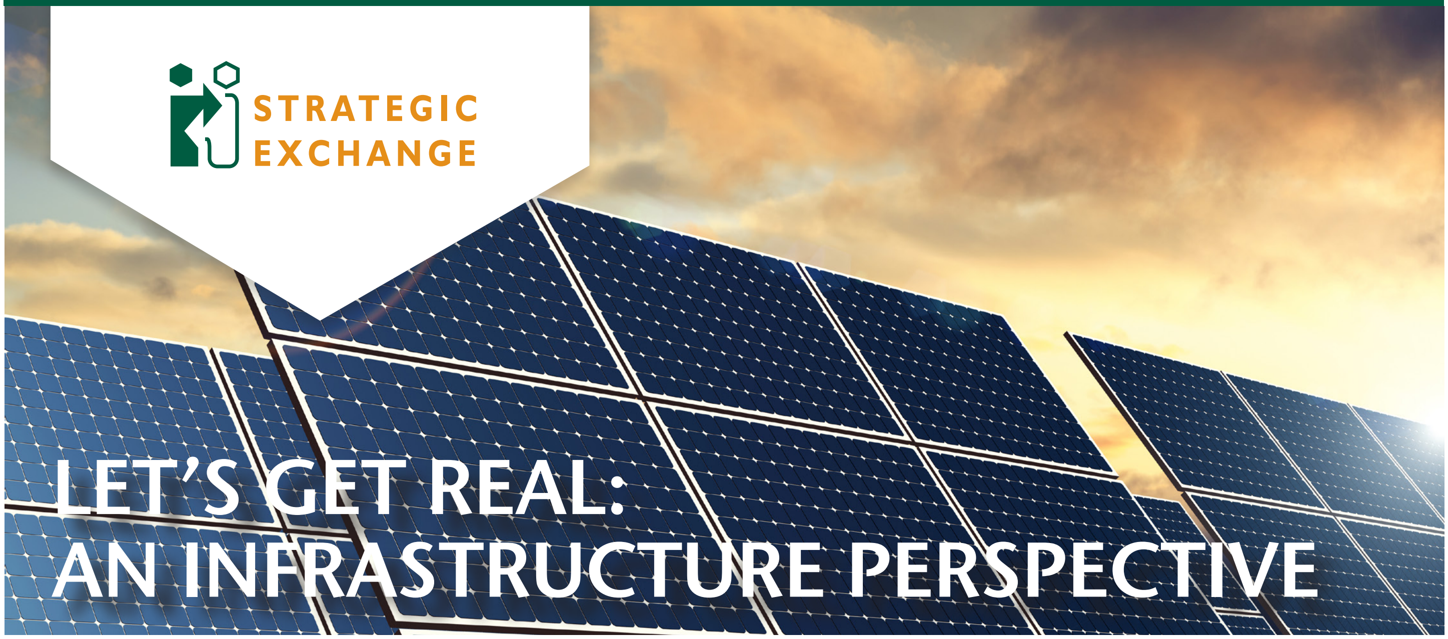


STRATEGIC EXCHANGE

LET'S GET REAL: AN INFRASTRUCTURE PERSPECTIVE

Popularity within the investment world, as in life, is fluid and changes over time. Real assets, particularly infrastructure, are currently winning the popularity contest within alternatives. Large institutional investors understand the benefits of alternative investments, as they represent a growing percentage of their portfolios. Developments in the type of investment vehicles means that alternatives are now also a more viable consideration for smaller investors. This paper highlights a number of benefits that infrastructure can offer investors.

Infrastructure Opportunity Set

Infrastructure is defined as facilities and structures that provide society with the essential products or services required for the orderly operation of the economy. These can be classified into two broad investment categories:

1. Traditional infrastructure including civil and social projects such as roads, bridges, schools, hospital, water distribution and treatment; and
2. Energy infrastructure such as power generation (hydroelectric, wind, solar, co-generation, etc.), electricity transmission, district heating/cooling and energy conservation.

While the different types of infrastructure have distinct physical characteristics, many can be reduced to the simple concept of a long-term contract between private sector investors and a high-quality counterparty.

It can be helpful to think of infrastructure as a real estate asset where the "tenant" is often a government entity or counterparty with strong credit and a very long lease term (20+ years). An advantage for infrastructure over real estate is the longer-term nature of underlying contracts and stability of the cash flow stream. Conversely, an advantage for real estate is a stronger hedge against inflation due to contractual rent increases.

