



ESG integration

*Uncovering new value
and managing risk*



Material environmental, social, and governance (ESG) factors in fundamental investment analysis and portfolio construction may help enhance long-term performance and manages risk. It also helps expand our lens of relevant information in the investment process.

ESG integration is relevant to *all* of Nuveen's investments — not just ESG-mandated funds

PUBLIC MARKETS

Nuveen equities and fixed income AUM (as of 6/30/2018)



of Nuveen equities and fixed income AUM is committed to the United Nations "Principles for Responsible Investment (PRI)"¹



77% of portfolio managers and investment analysts surveyed consider ESG in their investment processes²



50% of labeled green bonds are held outside an ESG-mandated fixed income fund⁴

REAL ESTATE



Committed to reducing the energy intensity of our global real estate equity portfolio by 30% by the year 2030, based on a 2015 baseline³

FARMLAND



Committed to pursuing specific sustainability goals that are tied to the UN-backed PRI Farmland Guidelines³

Our ESG integration approach

ESG integration is relevant to *all* of Nuveen's investments — not just ESG-mandated funds

We believe ESG integration is a systematic part of the investment research and performance process. In fact, we've committed over \$650B in assets to the UN PRI.¹

ESG integration identifies innovative *investment opportunities* that may enhance *performance*.

Investments subject to ESG scrutiny have not only delivered above-average performance in equities,⁵ but have also done a better job of maintaining credit quality in fixed income markets.⁶ ESG integration has helped us identify the next frontier of prudent investments in all asset classes - equities, fixed income, real assets, and real estate.

ESG integration may help manage *downside risk*

Today, companies are exposed to a wide range of potential new pitfalls, from data security breaches to #MeToo controversies. But the tools for analyzing risk haven't changed as quickly. Traditional valuation models like discounted cash flow can help assess financial risks, but they don't typically capture the complete picture. Using alternative data sets such as material ESG factors can help identify risks that other analyses can overlook.

WHAT ESG INTEGRATION IS AND IS NOT

What it IS:

- ✓ Systematic part of investment analysis
- ✓ Material to investment research and performance
- ✓ Applies to all portfolios and funds
- ✓ Different factors for each type of sector and/or issuer type
- ✓ Investment staff decide how to apply material ESG factors to their analysis

What it is NOT:

- ✗ Sacrificing performance or lowering returns by constraining PMs or analysts
- ✗ ESG as the only or deciding factor in investment analysis
- ✗ Taking a stand on political issues
- ✗ Limited to our ESG-mandated products

ESG integration identifies innovative *investment opportunities* that may enhance *performance*.



EXAMPLES: How we are using ESG integration to identify innovation and opportunities

Sector	ESG opportunity	How we took action	Outcome
Equities	 <i>Consumer goods</i> A consumer staples company capitalizes on the health foods trend	✓ <i>Increased our stock position</i>	Company has been a significant outperformer
	 <i>Clean tech</i> A company has been able to produce clean energy on a cost-competitive manner compared to traditional forms of energy	✓ <i>Saw the long-term and low-carbon opportunity and increased our position</i>	Company has performed well in recent years
Fixed Income	 <i>Municipal</i> Central Puget Sound Regional Transit Authority issued a bond to finance the system's expansion and improvement	✓ <i>Purchased a portion of the bonds for an ESG Municipal Separate Account</i>	Project is expected to reduce carbon emissions by nearly 390,000 tons annually ⁷
	 <i>Green bonds</i> South Davis County, Utah issued a bond to fund a sewer system designed to convert liquid and solid food waste into biogas that can produce renewable natural gas	✓ <i>Incorporated it into our actively managed, responsible fixed-income strategies</i>	Project is expected to generate enough electricity to power 25,526 average homes, while displacing approximately 19,055 tons annually of CO ² equivalents ⁸
Real assets	 <i>Farmland</i> Managing agricultural assets with climate change in mind may be better for long-term investors. One key threat to agriculture is deforestation, which creates about 15% of CO ² emissions globally ⁹	✓ <i>Adopted a zero deforestation policy for our Brazilian farmland investments</i>	Adopting a zero deforestation policy will be better for the planet and is anticipated to create more sustainable farmland for years to come
Real estate	 <i>Real estate</i> Energy-efficient buildings may be easier to sell, more attractive to tenants, and less vulnerable to obsolescence	✓ <i>Installed solar panels in Whitefriars Shopping Center in Canterbury, England, United Kingdom</i>	Future-proof the center against energy price rises and supply shortages. Reduces energy costs by generating almost 100,000 kWh of electricity each year ¹⁰

Examples provided for informational purposes only and should not be deemed as a recommendation to buy or sell securities shown above.

