Executive Summary

Social Impacts and the Practice of Direct Infrastructure Investment

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About the Authors

The authors are Co-Heads of SovereigNET (https://sites.tufts.edu/sovereignet/), an interdisciplinary network at Tufts University's Fletcher School dedicated to the study of sovereign wealth management and its impact on global capital markets. In addition, Dr. Patrick Schena is Adjunct Assistant Professor of International Business at the Fletcher School, Tufts University, and Professor of Finance at Hult International Business School. Dr. Eliot Kalter is President of EM Strategies, LLC.

Foreword by Scott Minerd

Sustainable infrastructure development is at the heart of achieving the United Nations Sustainable Development Goals (SDGs). Achieving the SDGs, which aim to improve conditions for our planet and its people, can only be achieved by executing capital projects such as roads, mass transportation hubs, water treatment and sanitation facilities, administration infrastructure, and more. The more than $4 trillion in annual investment needed to meet these goals will require a combination of public and private investment. The good news is that sustainable infrastructure is becoming an increasingly attractive asset class to institutional investors, particularly as they focus their capital allocations through the lens of Environmental, Social, and Governance (ESG) criteria.

The key to unlocking significant amounts of institutional capital is for the industry to agree upon and adopt a set of consistent methodologies and metrics for measurement and accounting, a level of standardization like we have in place for equities and fixed income. Guggenheim has been at the forefront of this complicated task.

As part of our work, we developed what we call the Sustainability Quotient, which identifies the four characteristics that a sustainable infrastructure project must possess before institutional capital would be committed—financial return, positive social impact, environmental responsibility, and transparent governance. In 2018 we partnered with the Stanford Global Projects Center to identify and analyze infrastructure sustainability standards. This landmark study established a base from which to launch a series of infrastructure sustainability research reports that will be released in the summer of 2020.

The first of these reports, "Social Impacts and the Practice of Direct Infrastructure Investment," couldn't be more timely. The global pandemic and protests for social equality have shown us that a capital project's social impact is of paramount importance. The work of the Fletcher School team from Tufts University—in this Executive Summary and the full report—will make a significant contribution towards identifying tools to measure the social impact of an infrastructure project.

The objective of this paper is to assess the current state of practitioner experience when integrating social impacts and social risks in infrastructure investments. The paper shows that there is still work to be done: While social impact and social risk are important to asset owners and investors, there is little evidence of widespread application of performance standards and models to value social impacts of infrastructure assets. Investors instead find that while universal standards are helpful, well-designed asset-specific or sector-level metrics or Key Performance Indicators (KPIs) are more effective to monitor positive social impacts and reducing social risks.

I want to commend the Fletcher School team from Tufts University, led by Dr. Patrick Schena, for their invaluable contribution towards the goal of establishing sustainable infrastructure investing as an institutional investment asset class.

Scott Minerd
Chairman of Investments and Global Chief Investment Officer
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Social Impacts and the Practice of Direct Infrastructure Investment

While the effects of the environmental impacts on investment returns have long been studied, less well covered and understood are successful practices that integrate the social benefits of infrastructure investments with their inherent social risks.

The nature of infrastructure in terms of scale, utility, and horizon, requires that it be developed with a keen sense of awareness of its consequences – environmental, social, and governance - for affected societies. Its growth has paralleled the steady increase in demand for uncorrelated returns, prompted by severe equity market shocks over the last two decades and accentuated by record low interest rates. Demand for infrastructure as an asset class has also been favorably influenced by the progressive rise in interest in sustainable investing. Incorporating ESG factors into investment decisions has reached a point of near ubiquity among infrastructure managers. While the effects of environmental impacts on investment returns have long been studied, less well covered and understood are successful practices that integrate the social benefits of infrastructure investments with their inherent social risks

Social impacts and social risks are both endemic to infrastructure. Broadly speaking social impacts represent collateral benefits to communities that extend from the investment. However, these often come at a cost resulting in trade-offs that must be addressed during the investment process. Thus, impacts and risks co-exist in an integrated way in large-scale infrastructure projects and are often challenging to disentangle when making investment decisions. From a practice perspective, there is a material gap in both professional and scholarly writings that is focused on the discrete social impacts of global infrastructure. What types of social impacts and social risks arise from investments in infrastructure projects? How are these identified, monitored, and their effects measured? What practices do institutional investors employ to effectively integrate social impacts and social risks throughout their investment processes? Finally, what practices do they employ to ensure their effective integration into the operational phase of their projects?

