INVESTMENT MANAGEMENT

of Trust Funds and Financial Intermediary Funds

WORLD BANK GROUP

INTRODUCTION

For over 40 years, development partners have entrusted the World Bank with the financial management of their contributions to World Bank trust funds and Financial Intermediary Funds (FIFs). These resources complement the World Bank Group's mission to end extreme poverty and promote shared prosperity in a sustainable way. Trust funds and FIFs allow for the scaling up of activities, notably in fragile and crisis situations; provide immediate assistance in response to natural disasters and other emergencies; and pilot innovations that may be later mainstreamed into the Bank's operations.

The World Bank as Trustee receives and invests development partner contributions to trust funds and FIFs, until funds are disbursed to final recipients for development projects. Such investment management services aim to preserve donor funds and enhance their value. The trust funds and FIFs portfolio has grown over the years due to an increase in development partner contributions for multi-year projects, an increase in the number of trust funds managed by the World Bank and investment returns. As of 30 June 2018, the volume of liquid assets held by trust funds and FIFs reached $29.7 billion.

This brochure provides information on the World Bank's investment management services for development partners. The Trust Funds and Partner Relations Department (DFTPR) within the World Bank's Development Finance Vice Presidency (DFi) serves as the liaison between development partners and external/internal clients on strategy, policy, and program management, as well as financial and risk management oversight for trust funds and FIF assets managed by the World Bank Treasury.

The World Bank Treasury has substantial expertise in asset and liability management and a global reputation as a prudent and innovative borrower, investor and risk manager. In managing funds for development partners, the World Bank follows a well-defined investment process, applying a conservative risk approach with ongoing oversight through the World Bank's financial governance structure.

Sound investment management is an integral part of the value process to ensure the availability of development partners' funds for their intended purposes. As such, preservation of capital has historically been the primary objective when investing development partners' financial resources. Beyond this objective, the World Bank Treasury seeks to prudently add value by judiciously employing appropriate investment strategies within an efficient, flexible, industry leading investment platform. This allows investment management of trust funds and FIFs in a way that accommodates the varying investment requirements and risk tolerances of its development partners, thus providing opportunities for enhancement of investment returns.

The trust funds and FIFs' investment portfolios managed by the World Bank have recorded comparable returns to the benchmarks with similar risk profiles over the past decade and were able to weather the global financial crisis of 2008/09 remarkably well. The World Bank has been able to enhance investment returns over and above the primary capital preservation objective for investment portfolios of trust funds and FIFs. This has been achieved through an effective asset allocation process and active portfolio management by the World Bank Treasury. Over the past 5 years[1], the total investment income generated for the trust funds and FIFs exceeds $1.0 billion while the incremental investment income for the portfolios earned over their respective benchmarks[2], is more than $380 million.

We trust that you will find this brochure informative and look forward to answering any questions that you may have on the investment management process for development partners' funds.

Akihiko Nishio
Vice President
Development Finance Vice Presidency
The World Bank

Jingdong Hua
Vice President and Treasurer
Treasury Vice Presidency
The World Bank

1 As of 30 June 2018
2 Refer to the summaries of each Model Portfolio at the back of this booklet for benchmark information.

BACKGROUND

The World Bank Treasury has extensive experience in managing and investing development partner financial resources. It has mobilized and managed development partner contributions since 1960 when the International Development Association (IDA) was created to support the poorest countries through interest free and long maturity loans. Since the 1980s, development partners have also provided bilateral aid resources and other contributions through trust funds managed by the World Bank, and over the past decade, have engaged the World Bank as trustee for Financial Intermediary Funds (FIFs). In this function, the World Bank takes on different financial management and advisory roles, while project implementation and oversight in developing countries is carried out by donor agencies or other entities.

All trust funds and FIFs assets administered by the World Bank are maintained in a commingled investment portfolio (the "Pool"). To accommodate varying investment horizons and risk tolerances of individual trust funds, the Pool comprises of sub-portfolios, called Model Portfolios, in which trust funds and FIFs liquid assets can be invested.

Photo by Trevor Samson from World Bank Photo Collection

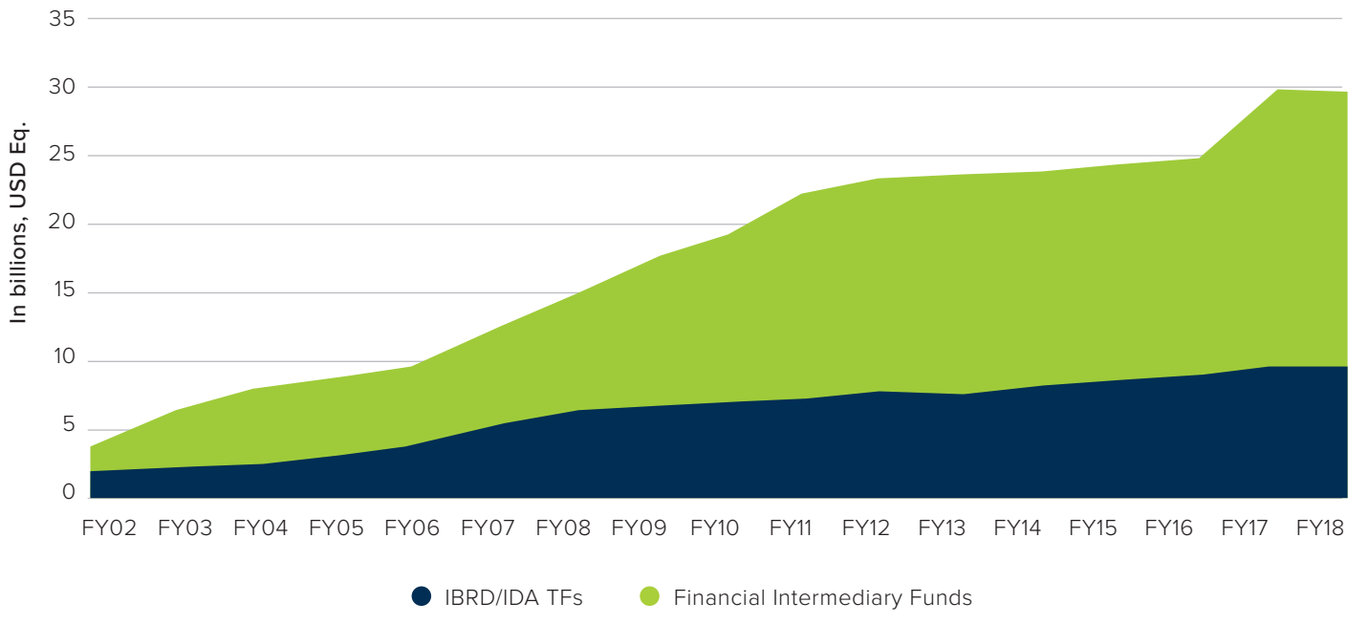
TRUST FUNDS ASSETS UNDER MANAGEMENT

Over the last ten years, the investment portfolio for combined trust funds and FIFs has seen substantial growth with the value of liquid assets increasing from $15.6 billion at end of June 2008, to $29.7 billion at end of June 2018. This growth is reflective of the World Bank's focus on designing and establishing new trust funds, developing tailored financial solutions (including through FIFs) to address development challenges, and growth in size of a few of these FIFs.

After development partners pay in their contributions, the World Bank Treasury invests these resources in the international capital markets until funds are disbursed to final recipients for development projects. Such investment services aim to preserve development partners' funds and enhance their value.

Trust funds and FIFs receive funds from development partners in multiple currencies. Upon receipt by the World Bank, these funds are typically invested in the currency of eventual disbursements to recipients in developing countries. The commitment authority for trust funds and FIFs are monitored in US dollars; as such, the investment portfolio is held primarily in US dollars.

Development Partner Funds Under Management
Fiscal Years 2002 - 2018



GOVERNANCE & OVERSIGHT

Institutional oversight for programs funded by development partners is provided by the World Bank's Executive Directors (Board), Committees of the Board such as the Audit Committee, the World Bank Group President as well as members of the senior management team. The oversight of the financial management arrangements for the investment portfolios of the trust funds and FIFs are undertaken by the Finance and Risk Committee (FRC), which is chaired by the World Bank Group Chief Financial Officer.

The World Bank Treasury is vested with the responsibility of managing the investment portfolios of trust funds and FIFs in a fiduciary capacity. The provisions of the World Bank Board approved General Investment Authorizations for the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) also apply to the investment of World Bank administered trust funds and FIFs subject to any specific instructions provided by development partners or governing bodies thereof. This includes for example specification of an expanded range of eligible investments, such as equities.

The investment strategies for trust funds and FIFs portfolio are periodically reviewed and approved by the appropriate departments and financial committees, including the Board's Audit Committee which reviews the investment strategies. In addition, investment policy and asset allocations are assessed in regular management discussions, while investment returns are reported at least monthly. DFi approves the investment benchmarks and conducts regular reviews of the liquidity requirements and allocation of investment balances to specific investment tranches.

Front row from Left: Ivana Pavlovic, Mei Leng Chang, Wendy Mendes, Dirk Reinermann
Second Row from Left: Shenghua Si, Rahul Gupta, Fergal O'Keeffe, Suzanne Marie Boughner
Third Row from Left: Feng Gu, Chaminda Ranasoma, Wayne Austin Schwartz

INVESTMENT OBJECTIVES & STRATEGY

Preservation of capital is the primary investment objective of the investment Pool, reflecting donor sensitivity to any potential losses of capital that could result from adverse movements in the international capital markets. Cognizant of the fact that individual trust funds and FIFs within the pool might have different investment horizons due to differing liquidity needs and risk tolerances, the World Bank Treasury offers model portfolios with specific investment objectives, investment horizons and risk tolerances. The asset allocations for each of the model portfolios are designed to achieve these investment objectives.

Consequently, the investment portfolios are managed to conservative overall risk tolerance parameters. Funds within the portfolio are periodically rebalanced among the model portfolios to ensure that they are allocated to the most suitable investment mix, based on multi-year cash flow projections for each fund.