When adding a new asset class to a portfolio, it should offer either a return or risk benefit, or a combination of benefits. Infrastructure has the following attractive characteristics:

- **Distinct asset class**: offers low correlation to other asset classes, since it is less tied to the ups and downs of equities and bonds.
- **Portfolio diversification**: manages portfolio volatility due to its essential, non-cyclical nature; implying returns that are less tied to economic cycles and instead generally have stable contracted or regulated revenues from year to year.
- **Strong downside protection**: can provide an element of protection through an inflation adjustment factor incorporated in the contracts that underpin the asset.
- **Predictable cash yield**: once in operation assets generally deliver steady cash yield, which can provide an alternative to fixed income investments.

TOLERANCE AND RISK

To take advantage of these characteristics when investing in private infrastructure, investors need to have some tolerance for illiquidity. However, this is not problematic for most investors since they can afford a less liquid portfolio exposure given the long-term nature of their objectives.

As with any investment, there are potential risks associated with infrastructure that need to be managed accordingly:

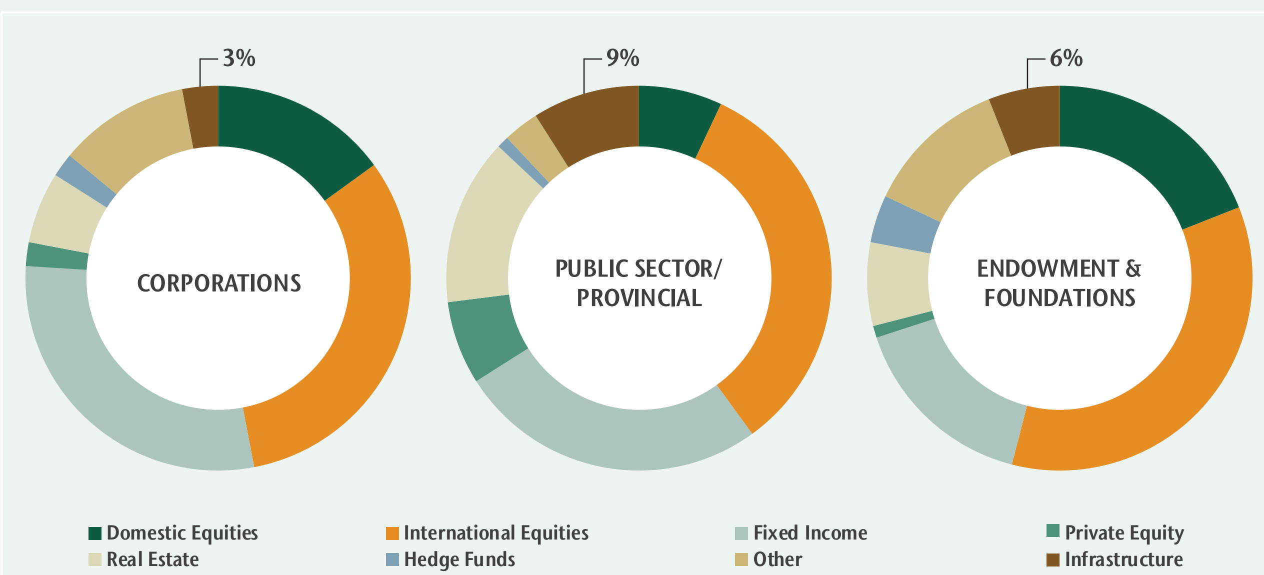
- Operating risks can be managed by experienced asset management teams and by entering into long-term operating and administration agreements with reputable counterparties.
- Financing risks can be mitigated by raising fixed-rate debt financing from creditworthy lenders on terms closely tied to the life of projects or the key underlying contracts.
- Counterparty risks can be managed by entering into long-term concessions and off-take agreements with parties who have high-quality credit ratings, such as government entities.
- Volume/demand risk can be lessened through a rigorous due diligence process that includes extensive independent resource flow analysis.
- Regulatory and political risk, can be minimized by focusing on investments in jurisdictions with stable regimes and ensuring projects are underpinned by robust contracts with appropriate protections.
- Construction risks, such as cost overruns and schedule delays, can be mitigated by negotiating fixed-price, date-certain contracts with construction firms and by selecting managers with expertise in construction contracting and oversight.

Popularity Contest

When investors undertake an asset mix review, infrastructure typically commands a reasonable allocation based on attractive risk and return expectations. Its standing among other alternative investments is helped by the positive experience of some of Canada's largest and pioneering pension plans, who are well-established, active infrastructure investors.

Infrastructure is a growing component of Canadian portfolios for a range of different investor types. For example, infrastructure represented an average of 6% of Endowment & Foundation (E&F) assets and 9% of public / provincial assets, based on a recent Greenwich Associates Survey (Figure 1). However, when reviewing the averages for the different investors, it is important to recognize that there will be "haves" and "have nots". In other words, the averages include investors with no allocation (have nots), so the percentage will be much higher than the average for those who have an actual allocation in order to achieve an overall average of 6% in the case of the E&F market.

