



**GLOBAL ENVIRONMENT FACILITY**  
INVESTING IN OUR PLANET



GEF/C.50/12  
May 19, 2016

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50<sup>th</sup> GEF Council Meeting  
June 07 – 09, 2016  
Washington, D.C.

## **INVESTMENT STRATEGY REVIEW OF THE GEF TRUST FUND**

**(Prepared by the Trustee)**

**Recommended Council Decision**

The Council, having reviewed document GEF/C.50/12, *Investment Strategy Review of the GEF Trust Fund*, takes note of the opportunities available to the GEF to potentially enhance the investment returns through diversification of investment options, and approves the GEF's participation in World Bank's Model Portfolio 4 that features a five year investment horizon including a limited allocation to equities.

## Executive Summary

- i. The World Bank as Trustee for the Global Environment Facility (GEF) Trust Fund manages the GEF Trust Fund assets under the provisions of IBRD's and IDA's General Investment Authorizations<sup>1</sup>, which are approved by its Board of Executive Directors and determine the framework under which the Trustee provides investment management services to GEF Trust Fund.
- ii. All trust fund assets administered by the World Bank, including those of the GEF Trust Fund, 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 fund liquid assets can be invested.
- iii. The liquid assets of the GEF are currently invested across three investment Model Portfolios comprising entirely of investments in high quality fixed income securities as well as cash and cash equivalent securities for liquidity purposes.
- iv. The current market environment poses challenges for investors in conservative fixed income portfolios as yields on fixed-income instruments are at historically low levels and rising interest rates could result in unrealized or realized losses for fixed-income holdings<sup>2</sup>. In coming years, the investment income earned by the Pool is projected to remain at very low levels compared to historical averages under the current asset allocation framework.
- v. An Information Note entitled "*Investment Strategy Review of the GEF Trust Fund*" dated October 7, 2015 (*GEF/C.49/Inf. 10*) was submitted ahead of the 49<sup>th</sup> GEF Council Meeting held on October 20-22, 2015. That note explored the option of including an allocation to Model Portfolio 4 that features a five year investment horizon including an allocation to developed market equities. Model Portfolio 4 has been designed to potentially enhance the risk/return profile with diversification benefits through a broader investment universe, while retaining a capital preservation constraint and adhering to the risk management framework that overarches the World Bank's investment of development partner funds<sup>3</sup>. Model Portfolio 4 has been endorsed by the World Bank's Board, pursuant to receipt of written instruction from the relevant governing body, which in this case would be the GEF Council.
- vi. The equities exposure within Model Portfolio 4 will be achieved through replication of the MSCI World index<sup>4</sup>, a common benchmark providing exposure to over 1,600 large- and mid-cap stocks across 23 developed market countries<sup>5</sup> that has been shown to provide diversification and return enhancing benefits to a fixed income portfolio.

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<sup>1</sup> General Investment Authorization for IBRD (Resolution No. 97-1, adopted on April 18, 1997); General Investment Authority for IDA (Resolution No. 2001-1, adopted on January 23, 2001).

<sup>2</sup> The yield and price of a bond are inversely related so that when market interest rates rise, bond prices fall and vice versa.

<sup>3</sup> The new risk framework defines the risk tolerance as the expected maximum loss, as measured by the Conditional Value-at-Risk (CVaR), at the portfolio's investment horizon, not to exceed 1% at portfolio's investment horizon, with 99% confidence.

<sup>4</sup> Refer to Annex II for detail on the composition of the MSCI World index.

<sup>5</sup> Developed market countries include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US.

vii. The World Bank has extended its analysis for potential future inclusion of indices that incorporate environmental, social and governance (ESG) factors into the GEF's investment strategy for future consideration by the GEF Council.

viii. This paper aims to provide an overview of the World Bank's approach to the investment management of development partner funds (Section I) and specifically those of the GEF Trust Fund (Section II), a summary of the current market environment (Section III), and additional options available to the GEF Trust Fund in the context of this environment, including an allocation to developed market equities (Section IV). Within the equity context, this paper provides an overview of equity indices and presents an analysis of the potential impact that participation in a broader investment strategy might have on the risk/return profile of the GEF investment portfolio on both a historical (Section V) and forward looking (Section VI) basis.

## I. Background

1. The World Bank manages the GEF Trust Fund assets according to the provisions of IBRD's and IDA's General Investment Authorizations (GIAs)<sup>6</sup>, which are approved by the World Bank's Board of Executive Directors. These GIAs determine the framework under which the Trustee provides investment management services to the GEF Trust Fund, and specify the types of transactions and eligible investments in which the World Bank is authorized to transact.

2. All trust fund assets held in trust by the World Bank, including those of the GEF Trust Fund, are maintained in a commingled investment portfolio (the "Pool"). The Pool is comprised of Model Portfolios with differing investment characteristics in order to accommodate the specific investment objectives and risk tolerances of individual trust funds. *Model Portfolio 0* comprises bank deposits and money market instruments with an investment horizon of three months; *Model Portfolios 1* and *2* employ a greater selection of fixed income instruments with investment horizons of one and three years respectively. An illustration of these Model Portfolios' asset composition, investment horizon and eligibility criteria is provided in Annex I. Overall, all assets in the Pool are invested in a liquid and highly rated spectrum of eligible fixed income instruments.

3. A trust fund can have its total liquidity allocated to one or several of the available Model Portfolios subject to the fund's investment objectives, operational requirements, risk tolerances and investment horizons as well as being subject to the eligibility criteria.

4. Over long periods of time, returns generated by the longer horizon *Model Portfolio 2* are expected to be higher than those generated by the shorter horizon *Model Portfolios 0* and *1* due to the ability to invest in broader range of fixed income assets afforded by the longer investment horizon. For example, over the last five years, a trust fund which invested in *Model Portfolio 0* would have seen an annualized absolute return of 0.25% whereas the same investment in *Model Portfolios 1* and *2* would have seen annualized returns of 0.46% and 1.24% respectively<sup>7</sup>.