Each model portfolio seeks to maximize investment returns over distinct investment horizons, which range from daily up to five years. For example, a model portfolio for longer term investments (5-year investment horizon or greater) is available for trust funds and FIFs that have a stable cash flows over that horizon, meaning they may take advantage of a more diversified allocation including an allocation to global developed market equities.

At a Glance - The Investment Portfolio of Trust Funds and FIFs

The World Bank manages the liquid assets of trust funds and FIFs in a single, commingled investment pool which provides several benefits to its participants, such as:

- A selection of model portfolios to accommodate the varying liquidity needs and risk preferences of different funds, managed within a comprehensive risk management framework.
- Access to a wide variety of investment products and longer maturity investments to enhance returns and investment income over time.
- A cost-effective investment platform resulting in very low administrative costs to participants.
- Regular review of liquidity needs across funds to optimize investments over the longer term.

Photo by Curt Carnemark from World Bank Photo Collection

Model Portfolios for Investments of Trust Funds and FIFs

	Model Portfolio 0 *Cash & Cash Equivalents*	**Model Portfolio 1** *Capital preservation over a 1-year horizon*	**Model Portfolio 2** *Capital preservation over a 3-year horizon*	**Model Portfolio 3**[3] *LIBOR based*	**Model Portfolio 4**[4] *Return optimization over a 5-year horizon*	**Model Portfolio 5**[5] *Return optimization over a 5-year horizon*
Investment Objective	Enhance returns subject to ensuring liquidity & timely availability of cash when needed	Enhance returns subject to preservation of capital to a high degree of confidence over a 1-year horizon	Enhance returns subject to preservation of capital to a high degree of confidence over a 3-year horizon	Maximize returns subject to 3-month interest rate sensitivity	Enhance returns subject to preservation of capital to a high degree of confidence over a 5-year horizon	Enhance returns subject to preservation of capital to a high degree of confidence over a 5-year horizon
Asset Allocation/ Benchmark	Overnight cash	Dynamic (Government bonds and money markets)	Dynamic (Government bonds, money markets and US Agency MBS)	LIBOR based	Dynamic (Government bonds, money markets and US Agency MBS) & global developed market equities	Dynamic (Government bonds, money markets and US Agency MBS) & up to 10% global developed market equities
Currencies	USD and EUR	USD and EUR	USD	USD	USD	USD
Historical 1-yr Return (USD only)	1.71% (Excess Return 41 bps)	1.60% (Excess Return 34 bps)	1.48% (Excess Return 24 bps)	1.87% (Excess Return 34 bps)	NA	2.44% (Excess Return 18 bps)
Historical 3-yr Cumulative Return (USD only)	3.01% (Excess Return 87 bps)	3.42% (Excess Return 1.03%)	4.03% (Excess Return 93 bps)	3.90% (Excess Return 1.21%)	NA	6.52% (Excess Return 78 bps)

3 Customized and designed for a single fund only.
4 Participation in Model Portfolio 4 (MP4) is subject to specific instructions from the relevant trust fund or FIF governing body. MP4 has been approved, but it has not been implemented.
5 Customized and designed for a single fund only.

INVESTMENT PROCESS AND METHODOLOGY

The investment of development partners' funds in the international capital markets follows a well-defined process, involving different stages of review, approval and ongoing monitoring and controls. The process starts by establishing the appropriate investment strategy for the funds to be invested. This strategy is guided by the liquidity profile of the development partners' funds and a defined set of investment objective and risk tolerance limits, which are reviewed and approved by appropriate departments and financial committees.

The asset allocation for each model portfolio defines the suitable types of investment instruments (asset classes) and their weights in the model portfolio, together with the appropriate benchmark for each asset class. Benchmark holdings guide the structure of actual portfolios, wherein investments are made through approved counterparties in the capital markets, based on investment guidelines that limit market risk (such as interest rate risk) and credit exposure. All credit limits for holding funds for investment with commercial counterparties are determined by the World Bank's Chief Risk Officer's Market and Counterparty Risk Department. Ongoing risk measurement and performance reporting for the investment portfolios of trust funds and FIFS are conducted on a daily basis within the Bank's Treasury.

Photo by Aisha Faquir from World Bank Photo Collection

ASSET CLASSES

The Investment Guidelines for the trust funds and FIFs investment portfolios specify the allowable range of instruments, for each asset class, within the high-grade fixed income category (such as government bonds) as well as money market securities (such as short-term investments with commercial banks).

Currently, these instruments include high quality securities that are issued by sovereign governments, government agencies, as well as multilateral and other official institutions. In addition, eligible instruments include asset-backed and agency-guaranteed mortgage-backed securities, as well as swaps and a range of other derivative instruments that can be used to manage interest rate risk. Investments in synthetic short-duration USD assets, obtained by asset swapping longer duration bonds denominated in USD as well as non-dollar currencies, is also permitted.

Asset Classes for Trust Funds and FIF Portfolios

Asset Class	**Asset Description**
Domestic Government Securities	Marketable bonds, notes or other obligations issued or unconditionally guaranteed by the government of a country in its own domestic currency and approved by the World Bank's Credit Committee.
Mortgage-backed Securities (MBS)	US Agency-guaranteed residential mortgage-backed securities, including fixed-rate pass-throughs, adjustable rate mortgages (ARMs), interest-only (IO) and principal-only (PO) strips, and collateralized mortgage obligations (CMOs). Commercial Mortgage Backed Securities (CMBS) and non-agency MBS are not included.
AAA Corporate Securities (incl. Asset Backed Securities)	AAA-rated asset-backed securities (ABS), backed by student loans, auto and credit card receivables, public sector loans or prime first lien residential mortgages and domiciled in an eligible country, and any other AAA-rated obligations of a corporate entity.
Agency/ Sovereign/ Government guaranteed Securities	Marketable bonds, notes or other obligations rated at least AA- issued by a government agency, supranational institution or local authority domiciled in an eligible country as well as corporate debt guaranteed by the government of eligible countries.
Money Market Instruments/ Financial Institutions Securities	Time deposits, certificates of deposit, reverse repurchase agreements and other obligations issued or unconditionally guaranteed by a bank or other financial institution domiciled in an eligible country, whose senior debt securities are rated at least A- and maturing in 3 months or less.
Developed Market Equities	A stock or any other security representing an ownership interest.
Swaps and Derivatives	Financial futures and options contracts, other derivative and associated instruments, forward rate agreements, swap transactions, options to enter into swap transactions in the future, and foreign exchange contracts.

Asset Composition of the Trust Funds & Financial Intermediary Funds Portfolio
Fiscal Years 2014-2018

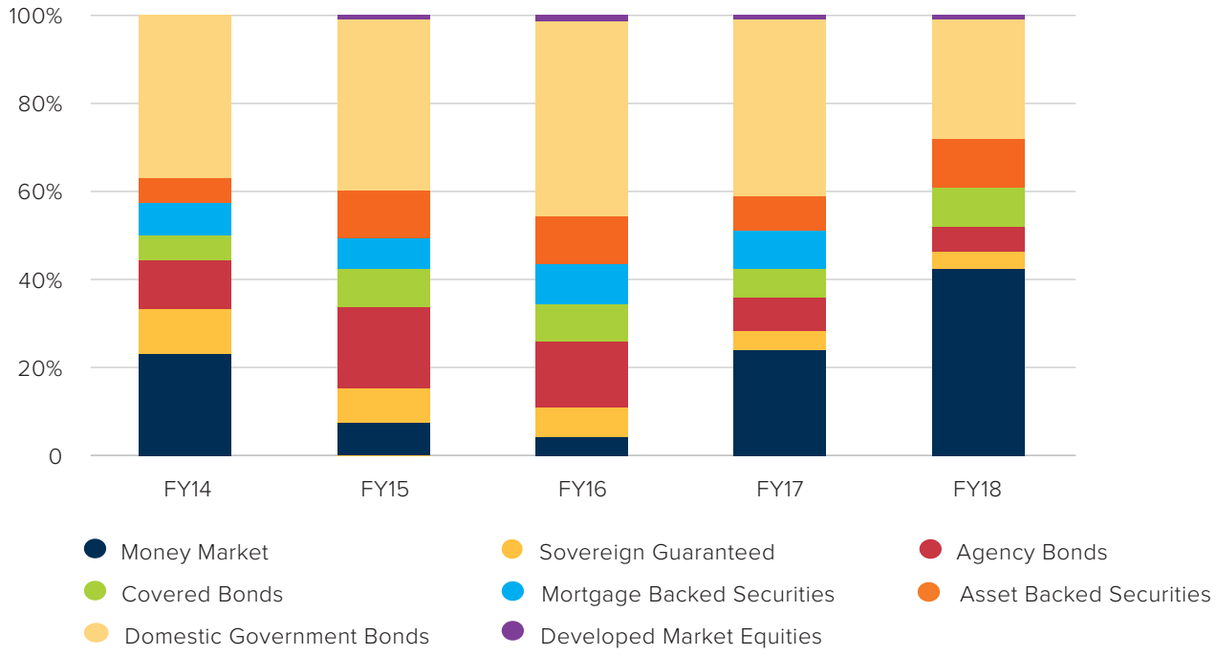
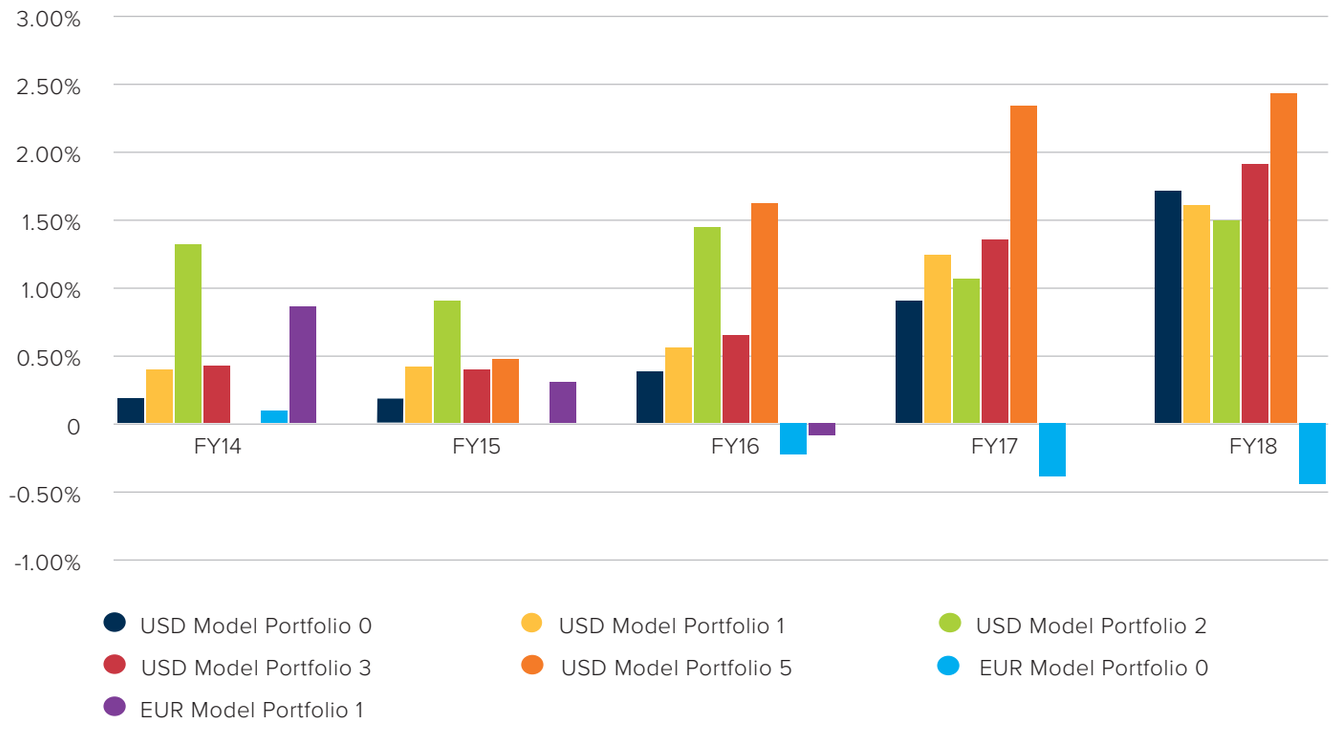


