little, Brown, and Company, 1986.

"Natural Gas Contracting in Practice: Evidence from the United States" (with R. Weiner), in Michael Hoel and Bruce Wolman (eds.), *Natural Gas Markets and Contracts, Contributions to Economic Analysis Series*, North-Holland, 1986.

"Contracting and Regulation Under Uncertainty: The Natural Gas Market" (with R. Weiner), in John P. Weyant and Dorothy B. Sheffield (eds.), *The Energy Industries in Transition: 1985-2000*, Boulder: Westview Press, 1985.

"Oil and OECD Economies: Measuring Stockpile Coordination Benefits" (with J. Marquez and R. Weiner), in Mark Baier (ed.), *Energy and Economy: Global Interdependencies*, Bonn: Gesellschaft für Energiewissenschaft und Energiepolitik, 1985.

"Managing the Strategic Petroleum Reserve: Energy Policy in a Market Setting" (with R. Weiner), *Annual Review of Energy* 10 (1985): 339-359.

"Modeling Oil Price Fluctuations and International Stockpile Coordination" (with R. Weiner), *Journal of Policy Modeling* 7 (Summer 1985): 339-359.

"Crude Oil Trading and Price Stability" (with R. Weiner), in William F. Thompson and David J. De Angelo (eds.), *World Energy Markets: Stability or Cyclical Change*, Boulder: Westview Press, 1985.

"Energy Price Shocks, Inflation, and Economic Activity: Simulation Results of the Hubbard-Fry Model", in Bert Hickman and Hillard Huntington (eds.), *Macroeconomic Impact of Oil Supply Shocks: Report of the Energy Modeling Forum VII Project*, 1985.

"Drawing Down the Strategic Petroleum Reserve: The case for Selling Futures Contracts" (with S. Devarajan), in Alvin Alm and Robert Weiner (eds.), *Oil Shock: Policy Response and Implementation*, Cambridge: Ballinger Press, 1983.

"Government Stockpiles in a Multi-Country World: Coordination versus Competition" (with R. Weiner), in Alvin Alm and Robert Weiner (eds.), *Oil Shock: Policy Response and Implementation*, Cambridge: Ballinger Press, 1983.

"The 'Sub-Trigger' Crisis: An Economic Analysis of Flexible Stock Policies" (with R. Weiner), *Energy Economics* 5 (July 1983): 178-189.

"Temporary Tax Reductions as Responses to Oil Shocks," in Alvin Alm and Robert Weiner (eds.), *Oil Shock: Policy Response and Implementation*, Cambridge: Ballinger Press, 1983.

"Policy Analysis with Your Hands Tied: The Case of Disruption Tariff Under Oil Price Controls," in Fred S. Roberts (ed.), *Energy Modeling IV: Planning for Energy Disruptions*, Institute of Gas Technology, 1982.

Comments, Notes, and Reviews

"Comment" on D. Elmendorf, "'Dynamic Scoring': Why and How to Include Macroeconomic Effects in Budget Estimates for Legislative Proposals," *Brookings Papers on Economic Activity* (Fall 2015): 134-138.

"Comment" on A.J. Auerbach, "The Choice Between Income and Consumption Tax: A Primer," in A.J. Auerbach and D. Shaviro, eds., *Key Issues in Public Finance: Essays In Honor of David Bradford,* forthcoming.

"Pay Without Performance: A Market Equilibrium Critique," *Journal of Corporation Law* 30 (Summer 2005): 717-720.

"Financing Constraints and Corporate Investment: Response to Kaplan and Zingales," *Quarterly Journal of Economics* 115 (May 2000): 695-705.

"Comment" on Charles Handlock, Joel Houston, and Michael Ryngaert, "The Role of Managerial Incentives in Bank Acquisitions," *Journal of Banking and Finance* 23 (1999): 250-254.

"Comment" on D.H. Moss, "Courting Disaster?: The Transformation of Federal Disaster Policy Since 1903," in K.A. Froot, ed., *The Financing of Catastrophic Risk*, Chicago: University of Chicago Press, 1999.

"Market for Corporate Control" (with D. Palia), in P. Newman, ed., *The New Palgrave Dictionary of Economics and the Law*, London: Macmillan, 1998.

"Comment" on Joseph Peek and Eric Rosengren, "Do Monetary Policy and Regulatory Policy Affect Bank Loans?" in *Is Bank Lending Important for the Transmission of Monetary Policy?* Federal Reserve Bank of Boston, Conference Series (Proceedings) 39 (1995): 47-79.

"Introduction," in M. Feldstein, J.R. Hines, and R.G. Hubbard, eds., *Effects of Taxation on Multinational Corporations*, Chicago: University of Chicago Press, 1995.

"Introduction," in M. Feldstein, J.R. Hines, and R.G. Hubbard, eds., *Taxing Multinational Corporations*, Chicago: University of Chicago Press, 1995.