## II. Investment Management and Historical Performance of the GEF Trust Fund

5. The investment objectives for the GEF Trust Fund are to optimize investment returns subject to preserving capital and maintaining adequate liquidity to meet foreseeable cash flow needs, within a conservative risk management framework<sup>8</sup>.

6. Of the GEF Trust Fund's liquid assets of approximately USD 3.33 billion<sup>9</sup>, approximately 85% is invested in *Model Portfolio 2*, with the remaining assets in *Model Portfolios 0* and *1* for liquidity purposes. On a quarterly basis, the World Bank reviews the balances in each Model Portfolio against projected cash flows and rebalances these amounts to ensure adequate liquidity is available to meet projected cash flow needs. The investment characteristics of the three Model Portfolios, and the overall asset allocation of the GEF Trust Fund's investment across these Model Portfolios are shown in Figures 1 and 2 below.

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<sup>6</sup> General Investment Authorization for IBRD (Resolution No. 97-1, adopted on April 18, 1997); General Investment Authority for IDA (Resolution No. 2001-1, adopted on January 23, 2001).

<sup>7</sup> These returns are based on historical actual returns as of 29 February 2016 and may not be indicative of future returns.

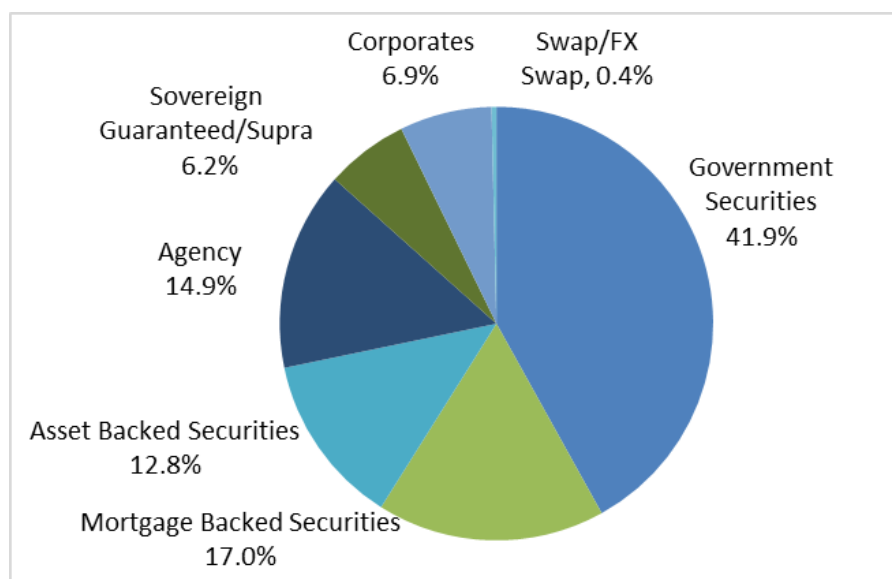
<sup>8</sup> Risk tolerance is defined as the expected maximum loss, as measured by the Conditional Value-at-Risk (CVaR), at the portfolio's investment horizon, not to exceed 1% at portfolio's investment horizon, with 99% confidence.

<sup>9</sup> As at 29 February 2016.

Figure 1: Investment characteristics of the Model Portfolios in which the GEF Trust Fund invests

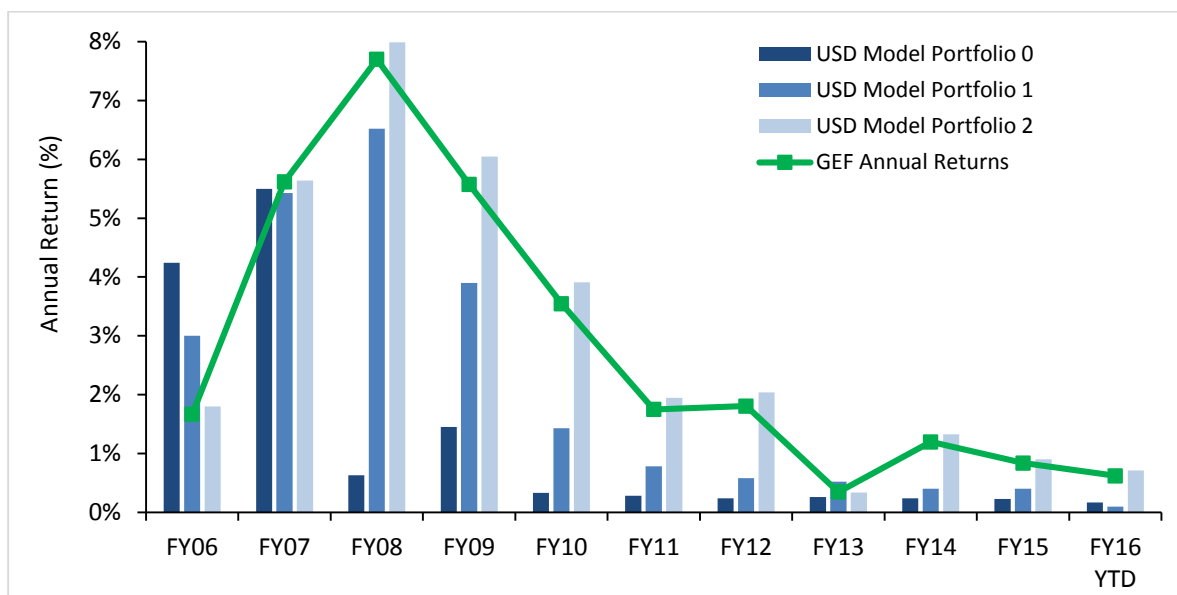
Model Portfolio	Model Portfolio 0	Model Portfolio 1	Model Portfolio 2
<b>Investment Objective</b>	Ensure timely availability of liquidity	Enhance returns subject to preservation of capital and the risk tolerance over the investment period.	
<b>Investment Horizon</b>	3 months or less	1 year	3 years
<b>Eligible Trust Funds</b>	All Trust Funds	Funds with limited appetite for investment return volatility on a year to year basis	Larger Trust Funds with relatively predictable cash flow projections and stable liquidity over 3 years
<b>Eligible Investment Products</b>	Cash	Cash, short – intermediate government bonds	Cash, short – intermediate government bonds, US Agency MBS

