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All Investing Has Impact: Valuing Impact Risk, Building a Better World, and Making Money Along the Way

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VALUING IMPACT RISK, BUILDING A BETTER WORLD, AND MAKING MONEY ALONG THE WAY

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Let's dispense with the myth that impact investing is a separate category from traditional investing. All investing has impact. The question is not if there is impact but whether an investor takes that impact into account when allocating investment capital. There are many names for strategies that do just that: impact investing, environmental, social, and governance (ESG) investing, sustainability investing, sustainable development goals (SDG) investing, intentional investing. Although the nomenclature and strategies may be varied, the unifying principle of making investment impact a part of decision-making is purpose. The important questions for any investor to ask are, "Am I incorporating the impact created by my capital allocation into my investment decisions, and is that impact favorable or unfavorable to society at large and to long-term investment returns?" If investors are not asking these questions, they are ignoring a significant source of risk and return and foregoing the opportunity to use their capital intentionally to drive needed change in the world. Ignoring impact could be considered negligent investing.

INVESTING WITH PURPOSE = IMPACT RISK MANAGEMENT

The best way to think about impact may be in the form of externalities and their management. All companies create externalities, defined as the secondary or the unintended consequences of a given activity. An externality is an impact that an individual's or corporation's activities have on a third party. Some externalities that companies create, such as pollution, corruption, and misinformation, are sources of negative impact. When these externalities are attributed directly to specific company behavior, they result in financial impact through such mechanisms as fines, lawsuits, and brand destruction. Externalities also can be positive, such as on-the-job training that creates a more productive workforce. Positive or negative, externalities represent risk that often is difficult to value and attribute. Capital markets that arbitrage mispriced risk provide an efficient mechanism for valuing the positive and negative impacts that externalities represent. Every investment decision, therefore, becomes an enabler of externalities.

The $350-trillion+ global public equity and debt markets are significant contributors to the climate-related and social externalities being created in the world today. Investors tend to focus on environmental externalities such as pollution and greenhouse gas emissions because they are easier to quantify. But other externalities, such as a lack of diversity in corporate management, are just as important because they can lead to foregone innovation and the inability to adapt to change. And what about the disruptive modus operandi of the technology industry to "move fast and break things?"[1] What if the things broken are democracy, social cohesion, and mental well-being?

Unfortunately, the asset management industry traditionally has ignored both environmental and social externalities in investment decision-making. Industry participants often claim inconsistency and difficulty in measuring the impact of externalities on financial outcomes as a reason to avoid the topic. Historically, they have not had the incentive to properly value or consider the externality risks of publicly traded corporations.

An incentive structure that doesn't reward or punish externality considerations has arisen partly because of a lack of consensus about how to value externality risk and invest purposefully. Purpose-driven managers have been stuck for decades trying to define and explain ESG and impact in moral and ethical terms rather than in investment terms. The investment conversation in the sustainable investment realm has been a debate about good versus bad and subjective value judgment based on the virtue of any given investment. It is no surprise then that those traditional investors have dismissed ESG and ridiculed efforts made to justify investments from the perspective of goodness and virtue. Traditional investors have convinced capital allocators and themselves that investing with purpose limits investment opportunities, costs performance, and is therefore antithetical to fiduciary responsibility.

Despite traditional investor reticence, there has been a significant shift in attitude and approach to purposeful investment. Purpose-driven investors are recognizing that there are no perfect companies and no objective measurements of good or bad. It makes sense that investors are moving away from seeking absolute virtue and goodness