"Investment Under Uncertainty: Keeping One's Options Open," *Journal of Economic Literature* 32 (December 1994): 1794-1807.

"Introduction," in A. Giovannini, R.G. Hubbard, and J. Slemrod, eds., *Studies in International Taxation*, Chicago: University of Chicago Press, 1993.

"Comment" on G. Peter Wilson, "The Role of Taxes in Location and Source Decisions," in A. Giovannini, R.G. Hubbard, and J.B. Slemrod, eds., *Studies in International Taxation*, Chicago: University of Chicago Press, 1993.

"Market Structure and Cyclical Fluctuations in U.S. Manufacturing: Reply" (with I. Domowitz and B.C. Petersen), *Review of Economics and Statistics*, 1993.

"Introduction," in R.G. Hubbard, ed., *Financial Markets and Financial Crises*, Chicago: University of Chicago Press, 1991.

"Introduction," in R.G. Hubbard, ed., *Asymmetric Information, Corporate Finance, and Investment*, Chicago: University of Chicago Press, 1990.

"Comment" on Alberto Giovannini and James R. Hines, Jr., "Capital Flight and Tax Competition: Are There Viable Solutions to Both Problems?," in A. Giovannini and C. Mayer, eds., *European Financial Integration*, London: Centre for Economic Policy Research, 1990.

"Comment" on Roger H. Gordon and Jeffrey K. MacKie-Mason, "Effects of the Tax Reform Act of 1986 on Corporate Financial Policy and Organizational Form," in J.B. Slemrod, ed., *Do Taxes Matter?: Economic Impacts of the Tax Reform Act of 1986*, Cambridge: MIT Press, 1990.

"Comment" on James M. Poterba, "Tax Policy and Corporate Saving," *Brookings Papers on Economic Activity*, 1987:2.

"Comment" on Robert E. Hall, "Market Structure and Macro Fluctuations," *Brookings Papers on Economic Activity, 1986*:2.

"Comment" on Alan S. Blinder and Angus Deaton, "The Time-Series Consumption Function Revisited," *Brookings Papers on Economic Activity*, 1985:2.

"Comment" on Benjamin S. Friedman and Mark Warshawsky, "The Cost of Annuities: Implications for Saving Behavior and Bequests," in Zvi Bodie, John Shoven, and David Wise (eds.), *Pensions in the U.S. Economy*, Chicago: University of Chicago Press, 1987.

"Energy Security: Book Reviews," *Energy Journal* 4 (April 1983).

"When the Oil Spigot is Suddenly Turned Off: Some Further Thoughts" (with R. Weiner), *Journal of Policy Analysis and Management* 2 (Winter 1983).

Submitted Papers and Working Papers

"The Elasticity of Taxable Income in the Presence of Intertemporal Income Shifting" (with A. Gorry and A. Mathur), Working Paper, Columbia University, November 2017.

"Country Characteristics and the Incidence of Capital Income Taxation on Wages: An Empirical Assessment" (with C. Azémar), Working Paper, Columbia University, 2013.

"Analysis of Discrimination in Prime and Subprime Mortgage Markets" (with Darius Palia and Wei Yu), Working Paper, Columbia University, 2011.

"The Elasticity of Deferred Income With Respect to Marginal Income Tax Rates" (with K.A. Hassett and A. Mathur), Working Paper, Columbia University, 2011.

"Tax Policy and Wage Growth" (with W. M. Gentry), Working Paper, Columbia University, 2001.

"Investor Protection, Ownership, and Investment" (with C.P. Himmelberg and I. Love), Working Paper, Columbia University, 2000.

"Incentive Pay and the Market for CEOs: An Analysis of Pay-for-Performance Sensitivity" (with C.P. Himmelberg), Working Paper, Columbia University, 2001.

"Noncontractible Quality and Organizational Form in the U.S. Hospital Industry," (with K.A. Hassett), Working Paper, Columbia University, 1999.

"Entrepreneurship and Household Saving," (with W. M. Gentry), Working Paper, Columbia University, 2001.

"Corporate Payouts and the Tax Price of Corporate Retentions: Evidence from the Undistributed Profits Tax of 1936-37" (with P. Reiss), Working Paper No. 3111, National Bureau of Economic Research, September 1989.

"Market Structure, Durable Goods, and Cyclical Fluctuations in Markups" (with I. Domowitz and B. Petersen), Working Paper, Northwestern University, 1987.

"Finite Lifetimes, Borrowing Constraints, and Short-Run Fiscal Policy" (with K. Judd), Working Paper No. 2158, National Bureau of Economic Research, 1987.

GRANTS RECEIVED

"Corporate Board Study Group," Rockefeller Foundation, 2009.

"Institutional Investors, Boards of Directors, and Corporate Governance," Korn/Ferry, 1997.

"An Economic Analysis of Saving Incentives," Securities Industry Association, 1994, with Jonathan Skinner.