Figure 2: GEF Trust Fund Asset Allocation (as of 29 February 2016)



7. The historical investment returns of the GEF Trust Funds investment portfolio (refer to Figure 3 below) are representative of the prevailing market conditions of each period. A number of factors have negatively affected investment returns in recent years – firstly, historically low fixed-income yields continued to suppress the interest income, and secondly, increased volatility in interest rates led to unrealized price losses that impacted the net investment income.

Figure 3: Historical Annual Returns of the GEF Trust Fund and by Model Portfolio (1 July 2005 – 29 February 2016)



### III. Current Market Environment and Investment Climate

8. The current market environment poses challenges for investors in conservative fixed income portfolios. The yields on fixed-income instruments are at historically low levels which poses asymmetric risks for the interest rate outlook going forward. Rising interest rates could result in unrealized or realized losses for fixed-income holdings. As such, in the coming years, the investment income earned by the Pool is projected to remain at low levels compared to historical averages under the current asset allocation framework.

9. In order to depict what the GEF Trust Fund’s current investment portfolio might look like in three years, a portfolio similar in asset composition to that of the GEF was examined at the 3-year horizon. As the portfolio’s risk/return profile is dependent on the trajectory of interest rates over the next three years, the expected annual returns, volatility in annual returns and probabilities of negative returns under the current asset allocation framework were examined under the following scenarios:

- i. *Current* scenario under which interest rates remain at their current levels.
- ii. *Forward* scenario under which interest rates are expected to gradually converge towards the forward rates over a five-year horizon, as implied by the current market rates.
- iii. *Macro-driven* scenario under which asset returns and risk factors are driven by a base-case macro-economic projection made by Oxford Economics, a leading macro-economic research institution.

10. Under these scenarios, the expected annual return would range between 0.8% and 1.4%, the volatility of returns would range between 1.1% and 1.4%, and the probability of incurring negative returns in all cases remains low at the 3-year horizon. This analysis is set out in Table 1 below.

Table 1: Projected Risk/Return Scenarios for a Portfolio Similar in Composition to GEF<sup>10</sup>

3 Year Horizon – Fixed Income Portfolio Similar to GEF	Scenarios		
	Current Rate	Forward Rate	Macro-Economic Based
Expected Annual Return	0.8%	1.2%	1.4%
Horizon Volatility	1.1%	1.3%	1.4%
CVaR Return (99%)	0.0%	0.4%	1.0%
Probability of Negative Return	0.5%	0.3%	<0.1%

#### IV. Presentation of Additional Investment Options

11. In accordance with the conservative nature of the World Bank trust fund portfolio’s investment objectives, the existing Model Portfolios are invested in high quality fixed income assets. While this asset allocation helped the trust fund investment portfolio weather the global financial crisis in 2008, in the current environment in which interest rates are expected to rise, the portfolio is exposed to low (and potentially negative) returns.

12. In light of the continued low interest rate environment, the World Bank has developed a new model portfolio, Model Portfolio 4, to provide additional investment options to trust funds that have liquidity levels that are significant in size and stable over a period of five years or longer. Model Portfolio 4 is designed to potentially enhance the risk/return profile of funds through added diversification benefits while retaining the conservative approach to risk that overarches the World Bank’s investment of donor funds<sup>11</sup>. Model Portfolio 4 features a five year investment horizon and comprises a broader investment universe which includes developed market equities.

13. The investment characteristics of different asset classes and their respective diversification benefit relative to US Treasuries are summarized in Table 2 below. This table shows that developed market equities exhibit favorable characteristics with respect to liquidity risk, return enhancement and diversification compared to other fixed income instruments. At the same time, developed market equities carry relatively high market risk compared with high quality fixed income instruments; as such, the benefits they offer come at the price of higher short-term volatility. Investors in Model Portfolio 4 should therefore be prepared for higher short term volatility in investment returns relative to the current allocation. Over the longer term, however, an allocation to Model Portfolio 4 is expected to result in higher returns relative to a broad fixed income allocation.

<sup>10</sup> Analysis performed using data as of 29 February 2016.

<sup>11</sup> The new risk framework defines the risk tolerance as the expected maximum loss, as measured by the Conditional Value-at-Risk (CVaR), at the portfolio’s investment horizon, not to exceed 1% at portfolio’s investment horizon, with 99% confidence.