The purpose of this study is to assess the current state of practitioner experience when integrating social impacts and social risks in infrastructure investments and to highlight successful practices. This analysis was performed in two phases. During the documentary phase, institutional practices of public and private investors were studied to identify linkages between investment criteria and social impacts. This was followed by a series of interviews with a cross-section of key stakeholders to test preliminary findings and to augment practice details. Several key findings emerged:

- Social impacts and social risks are integrated across the investment process in a continuous fashion that connects investment objectives at the pre-investment phase with outcomes at the asset management phase using measurable and reportable metrics.
- For institutional managers, standards such as those related to ESG and sustainability, are important. However, for monitoring and measuring social impacts they are augmented by discrete key performance indicators (KPI's) that permit analysis of a greater degree of asset- and sector-specific detail.

- The most effective practices of direct infrastructure investors are grounded in the integration of social impacts and social risks across the entire investment process, from sourcing and screening to due diligence and deal structuring and valuation.
- Due diligence is unquestionably the fulcrum of the investment process. It drives the identification of social risks and the design of mitigation measures that proactively engage local parties to drive positive social impacts to affected communities.
- KPIs play a central monitoring role across the investment process in the integration of social impacts and social risks. They can also function as knowledge and capacity-building tools and serve as a medium for relationship-building and enhanced manager-client engagement on social impact.

Disentangling Social Impacts and Social Risks in Infrastructure Projects

Social impacts and social risks co-exist in infrastructure projects. Social impacts accompany assets that service broad communities of users over decades. Though structured to address specific design objectives – more or cleaner energy, improved transport and mobility, greater bandwidth and network capacity – projects can also drive positive spillovers[1] or ancillary social benefits. As use of an asset expands and network effects take hold, discrete positive spillover effects may emerge. For example, improved transport can enhance mobility and provide new opportunities for employment and business expansion. It can improve access to critical services such as quality healthcare. It can also advance greater social inclusion. From the perspective of sponsoring governments, such benefits are important to the quality of life of populations whose lives are enhanced by, for example, higher income levels, extended hours electrification, or safer water and waste management services. Moreover, for certain types of assets, such as renewable energy or affordable housing, the purpose or intent of the investment itself is motivated by discrete social goals and objectives.

Infrastructure projects have long life cycles. Both during their construction and operational phases, project impacts to affected populations can vary and most certainly include adverse social effects – e.g. physical dislocations, reduced access to affordable housing, health and safety risks. These consequences can pose significant financial risks to projects, as well as reputational risks to sponsors, developers, and investors, *including their stakeholders*. A central challenge to effectively assess social risk factors at the project level occurs when social risks arise due to changes in social conditions resulting from the project itself. While many adverse social consequences that result from an asset or its use can generally be anticipated, discrete positive spillovers can in fact arise in response to social risks. These may take the form of direct payments to local communities or even social infrastructure

1 Both positive and negative spillover effects are frequently referred to "externalities", i.e. impacts from economic activity that affect third parties without regard for the direct or indirect costs to them.

assets – e.g. schools, community centers – designed into the project to offset or mitigate social risks that arise during construction or the project's subsequent operation. While they are not a motivation for undertaking a project, their role as a tool to manage social risks and to effectively integrate social impacts across the investment process surfaces as an important practice feature of institutional infrastructure.

Monitoring and Measuring Social Impacts

Well-structured KPIs focused on social factors allow investors to bridge the investment process via an ongoing flow of information and data that monitors feedback at each stage. Post-closing, KPIs serve as a baseline for risk and impact management.