"Securities Transactions Taxes: Tax Design, Revenue, and Policy Considerations," Catalyst Institute, 1993.

"Precautionary Saving in the U.S. Economy," Bradley Foundation, 1989-1990, with Jonathan Skinner and Stephen Zeldes.

"Taxation, Corporate Leverage, and Financial Distress," Garn Institute for Finance, 1989-1990.

"Precautionary Saving in a Dynamic Model of Consumption and Labor Supply," National Science Foundation (Economics Group SES-8707997), 1987-1989, with Jonathan Skinner and Stephen Zeldes.

"Industrial Behavior and the Business Cycle: A Panel Data Study of U.S. Manufacturing," National Science Foundation (Economics Group SES-8420152), 1985-1987, with Ian Domowitz and Bruce Petersen.

"Efficient Contracting and Market Power: Evidence from the U.S. Natural Gas Market," Transportation Center, Northwestern University, Summer 1985.

"Constructing a Panel Data Base for Studies of U.S. Manufacturing," University Research Grants Committee, Northwestern University, 1985-1986.

"Economic Analysis of Multiple-Price Systems: Theory and Application, "National Science Foundation (Regulatory Analysis and Policy Group, SES-8408805), 1984-1985.

"Contracting and Price Adjustment in Product Markets," University Research Grants Committee, Northwestern University, 1983-1984.

PAPERS PRESENTED

University Seminars

Bard College, University of Bergamo, Butler Community College, University of California (Berkeley), University of California (Los Angeles), University of California (San Diego), Carleton, University of Chicago, Columbia, University of Dubuque, Emory, University of Florida, University of Central Florida, Florida Atlantic University, George Washington, Georgetown, Georgia Southern University, Harvard, Hendrix College, University of Illinois, Indiana University, Johns Hopkins, Laval, Lehigh, University College (London), University of Kentucky, London School of Economics, MIT, University of Maryland, University of Miami, Miami University, University of Michigan, University of Minnesota, New York University, Northwestern, Oxford, University of Pennsylvania, Princeton, Rice, University of Rochester, Stanford, Syracuse, University of Miami, University of Texas, Texas Tech University, Tufts, University of Virginia, University of Wisconsin (Madison), University of Wisconsin (Milwaukee), Virginia Tech, and Yale.

Conference Papers Presented

American Council for Capital Formation, Washington, DC, June 1994.

American Economic Association, Philadelphia, 2018; Chicago, 2017; San Francisco, 2016; Boston, 2015; Philadelphia, 2014; San Diego, 2013; Chicago, 2012; New Orleans, 2008; Chicago, 2007; Boston, 2006; Philadelphia, 2005; San Diego, January 2004; Atlanta, January 2002; New Orleans, January 2001; Boston, January 2000; New York, January 1999; New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; Boston, January 1994; Anaheim, January 1993; Washington, D.C., December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1985; Dallas, December 1984.

American Enterprise Institute, Conference on Corporate Taxation, 2016; Conference on Private Equity, 2007; Conference on Corporate Taxation, 2006; Conference on Multinational Corporations, 2004, 2003; Conference on Multinational Corporations, February 1999; Conference on Income Inequality, January 1999; Conference on Transition Costs of Fundamental Tax Reform, November 1998; Conference Series on Social Insurance Reform, 1997-1998; Conference Series on Fundamental Tax Reform, 1995-1998; Conference on Distributional Analysis of Tax Policies, Washington, D.C., December 1993.

American Finance Association, New Orleans, January 2008; San Diego, January 2004; Boston, January 2000; New York, January 1999; New Orleans, January 1997.

Association of Environmental and Resource Economists, Dallas, December 1984; San Francisco, December 1983.

Association of Public Policy Analysis and Management, New Orleans, October 1984; Philadelphia, October 1983.

Bipartisan Commission on Entitlement and Tax Reform, Washington, DC, June 1994.

Brookings Panel on Economic Activity, September 2015, September 1994, April 1988, September 1987, September 1986, April 1986, September 1985.

Centre for Economic Policy Research Conference on Capital Taxation and European Integration, London, September 1989.

Conference on International Perspectives on the Macroeconomic and Microeconomic Implications of Financing Constraints, Centre for Economic Policy Research, Bergamo, Italy, October 1994.

Congressional Research Service Conference for New Members of Congress, Williamsburg, January 1999.

Congressional Research Service Conference for Members of the Ways and Means Committee, Baltimore, October 2001.

Deutsche Bundesbank Conference on Investing for the Future, Frankfurt, Germany, May 2000.

Eastern Economic Association, Boston, March 1988; Boston, February 1983.

Econometric Society, New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; New Orleans, January 1992; Washington, December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1986; New York, December 1985; Boston, August 1985; Madrid, September 1984; San Francisco, December 1983; Pisa, August 1983.