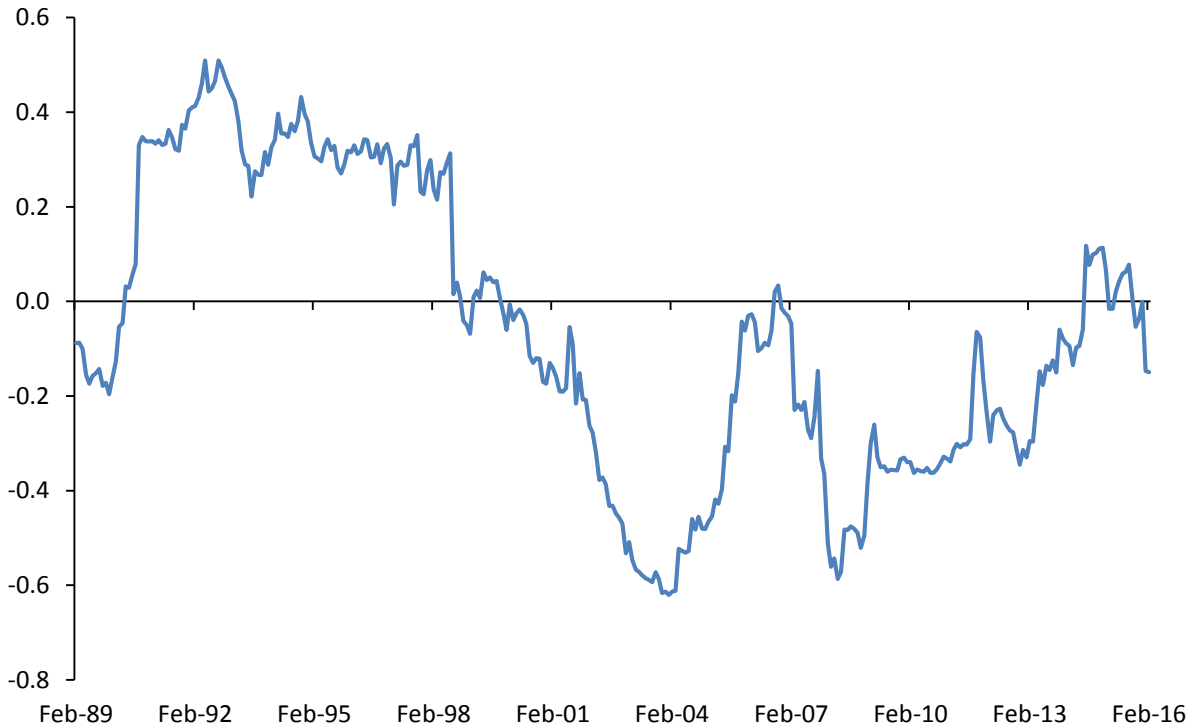


Table 2: Summary of Asset Class Characteristics

	<b>Market Risk</b>	<b>Liquidity Risk</b>	<b>Return Enhancing</b>	<b>Diversification Benefit<sup>12</sup></b>
Money Market Instruments	Low	Low	Low	Low
US Treasuries	Low/Med.	Low	Low	Low
US Agency Mortgage-backed Securities	Low/Med	Low	Medium	Low/Med.
Global Government Bonds (USD hedged)	Low/Med	Low	Low	Low/Med.
Emerging Market Govt. Bonds (USD hedged)	Medium	Low/Med.	Medium	Medium
Investment Grade Corporate Bonds	Medium	Med./High	Medium	Medium
Developed Market Equities	High	Low	Med./High	High

14. In the context of a more diversified portfolio, analysis was performed on the historical risk-reward tradeoffs of the asset classes listed above and on the risk/return profile of various asset mixes. The analysis demonstrated that a diversified portfolio mostly outperforms a pure fixed income portfolio over the longer term due to low and often negative correlation between fixed income and developed countries equity markets (see Figure 4 below) as performance of the two asset classes vary significantly in different stages of the economic cycle.

Figure 4: Bonds and Equities 3-year Rolling Correlations 1991-2016<sup>13</sup>



<sup>12</sup> The Diversification Benefit is evaluated relative to 0-5 year US Treasuries, or US Treasury indices with maturities between 1-5 years.

<sup>13</sup> Data Source: MSCI World Equity Index, and Merrill Lynch 1-5 Year US Treasury Index; Bloomberg.

15. The eligibility requirements for participation in Model Portfolio 4 ensure that any trust fund participant must have readily available cash flow projections that demonstrate a minimum projected fund balance of USD 200 million over five years, and that the likelihood of needing to draw on the balances in Model Portfolio 4 over the five-year horizon is as close to zero as practically possible. In addition, the participating trust fund should have a sound financial management framework that is able to cope with the likely increased investment income volatility over the course of the investment horizon. That is to say, at some point over the five-year horizon, one might expect higher levels of investment gains and losses in Model Portfolio 4; however the return after five years is expected to be higher than a similar, fixed income only, Model Portfolio in most cases. Details of the asset classes included under Model Portfolio 4 are shown in Table 3 below. The only asset class that is new to Model Portfolio 4 is that of developed market equities; all other assets are currently included in the Trust Fund investment portfolio.

Table 3: Asset Descriptions of each Asset Class within Model Portfolio 4

Asset Class	Asset Description
<b>Agency/ Sovereign/ Government guaranteed Securities</b> (rated at least AA-)	Bonds or notes issued by a government agency, supranational institution or local authority.
<b>Government Securities</b> (rated at least AA- in case of foreign currency obligations, and any local currency obligations of member countries)	Bonds or notes issued or unconditionally guaranteed by the government of a country.
<b>Corporate Bonds</b> (rated AAA)	Backed by a corporate entity.
<b>US Agency Mortgage-backed Securities (MBS)</b>	US Agency-guaranteed residential mortgage-backed securities.
<b>Asset Backed Securities (ABS)</b> (rated AAA)	Asset-backed securities, backed by student loans, auto and credit card receivables, public sector loans or prime first lien residential mortgages.
<b>Developed Market Equities</b>	A stock or any other security representing an ownership interest.

16. To minimize costs and limit risk, the equities exposure in Model Portfolio 4 will be gained through replication of the MSCI World index – a widely used benchmark that provides broad exposure to developed market stocks and has been shown to provide diversification and return enhancing benefits to a fixed income portfolio.

17. While the MSCI World index is representative of developed market equities, it does not incorporate any environmental, social and governance (ESG) factors into its design. As such, the World Bank as Trustee of the GEF Trust Fund extended its analysis of potential investment diversification strategies to include ESG factors for future consideration by the GEF.

