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**ARTICLE REVIEW**

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BY LUBOŠ PÁSTOR, ROBERT F. STAMBAUGH, AND LUCIAN A. TAYLOR

*Reviewed by James E. McWhinney*



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# Sustainable Investing in Equilibrium

By Luboš Pástor, Robert F. Stambaugh, and Lucian A. Taylor

REVIEWED BY JAMES E. MCWHINNEY

Sustainable investing “initially gained popularity by imposing negative screens under the umbrella of socially responsible investing (SRI), but its scope has expanded significantly in recent years. ... Given this rapid growth, the effects of sustainable investing on asset prices and corporate behavior are important to understand,” according to researchers Luboš Pástor, Robert F. Stambaugh, and Lucian A. Taylor.

Pástor et al. (2020) believe that “ESG preferences move asset prices” and that greener stocks “have lower ... alphas, especially when risk aversion is low and the average ESG preference is strong.” They go on to state, “Green stocks have negative alphas, whereas brown stocks have positive alphas.” The researchers attribute the negative alphas for green stocks to “two sources: investors’ tastes for green holdings and such stocks’ ability to hedge climate risk.” They state that investors “derive utility from holdings of green firms and disutility from holdings of brown firms” and are therefore willing to hold green firms despite negative alpha expectations.

Pástor et al. (2020) base their assertions on analysis of “financial and real effects of sustainable investing in a highly tractable equilibrium model.” The model categorizes firms as either “green” or “brown,” with the former generating “positive externalities for society” and the latter “negative externalities.”

The researchers explain that “[t]he model implies three-fund separation” with each investor holding “the market portfolio, the risk-free asset, and an ‘ESG portfolio’ whose composition depends on assets’ greenness.” Brown portfolios tilt the opposite way. They note that the growing size of the “ESG investment industry” results in deviation from the market, which in turn increases the dispersion of investors’ ESG preferences. They believe the industry would disappear without this because without dispersion, “everyone holds the market.” They credit sustainable investing for generating “positive social impact” by leading “firms to become greener” and by encouraging “more real investment by green firms and less investment by brown firms.”

“To assess the model’s quantitative implications,” the researchers calibrated “a setting with two types of investors: those sharing equal concerns about ESG (‘ESG Investors’) and those

having no concerns (‘non-ESG investors’).” The researchers determined that ESG investors are willing to accept lower returns “in order to hold their desired portfolio.” This demand-driven preference for “ESG tastes make green firms more valuable and brown firms less.”

Furthermore, the model shows “green assets outperform brown ones” when unexpected changes occur such as a shift in demand for green goods or a change in investors’ “appreciation for green holdings.” Short-term results notwithstanding, they acknowledge that their “model clearly predicts that green assets underperform brown over a sufficiently long period.”

Alpha considerations aside, Pástor et al. (2020) credit sustainable investing for generating “positive social impact, in two ways. First, it leads firms to become greener. Second, it induces more real investment by green firms and less investment by brown firms.” The researchers explain that “firms choose to become greener because greener firms have higher market values” and that “real investment shifts from brown to green firms, due to shifts in firms’ cost of capital (up for brown firms, down for green firms).” In this manner, “positive social impact” is achieved—even if the firms have no specific intention to do so.

The authors note that “while the model’s predictions for alphas have been examined empirically by prior studies, most of the other predictions remain untested ...” This presents several opportunities for additional study and exploration. One highlighted possibility includes research into modeling “the world of the past,” as the researchers focused their efforts on creating a model that “aims to describe the world of the present and the future ...” They point out that the aspects of “sin” investing have been “recognized for decades” but “the emphasis of ESG criteria is a recent phenomenon.” Accordingly, evaluation of the model “in various time periods” is another avenue for exploration. ●

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## REFERENCE

Pástor, Luboš, Robert F. Stambaugh, and Lucian A. Taylor. 2020. Sustainable Investing in Equilibrium (June 4). Chicago Booth Research Paper No. 20-12, Fama-Miller Working Paper. <https://ssrn.com/abstract=3498354>.



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