Energy Modeling Forum, Stanford University, August 1983; February 1983; August 1982.

European Commission, Conference on Taxation of Financial Instruments, Milan, June 1998.

European Institute for Japanese Studies, Tokyo, September 2002; March 2002.

Federal Reserve Bank of Boston, Annual Economic Conference, North Falmouth, Massachusetts, June 1995.

Federal Reserve Bank of Kansas City Symposium on "Financial Market Volatility – Causes, Consequences, and Policy Responses," Jackson Hole, Wyoming, August 1988; Comment of Rogoff, August 2004.

Federal Reserve Bank of New York, Conference on Consolidation of the Financial Services Industry, New York, March 1998.

Federal Reserve Bank of Philadelphia Conference on Economic Policy, Philadelphia, November 2007; November 2001.

Federal Reserve Bank of St. Louis, Conference on Economic Policy, St. Louis, October 1994.

Harvard Law School U. S.-Japan Symposium, Tokyo, December 2003; Washington, D. C., September 2002; Tokyo, December 2001.

Hoover Institution, Conference on Fundamental Tax Reform, December 1995.

The Institute of Gas Technology, Washington, DC, May 1982.

The Institute of Management Science/Operations Research Society of America, Orlando, November 1983; Chicago, April 1983.

International Association of Energy Economists, Boston, November 1986; Philadelphia, December 1985; Bonn, June 1985; San Francisco, November 1984; Washington, DC, June 1983; Denver, November 1982; Cambridge (England), June 1982; Houston, November 1981.

International Conference on the Life Cycle Model, Paris, June 1986.

International Institute of Public Finance, Innsbruck, August 1984.

International Seminar on Public Economics, Amsterdam, April 1997.

National Academy of Sciences, February 1997.

National Association of Business Economists, Washington, March 2015; Orlando, September 2003; Washington, September 2002; New York, September 2001; Boston, September 1996; Dallas, September 1992; New Orleans, October 1987.

National Bureau of Economic Research - IMEMO Conference on the American Economy, Moscow, August 1989.

National Bureau of Economic Research Summer Institute, August 2014; August 2012; August 2009; August 2006; August 2005; July-August 2003; July-August 2000; July-August 1999; July-August 1998; August 1997; July 1995; July 1994; July 1993; August 1992; July-August 1991; July-August 1990; July-August 1989; July-August 1988; July-August 1987; July-August 1986; July 1985; July 1984; July 1983.

National Bureau of Economic Research Conference on Asymmetric Information, Corporate Finance, and Investment, Cambridge, May 1989.

National Bureau of Economic Research Conference on Chinese Economic Reform, Shanghai, China, July 2000.

National Bureau of Economic Research Conference on Financial Crises, Key Biscayne, March 1990.

National Bureau of Economic Research Conference on Government Expenditure Programs, Cambridge, November 1986.

National Bureau of Economic Research Conference on Indian Economic Reform, Rajasthan, India, December 1999.

National Bureau of Economic Research Conference on Innovation Policy, Washington, DC, April 2004, April 2003.

National Bureau of Economic Research Conference on International Taxation, Washington, DC, April 1994; Cambridge, January 1994; New York, September 1991; Nassau, Bahamas, February 1989.

National Bureau of Economic Research, Macroeconomic Annual Conference, Cambridge, MA, April 2004.

National Bureau of Economic Research Conference on Macroeconomics and Industrial Organization, Cambridge, July 1988; Cambridge, July 1987; Cambridge, July 1986; Chicago, November 1985.

National Bureau of Economic Research Conference on Nonprofit Organizations, Cheeca Lodge, January 2002; Cambridge, October 2001.

National Bureau of Economic Research Conference on Pensions, Baltimore, March 1985; San Diego, April 1984.

National Bureau of Economic Research Conference on Productivity, March 1988; March 1987.

National Bureau of Economic Research Conference on Public Economics, Cambridge, April 1999, April 1994, April 1993, November 1991, April 1991, March 1988, November 1987, March 1987.

National Bureau of Economic Research Conference on Tax Policy and the Economy, Washington, DC, October 2001, November 1998, November 1996, November 1994, November 1991, November 1989.

National Bureau of Economic Research Trans-Atlantic Public Economics Seminar, London, May 2002; Gerzensee, May 2000; Turin, May 1994.

Organization for Economic Cooperation and Development, Economic Policy Committee Meeting, Paris, November 2002, April 2002, November 2001, April 2001.

National Tax Association/Tax Institute of America, Washington, DC, June 2000; Atlanta, October 1999; Arlington, May 1992; Seattle, October 1983.

Organization for Economic Cooperation and Development, Ministerial Meeting, Paris, May 2002, May 2001.

Princeton Center for Economic Policy Conference, October 2000, October 1995.

Sveriges Riksbank/Stockholm School of Economics Conference on Asset Markets and Monetary Policy, Stockholm, Sweden, June 2000.