## V. Environmental, Social and Corporate Governance (ESG) investing and the MSCI World ESG Index

18. ESG investing – or the inclusion of environmental, social and corporate governance criteria into investment analysis and portfolio construction – has grown substantially over the last decade with an increasing number of investors integrating ESG factors into their investment decisions,

and an increasing number of companies disclosing such information. Investment funds<sup>14</sup> incorporating ESG factors increased from USD 179 billion in 2005 to USD 4.31 trillion in 2014<sup>15</sup>.

19. In the context of equities, ESG investing seeks to achieve long-term competitive financial returns together with a positive societal impact. ESG strategies are applied to promote stronger corporate social responsibility, build long-term value for companies and their stakeholders, and foster businesses or introduce products that will yield community and environmental benefits.

20. Three ESG Equity indices appear to be most relevant with regard to size, inception date and composition: the MSCI World ESG, MSCI Global Environment and MSCI Global Climate indices. The MSCI World ESG Index is a broad, diversified equity index that provides exposure to large- and mid-capitalization companies from developed markets with high ESG performances relative to their sector peers. Companies included in this index are ranked by ESG ratings based on MSCI methodology<sup>16</sup>. The MSCI Global Environment and MSCI Global Climate indices have similar characteristics but are focused on environmental considerations.

21. Analysis of the historical risk and return of these indices shows that since the inception of the MSCI ESG index in April 2009, the MSCI Global Environment and Climate Select indices exhibit inferior risk/return profiles relative to the MSCI World index, while that of the MSCI World ESG index is more similar to the MSCI World index (refer to Table 4 and Figure 5 below).

Table 4. Historical risk/return measures of MSCI World and select MSCI ESG indices

	<b>MSCI World</b>	<b>MSCI World ESG</b>	<b>MSCI Global Environment</b>	<b>MSCI Global Climate Select</b>
<b>Annualized Returns</b>	8.4%	8.4%	5.9%	4.8%
<b>Volatility</b>	14.5%	14.5%	17.8%	16.0%
<b>Maximum Drawdown<sup>17</sup></b>	-20.5%	-19.6%	-29.5%	-25.3%

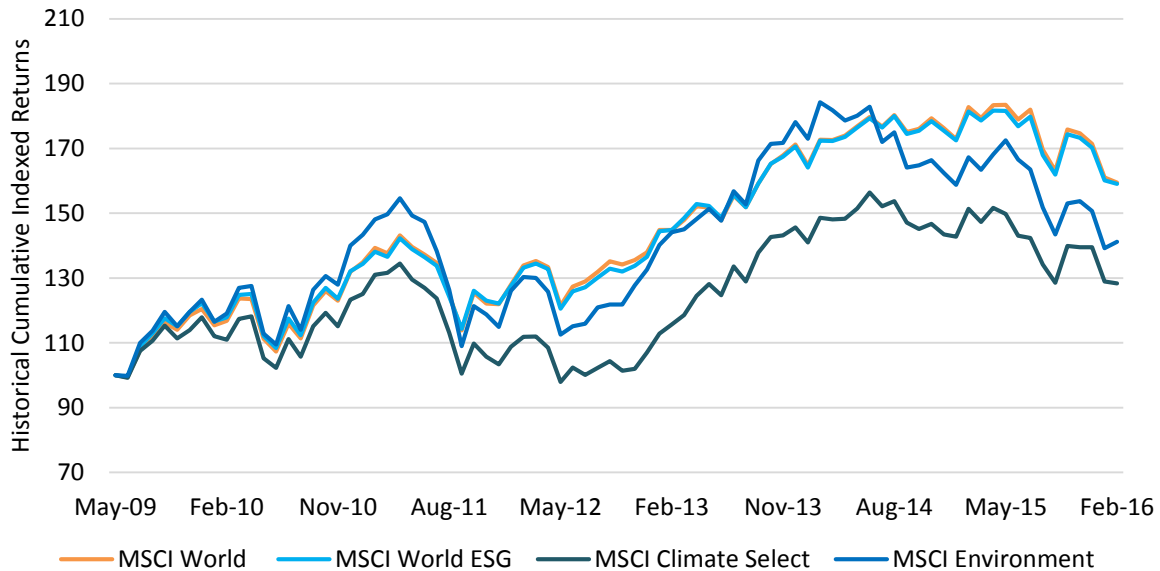
<sup>14</sup> Including mutual funds, variable annuity funds, closed-end and exchange-traded funds, alternative investment funds and other pooled products.

<sup>15</sup> Data Source: "Report on Sustainable and Responsible Investing Trends", 2014. <http://www.ussif.org/content.asp?contentid=82>

<sup>16</sup> Refer to [ESG Ratings Methodology - MSCI](#) for details on the ESG rating and surrounding methodology.

<sup>17</sup> Maximum Drawdown is the largest stream of negative monthly returns.

Figure 5: Historical Cumulative Returns of select MSCI indices 2009–2016<sup>18</sup>



22. While this analysis implies that the diversification benefits achieved through inclusion of an allocation to developed market equities would be very similar regardless of whether this exposure was gained through the MSCI World or ESG index, the differences in the composition of the two indices may cause performance of the two indices to diverge from time to time. For example, while the ESG market has grown exponentially in recent years, it remains significantly smaller than the broad equity universe: the MSCI World ESG index comprises approximately half of the stocks contained within the MSCI World index. A smaller investment pool means that may increase the concentration of investments and increase the volatility of investment returns.

23. As the ESG equity market is relatively new, with the larger ESG indices having track records of less than ten years, insufficient time has passed for the market to fully understand the behavior of the MSCI ESG indices in different market conditions. In order to gain a robust understanding of the risk and returns characteristics of the ESG equity market, it would be preferable for the index to have a longer track record and a slightly larger investment universe.

24. Considering the GEF’s mission to assist in the protection of the global environment and to promote environmentally sound and sustainable economic development, the World Bank will continue to monitor ESG equities as an asset class with the objective of adopting an ESG strategy once a sufficiently long track record has been achieved, the investment universe is larger, and the behavior of the index under different market conditions is more established and understood.