Our study included a survey and detailed analysis of 23 standards and tools designed to meet the specific sustainability requirements of infrastructure as an asset class. These were evaluated based on several filtering criteria, most importantly their uptake by institutional investors. A parallel review of a large cohort of institutional infrastructure managers narrowed this analysis to four institutions, whose frameworks were most widely cited. These were tools and standards from the UN-supported Principles for Responsible Investment (PRI), Global Real Estate Sustainability Benchmark (GRESB), the Sustainability Accounting Standards Board (SASB), and the Global Impact Investing Network (GIIN). Institutional managers identify most closely with PRI protocols and have opted into the PRI in numbers. However, uptake of other tools and standards has been limited. This may in part be attributable to the issues of applicability, relevance, or that ESG factors generally – and social factors specifically - are not perceived to be material to asset pricing and investment performance.

Instead of broad adoption, GRESB, SASB, and GIIN metrics are often used to supplement and augment proprietary tools. For example, during pre-investment and due diligence, GRESB analytical tools and assessment protocols or SASB materiality-focused standards may be applied more directly to establish a baseline for risk for the project. Sector- and project-specific KPIs serve both as measures of performance and also as benchmarks deployed during the investment process. They leverage manager expertise in a particular asset type, while allowing for greater flexibility in risk management and impact monitoring. Equally important, well-structured KPIs focused on social factors allow investors to bridge the investment process via an ongoing flow of information and data that monitors feedback at each stage. Post-closing, KPIs serve as a baseline for risk and impact management. In order to ensure alignment around KPI monitoring, reporting and feedback systems are designed into the investment process and across an investment's lifecycle.

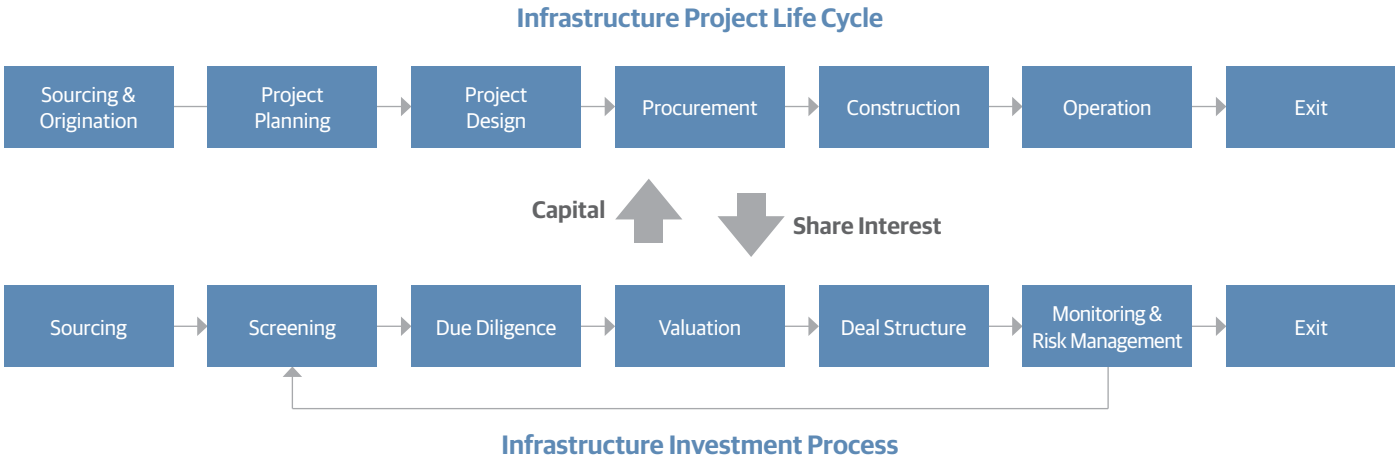
Sector Deep Dive: Affordable Housing

In the pre-investment phase of an affordable housing project, an investor will identify several key standards and objectives for the investment that are often drawn formally or informally from GRESB or SASB frameworks. These might include increased residential stability, increased disposable income available after housing payments, improved housing quality, or increased accessible housing services linked to supportive services. KPIs are similarly designed to gauge progress toward the impact objectives. These may be based upon a variety of metrics that measure the depth (e.g. number of new housing units), breadth (e.g. number of residents housed), and duration (e.g. tenant turnover rate). During the screening and due diligence phases of the investment process, an investor will assess the project's ability to meet defined objectives and KPIs, consistent with national and local regulations. Post investment, during the asset management phase of the project, an investor will monitor these metrics as material to their objectives.