U.S. House of Representatives, Budget Committee, June 2001.

U.S. House of Representatives, Committee on Ways and Means, Washington, DC, June 2006; June 2005; June 1999; April 1997, June 1996, July 1992.

U.S. Joint Economic Committee, Washington, DC, February 2003, October 2002, October 2001, May 2001.

U. S. Senate Committee on Banking, Housing, and Urban Affairs, Washington, DC, October 2001, May 2001.

U.S. Senate Committee on Budget, February 2003, September 2001.

U. S. Senate Committee on Commerce, Science, and Technology, July 2002.

U.S. Senate Committee on Finance, Washington, DC, February 2003, February 2002, February 1997, January 1995, January 1992, December 1981.

APPENDIX B

ROBERT GLENN HUBBARD

Testimony as an expert witness 2014 – 2018

Kortright Capital Partners LP, et al. v. Investcorp Investment Advisors Limited, Case No. 16cv7619, United States District Court, Southern District of New York. Provided deposition testimony 2018.

Syncora Guarantee Inc. v. Alinda Capital Partners LLC, American Roads LLC, Macquarie Securities (USA) Inc., and John S. Laxmi, Index No. 651258/2012, In the Supreme Court of the State of New York. Provided deposition testimony 2018.

Great Hill Equity Partners IV, LLP, et al. v. SIG Growth Equity Fund I, LLP, et al, Civil Action No. 7906, In the Court of Chancery for the State of Delaware. Provided trial testimony 2017.

Saul Chill and Sylvia Chill, for the use and benefit of the Calamos Growth Fund v. Calamos Advisors LLC and Calamos Financial Services LLC, Case No. 15 Civ: 1014 (ER), United States District Court, Southern District of New York. Provided deposition testimony 2017.

Broadway Gate Master Fund, Ltd., Pennant Master Fund LP, and Pennant Windward Master Fund, LP v. Ocwen Financial Corporation, et al., Civil Case 9:16-cv-80056, United States District Court, Southern District of Florida. Provided deposition testimony 2017.

In re: Allergan, Inc. Proxy Violation Securities Litigation, Case No. 8:14-cv-2004-DOC (KES), United States District Court, Central District of California, Southern District - Santa Ana. Provided deposition testimony 2017.

In the Matter of: Certain Integrated Circuits with Voltage Regulators and Products Containing Same, Investigation No. 337-TA-1024, United States International Trade Commission, Washington, D.C. Provided deposition testimony 2017.

In re: Appraisal of Solera Holdings, Inc., Case No. 12080-CB, In the Court of Chancery of the State of Delaware. Provided deposition testimony and trial testimony 2017.

In re: Good Technology Corporation Stockholder Litigation, C.A. No. 11580-VCL, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2017.

Mylan Inc. & Subsidiaries, et al. v. Commissioner of Internal Revenue, Docket No. 16145-14, 27086-14, United States Tax Court, Washington, D.C. Provided deposition testimony 2017.

Abbott Laboratories v. Alere, Inc., C.A. No. 12963-VCG, In the Court of Chancery of the State of Delaware. Provided deposition testimony 2017.

In re: LIBOR-Based Financial Instruments Antitrust Litigation, MDL No. 2262, 11 Civ. 2613, United States District Court Southern District of New York. Provided deposition testimony 2017.

In the Matter of: Determination of Rates and Terms for Making and Distributing Phonorecords (Phonorecords III), Docket No. 16-CRB-0003-PR (2018-2022), Before the Copyright Royalty Board Library of Congress, Washington, D.C. Provided deposition testimony and trial testimony 2017.

In re: Ocwen Financial Corporation Securities Litigation, Case No. 14-81057 CIV-WPD, United Stated District Court, Southern District of Florida. Provided deposition testimony 2017.

Motors Liquidation Company Avoidance Action Trust v. JPMorgan Chase Bank, N.A., et al., Case No. 09-00504, United States Bankruptcy Court, Southern District of New York. Provided deposition testimony and trial testimony 2017.

Great Hill Equity Partners IV, LLP, et al. v. SIG Growth Equity Fund I, LLP, et al, Civil Action No. 7906, In the Court of Chancery for the State of Delaware. Provided deposition testimony 2016.

Jennifer L. Kasilag, et al. v. Hartford Investment Financial Services, LLC, Civil No. 1:2011cv01083, In the United States District Court, District of New Jersey, Camden Vicinage. Provided trial testimony 2016.

In re: Ocwen Financial Corporation Securities Litigation, Case No. 14-81057 CIV-WPD, United Stated District Court, Southern District of Florida. Provided deposition testimony 2016.

In the Matter of Lynn Tilton; Patriarch Partners, LLC, et al. Administrative Proceeding No. 3-16462, United States of America before the Securities and Exchange Commission. Provided testimony 2016.