## VI. Analysis of GEF’s participation in Model Portfolio 4

25. Based on GEF’s projected liquidity over the next five years, an analysis was performed to illustrate the GEF’s participation in Model Portfolio 4 investment portfolio with a limited allocation to equities. By incorporating equities in a fixed income portfolio, this option is designed

<sup>18</sup> Data Source: MSCI World Equity Index, and Merrill Lynch 1-5 Year US Treasury Index; Bloomberg.

to provide diversification benefits resulting from the often negative correlations between bonds and stocks over the longer term. Historically, this diversification has produced slightly higher average returns for a given level of risk. Nevertheless, investing in equities adds more price volatility to a portfolio, especially over the short term. Therefore, Model Portfolio 4 has a five-year investment horizon in order to optimize the potential benefits.

26. The level of exposure to equity risk for the GEF would depend on the amount allocated to Model Portfolio 4. The maximum equity allocation within Model Portfolio 4 will be no more than 20% at any time so as to conform to the stipulated risk tolerance over the five-year horizon. Hence, if, for example, an allocation to Model Portfolio 4 is set up to account for no more than one quarter of a trust funds aggregate liquidity, the total exposure to equity risk would be less than 5% of the fund's total assets. This is a conservative overall exposure level to equity risk for funds participating in Model Portfolio 4.

27. Over a 5-year horizon, a more diversified investment portfolio could provide relatively better risk return profile compared to the current asset allocation under the current, forward and macro-economic interest rate scenarios. To illustrate this, the expected returns of different asset classes at a five-year period were considered under the Current, Forward and Macro-driven scenarios.

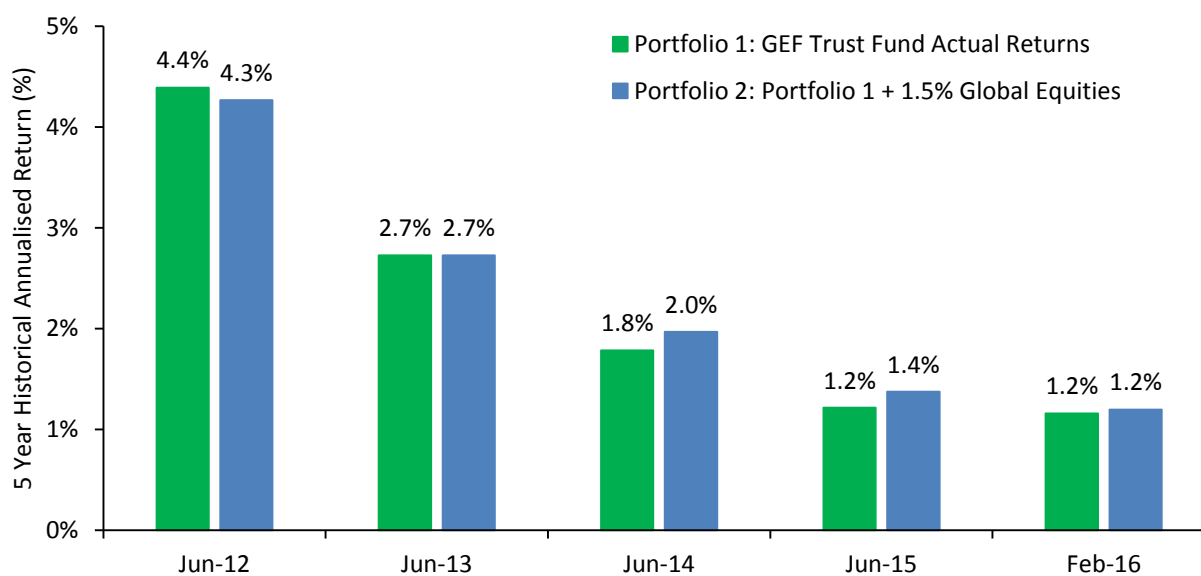
28. For the purpose of this analysis, the scenarios assume an investment portfolio allocation in Model Portfolio 4 of USD 250 million, of which 20% or USD 50 million (which represents approximately 1.5% of GEF's total liquidity) is allocated to developed market equities. Under each of the three scenarios, the risk/return profile of the portfolio is improved since the expected return increases (by approximately 10 basis points or USD 3.3 million per annum) and the 99% CVaR is improved (and remains inside the policy constraint of -1%) at the 5-year horizon. The three scenarios and the associated expected risk and return profiles for GEF's current portfolio compared to a portfolio with a 1.5% equity allocation are presented in Table 5.

Table 5: Projected Risk/Return Profiles of the Current GEF Portfolio versus a Portfolio Comprising an Allocation to Model Portfolio 4 at the 5-year Horizon

	Expected Annual Return	Horizon Volatility	CVaR Return - 99%	Probability of Negative Returns
<b>Scenario: Current Rate - 5 Year</b>				
Current GEF Fixed Income Portfolio	0.9%	2.2%	1.1%	<0.1%
Fixed Income Portfolio with 1.5% Equity Allocation	1.0%	2.3%	1.4%	<0.1%
<b>Scenario: Forward Rate - 5 Year</b>				
Current GEF Fixed Income Portfolio	1.6%	3.2%	3.1%	<0.1%
Fixed Income Portfolio with 1.5% Equity Allocation	1.7%	3.3%	3.2%	<0.1%
<b>Scenario: Macro Driven - 5 Year</b>				
Current GEF Fixed Income Portfolio	1.7%	3.2%	3.3%	<0.1%
Fixed Income Portfolio with 1.5% Equity Allocation	1.8%	3.4%	3.3%	<0.1%

Historical analysis also shows that, in general, a portfolio that includes a 1.5% allocation to global developed market equities held over a period of five years would have equaled or outperformed the GEF Trust Fund investment returns three out of the last five fiscal years (see Figure 6 below).