Table 1

THE MOST MATERIAL ESG INDICATORS

	Return	Variance	Sharpe	Total	Biv	Type
CO_2 Emissions/Revenue	0.037744	−0.0081091	1.0305	3	0	ENV
Waste/Revenue	0.033685	−0.013162	0.85332	3	0	ENV
Hazardous Waste/Revenue	0.016597	−0.012686	0.49405	3	0	ENV
Employee Accidents	0.011874	−0.0023094	0.20353	2	0	SOC
Specific Board Skills	0.011174	−0.00026921	0.29618	2	0	GOV
Controversial Sourcing Exposure	0.0099531	−0.00038647	0.29592	2	0	SOC
Total Injury Rate	0.0095307	−0.0025926	0.17775	2	0	SOC
Bribery, Corruption, Fraud Controversies	0.0082332	−0.0074764	0.33058	2	1	SOC
Nuclear	0.0054778	−0.0085057	0.20614	2	1	ENV
Energy Use/Revenue	0.0049003	−0.0035541	0.22408	2	0	ENV
Eco-Design Products	0.014168	0.0014373	0.12906	1	1	ENV
Long-term Compensation Incentives	0.0086402	−0.00011075	0.10977	1	0	GOV
Environmental Score	0.0083413	0.00071022	0.073592	1	0	ENV
Waste Recycling Ratio	0.0072689	0.00011708	0.2286	1	0	ENV
Board Diversity	0.0063854	−0.00026604	0.24095	1	0	GOV
Women Employees	0.0053944	−0.0022783	0.18377	1	0	SOC
Animal Testing	0.0029715	−0.0053909	0.10969	1	1	ENV

Source: Lanza et al. (2020)

and toward identifying and investing in measurable positive change in outcomes. Investing always has been about arbitraging mispriced risk, both in quantity and change over time. Now, companies seeking investment capital also are realizing that managing their externalities is a competitive advantage. This shift from the good/bad dichotomy and toward change in impact is turning the purpose-driven investment process into one that is also consistent with the conventional focus on maximizing returns. Traditional investors stuck in their narrow understanding of purposeful investing are being left behind for not taking advantage of the returns derived from impact risk management.

MANAGING BY MEASURING

How do we integrate purpose into investment decision-making? There is evidence that purposeful impact and return maximization are compatible objectives. The clearest evidence comes from Lanza et al. (2020), who show that activity-based impact metrics are emerging as idiosyncratic alpha factors. The authors show 17 factors that have statistical significance as material sources of noncorrelated investment returns (see table 1). Lanza et al. (2020) states, "The ESG indicators identified by our approach show a discriminatory power that also holds after accounting for the contribution of the style factors identified by the Fama-French five-factor model and the macroeconomic factors of the BIRR [Burmeister, Ibbotson, Roll, and Ross] model."

The team used machine learning techniques to test hundreds of ESG data factors for embedded information. Almost all the 17 factors with alpha potential are activity-based operational metrics rather than third-party rankings such as those of MSCI or Sustainalytics. Only a slight majority, nine of the 17, are environmental factors linked to carbon dioxide (CO_2), waste, and efficiency. The remaining eight are social and governance factors, including two diversity factors. The human element is just as important as environmental metrics for delivering returns.

As metrics to measure externalities are standardized and more investors adopt new approaches, this list of material ESG alpha factors is likely to get longer. With more consistent metrics, it becomes more compelling to integrate purpose and intentionality throughout the investment process, including at the portfolio construction level. A portfolio is like a sports team: Each player has a different role and success is determined by how a team plays together and leverages each player's best attributes. Using underlying impact and performance attributes of individual companies, a portfolio manager can construct a portfolio around a diversified set of individual company attributes that together amplify specific, purposeful outcomes. Investors can measure and demonstrate superior impact performance relative to the benchmark across a range of environmental and social characteristics and outcomes, similar to how they measure and demonstrate financial performance returns.

MANAGING THE CLIMATE AMBITION GAP

The evolving deployment of purposeful investing is coming not a moment too soon. The Intergovernmental Panel on Climate Change (IPCC) has analyzed various global warming scenarios depending on sovereign commitments to carbon reduction. The lowest

trajectory, shown in figure 1 and table 2, is the only one that keeps warming to below 2°C by 2100.[2] Three of the five IPCC scenarios result in warming between 3.5°C and almost 6°C, which would be truly catastrophic and threaten the very existence of life on Earth.