Social Impact and Social Risk Integration: Investment Processes

The investment process for infrastructure assets can be viewed as a series of "gates" as indicated in the bottom panel in the figure below. These stages of the investment process serve as "channels of integration" for social impacts and social risks.

Figure 1: Channels of Integration



This framework is not novel, but has been in use for many years by public financial institutions – national development banks (NDBs) and development finance institutions (DFIs) – who have established a significant legacy in infrastructure investment. In fact, NDBs and DFIs, such as the International Finance Corporation, continue to increase their footprint in sustainable infrastructure. Also, both have been standard bearers of ESG due diligence and social impact for many years. This influence continues to disseminate through the infrastructure investment community. Moreover, project preparation facilities (PPFs) and other knowledge platforms such as the Global Infrastructure Hub, PPP Knowledge Lab, and the Sustainable Development Investment Partnership, are increasingly providing necessary resources to governments to enhance their capacity to make projects more attractive to investors.

Although developers and private investors use internal metrics, meeting DFI and NDB baselines of ESG performance can serve as a threshold for ESG considerations, as well as for social impacts, for all investors in a project. Thus, co-investing with DFIs and NDBs can offer private capital complementary benefits attributable to the robust application of these social risk and impact benchmarks.

IFC AIMM

In 2017, the IFC began work to introduce an enhanced due diligence model moving beyond ESG risk management to a robust focus on positive impact outcomes. The Anticipated Impact Measurement & Monitoring (AIMM) Framework adds an extra layer of consideration to the IFC's investment process. A main driver for the creation and design of AIMM was the IFC's goal to link its impact objectives to market outcomes. This features significantly in the AIMM framework. While AIMM measures environmental and social effects consistently with its Environmental and Social Performance Standards, under AIMM, a project must demonstrate the marginal environmental and social effects to be captured. Essentially, the effects of meeting the IFC's Performance Standards are only claimed under the AIMM framework where a clear counterfactual is established and where the investment intent is to improve environmental or social outcomes. This higher threshold requires IFC project developers to establish an environmental and social baseline based on "business as usual" and demonstrate how the project improves upon the metrics chosen as the baseline.

Project Sourcing and Screening

Social risk assessments telescope across the full investment life cycle.

Social impacts and social risks are both critical elements of early stage screening. In fact, from the pre-investment stage, social risk assessments telescope across the full investment life cycle. They draw heavily on manager and partner experience and expertise to inform due diligence processes that more fully analyze discrete risks and, when necessary, design mitigations to offset their potentially adverse consequences. As noted above, early stage screening is informed by investor-specific KPIs. For investors with discrete mandates that include a clearly defined social impact objective, early stage screening linked to bespoke KPIs is essential to ensure that the project can deliver required impact outcomes.

Infrastructure investors require less time and resources to source and screen infrastructure investments that are already in operation than those that have yet to be developed. Brownfield investments have, in most cases, undergone extensive due diligence, passed detailed ESG assessments, and are generating revenue. While residual ESG or social risks may remain, more information allows the investor to model potential returns with higher probability. As the global public demand for sustainable greenfield infrastructure increases, the supply of brownfield assets that drive social impact will expand as greenfield investors, including public institutions, recycle assets. An example of this trend is the African Development Bank's Room2Run initiative, a US $1 billion synthetic securitization of a portfolio of seasoned African Development Bank private sector loans.

Due diligence: Risk Analysis and Mitigation

Due diligence is the fulcrum of social risk management in the investment process.

Most critical is to develop channels of effective communication beginning early in a project's lifecycle in order to establish open and continuous dialogue in order to build trust with affected communities.