Figure 6: Historical cumulative performance of a fixed income portfolio versus one with a 1.5% allocation to developed market equities



## VII. Conclusion

29. Analysis presented in this note shows that the low, and often negative, correlation between bond and developed market equity markets provides an opportunity to improve the risk/return profile of a fixed income portfolio, while remaining within the existing conservative risk management framework.

30. As the current low interest rate environment poses challenges for investors in fixed income portfolios, the World Bank has designed Model Portfolio 4 to potentially enhance the risk/return profile of funds through the inclusion of a limited allocation to developed market equities.

31. The GEF Trust Fund is eligible for investment in Model Portfolio 4, and therefore has the opportunity to potentially improve the risk return profile of its investment portfolio while remaining within its existing risk parameters. An allocation to Model Portfolio 4 is fully aligned with the GEF Trust Fund’s investment objectives of optimizing investment returns and preserving capital.

32. Considering the GEF’s mission to assist in the protection of the global environment and to promote environmentally sound and sustainable economic development, the World Bank in its capacity as Trustee of the GEF Trust Fund will continue to monitor ESG equities market for potential inclusion in GEF’s investment strategy for future consideration.

## Annex I: Model Portfolio Composition and Risk/Return Profiles of Underlying Asset Classes

Assets held in trust by the World Bank are maintained in a commingled trust funds investment portfolio (the “Pool”), which currently comprises Model Portfolios to accommodate the varying investment objectives and requirements of participating trust funds. Figure 7 below provides an illustration of the model portfolios offered in the Pool.

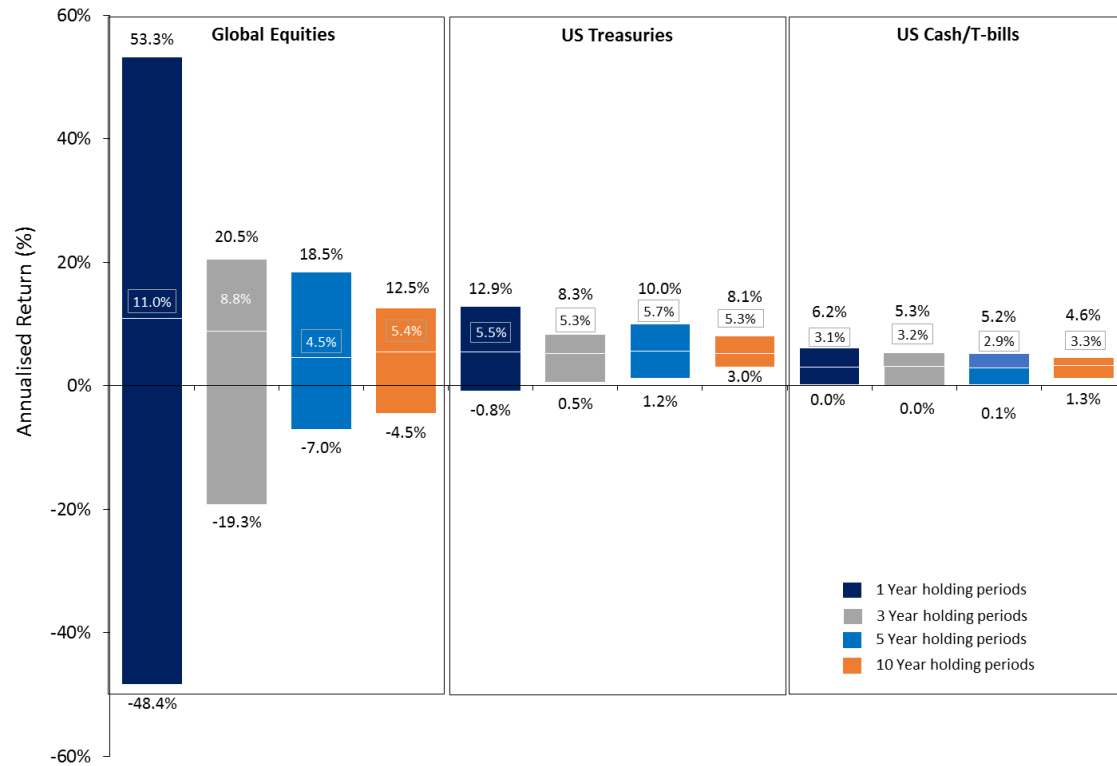
Figure 7: Overview of Asset Composition of Model Portfolios offered in the World Bank’s Trust Fund Portfolio

Asset Class	Model Portfolio 0: Working Capital	Model Portfolio 1: 1-year horizon (short duration)	Model Portfolio 2: 3-year horizon (medium duration)	Model Portfolio 4: 5-year horizon (long duration)
Cash				
Money Market Instruments				
Agency/ Sovereign/ Government guaranteed Securities (rated at least AA-)				
Government Securities (rated at least AA-)				
Corporate Bonds (rated AAA)				
US Agency Mortgage-backed Securities (MBS)				
Asset Backed Securities (ABS) (rated AAA)				
Developed Market ESG Equities				

A trust fund participating in the commingled investment portfolio may participate in any of the Model Portfolios and investment products subject to meeting the eligibility criteria.

To illustrate the historical risk-reward tradeoffs associated with investing in the various asset classes, Figure 8 shows the broad asset class categories of equities, US Treasury bonds and US cash/T-bills, and compares the range of returns over various holding periods. Based on a long history of investment returns, cash and government bonds (1-5 year maturity) have seen relatively stable average returns over various holding periods. On the other hand, equities have shown the highest average returns, relative to bonds or cash, albeit with much higher volatility in returns, which declines with longer holding periods. This is consistent with the rationale for a longer investment horizon typical to equity investors. The analysis shows that higher risk-adjusted returns may be achieved over longer horizons; however, income volatility over shorter periods is considerably higher and has to be considered.