Photo by Dominic Chavez from World Bank Photo Collection

INVESTMENT PERFORMANCE

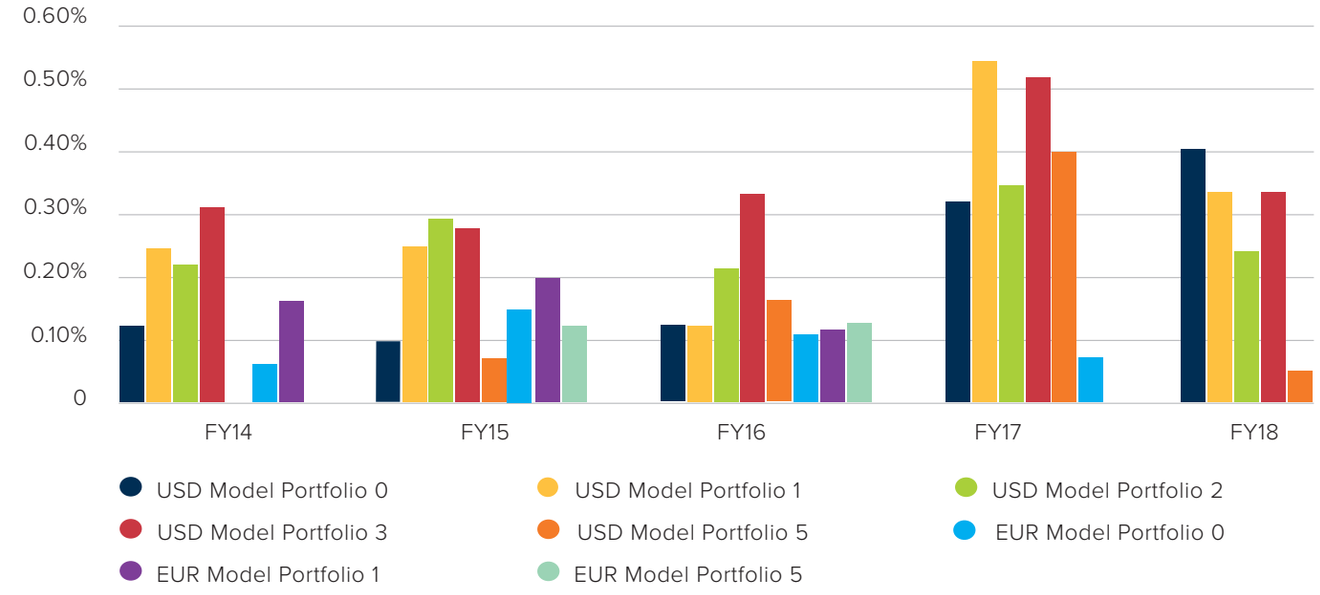
The investment portfolios for trust funds and FIFs have outperformed their Investment Products benchmarks over the past five years, reflecting the prevailing market conditions, which have been characterized by historically low fixed income yields and increased interest rate volatility. When interest rates decrease in major markets, bonds providing a fixed coupon income will increase in market value, and this will increase the total return from holding these bonds (see also technical box on “Impact of Market Yields on Fixed Income Portfolios”).

Portfolio Returns of Trust Funds
Fiscal Years 2014-2018



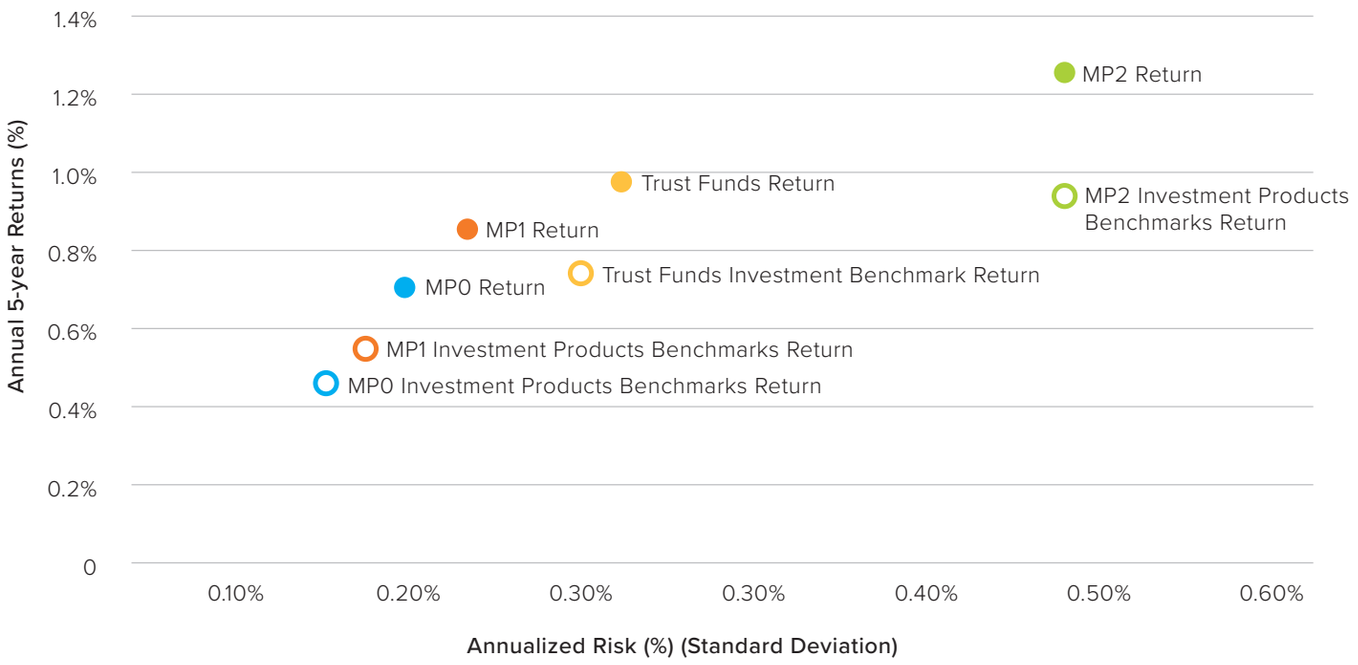
Over the past five-year period, the World Bank has been able to deliver investment returns over and above the primary capital preservation objective for investment portfolios of trust funds and FIFs. This was achieved through an effective asset allocation process and active portfolio management by the World Bank Treasury. More, excess returns were posted by the model portfolios against their Investment Products benchmarks, as shown in the chart. Over the past five years, the excess return translated into an income estimated at around $380 million for the investment portfolio of trust funds and FIFs.

Excess Returns of Trust Funds Model Portfolios vs Benchmarks
Fiscal Years 2014-2018



To further illustrate, the accompanying chart highlights the overall higher returns relative to risk of the model portfolios compared to that of the benchmark allocations.

Trust Fund Historical Total Return and Risk Characteristics for Trust Funds and Financial Intermediary Funds



RISK MANAGEMENT

The risk tolerance or the risk-taking capacity of the trust funds and FIFs investment portfolios is considered to be very conservative. Conditional Value-at-Risk (CVaR) measure is the primary risk measure used in the management of the model portfolios for trust funds and FIFs and is defined as limiting the estimated average loss to the portfolio in the worst 1% of loss events. The World Bank Model Portfolios have their overall market risk constrained by a CVaR measure as follows:

Model Portfolio 1 – 99% CVaR of -25 basis points
Model Portfolio 2 – 99% CVaR of -100 basis points
Model Portfolio 4 – 99% CVaR of -100 basis points

Model Portfolios 3 and 5 are further subject to separate sets of investment guidelines set forth in the contractual undertakings governing the relationships with the relevant entities.