Carlyle Capital Corporation Limited, Alan John Roberts, Neil Mather, Christopher Morris, Adrian John, Denis Rabet, solely in their capacity as Joint Liquidators of Carlyle Capital Corporation Limited (In Liquidation) v. William Elias Conway, Jr., James H. Hance, Jr., et al, Court File No. 1510, In the Royal Court of Guernsey, Ordinary Court. Provided testimony 2016.

Illinois Tool Works, Inc. & Subsidiaries v. Commissioner of Internal Revenue, United States Tax Court, Docket No. 10418-14. Provided trial testimony 2016.

General Electric Company v. United States of America, Case No. 3:14-cv-190-JAM, United States District Court, District of Connecticut. Provided deposition testimony in 2016.

Symbol Technologies, Inc., Securities Litigation, Consolidated C.A. No. 05-cv-3923-DRH, United States District Court, Eastern District of New York. Provided deposition testimony in 2015.

Jennifer L. Kasilag, et al. v. Hartford Investment Financial Services, LLC, Civil No. 1:2011cv01083, In the United States District Court, District of New Jersey, Camden Vicinage. Provided deposition testimony 2015.

American Chemicals & Equipment, Inc. 401(K) Retirement Plan v. Principal Management Corporation and Principal Global Investors, LLC., 4:14-cv-00044-JAJ-HCA, United States District Court, Southern District of Iowa. Provided deposition testimony in 2015.

Appraisal of Dell Inc., Consol. C.A. No. 9322-VCL, In the Court of the Chancery of the State of Delaware. Provided deposition testimony and trial testimony in 2015.

Jacqueline Coffin and Sandra Lowry v. Atlantic Power Corporation, et al., Court File No. CV-13-480939-00CP, Ontario Superior Court of Justice. Provided deposition testimony in 2015.

Peter J. Rush, et al. v. Walter Energy, Inc., et al., Master File No. 2:12-cv-00281-VEH, United States District Court Northern District of Alabama, Southern Division. Provided deposition testimony in 2014.

Tullett Prebon PLC, Tullett Prebon Financial Services LLC f/k/a Tullett Liberty Securities LLC and Tullett Prebon Americas Corp. v. BGC Partners, Inc., case No. L-003796-11, Superior Court of New Jersey, Hudson County. Provided trial testimony in 2014.

Basis Pac-Rim Opportunity Fund & Basis Yield Alpha Fund v. TCW Asset Management Company, Index No. 654033/2012, Supreme Court of the State of New York, County of New York. Provided deposition testimony in 2014.

Postova Bank, A.S. and Istrokapital SE v. The Hellenic Republic, case no. ARB/13/8, International Centre for Settlement of Investment Disputes. Provided arbitration testimony in 2014.

Sue Ann Hamm v. Harold G. Hamm, case no. FD-2012-2048, District Court of Oklahoma County, State of Oklahoma. Provided deposition testimony and trial testimony in 2014.

GE Dandong, et al. v. Pinnacle Performance Limited, et al, court file no. 10-civ-8086, United States District Court Southern District of New York. Provided deposition testimony in 2014.

APPENDIX C

Documents Relied Upon

Fund Portfolios

Federated Treasury Obligations Fund (TOIXX) Portfolio, March 15, 2018.

Federated U.S. Treasury Cash Reserves (UTIXX) Portfolio, March 15, 2018.

Fidelity Investments Treasury Only Portfolio (FSIXX) Monthly Holdings, February 28, 2018.

Goldman Sachs Financial Square Treasury Instruments Fund (FTIXX) Weekly Holdings Report, March 30, 2018.

Morgan Stanley Treasury Securities Portfolio (MSUXX) Portfolio Holdings, March 23, 2018.

Fund Prospectuses

Federated Treasury Obligations Fund (TOIXX) Prospectus, September 30, 2017.

Federated U.S. Treasury Cash Reserves (UTIXX) Prospectus, June 30, 2017.

Fidelity Investments Treasury Only Portfolio (FSIXX) Prospectus, May 30, 2017.

Goldman Sachs Financial Square Treasury Instruments Fund (FTIXX) Prospectus, December 29, 2017.

Morgan Stanley Treasury Securities Portfolio (MSUXX) Prospectus, February 28, 2018.

Fund Statements of Additional Information

Federated Treasury Obligations Fund (TOIXX) Statement of Additional Information, September 30, 2017.

Federated U.S. Treasury Cash Reserves (UTIXX) Statement of Additional Information, June 30, 2017.

Fidelity Investments Treasury Only Portfolio (FSIXX) Statement of Additional Information, May 30, 2017.

Goldman Sachs Financial Square Treasury Instruments Fund (FTIXX) Statement of Additional Information, December 29, 2017.

Morgan Stanley Treasury Securities Portfolio (MSUXX) Statement of Additional Information, February 28, 2018.

Legislation

Part 270--Rules and Regulations, Investment Company Act of 1940. *Code of Federal Regulations*, title 17 (2014).