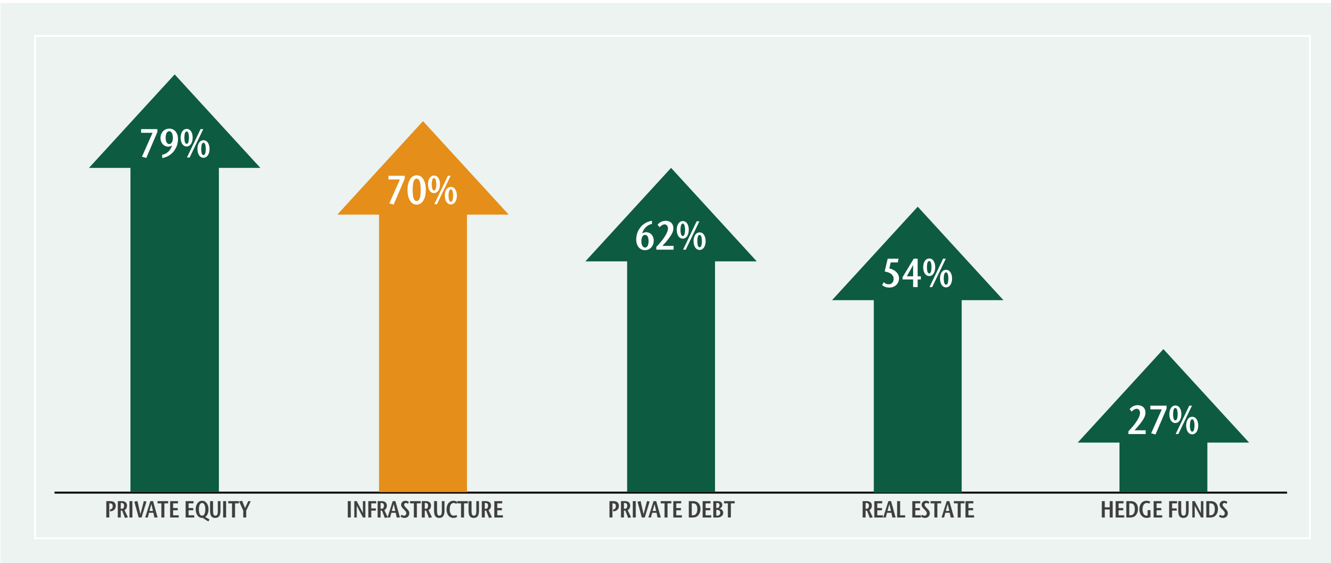
Figure 1 - Canadian Asset Mix By Institution



Source: Greenwich Associates Investor Survey, 2018

Looking forward, a recent survey by Prequin highlighted that over the next five years alternatives are expected to continue to play an important role in institutional portfolios. Within the alternative segment, a majority of investors indicated plans to increase the infrastructure allocation (Figure 2).

Figure 2 - Percentage of Investors Expected to Increase Alternative Allocation Over the Next 5 Years



Source: Prequin Investor Survey, June 2018

Market Forces

Like most private market asset classes, infrastructure has experienced a strong growth trajectory in both transacted volumes and available capital for investment. Infrastructure has demonstrated its resiliency and value by providing reliable long-term total returns. It also provides investors with a multitude of other benefits, namely steady, predictable income, potential gains and capital preservation in an uncertain global environment.

This growth in demand for infrastructure assets has been accompanied by an increasing supply of investment opportunities driven by a number of historical forces that still hold true today:

- **Underinvestment:** There is a massive under-investment in basic infrastructure. The Canadian government commissioned a study in 2016 to assess the quality of its infrastructure[1]. The study showed that almost a third of all assets assessed by value ($400 billion) were determined to be in very poor to fair condition. The type of assets assessed were generally basic services we rely on, such as power, transportation, and healthcare. This “infrastructure deficit” will require significant new investment. It is a similar story globally. A study by McKinsey in 2017, estimated that US $70 trillion of global infrastructure investment will be needed up until 2035[2].
- **Government Fiscal Positions**: The growing global need for capital to build out new infrastructure and refurbish existing assets coincides with a time when public financing is constrained. This is leading to increased focus on solutions that attract private capital to bridge the funding gap between government budgets and investment needs. As a result, the opportunity for private projects should see an increase in the supply side.
- **Urbanization**: The percentage of the world’s population living in cities versus rural areas has increased dramatically and is on pace to continue. While almost 90% of North Americans live in cities, this figure is only 55% on a global scale[3]. The ongoing trend towards urbanization puts a strain on basic infrastructure in cities and drives the need for new infrastructure spending.
- **Renewable Energy**: The longer-term move of electricity generation infrastructure away from coal, oil, gas, and nuclear power and towards renewable alternatives continues to grow. Based on McKinsey’s 2019 Global Energy Perspective, renewable alternatives are expected to account for approximately 75% of the total global power supply by 2050[4]. Within renewables, solar energy is expected to contribute the bulk of the capacity, followed by wind power. One of the factors contributing to this move is increasing global acceptance that climate change issues need to be addressed as well as the significant declines in the cost of renewable alternatives.