In addition to the information embedded in the risk measure (which neatly captures the perceived risk preferences of trust fund clients), CVaR also has desirable statistical features that make it preferable to alternative risk measures such as the probability of negative return or Value at Risk (VaR). These qualities include the following:

- In general, CVaR is a superior risk measure to probability of negative returns or the VaR measure. In normal market environments (i.e., expected returns are assumed to be normally distributed), the three measures behavior is equivalent. In non-normal environments, however, using CVaR enables investors to limit the magnitude of tail loss (i.e. the full spectrum of adverse scenarios beyond a simple confidence level), while probability of negative return does not address the magnitude of loss and the VaR measure only addresses losses at one confidence level.

- In addition, in the current low interest rate environment, the probability of negative return measure is very sensitive to small changes in yield levels and may signal frequent and unnecessary asset allocation changes which may result in unnecessary transaction costs. The CVaR measure is found to be less reactive to small yield changes and can significantly reduce unnecessary rebalancing transactions based on empirical studies.

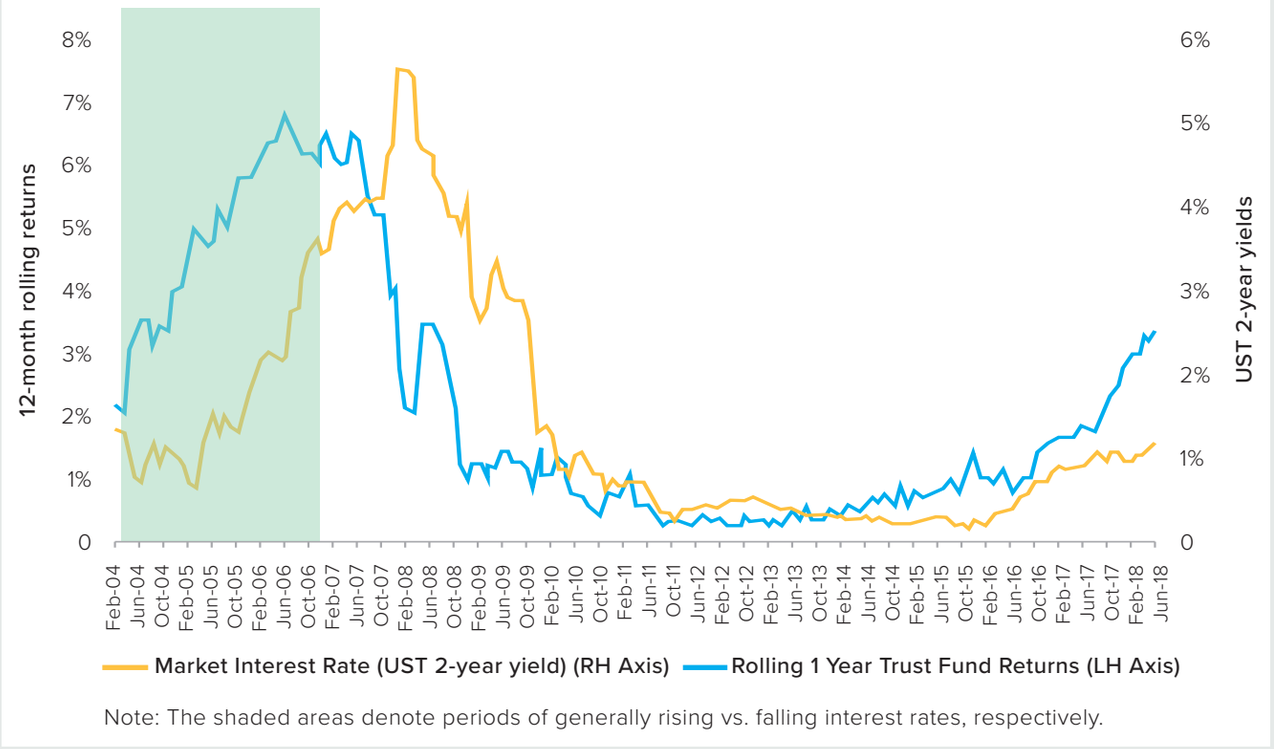
Photo by Curt Carnemark from World Bank Photo Collection

Technical Box - Impact of Market Yields on Fixed Income Portfolios

Investment returns on high quality fixed income portfolios are made up of two components: (i) periodic coupon income at the fixed contractual interest rate, and (ii) price changes, or change in market value of principal due to changes in interest rates. All other things being equal, an increase in interest rates results in a decrease in the value of the original investment in fixed coupon bonds; conversely, a decrease in market interest rates results in an increase in the value of the original bond investment. If bonds are held until their maturity date, there will be no impact from these temporary (mark-to-market) price changes on the total investment return earned at maturity.

If the second component of investment returns (i.e. changes in price) is negative over a given period, and its magnitude exceeds the periodic coupon income, the total investment return over the reporting period can be negative, thus resulting in a decrease in the overall value of the bond investment. While longer maturity bonds typically carry a higher interest rate and thus generate higher coupon income relative to shorter maturity bonds, they are also more susceptible to market price changes as a result of a change in interest rates. Other things being equal, conservative portfolios with a limited tolerance for negative returns tend to have shorter portfolio durations; and the lower the level of market interest rates, the shorter the portfolio duration will have to be in order to preclude any reported losses.

The chart below shows the historical rolling 12-month returns of USD Model Portfolio 1 (as a proxy for the investment portfolio of trust funds and FIFs) against the yields on US Treasury 2-year bonds (as a proxy for the level of US interest rates). The declining interest rates in 2007-2008 were followed by increasing or high investment returns. In contrast, periods of rising rates, such as in 2004-2005, have seen declining or low reported total investment returns. However, during that period, the coupon income, as indicated by the level of yields, was high enough to cushion the negative impact from falling market prices, such that the total return of the investment remained positive. With interest rates remaining near historically low levels in the United States and other major markets following the global financial crisis since 2009, returns of USD Model Portfolio 1 (and the investment portfolios of trust funds and FIFs as a whole) remain low in historic terms.



Note: The shaded areas denote periods of generally rising vs. falling interest rates, respectively.

GLOSSARY OF TERMS

Financial Intermediary Funds (FIFs)

Financial Intermediary Funds are financial arrangements that leverage a variety of public and private resources in support of global development initiatives and partnerships. These funds involve financial engineering or complex finance schemes, or where the World Bank provides a specified set of administrative, financial, and/or operational services.

General Investment Authorizations

General Investment Authorization for IBRD (Resolution No. 2012-0008), adopted by the Executive Directors on December 5, 2012, as may be amended from time to time, and General Investment Authorization for IDA (Resolution no. IDA 2012-0005), adopted by the Executive Directors on December 5, 2012, as may be amended from time to time.

Investment Pool

World Bank trust funds and FIFs assets invested and managed by TRE as a commingled portfolio.

Investment Products

Sub-portfolios covering specific market sectors, including, but not limited to, US Agency MBS, UST 1-5 year, TIPS etc.

Model Portfolios

Combinations of Investment Products that seek to generate a specific risk/return profile or other specified investment objective. They reflect the actual portfolio holdings.

Strategy

World Bank Investment Strategy, reviewed and approved within the World Bank Governance arrangements, which describes the investment framework for World Bank trust funds and FIFs.

Trust Fund

A financing arrangement set up to accept contributions from one or more donors to be held and disbursed/transferred by a World Bank Group entity as trustee in accordance with agreed terms.

Photo by Jerome Ascano from World Bank Photo Collection

48.991
31.012

The World Bank Group

1818 H St NW

Washington, D.C.

MODEL PORTFOLIO 0

CASH & CASH EQUIVALENTS

JUNE 2018

INVESTMENT OBJECTIVE

Model Portfolio 0 aims to enhance returns through investment in cash and cash equivalent securities, subject to ensuring liquidity and timely availability of cash when needed. Model Portfolio 0 houses trust funds and FIFs that are invested in cash, and the working capital for trust funds and FIFs that are invested in other Model Portfolios. Model Portfolio 0 has two investment classes in USD and EUR.

INCEPTION DATE

1 April 2008

CURRENCIES

USD and EUR

INVESTMENT UNIVERSE

The investment universe of Model Portfolio 0 includes the following money market instruments: time deposits, certificates of deposit, reverse repurchase agreements and other obligations issued or unconditionally guaranteed by a bank or other financial institution domiciled in an eligible country, whose senior debt securities are rated at least A- and maturing in 3 months or less.

INVESTMENT HORIZON

Up to 3 months

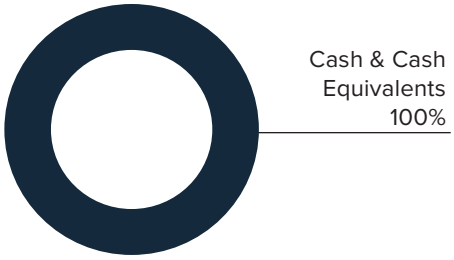
ASSETS UNDER MANAGEMENT

USD 4,143 million
EUR 823 million

ASSET ALLOCATION

Model Portfolio 0 is fully invested in cash and cash equivalent securities.