Due diligence is the fulcrum of social risk management in the investment process. Whether greenfield or brownfield, investors will inevitably be required to examine and conduct detailed due diligence based upon prior impact assessments commissioned by project sponsors. To ensure the integrity and sustainability of permitting, particular attention is given to evaluating these assessments for completeness. A specific challenge to conducting due diligence for greenfield investors with long horizons is visibility into social risks that may arise well into the operational stage of the project.

With regard to social risk management, core objectives include 1) identifying potential adverse social consequences arising from a project, 2) isolating, in particular, social risks that have the potential to undermine the social license of project sponsors and developers, 3) designing mitigation strategies that proactively address the social risks identified, and 4) modeling and pricing financial impacts of these mitigations. Important to this process is the need to maintain a sensitivity to the inter-connectivity of political and social risks. However, most critical is to develop channels of effective communication beginning early in a project's lifecycle to establish open and continuous dialogue in order to build trust with affected communities.

Considerably more important to project returns than costs and offset investments are the real effects of project delays on the liquidity and solvency of a project, as well as its overall performance. Because most project costs are incurred according to a relatively fixed schedule, adverse events or project interventions that delay operations and cash inflows will necessarily reduce project returns.

Valuation Effects of ESG and Impact

Valuation effects of social risks to infrastructure assets are generally assessed on the basis of total net direct costs, where social risks are estimated as completely as possible over the project's expected life cycle. Focusing on adjustments to cashflow, rather than rescaling a project's hurdle rate, allows for greater control over the size and timing of these effects on the estimation of project returns. Costs are modeled in terms of lower revenues, higher direct operating costs, and any additional "offset" investments required to mitigate social disruption and/or earn the social license to develop and operate the project. Such offsets have a direct negative impact on a project's internal rate of return (IRR), with significant dispersion on project rates of return.

Considerably more important to project returns than costs and offset investments are the real effects of project delays on the liquidity and solvency of a project, as well as its overall performance. Because most project costs are incurred according to a relatively fixed schedule, adverse events or project interventions that delay operations and cash inflows will necessarily reduce project returns. For greenfield investors, delays that affect the timing between a commercial and financial close impact the cost of financing or, should delays become protracted, could even force investor abandonment.

For institutional investors with a discrete mandate to deliver social outcomes, there is little evidence of widespread institutional application of performance models to value social impacts of infrastructure assets or to apply attribution models to identify the impact contribution to an asset's returns.

Social Impact and Social Risk Integration: Operational Processes

Post close, active management of social impacts by investors concentrates on risk monitoring. This is especially the case when assessing ongoing exposure to social risks which emanate directly from the project or residually from agents or suppliers. These include, among others, risks related to labor conditions and community disruption. Infrastructure investors who successfully manage social risks employ monitoring data to implement practices to improve social outcomes. These are often KPI-based and integrated into reporting systems that are designed into the investment process. Because the process can be data intensive and constrained by a lack of access to high-quality data, data definition and aggregation are critical with managers relying on project teams to align data collection with reporting to improve the overall quality of project-level metrics.

For large scale infrastructure projects, supply chain management presents the most critical sourcing challenge for material, services, and capital. The extension of robust ESG – and social risk - analysis to suppliers is hampered by persistent challenges to conducting effective supply chain due diligence. However, it is enhanced when the scope and completeness of local regulatory oversight over material ESG matters is strong. Central to supply chain management is supplier sensitivity to social license and the long-term effects

of negative reputational events on project sponsors and both direct and indirect providers of capital. From the perspective of supply chain due diligence, supplier track record, depth of experience, prior engagement, and ESG reputational capital are all key qualitative criteria. To structure their analyses, managers can leverage third party tools, such as the PRI's supply chain ESG management toolkit. This framework is designed around four core dimensions of supplier's execution: people, process, policy, and performance, including the capacity of the supplier to gather data and audit its own compliance.

Conclusions

The most successful practices of direct infrastructure investors are grounded in the integration of social risk and social impact across the entire investment process.

Well-designed and communicated monitoring KPIs can serve as a medium for relationship-building and enhanced manager-client engagement on social impact.