Figure 8: Historical Range of Returns for Global Equities, US Government Bonds and Cash (1986 – 2016)<sup>19</sup>



<sup>19</sup> Source: MSCI World Equity Index, Merrill Lynch UST 1-5 year Index, Merrill Lynch US Treasury Bills 0-3 month Index, Bloomberg. As at 29 February 2016.



## Annex II: Composition and Comparison of the MSCI World and MSCI ESG Indices

The MSCI World ESG index is very similar to the MSCI World Index in terms of sector allocation, dividend yields, Price/Earnings (PE) ratio, and equity risk factor exposure, as shown by Tables 6 and 7 below. Within each sector, the MSCI World ESG Index holds close to 50% of the companies contained in the MSCI World Index, which is indicative of adequate levels of diversification in each sectors.

Table 6. Sector weight, Dividend yield and PE comparison as of July 2015  
(MSCI World ESG referred as Port, and MSCI World referred as Bench)

	Weights			Dividend Yield			Price to Earnings Ratio		
	Port	Bench	+/-	Port	Bench	+/-	Port	Bench	+/-
Total	100.00	100.00	0.00	2.38	2.37	0.01	17.31	18.59	-1.28
<b>Consumer Discretionary</b>	12.34	13.15	-0.80	1.81	1.72	0.10	18.15	19.70	-1.55
<b>Consumer Staples</b>	10.03	9.83	0.20	2.57	2.54	0.03	22.59	22.49	0.09
<b>Energy</b>	5.84	7.00	-1.16	3.10	3.76	-0.66	17.79	19.67	-1.88
<b>Financials</b>	23.05	21.10	1.95	2.90	2.76	0.14	13.10	14.73	-1.63
<b>Health Care</b>	12.73	13.80	-1.06	1.68	1.64	0.04	24.41	24.74	-0.33
<b>Industrials</b>	11.51	10.62	0.89	2.34	2.34	0.00	18.27	17.94	0.33
<b>Information Technology</b>	13.92	13.24	0.68	1.61	1.49	0.12	18.31	19.59	-1.27
<b>Materials</b>	3.82	4.94	-1.12	2.06	2.63	-0.56	20.35	18.66	1.70
<b>Telecommunication Servic</b>	4.07	3.28	0.79	3.84	3.84	0.00	15.92	16.07	-0.15
<b>Utilities</b>	2.69	3.05	-0.36	3.97	4.10	-0.14	14.12	17.48	-3.36

Table 7. Ex Ante risk factor Exposure as of July 2015  
(MSCI World ESG referred as Portfolio, and MSCI World referred as Benchmark)

Item	Total	Factor	Non-Factor	Country	Greeks	Industry	Style	Currency
Portfolio	12.00	11.99	0.65	11.34	0.00	1.10	0.54	2.96
Benchmark	12.28	12.27	0.66	11.73	0.00	1.14	0.56	2.93
Active	0.90	0.85	0.31	0.76	0.00	0.16	0.09	0.36

Table 8. Comparison of index constituents

	MSCI World Index	MSCI World ESG Index	% of MSCI World
<b>Total number of companies</b>	<b>1,643</b>	<b>831</b>	<b>51%</b>
Financials	352	169	48%
Health Care	128	61	48%
Information Technology	157	74	47%
Consumer Discretionary	264	134	51%
Industrials	260	134	52%
Consumer Staples	119	70	59%
Energy	108	63	58%
Materials	134	70	52%
Telecommunication Services	42	17	40%
Utilities	79	39	49%

### Annex III: Assumptions used in the Asset Return Scenarios

Assumptions used to calculate the investment return scenarios over 3-year and 5-year periods under the current, forward and macro-driven scenarios are shown below.

Table 9: US interest rates and CPI in 3-year periods

<b>Market Data as of January 31, 2016</b>	<b>Current Scenarios</b>	<b>Forward Scenarios</b>	<b>Macro Driven Scenarios</b>
US 3 months	0.3%	1.1%	2.4%
US 2 years	0.8%	1.7%	2.7%
US 10 years	1.9%	3.1%	3.1%
US CPI	0.7%	1.2%	2.0%

Table 10: Assumptions used for expected annual returns over 3-year horizons.

<b>Asset</b>	<b>Current Scenarios</b>	<b>Forward Scenarios</b>	<b>Macro Driven Scenarios</b>
UST 0-1 year	0.5%	0.9%	1.2%
UST 1-5 year	1.5%	1.0%	0.5%
UST 5-10 year	2.5%	1.0%	0.3%
Libor 3M Constant Maturity	0.7%	1.3%	1.7%
US TIPS 5-10 year	1.7%	1.2%	1.6%
US MBS	1.9%	1.3%	0.6%
MSCI World ESG Index	7.0%	7.0%	7.0%

Table 11: US Interest Rates and CPI in 5-year periods.

<b>Market Data as of January 31, 2016</b>	<b>Current Scenarios</b>	<b>Forward Scenarios</b>	<b>Macro Driven Scenarios</b>
US 3 months	0.3%	1.4%	3.2%
US 2 years	0.8%	2.0%	3.3%
US 10 years	1.9%	3.1%	3.6%
US CPI	0.7%	1.3%	2.1%

Table 12: Assumptions used for expected annual returns over 5-year horizons.

<b>Asset</b>	<b>Current Scenarios</b>	<b>Forward Scenarios</b>	<b>Macro Driven Scenarios</b>
UST 0-1 year	0.5%	1.3%	1.6%
UST 1-5 year	1.5%	1.3%	1.2%
UST 5-10 year	2.5%	1.4%	0.7%
Libor 3M Constant Maturity	0.7%	1.7%	2.0%
US TIPS 5-10 year	1.7%	1.4%	1.8%
US MBS	2.1%	1.6%	1.1%
MSCI World ESG Index	7.0%	7.0%	7.0%