Figure 1: Asset Allocation of Model Portfolio 0



BENCHMARKS

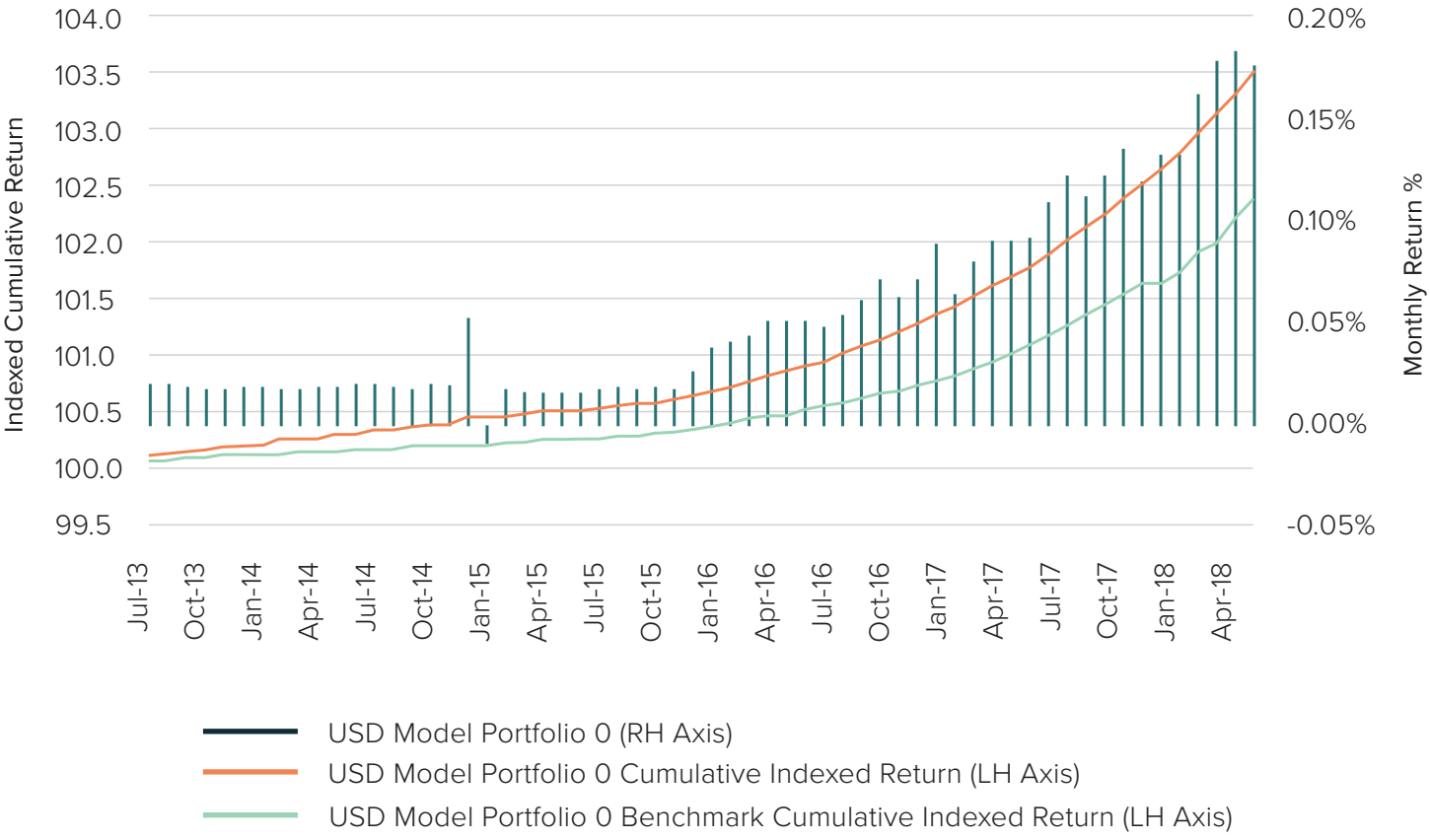
Each investment class under Model Portfolio 0 (USD and EUR) has a benchmark against which risk and return limits are measured. These benchmarks are:

Strategy	Benchmark
USD Model Portfolio 0	Bank of America/Merrill Lynch USD Overnight Deposit Bid Rate Index
EUR Model Portfolio 0	Bank of America/Merrill Lynch EUR Overnight Deposit Bid Rate Index

HISTORICAL RETURNS

The chart below shows the historical investment performance of USD Model Portfolio 0 over the last 5 years. Since inception, USD Model Portfolio 0 has not incurred an investment loss over its investment horizon, though it may go through periods where it incurs negative returns.

Figure 2: Asset Allocation of Model Portfolio 0



MODEL PORTFOLIO 1

CAPITAL PRESERVATION OVER A 1-YEAR HORIZON

JUNE 2018

INVESTMENT OBJECTIVE

Model Portfolio 1 is a high quality, short duration fixed income portfolio which aims to maximize returns subject to a Board specified risk constraint. The risk constraint is expressed as the 1-year 99% Conditional VaR being no worse than -25 bps (-1%).

INVESTMENT UNIVERSE

The investment universe of Model portfolio 1 includes obligations of local currency Sovereigns, foreign currency Sovereigns, Agencies, other official entities and Multilaterals rated at least AA-; Corporates and Asset Backed Securities rated at least AAA; deposits with banks rated at least A-; and a broad range of derivatives.

ASSET ALLOCATION

Model Portfolio 1 can be invested in one or more of three underlying strategies: 0-1 year Treasuries, 1-5 year Treasuries, and LIBOR Plus. The overall asset allocation of Model Portfolio 1 is determined by the World Bank Treasury's Investment Management Department with the aim of maximizing returns while remaining within its risk constraints.

INCEPTION DATE

31 January 2005

CURRENCIES

USD and EUR

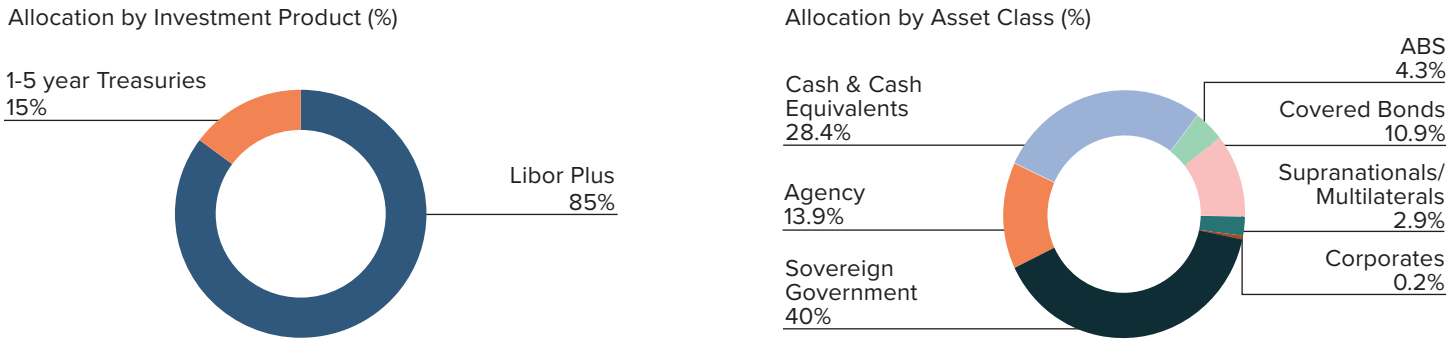
INVESTMENT HORIZON

1 year

ASSETS UNDER MANAGEMENT

USD 11,514 million

Figure 3: Asset Allocation of Model Portfolio 1



BENCHMARKS

Each of the three Investment Products within USD Model Portfolio 1 has a benchmark, against which any limits related to relative risk and return for each Investment Product are measured. The Investment Products and their corresponding benchmarks are as follows:

Strategy	Benchmark
0-1 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 0-1 Index
1-5 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 1-5 Index
Libor Plus	Bank of America/Merrill Lynch USD 3-Month LIBID Average Index

RISK STATISTICS

Generating enhanced investment returns while adhering to the investment objective of capital preservation and ensuring sufficient liquidity to meet foreseeable cash flow needs is undertaken within a conservative risk management framework which limits the estimated average loss to the portfolio in the worst 1% of loss events. This Conditional Value-at-Risk (CVaR) measure is the primary risk constraint used in the management of Model Portfolio 1. The overall market risk within Model Portfolio 1 is constrained by a CVaR measure as follows: **99% CVaR of no greater than -25 basis points.**

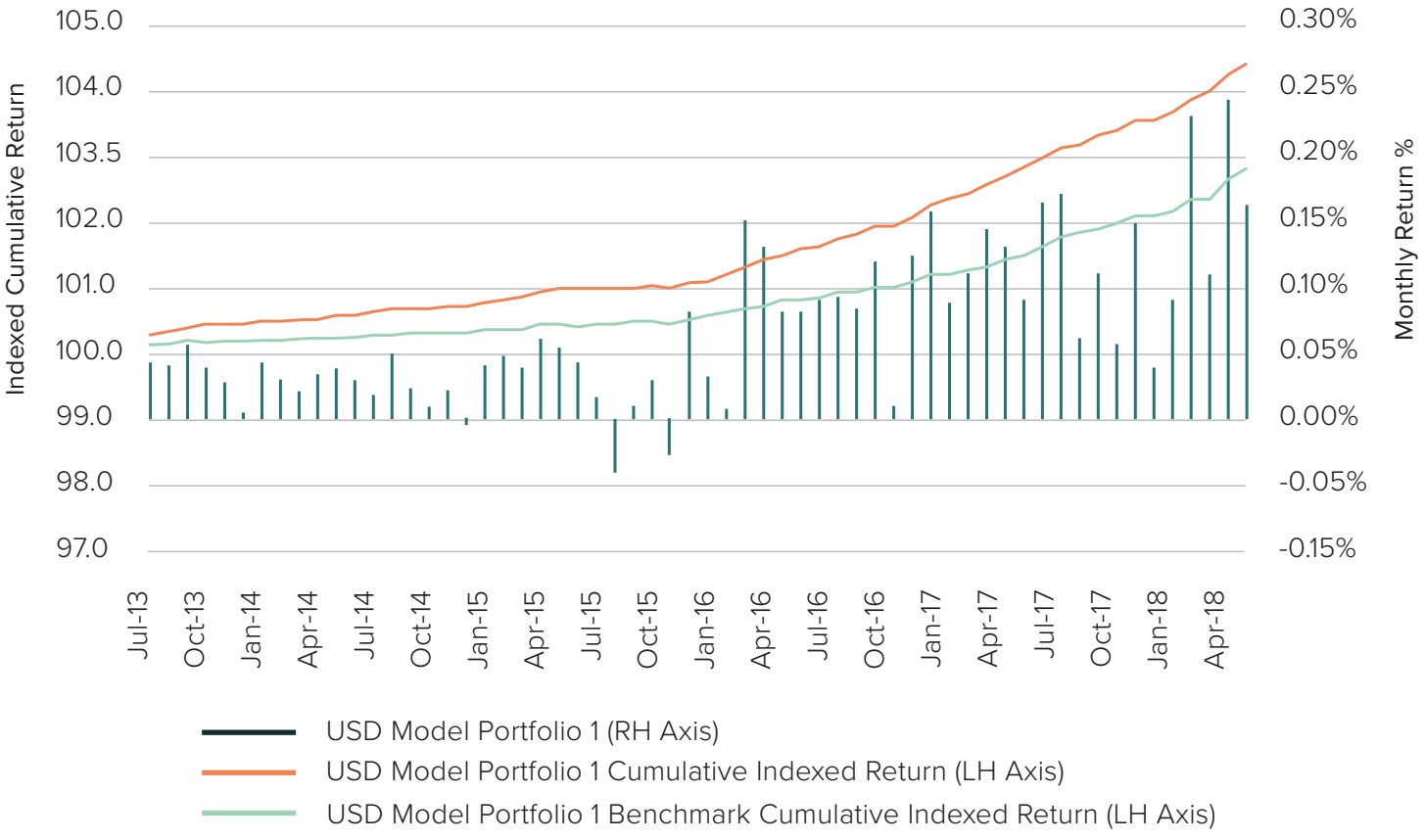
The World Bank Treasury continually monitors the asset allocation of Model Portfolio 1 to ensure it best represents the investment objective and remains compliant with the relevant risk constraint. A team of investment professionals analyzes market movements and macro-economic trends carefully and stress tests each Model Portfolio against possible future scenarios: the *current* scenario in which the model assumes that interest rates will remain unchanged over the investment horizon, and the *forward* scenario, in which the model assumes that yields will converge to forward rates (estimated using the Nelson-Siegel model).