Innovation And Integration

Technological advancements and digital innovation are quickly transforming the world we live in and creating an abundance of new opportunities. Infrastructure is no exception. For example, the evolution of battery technology is propelling the viability of energy storage solutions and the combination of technology and urbanization is leading to the creation of "smart cities," expanding the landscape of investable infrastructure assets.

Technology is developing innovative and creative ways to actively manage assets more effectively and efficiently, creating value over the long-term. For example, technology is already able to enhance the effectiveness of solar projects with drones. Many solar projects have hundreds of thousands of solar panels. When any of these panels are underperforming, generation is reduced and potential income is being lost. The challenge is to detect underperformance at the individual panel level. Defective panels and equipment generally produce more heat, therefore drones with thermal imaging technology can be used to fly over projects and detect heat anomalies, thus identifying individual panels that need to be replaced. This technology will literally enable finding a needle in a haystack and optimize the performance of renewable projects.

The topic of integrating environmental, social and governance (ESG) principles into investment strategies has become one of the most talked about areas of investment management and it's no different for alternative investments. In particular, infrastructure presents a real opportunity to have a positive ESG impact. Infrastructure has a number of asset types that are inherently beneficial to society, from projects to construct new schools and hospitals in partnership with local communities to the build out of renewables, which will contribute to a low carbon future.

The 2018 Prequin Investor Survey highlighted that while investors' alternative assets are not as advanced as the overall portfolio of traditional and alternative investments when it comes to incorporating ESG policies, they are not far behind and should be broadly in line with the overall portfolio policies within the next five years[5].

Level Playing Field

Private market investments used to be viable for only the largest investors. Today, infrastructure managers are increasingly offering open-end funds alongside closed-end funds, creating a more accessible opportunity for smaller investors. These vehicles provide a degree of added liquidity as compared to traditional, closed-end funds, and often reduce the governance burden for smaller investors by simplifying administrative tasks. Open-ended funds also provide access to existing fund holdings, which can be a more comfortable proposition for new investors to the asset class as opposed to committing assets to a blind pool associated with a closed-end fund. An open-ended structure also provides the flexibility to increase commitments over time as asset mixes are reviewed.

Another barrier for smaller investors has been the challenge of gaining a broader private market exposure due to limited internal resources to devote to contract agreements. Whether you invest $500 million or $50 million into private markets, the administration time is often the same. Smaller investors can now delegate the construction and oversight of a private market portfolio, allowing for a broader portfolio of assets such as infrastructure, real estate and private debt, and reducing the associated internal time pressures. This delegation allows internal focus to be concentrated on more strategic considerations.

Real Opportunities, Whether Big Or Small

Alternative investments offer a range of return and diversification benefits for investors, which is attracting significant capital flows from investors. Infrastructure offers some distinctly attractive investment characteristics and opportunities driven by supply trends such as underinvestment in basic infrastructure, government fiscal challenges, and urbanization. Advances in technology are also helping to deliver more effective and cost efficient management of renewable assets, facilitating a growing move of electricity generation infrastructure away from coal, oil, gas, and nuclear assets.

The introduction of investment vehicles and solutions better suited to smaller investors means that all investors, big or small, can take advantage of the benefits that alternative investments offer.

1 Canadian Infrastructure Report Card, 2016.

2 McKinsey Global Institute, Bridging Infrastructure Gaps - Has The World Made Progress, 2017

3 United Nations, World Urbanization Prospects

4 HSBC, The World in 2050

5 Prequin – The Future of Alternatives, 2018

Connor, Clark & Lunn Financial Group's Strategic Exchange is an initiative to promote dialogue, understanding and the development of solutions to the often complex investment challenges faced by institutional investors.

Under the direction of Peter Muldowney, SVP Institutional Strategy, we bring together investors and consultants in a variety of interactive, educational forums. We also produce thought pieces addressing issues that are top of mind to those involved in managing and overseeing various asset pools.

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