The next decade is critical for determining which temperature trajectory the planet will take. Countries and companies globally must make up a significant ambition gap by 2030 to place the planet on a 1.5°C trajectory. From a purposeful portfolio construction perspective, investors can focus on implied temperature increase as a portfolio outcome to assess companies and their exposures to externalities. Tools that allow investors to measure that impact are readily available. ESG Book from Arabesque provides a free online tool to map a portfolio against various temperature targets (see figure 2).[3]

In addition to allocating capital to companies that can better manage climate risks, it is important to identify how to achieve the greatest impact in a portfolio. One approach is to invest mostly in technology solutions and in sectors that enable climate mitigation such as technology, industrials, and utilities. Yet, the International Energy Agency highlights that cost-effective technology measures, which are where most climate-aligned capital has flowed, only cover about 40 percent of 2030 targets (see figure 3).[4]

Investing in ambitious technology solutions is critical, yet broader capital allocation is required to address the urgent, complex issues of climate change. One way of thinking about this is from a biosphere perspective, of which humans are a critical part. Humans have transformed the biosphere with technology that has allowed us to thrive. But our production and consumption patterns are beyond the sustainable carrying capacity of our planetary resource boundaries. The biosphere is an adaptive climate-regulating system that will continue to exist, but our species may not if our interaction with the biosphere makes it uninhabitable for us. Therefore, climate-aligned investments must be allocated toward the human biosphere interface for positive change.

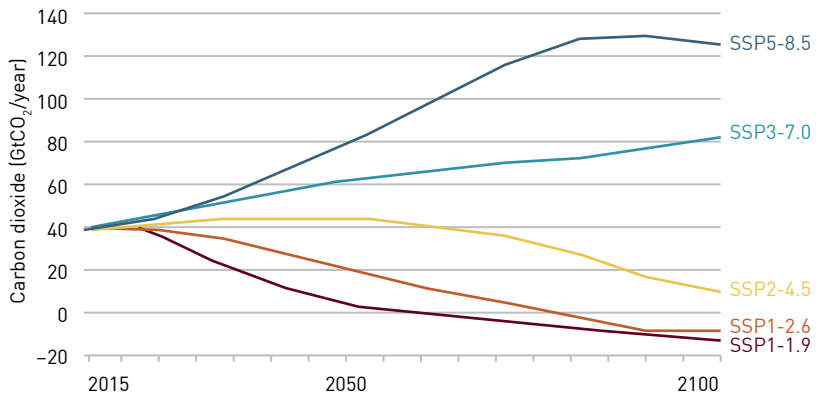
SDGs, ESG, AND THE RISE OF TAXONOMY AND ACTIVITY-BASED METRICS

The United Nations SDG framework helps investors address externalities of the human biosphere interface. The SDGs create focus on externality-mitigating outcomes such as clean air and water, no poverty or hunger, sustainable cities, and equality; and they highlight how every economic region and sector plays a role in the human-biosphere interface. This is why a diversified portfolio approach covering all sectors and regions is important for achieving manageable climate outcomes.

The SDGs are aspirational targets, but they do not provide us with how to get there for public- and private-market participants. The investment industry has come up with the catchall ESG as a very useful framework for breaking down externalities into categories and activities to focus on purposeful outcomes. After years of cumulative effort by many