As of 30 June 2018, the CVaR for Model Portfolio 1 at 99% confidence interval under each scenario was 1.96% and 2.02% respectively, both well within the risk constraint. This is interpreted to mean that in the worst 1% of cases, the portfolio is still expected to achieve positive returns.

HISTORICAL RETURNS

The chart below shows the historical investment performance of USD Model Portfolio 1 over the past 5 years. Since inception, Model Portfolio 1 has never incurred an investment loss over its investment horizon although it may go through periods where it incurs negative returns.

Figure 4: Asset Allocation of Model Portfolio 1



MODEL PORTFOLIO 2

CAPITAL PRESERVATION OVER A 3-YEAR HORIZON

JUNE 2018

INVESTMENT OBJECTIVE

The investment objective of USD Model Portfolio 2 is to maximize returns over a 3 year investment horizon subject to a Board specified risk constraint. The risk constraint of Model Portfolio 2 is expressed as the 3-year 99% Conditional VaR being no worse than -100 bps (-1%).

INVESTMENT UNIVERSE

The investment universe of Model Portfolio 2 includes obligations of any local currency Sovereigns; obligations of foreign currency Sovereigns, Agencies, other official entities and Multilaterals rated at least AA-; Corporates and Asset Backed Securities rated at least AAA; deposits with banks rated at least A-; and a broad range of derivatives.

ASSET ALLOCATION

Model Portfolio 2 can be invested in one or more of four underlying strategies (known as Investment Products): 0-1 year Treasuries, 1-5 year Treasuries, Mortgage Backed Securities, and LIBOR Plus. The overall asset allocation of Model Portfolio 2 is determined by the World Bank Treasury's Investment Management Department with the aim of maximizing returns while remaining within its risk constraints.

INCEPTION DATE

31 January 2005

CURRENCIES

USD

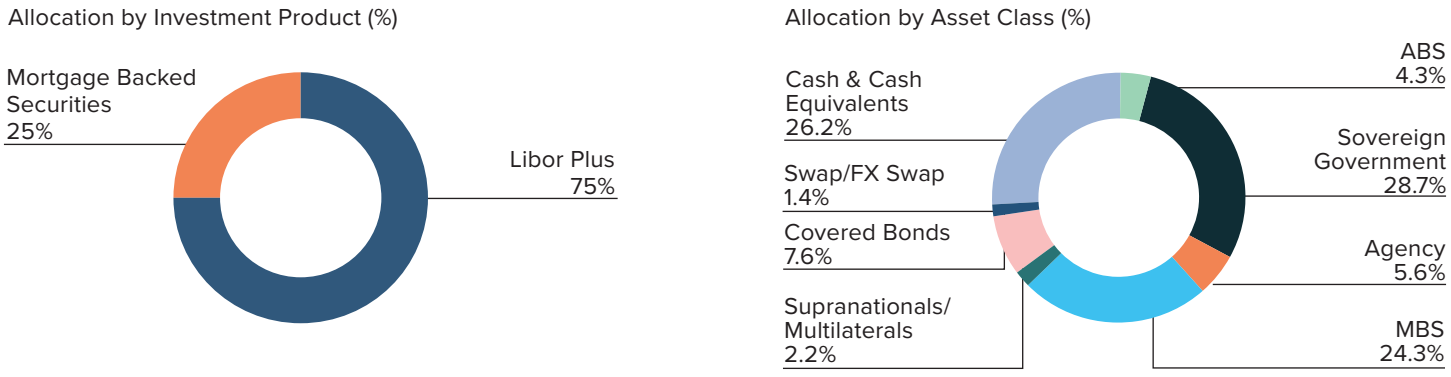
INVESTMENT HORIZON

3 years

ASSETS UNDER MANAGEMENT

USD 6,834 million

Figure 5: Asset Allocation of Model Portfolio 2



BENCHMARKS

Each of the four Investment Products within USD Model Portfolio 2 has a benchmark, against which any limits related to relative risk and return for each Investment Product are measured. The Investment Products and their corresponding benchmarks are as follows:

Strategy	Benchmark
0-1 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 0-1 Index
1-5 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 1-5 Index
Mortgage Backed Securities	Bloomberg US MBS Index
Libor Plus	Bank of America/Merrill Lynch USD 3-Month LIBID Average Index

RISK STATISTICS

Generating enhanced investment returns while adhering to the investment objective of capital preservation and ensuring sufficient liquidity to meet foreseeable cash flow needs is undertaken within a conservative risk management framework which limits the estimated average loss to the portfolio in the worst 1% of loss events. This Conditional Value-at-Risk (CVaR) measure is the primary risk constraint used in the management of Model Portfolio 2. The overall market risk within Model Portfolio 2 is constrained by a CVaR measure as follows: **99% CVaR of no greater than -100 basis points.**

The World Bank Treasury continually monitors the asset allocation of Model Portfolio 2 to ensure it best represents the investment objective of the portfolio while remaining within the relevant risk parameters.

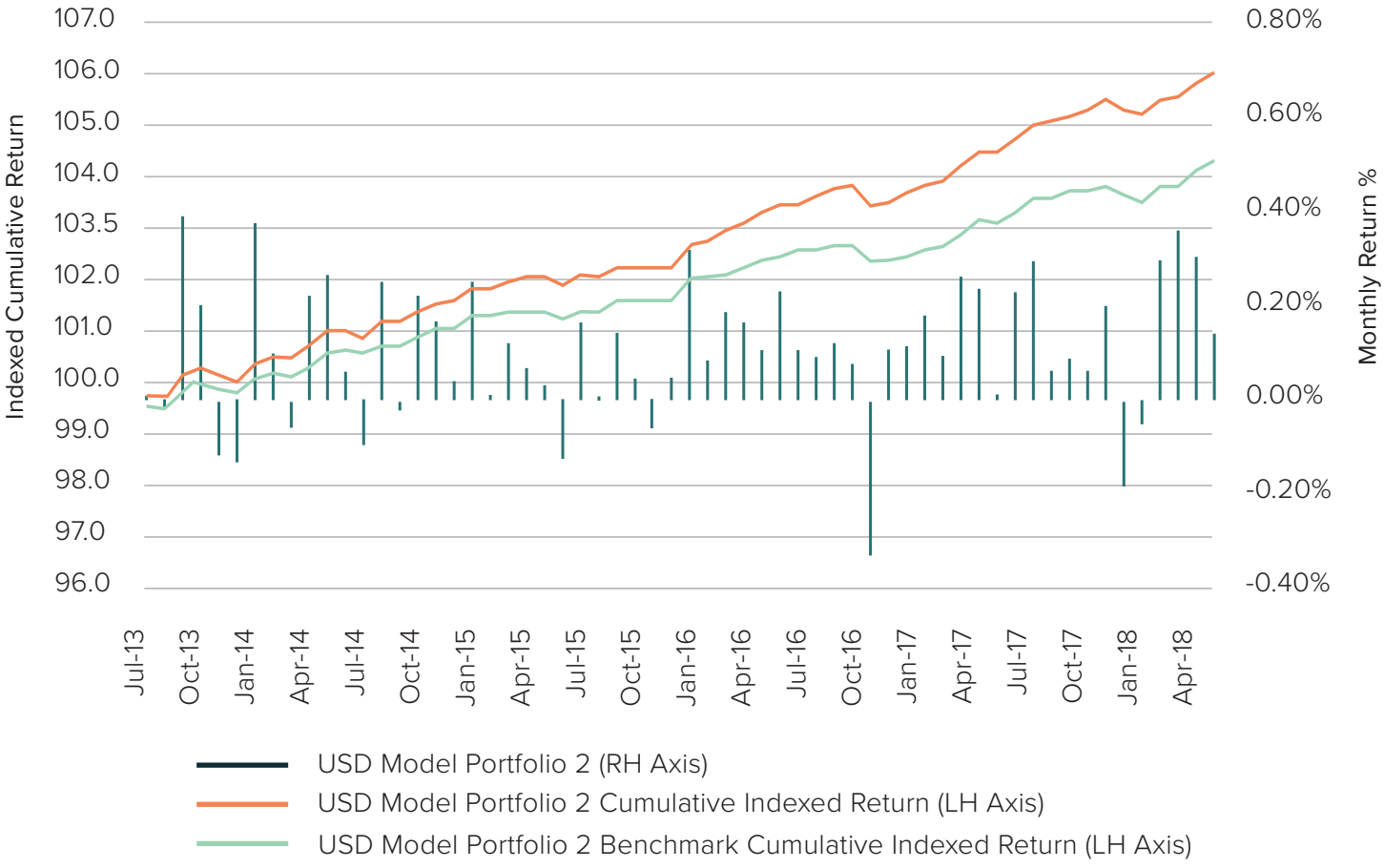
A team of investment professionals analyzes market movements and macro-economic trends carefully and stress tests each Model Portfolio against two possible future scenarios: the *current* scenario in which the model assumes that interest rates will remain unchanged over the investment horizon, and the *forward* scenario in which the model assumes that yields will converge to forward rates (estimated using the Nelson-Siegel model).