Publications

Amihud, Yakov and Haim Mendelson, "Liquidity, Maturity, and the Yields on U.S. Treasury Securities," 1991, *The Journal of Finance*, 46(4): 1411-1425.

Belz, Sage and David Wessel, "The Hutchins Center Explains: The debt limit," *The Brookings Institute*, August 3, 2017, available at https://www.brookings.edu/blog/up-front/2017/08/03/the-hutchins-center-explains-the-debt-limit/.

Clark, James and Gabriel Mann, "A Deeper Look at Liquidity Conditions in the Treasury Market," Treasury Notes, U.S. Department of the Treasury, May 6, 2016, available at https://www.treasury.gov/connect/blog/Pages/A-Deeper-Look-at-Liquidity-Conditions-in-the-Treasury-Market.aspx.

McCrum, Dan and Henny Sender, "Investors Give Mortgage Assets a Wide Berth," *Financial Times*, December 20, 2011, available at http://www.ft.com/intl/cms/s/0/c041e6ea-24d9-11e1-8bf9-00144feabdc0.html.

"Reasonable Valuation of Illiquid Mortgage-Backed Securities," *Value Matters*, Mercer Capital, November 16, 2007, Vol. 2007-11, available at https://mercercapital.com/assets/Mercer-Capital_Value-Matters-2007-11.pdf.

U.S. Securities and Exchange Commission, "Money Market Reform; Amendments to Form PF," Final Rule, October 14, 2014, footnote 630, available at https://www.sec.gov/rules/final/2014/33-9616.pdf.

U.S. Securities and Exchange Commission, "Updated Investor Bulletin: The ABCs of Credit Ratings," October 12, 2017, available at https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_creditratings.

Vickery, James and Joshua Wright, "TBA Trading and Liquidity in the Agency MBS Market," *FRBNY Economic Policy Review,* May 2013.

Rating Agency Reports

Moody's, "Moody's answers Frequently Asked Questions about the Debt Ceiling," September 5, 2017, available at https://www.moodys.com/research/Moodys-answers-Frequently-Asked-Questions-about-the-Debt-Ceiling--PR_372173.

Moody's, "Moody's confirms U.S.'s Aaa Rating, assigns negative outlook," August 2, 2011, available at https://www.moodys.com/research/Moodys-confirms-US-Aaa-Rating-assigns-negative-outlook--PR_223568.

S&P Global Ratings, "S&P Global Ratings Definitions," available at https://www.standardandpoors.com/en_EU/delegate/getPDF?articleId=1824955&type=COMMENTS&subType=REGULATORY.

S&P Global Ratings, "Research Update: United States of America Long-Term Rating Lowered To 'AA+' On Political Risks And Rising Debt Burden; Outlook Negative," August 6, 2011, available at https://www.standardandpoors.com//en_AP/web/guest/article/-/view/sourceId/6802837.

Textbooks

Downes, John and Jordan Elliot Goodman, *Barron's Finance & Investment Handbook,* 2003, New York: Barron's Educational Series.

Fabozzi, Frank J, *Fixed Income Analysis*, 2000, New Hope: Frank J. Fabozzi Associates.

Hubbard, R. Glenn and Anthony Patrick O'Brien, *Money, Banking, and the Financial System*, 2018, New York: Pearson.

Websites

International Capital Market Association, "Frequently Asked Questions about Repo: Is repo riskless?," available at https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/repo-and-collateral-markets/icma-ercc-publications/frequently-asked-questions-on-repo/15-is-repo-riskless/.

"Understanding Bond Risk," Financial Industry Regulatory Authority, available at http://www.finra.org/investors/understanding-bond-risk.