Figure 1

IPCC WARMING SCENARIO TRAJECTORIES



Source: AR6 Climate Change 2021: The Physical Science Basis

Table 2

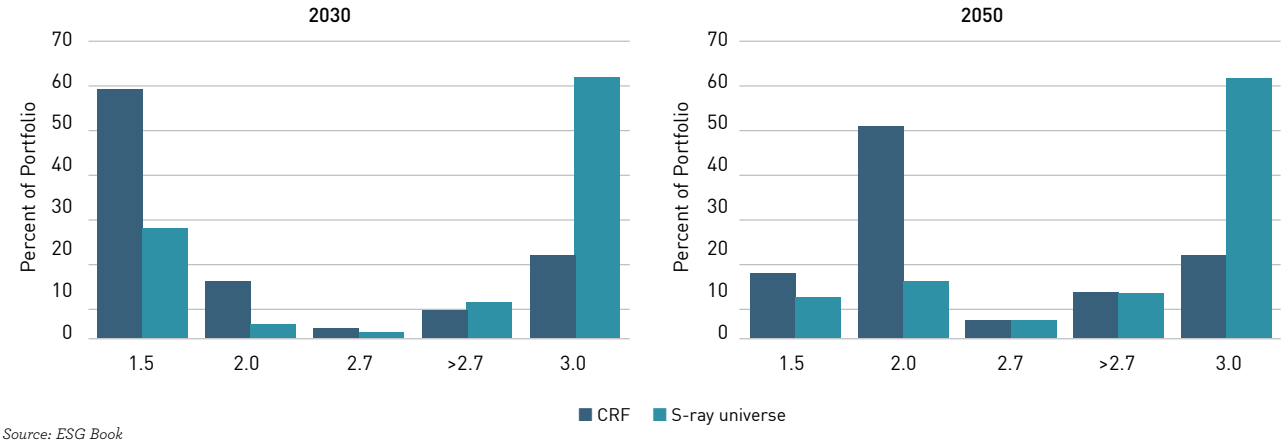
IPCC WARMING SCENARIOS

	Near term, 2021–2040		Mid term, 2041–2060		Long term, 2081–2100	
Scenario	Best estimate (°C)	Very likely range (°C)	Best estimate (°C)	Very likely range (°C)	Best estimate (°C)	Very likely range (°C)
SSP1-1.9	1.5	1.2–1.7	1.6	1.2–2.0	1.4	1.0–1.8
SSP1-2.6	1.5	1.2–1.8	1.7	1.3–2.2	1.8	1.3–2.4
SSP2-4.5	1.5	1.2–1.8	2.0	1.6–2.5	2.7	2.1–3.5
SSP3-7.0	1.5	1.2–1.8	2.1	1.7–2.6	3.6	2.8–4.6
SSP5-8.5	1.6	1.3–1.9	2.4	1.9–3.0	4.4	3.3–5.7

Source: AR6 Climate Change 2021: The Physical Science Basis. SSP = shared socioeconomic pathways

Figure 2

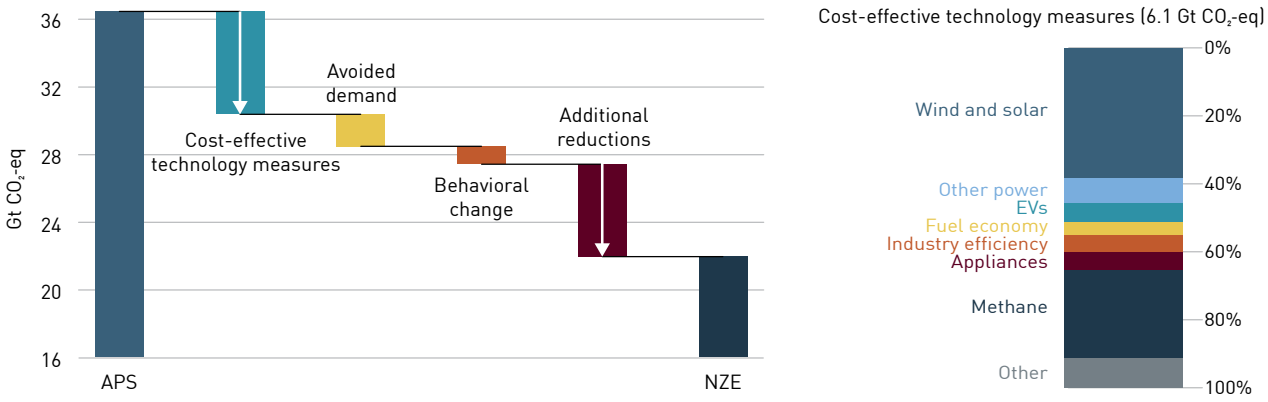
ILLUSTRATIVE PORTFOLIO (CRF) MAPPED BY TEMPERATURE INCREASE TARGETS, RELATIVE TO ARABESQUE S-RAY UNIVERSE