As of 30 June 2018, the CVaR for Model Portfolio 2 at 99% confidence interval under the *current* and *forward* scenarios was 5.36% and 6.61% respectively, both well within the risk constraint.

HISTORICAL RETURNS

The chart below shows the historical investment performance of USD Model Portfolio 2 over the past 5 years. Since inception, Model Portfolio 2 has never incurred an investment loss over its investment horizon although it may go through periods where it incurs negative returns.

Figure 6: Asset Allocation of Model Portfolio 2



MODEL PORTFOLIO 3

LIBOR BASED OVER A 1-YEAR HORIZON

JUNE 2018

INVESTMENT OBJECTIVE

USD Model Portfolio 3 was established for a specific mandate with interest rate sensitivity matching that of liabilities funding the portfolio.

INVESTMENT UNIVERSE

The investable universe is restricted to obligations of any local currency Sovereigns; foreign currency Sovereigns, Agencies, Other Official Entities and Multilaterals rated at least AA-; Corporates and Asset Backed Securities rated at least AAA; and Deposits with Banks rated at least A-.

ASSET ALLOCATION

USD Model Portfolio 3 can be invested in one or more strategies (known as Investment Products), the combination of which is known as the *asset allocation*. This asset allocation is the responsibility of the World Bank Treasury's Investment Management Department (IMD) and is actively managed by IMD with the aim of maximizing returns while ensuring that USD Model Portfolio 3 remains in compliance with its risk constraints.

INCEPTION DATE

11 June 2006

CURRENCIES

USD

INVESTMENT HORIZON

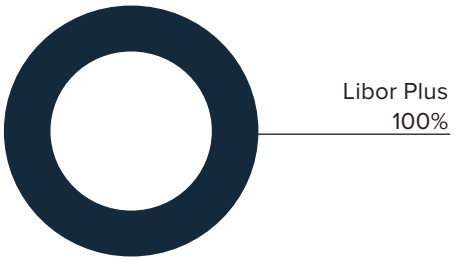
1 year

ASSETS UNDER MANAGEMENT

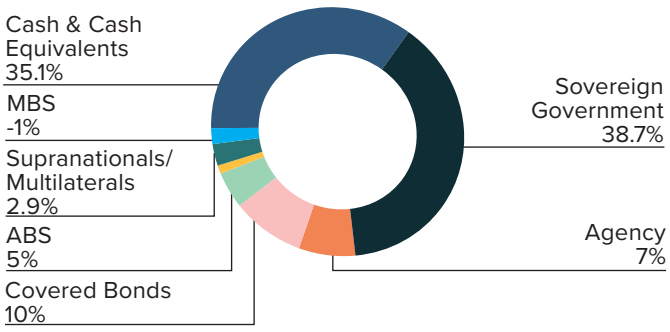
USD 965 million

Figure 7: Asset Allocation of Model Portfolio 3

Allocation by Investment Product (%)



Allocation by Asset Class (%)



BENCHMARKS

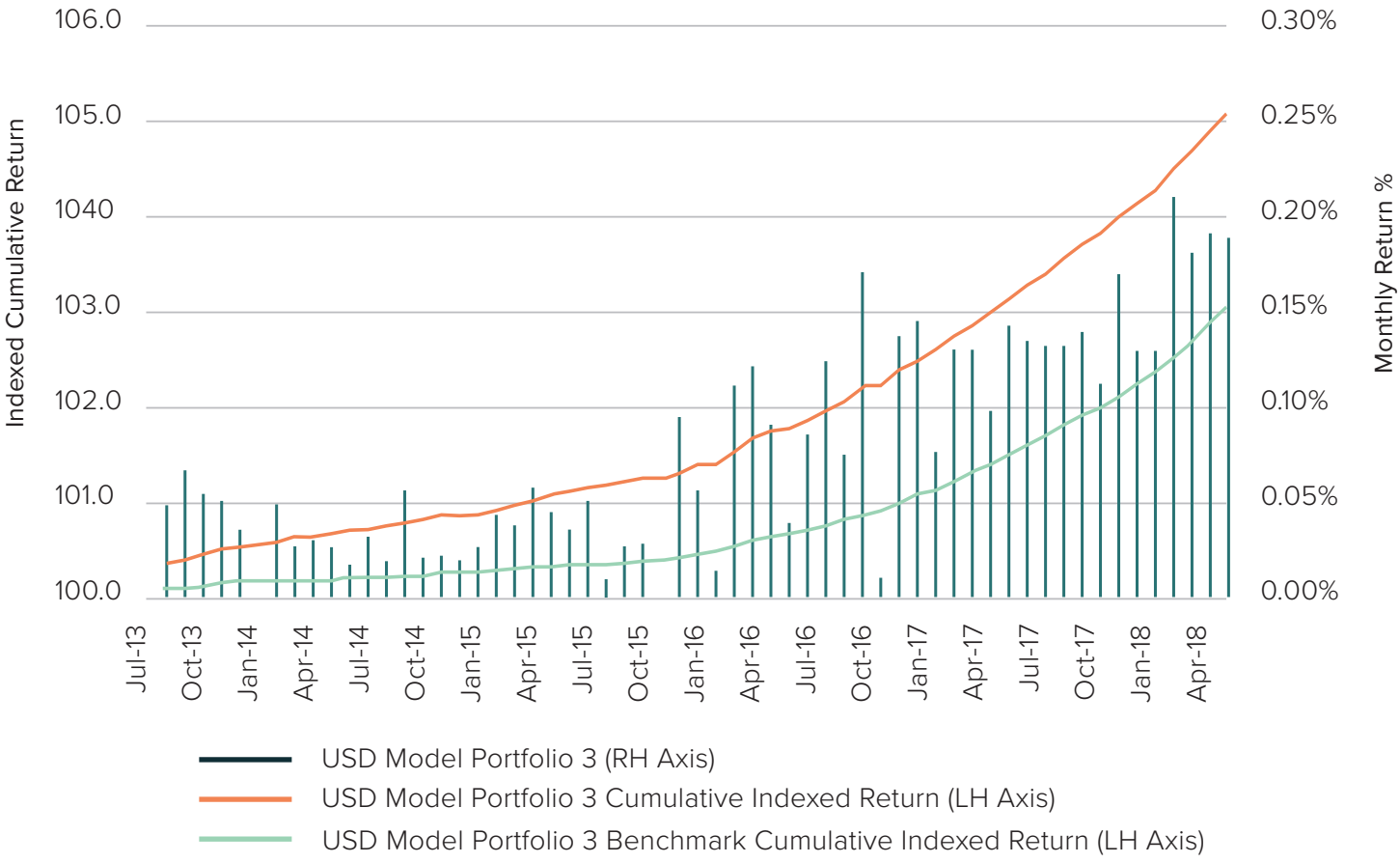
Each Investment Product forming part of USD Model Portfolio 3's asset allocation has a benchmark, against which any limits related to relative risk and return for each Investment Product are measured. Given USD Model Portfolio's 3 current asset allocation, the relevant benchmark is:

Strategy	Benchmark
Libor Plus	Bank of America/Merrill Lynch USD 3-Month LIBID Average Index

HISTORICAL RETURNS

The chart below shows the historical investment performance of USD Model Portfolio 3 over the past 5 years. Since inception, USD Model Portfolio 3 has never incurred an investment loss over its investment horizon although it may go through periods where it incurs negative returns.

Figure 8: Asset Allocation of Model Portfolio 3



MODEL PORTFOLIO 4

RETURN OPTIMIZATION OVER A 5-YEAR HORIZON

JUNE 2018

INVESTMENT OBJECTIVE

The investment objective of USD Model Portfolio 4 is to maximize returns over a 5 year investment horizon subject to a Board specified risk constraint. The risk constraint of USD Model Portfolio 4 is expressed as the 5-year 99% Conditional VaR being no worse than -100 bps (-1%).

INCEPTION DATE

TBD

CURRENCIES

USD

INVESTMENT HORIZON

5 years

ASSETS UNDER MANAGEMENT

TBD

INVESTMENT UNIVERSE

The investable universe is restricted to obligations of any local currency Sovereigns; obligations of foreign currency Sovereigns, Agencies, Other Official Entities and Multilaterals rated at least AA-; Corporates and Asset Backed Securities rated at least AAA; and deposits with banks rated at least A-.

ASSET ALLOCATION

USD Model Portfolio 4 can be invested in one or more of four underlying strategies (known as Investment Products): 0-1 year Treasuries, 1-5 year Treasuries, Mortgage-backed Securities, LIBOR Plus and Equities. The overall asset allocation of USD Model Portfolio 4 is determined by the World Bank Treasury's Investment Management Department (IMD) with the aim of maximizing returns while remaining within its risk constraints.

BENCHMARKS

Each of the Investment Products within USD Model Portfolio 4 has a benchmark, against which any limits related to relative risk and return for each Investment Product are measured. The Investment Products and their corresponding benchmarks are as follows:

Strategy	Benchmark
0-1 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 0-1 Index
1-5 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 1-5 Index
Mortgage Backed Securities	Barclays Capital US MBS Index
Libor Plus	Bank of America/Merrill Lynch USD 3-Month Deposit Bid Rate Average Index
Developed Market Equities	MSCI World Index - Hedged

RISK STATISTICS

Generating enhanced investment returns while adhering to the investment objective of capital preservation and ensuring sufficient liquidity to meet foreseeable cash flow needs is undertaken within a conservative risk management framework which limits the estimated average loss to the portfolio in the worst 1% of loss events. This Conditional Value-at-Risk (CVaR) measure is the primary risk constraint used in the management of Model Portfolio 4. The overall market risk within Model Portfolio 4 is constrained by a CVaR measure as follows: **99% CVaR of no greater than -100 basis points.**

The World Bank Treasury will continually monitor the asset allocation of Model Portfolio 4 to ensure it best represents the investment objective of the portfolio while remaining within the relevant risk parameters.