Social impacts and social risks co-exist in infrastructure projects and are deeply integrated across the investment process. This occurs in a continuous fashion that links investment objectives at the pre-investment phase with outcomes at the asset management phase through measurable and reportable metrics. This data-driven approach contributes to process integrity and, importantly, enhances the alignment of manager incentives with discrete social outcomes.

Among institutional managers, standards – ESG, sustainability, "impact" – matter. When implemented *and observed in practice*, they can signal a manager's commitment to a robust sustainability agenda. They are often used as screening tools during the pre-investment phase, and as monitoring tools post investment. However, and importantly, evidence suggests that, for monitoring and measuring social impacts they are less relevant than well-designed asset or sector-level metrics or KPIs.

The most successful practices of direct infrastructure investors are grounded in the integration of social risk and social impact *across the entire investment process*. This begins with sourcing and screening investment opportunities and extends to conducting due diligence and structuring and valuing deals. It is during due diligence that social risks, in particular, are identified and where risk mitigation measures are designed, analyzed, and modeled.

Chains of Influence

Similar to institutional managers, asset owners as indirect investors or limited partners (LPs) are mindful of the positive social outcomes of their investments and especially cautious to avoid social risks or adverse impacts to local populations. Owners conduct extensive manager due diligence using protocols structured around detailed questionnaires, including those modeled on UNPRI tools. An asset owner interviewed for this study highlighted specifically the completeness of such due diligence, emphasizing that such engagements frequently take from three to six months to complete, sometimes delaying capital deployment pending a final investment committee decision.

Central to this process is to assess a manager's ability to mitigate social risks across project life cycles, to attain impact goals, and to maintain a social license to operate via early, proactive stakeholder engagement. This includes not only the manager's understanding of and capacity to manage social risks, but also their political extensions. These are important as they can impact individual beneficiaries, particularly among asset owners whose beneficiaries share a strong professional identity, such as teachers or healthcare workers.

Limited capacity may inhibit asset owners from fully understanding project impacts or discrete risks associated with infrastructure investments or maintaining, tracking, and reporting against metrics or KPIs related to social factors. Knowledge sharing between specialist GPs and their investors allows LPs to leverage manager frameworks to track social impacts and social risks. They also give managers considerable influence over the way asset owners define, measure, and eventually report on the impacts of their investments to their stakeholders. Discrete sector-level expertise, a demonstrable use of metrics and reporting frameworks, and a willingness to educate and train all arise for owners as important competencies and manager advantages.

For KPI-driven monitoring to underpin the investment process, it must be supported by an extensive information and data collection platform to serve as the foundation for feedback and reporting at each phase of the investment process. An important insight to draw upon is the role that KPIs can also play as knowledge and capacity-building tools. Asset owners are key stakeholders and will yield increasingly greater influence in the disposition of capital to sustainable assets. Well-designed and communicated monitoring KPIs can serve as a medium for relationship-building and enhanced manager-client engagement on social impact.

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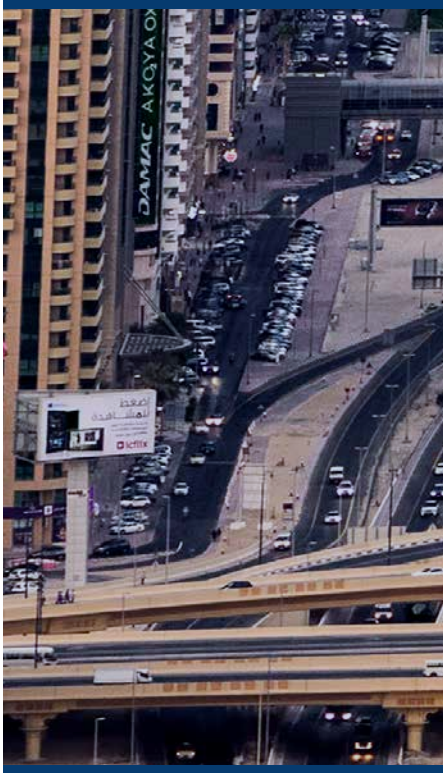

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