Source: ESG Book

Figure 3

COMPONENTS OF TARGETED CO_2 REDUCTION



Source: World Energy Outlook 2021, International Energy Agency

forward thinkers, the investment industry is entering a golden age of metrics, data, and tools for assessing externality risk, quantifying impact, and linking returns with ESG practices. The Sustainable Accounting Standards Board in the United States largely can be credited with building investor consensus with its materiality matrix that assessed which ESG behaviors have material financial impact. Now, the industry is shifting attention to more activity-based metrics and taxonomies such as Sustainable Finance Disclosure Regulation (SFDR)[5] and Task Force on Climate-related Financial Disclosures.[6] An explosion of externality-related data is available to investors, who need to process and decide how to use it in investment decision-making. Confusion is bound to arise before investors settle on which data to use, when, and how. Nevertheless, investors who ignore this data may be putting their clients' assets at risk.

Under SFDR, European regulators have started at the top of the value chain by mandating that the fund management industry disclose portfolio-level climate and ESG exposures. This puts initial responsibility on asset managers to push for disclosure and reporting from companies. The move pushes further forward the already high level of sustainability reporting in Europe versus the rest of the world. We can expect Europe to continue to be the model for other markets in impact taxonomy and activity-based metrics.

The implementation of the European Union taxonomy is already having a dramatic impact on investment decision-making using activity-based metrics such as Scope 1, 2, and 3 carbon emissions and water and waste intensity.[7] The current taxonomy, however, is weighted heavily toward impact in energy and capital-intensive sectors and is less helpful for assessing sectors such as financial services, retail, telecoms, and food, despite the tremendous influence these companies have on SDG outcomes. The taxonomy is focused

primarily on climate outcomes, and it largely ignores societal externalities. It is evolving, however, and there is significant pressure to broaden it to include social metrics.

EXTERNALITY CASE STUDY #1: CHALLENGING THE MANTRA OF 'MOVE FAST AND BREAK THINGS'

The tech industry's mantra of "move fast and break things" legitimizes a complete disregard for externalities in the service of innovation speed and market relevance. Of course, many positive externalities come from this approach, including rapid knowledge dissemination enabled by the internet and technology platforms. However, there are social repercussions to breaking things.[8] Moving fast also means a lack of attention to detail, an inability to master any specific expertise, and therefore a failure to manage outcomes.

The social justice crisis crystallized in the killing of George Floyd turned public attention to social media platforms such as Facebook (now Meta) and Twitter. These companies have exacerbated social polarization, which undermines social justice goals. Algorithms, programmed to identify and reinforce user preferences to drive usage and customer stickiness, can create echo chambers and filter bubbles among the population.[9] The artificial intelligence powering these platforms optimizes content consumption to serve up more and more extreme views aligned with specific patterns of thinking, often becoming addictive and driving usage.[10] Social media platforms have played a significant role in the polarization and undermining of social justice and human rights worldwide and may be contributing to the destruction of the middle-class economic engine. Growing understanding of the negative feedback loops in these media platforms is attracting regulatory attention and user backlash, which can push investors to incorporate these negative externalities into their risk assessment and investment decision-making.

The innovation of cryptocurrency is another example of the massive societal cost of disruption that is not borne by the disruptors. The most obvious externality of crypto is that it enables horrific societal harms, such as sex trafficking and organized crime. There is also the tremendous climate cost of crypto.

The social harms as well as the energy and CO_2 free riding of crypto is generating tremendous wealth for a very small percent of the world's population, but at a tremendous cost for global society as a whole.