ESG integration can help manage downside risk



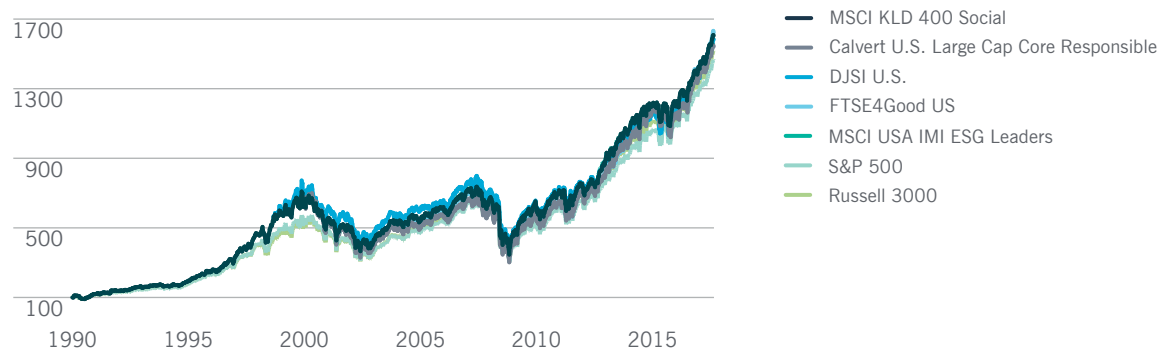
EXAMPLES: How we are using ESG integration to make more informed investment decisions

Sector	What happened	How we took action
Equities		
 <i>Energy and chemical</i>	 Poor environmental protection practices and declining fundamentals	 <i>Underweighted stock</i>
 <i>Social media and networking</i>	 Data privacy breaches with inadequate company response	 <i>Reduced positions</i>
 <i>Semiconductor stock</i>	 Lack of board independence, ineffective founding family management, and emerging accounting investigation	 <i>Exited stock, then repurchased after problems were addressed</i>
Fixed Income		
 <i>Pharmaceutical</i>	 Manufacture and distribution of opioids, raising issues of liability and negative socioeconomic impact	 <i>Reduced exposure</i>
Real assets		
 <i>Farmland</i>	 Unconfirmed proper chain of land ownership with a minimum of 20 years	 <i>Declined to invest</i>
 <i>Farmland</i>	 Improper maintenance of permits and licensing for water and mineral rights	 <i>Terminated relationship</i>

OUR RESEARCH SHOWS: You don't have to sacrifice performance

RI indexes have the potential to perform in line with or better than the broad stock market

Cumulative returns: Five U.S. RI stock indexes vs. S&P 500 and Russell 3000 indexes (1990 - 2017)



Data through 29 Dec 2017. Series indexed to 100, inception dates: S&P 500, Russell 3000, and MSCI KLD 400 Social, 04 May 1990; DJSI U.S., 01 Jan 1999; Calvert U.S. Large Cap Core Responsible, 28 Apr 2000; MSCI USA IMI ESG Leaders, 22 Dec 2000; and FTSE4Good US, 03 Jan 2003. MSCI indexes include aggregated, multisource histories prior to acquisition on 01 Sep 2010.

It is not possible to invest in an index. Performance for indices does not reflect investment fees or transaction costs. **Past performance is no guarantee of future results.**

Sources: FactSet Research Systems Inc., Morningstar, Inc., MSCI Inc., and Nuveen.

To read our full analysis, visit <https://www.nuveen.com/responsible-investing-delivering-competitive-performance>

In 2014, TIAA and Nuveen came together to expand our capabilities across all investment types. Today, our customers fully benefit from our combined history of stability, retirement leadership and innovation.¹¹

For more information about RI, visit us at [TIAA.org](https://www.tiaa.org).

Endnotes

1 TIAA Investments PRI AUM commitment as of 12/31/17: \$544.79B. Nuveen equities and fixed income AUM as of 6/30/18: \$790B. 2 2018 ESG Survey of TIAA Inv. Equities 3 https://www.tiaa.org/public/pdf/famland_sustainability_report_2018.pdf 4 Bloomberg database. 5 MSCI, "investing for the Long Run". ESG and Performance Drivers. As of 7/1/2012-6/30/2017. 6 Henke, H. (2016), The effect of social screening on bond mutual fund performance. Journal of Banking & Finance 67, pp. 69–84. (Analysis is on performance of US investment-grade corporate bonds between 2017 and 2015). 7 <https://emma.msrb.org/EA738957-EA578989-EA975033.pdf>, page 214 8 <http://wasatchresourcerecovery.com/about/> 9 Union of Concerned Scientists Deforestation and Global Warming, 2010. 10 <https://threalestate.com/our-capabilities/responsible-property-investment#memberships-and-affiliations> 11 Reference to financial stability does not apply to the investment products offered.

Risks and other important considerations

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy, sell or hold a security or an investment strategy, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on an investor's objectives and circumstances, and in consultation with his or her advisors.

Investing involves risk; principal loss is possible. There is no guarantee investment objectives will be achieved. Holdings deemed consistent with the applicable Environmental Social Governance (ESG) guidelines will be more limited than other investments that do not apply such guidelines. ESG criteria risk is the risk that because the ESG criteria exclude securities of certain issuers for nonfinancial reasons, the investment may forgo some market opportunities available to those that don't use these criteria.

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