MODEL PORTFOLIO 5

CAPITAL PRESERVATION OVER A 5-YEAR HORIZON

JUNE 2018

INVESTMENT OBJECTIVE

USD Model Portfolio 5 was established for a specific mandate, with the investment objectives of capital preservation and maximizing returns, subject to prudent risk limits and maintaining adequate liquidity to meet foreseeable cash flow needs. The risk constraint of Model Portfolio 5 is expressed as the 5-year 95% Conditional VaR being no worse than -100 bps (-1%).

INCEPTION DATE

31 October 2014

CURRENCIES

USD

INVESTMENT UNIVERSE

The investment universe of Model Portfolio 5 includes obligations of any local currency Sovereigns; obligations of foreign currency Sovereigns, Agencies, other official entities and Multilaterals rated at least AA-; Corporates and Asset Backed Securities rated at least AAA; deposits with banks rated at least A-; and a broad range of derivatives.

INVESTMENT HORIZON

5 years

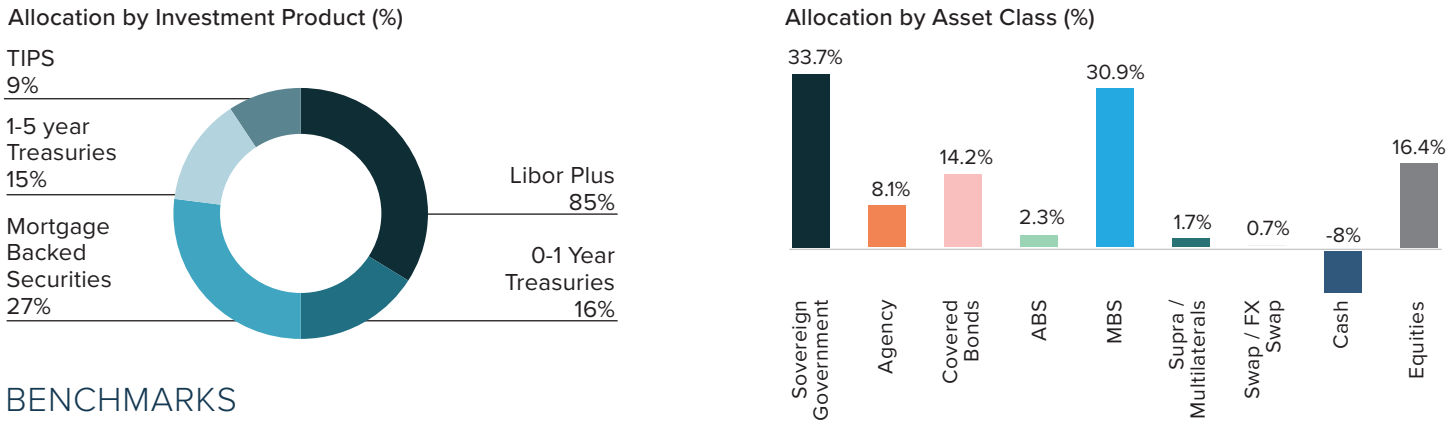
ASSETS UNDER MANAGEMENT

USD 2,169 million

ASSET ALLOCATION

USD Model Portfolio 5 can be invested in one or more of six underlying strategies (known as Investment Products): Cash, 0-1 year Treasuries, 1-5 year Treasuries, Mortgage Backed Securities, LIBOR Plus and Equities. The overall asset allocation of USD Model Portfolio 5 is determined by the World Bank Treasury's Investment Management Department (IMD) with the aim of maximizing returns while remaining within its risk constraints.

Figure 9: Asset Allocation of Model Portfolio 5



BENCHMARKS

Each of the four Investment Products within USD Model Portfolio 5 has a benchmark, against which any limits related to relative risk and return for each Investment Product are measured. The Investment Products and their corresponding benchmarks are as follows:

Strategy	Benchmark
0-1 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 0-1 Index
1-5 Year Treasuries	Bank of America/Merrill Lynch US Treasuries 1-5 Index
TIPS	5-10 year US TIPS Index
Mortgage Backed Securities	Bloomberg US MBS Index
Libor Plus	Bank of America/Merrill Lynch USD 3-Month LIBID Average Index
Developed Market Equities	MSCI World Index - Hedged

* The negative allocation to cash and cash equivalents is a result of repurchase agreements that are used to purchase yield enhancing securities.

RISK STATISTICS

Generating enhanced investment returns while adhering to the investment objective of capital preservation and ensuring sufficient liquidity to meet foreseeable cash flow needs is undertaken within a conservative risk management framework which limits the estimated average loss to the portfolio in the worst 1% of loss events. This Conditional Value-at-Risk (CVaR) measure is the primary risk constraint used in the management of Model Portfolio 2. The overall market risk within Model Portfolio 2 is constrained by a CVaR measure as follows: **99% CVaR of no greater than -100 basis points.**

The World Bank Treasury continually monitors the asset allocation of Model Portfolio 5 to ensure it best represents the investment objective of the portfolio while remaining within the relevant risk parameters.

A team of investment professionals analyzes market movements and macro-economic trends carefully and stress tests each Model Portfolio against two possible future scenarios: the *current* scenario in which the model assumes that interest rates will remain unchanged over the investment horizon, and the *forward* scenario in which the model assumes that yields will converge to forward rates (estimated using the Nelson-Siegel model).

As of 30 June 2018, the CVaR for Model Portfolio 5 at 99% confidence interval under the *current* and *forward* scenarios was 4.92% and 6.02% respectively, both well within the risk constraint.

HISTORICAL RETURNS

The chart below shows the historical investment performance of USD Model Portfolio 5 over the past 5 years. Since inception, Model Portfolio 5 has never incurred an investment loss over its investment horizon although it may go through periods where it incurs negative returns.

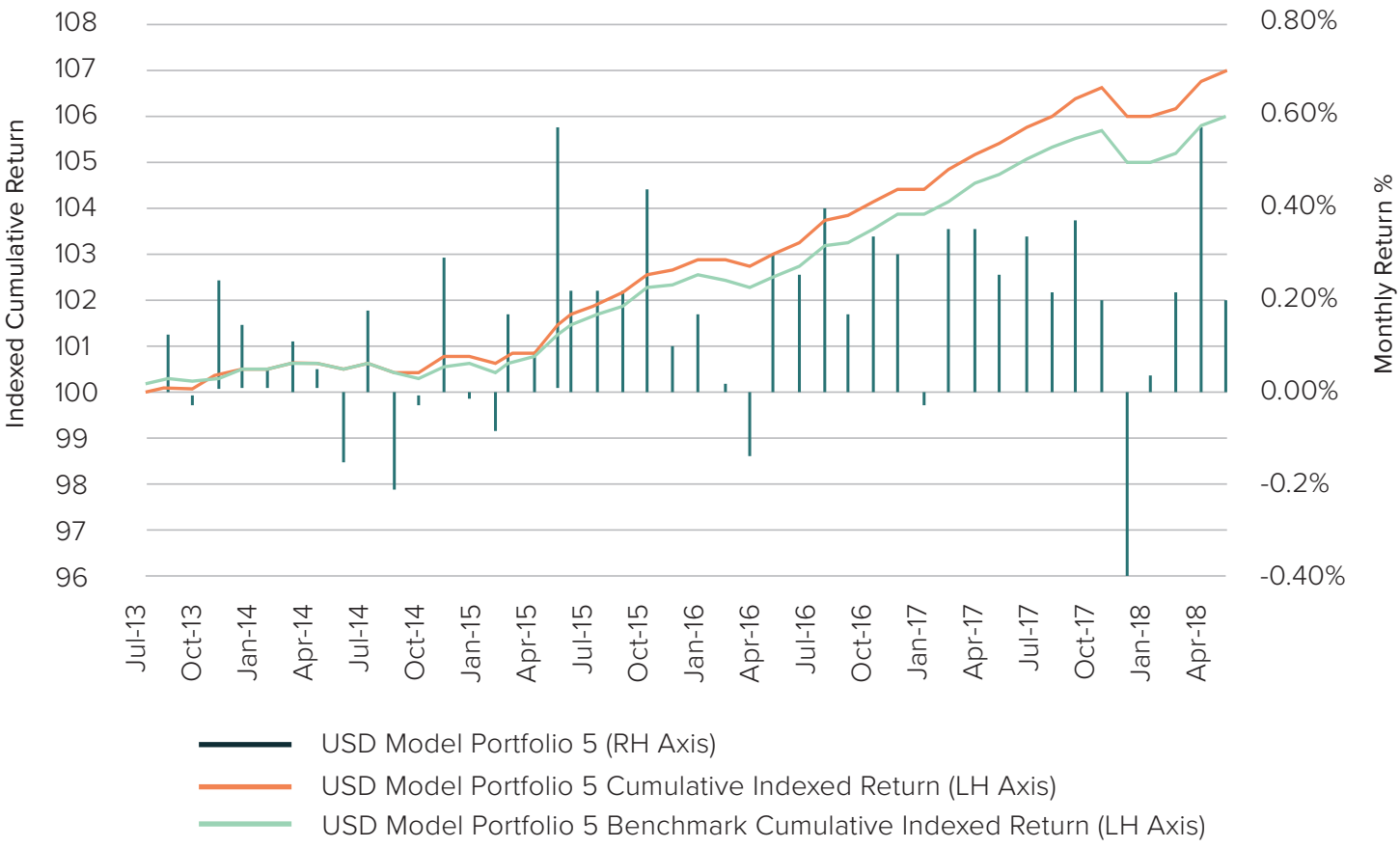



Figure 10: Asset Allocation of Model Portfolio 5