According to a study conducted by MoneySuperMarket[11] in the United Kingdom and corroborated by *Fortune* magazine,[12] each bitcoin transaction consumes 1,173 kilowatt-hours of electricity, enough to power the typical American home for six weeks, and generates 831kg of CO_2. According to this study, bitcoin has consumed roughly 123 terawatt hours of electricity and generated 88 million tons of CO_2 during the past 12 months. Crypto "greening" via the use of renewable energy also carries significant externality risk, because crypto mining crowds out green energy utilization by the broader economy. According to the *New York Times*:

> *Globally, estimates of Bitcoin's use of renewables range from about 40 percent to almost 75 percent. But in general, experts say, using renewable energy to power Bitcoin mining means it won't be available to power a home, a factory, or an electric car.*[13]

The social harms as well as the energy and CO_2 free riding of crypto is generating tremendous wealth for a very small percent of the world's population, but at a tremendous cost for global society as a whole. It is only a matter of time before this externality cost is forced back onto those who have created and benefited from it.

EXTERNALITY CASE STUDY #2: ARBITRAGING THE DIVERSITY 'SUPERFACTOR'

Diversity is an incredibly important yet overlooked source of returns and impact. A substantial number of studies conducted during the past two decades connect diversity to favorable outcomes that have financial benefits. Diversity is linked to higher innovation;[14] higher revenue growth, valuation,[15] and profit;[16] less corruption;[17] and better employee morale and retention.[18] Higher diversity is even correlated to better environmental outcomes.[19] Diversity is also a stand-alone performance factor according to Lanza et al. (2020). It is an ESG "superfactor" that can serve as proxy for the credibility of disclosed financial and sustainability metrics. Ultimately, diversity is critical to innovation and adaptation. It becomes most important during times of crisis and great upheaval, such as pandemics and climate change, when every organization needs as much innovation and diverse thinking as possible. Conversely, the lack of diversity observed across the public equity and debt markets is a significant externality risk with tremendous cost.

Diversity as an investment factor should have capital allocators excited. It is relatively easy to measure. It is idiosyncratic and not correlated to region or sector or to macroeconomic factors. As mentioned above, a huge amount of research has linked diversity to superior outcomes, aligning it to fiduciary obligations. And there is ample room for improvement across the corporate landscape. Nevertheless, despite the overwhelming evidence highlighting the positive attribution from diversity, many investors, including those who focus on ESG, ignore diversity or lump it into overall governance characteristics when

assessing a given investment. The lack of diversity in the investment management industry may be contributing to this myopia. Only about 10 percent to 15 percent of asset managers are women and people of color, and only 1.4 percent of assets under management are managed by these underrepresented and highly capable managers.[20]

According to the Knight Foundation, which commissioned the study that produced these shocking statistics:

> *Diversity in who manages your assets is just as important as the diversity of what you invest in. Managers with different backgrounds, viewpoints, and experiences can often better identify investment opportunities that other managers might overlook. Given their investment returns, diverse-owned firms represent an untapped opportunity for investors. It's time to ask why more investors aren't putting their money in the hands of more-diverse asset management firms.*

The lack of diversity is clearly an externality risk for clients of the asset management industry, who are entrusting their capital to a monoculture. And as we know from nature, monocultures are doomed to extinction due to their lack of adaptability.

EXTERNALITY CASE STUDY #3: THE ROLE OF CAPITAL IN KLEPTOCRACY AND THE DESTRUCTION OF UKRAINE

A kleptocracy is a regime whose leaders make themselves rich and powerful by stealing from the rest of the people through violence, intimidation, and unrestrained corruption. On the subject of kleptocracy, I have a very strong opinion and bias based on personal experience related to this topic. The place of birth on my original birth certificate reads "Prague, CSSR." CSSR stands for the Czechoslovak Socialist Republic. My parents escaped with four-year-old me to seek refuge in the United States, but I was able to visit my birthplace several times before the Iron Curtain fell. I then spent almost three years working in Prague on the transition to democracy and market economics during the rebirth of Czechoslovakia in the early 1990s. My firsthand insight allows me to assert that kleptocracy fueled by outside capital is the source of numerous negative externalities, including the current horrific and unjustified attack of Ukraine by Russia.