Exhibit 1

Exhibit 1
Summary of Proposed Investments

Fund Name	Ticker	Trustee Proposing Investment	Manager/ Adviser	Custodian	Investment Strategy
Federated Treasury Obligations Fund	TOIXX	Citibank	Federated Investment Management Company	State Street Bank and Trust Company	• The Fund invests in a portfolio of U.S. Treasury securities maturing in 397 days or less and repurchase agreements collateralized fully by U.S. Treasury securities. The Fund may also hold cash. • In pursuing its investment objective and implementing its investment strategies, the Fund will comply with Rule 2a-7 under the Investment Company Act of 1940 (“Rule 2a-7”). • The Fund will operate as a “government money market fund,” as such term is defined in or interpreted under Rule 2a-7 under the Investment Company Act of 1940, as amended (the “1940 Act”). “Government money market funds” are required to invest at least 99.5% of their total assets in: (i) cash; (ii) securities issued or guaranteed by the United States or certain U.S. government agencies or instrumentalities; and/or (iii) repurchase agreements that are collateralized fully. Government money market funds are exempt from requirements that permit money market funds to impose a liquidity fee and/or temporary redemption gates. • The Fund has not elected to be subject to the liquidity fees and gates requirement at this time. • The Fund will invest its assets so that at least 80% of its net assets (plus any borrowings for investment purposes) are invested in Treasury investments. The Fund will notify shareholders at least 60 days in advance of any change in its investment policy that would enable the Fund to invest, under normal circumstances, less than 80% of its net assets (plus any borrowings for investment purposes) in Treasury investments.
Federated U.S. Treasury Cash Reserves	UTIXX	Citibank, Wells Fargo, US Bank	Federated Investment Management Company	The Bank of New York Mellon	• The Fund invests in a portfolio of U.S. Treasury securities maturing in 397 days or less that pay interest exempt from state personal income tax. The Fund may also hold cash. The Fund may temporarily depart from its principal investment strategies for defensive purposes. • In pursuing its investment objective and implementing its investment strategies, the Fund will comply with Rule 2a-7 under the Investment Company Act of 1940 ("Rule 2a-7"). • The Fund will operate as a "government money market fund," as such term is defined in or interpreted under Rule 2a-7 under the Investment Company Act of 1940, as amended (the "1940 Act"). "Government money market funds" are required to invest at least 99.5% of their total assets in: (i) cash; (ii) securities issued or guaranteed by the United States or certain U.S. government agencies or instrumentalities; and/or (iii) repurchase agreements that are collateralized fully. Government money market funds are exempt from requirements that permit money market funds to impose a liquidity fee and/or temporary redemption gates. • The Fund has not elected to be subject to the liquidity fees and gates requirement at this time. • The Fund will invest its assets so that at least 80% of its net assets (plus any borrowings for investment purposes) are invested in U.S. Treasury investments. The Fund will notify shareholders at least 60 days in advance of any change in its investment policy that would enable the Fund to invest, under normal circumstances, less than 80% of its net assets (plus any borrowings for investment purposes) in U.S. Treasury investments.
Fidelity Investments Treasury Only Portfolio	FSIXX	Wells Fargo, US Bank	Fidelity Management & Research Company	The Bank of New York Mellon	• Normally investing at least 99.5% of total assets in cash and U.S. Treasury securities. • Normally investing in securities whose interest is exempt from state and local income taxes. • Investing in compliance with industry-standard regulatory requirements for money market funds for the quality, maturity, liquidity, and diversification of investments. • In addition, the fund normally invests at least 80% of its assets in U.S. Treasury securities.
Goldman Sachs Financial Square Treasury Instruments Fund	FTIXX	Citibank, Wells Fargo, US Bank	Goldman Sachs Asset Management	The Bank of New York Mellon	• The Fund pursues its investment objective by investing only in U.S. Treasury Obligations, which include securities issued or guaranteed by the U.S. Treasury where the payment of principal and interest is backed by the full faith and credit of the U.S. government ("U.S. Treasury Obligations"), the interest from which is generally exempt from state income taxation. • The Fund intends to be a "government money market fund," as such term is defined in or interpreted under Rule 2a-7 under the Investment Company Act of 1940, as amended ("Investment Company Act"). "Government money market funds" are money market funds that invest at least 99.5% of their total assets in cash, securities issued or guaranteed by the United States or certain U.S. government agencies or instrumentalities ("U.S. Government Securities"), and/or repurchase agreements that are collateralized fully by cash or U.S. Government Securities. "Government money market funds" are exempt from requirements that permit money market funds to impose a "liquidity fee" and/or "redemption gate" that temporarily restricts redemptions. As a "government money market fund," the Fund values its securities using the amortized cost method. The Fund seeks to maintain a stable net asset value ("NAV") of $1.00 per share. • Under Rule 2a-7, the Fund may invest only in U.S. dollar-denominated securities that meet certain risk-limiting conditions relating to portfolio quality, maturity and liquidity.
Morgan Stanley Treasury Securities Portfolio	MSUXX	Wells Fargo, US Bank	Morgan Stanley Investment Management	State Street Bank and Trust Company	• The Fund has adopted a policy to invest exclusively in U.S. Treasury obligations, which are backed by the full faith and credit of the United States, in order to qualify as a "government money market fund" under federal regulations. The Fund may also hold cash from time to time. • A "government money market fund" is a money market fund that invests at least 99.5% of its total assets in cash, securities issued or guaranteed by the United States or certain U.S. government agencies or instrumentalities and/or repurchase agreements that are collateralized fully by the foregoing. A "government money market fund" is exempt from requirements that permit money market funds to impose a "liquidity fee" and/or "redemption gate" that temporarily restricts redemptions. In selecting investments, the Adviser seeks to maintain the Portfolio's share price at $1.00. • The Fund may change its principal investment strategies; however investors would be notified of any changes.

Notes
[1] "Investment Strategy" is excerpted directly from the prospectus for each fund.

Sources
[1] Fund Prospectuses and Prospectus Supplements.
[2] Fund Statements of Additional Information.