Czechoslovakia was created in 1918 out of the Austro-Hungarian empire. During the interwar period, it was among the 20 wealthiest nations in the world and in 10th place worldwide in terms of industrial production.[21] Post-war communism and Soviet rule were an unmitigated disaster for Czechoslovakia and its economy, which lagged neighboring Austria's growth by 80 percent during the Soviet period and its early aftermath.[22]

American history books would teach you that communism was to blame. The reality, however, is more complicated; communism is a jingoistic, populist, but unworkable philosophy that was simply a means to take power by appealing to a desire for the common good. What actually evolved and destroyed Czechoslovakia's economic and societal well-being over four decades was kleptocracy. Through corruption, intimidation, and brutality, the kleptocrats running Czechoslovakia managed to appropriate, liquidate, and live off the wealth created by Czechs and Slovaks during previous centuries. Soviet kleptocracy in Russia was even more brutal, because pre-Soviet czarist wealth was insufficient to bolster that economy post-World War II. This resulted in a need to expand and seize the wealth and resources of other nations, hence the creation and expansion of the Soviet Bloc.

The fall of the Iron Curtain in 1989 signaled that the Soviet regime had run out of wealth to liquidate for its survival, while oligarchs plundered the remains of Soviet kleptocracy. Vladimir Putin rose to power, in part, by appropriating the wealth seized by the 1990s oligarchs for himself. In a fluke of fortuitous timing, he also benefited from capital market globalization and the willingness of outside investors to fuel the concentration of wealth and power in Russia, driven by their desire to participate in the outsized returns of that concentration. That outside capital has kept Putin's kleptocracy solvent and has given him the means to expand his empire. To Putin, Ukraine just represents a strategic location, the long Black Sea coastline, and agricultural and natural resource wealth to appropriate; Ukrainians that stand in the way of this wealth appropriation are an obstacle to be eliminated. The brutal and horrific human catastrophe that is the Russian war against Ukraine is, in part, an outsized externality of global capital markets that have mispriced the risk of kleptocracy via direct and indirect investments into Putin's Russia.

In a fluke of fortuitous timing, [Putin] also benefited from capital market globalization and the willingness of outside investors to fuel the concentration of wealth and power in Russia, driven by their desire to participate in the outsized returns of that concentration.

INVESTING WITH PURPOSE = DELIVERING RETURNS AND INTENTIONAL OUTCOMES

Had investors paid more attention to kleptocracy risk, could they have avoided stranding capital in Russia, and could we have avoided the Ukraine tragedy and its global economic and geopolitical consequences? Is it okay to

ignore the negative externalities within tech models or crypto just because Graham and Dodd didn't mention these in their 1934 first edition? If diversity demonstrates reward with positive outcomes, shouldn't investors include it in their analysis? Investing with purpose is all about asking such questions, managing and valuing impact and externality risks, and directing capital toward activities that mitigate those risks and reap excess returns from doing so.

Following a measurable outcome–focused strategy allows investors to deploy capital as it should have been deployed all along, as an efficient mechanism for valuing externality risk.

Following a measurable outcome-focused strategy allows investors to deploy capital as it should have been deployed all along, as an efficient mechanism for valuing externality risk. This means that investors can confidently use their capital to reward policies and practices that mitigate negative impact and move us toward a future that we want to live in, while also reaping financial returns along the way. With the rapidly growing amount of data at our disposal, and an understanding that externality risk and management of that risk are a key driver of returns and competitive advantage, capital allocators can feel confident they are exercising their fiduciary responsibility by bridging the two goals of investing for returns and investing for intentional impact.

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ENDNOTES

1. "Move fast and break things" is a mantra common in science, engineering, and technology industries. It means that if you aren't breaking things, you're delivering value too slowly.
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