Five Examples of Direct Value Creation and Capture in the Pension Fund Industry

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How can pension funds create and capture value in financial markets? We study four landmark transactions made by large Canadian pension funds: OTPP's acquisition of Cadillac Fairview, PSP's development of Mahi Pono, CDPQ's development of Réseau Express Métropolitain, and CPP Investments's acquisition of Antares Capital. The funds create and capture value by achieving scale in strategic markets, reducing fee drag, coordinating stakeholder groups, and developing internal synergies. We identify the primary risks, discuss the risk mitigation strategies implemented by the funds, and then study how UPP, a smaller pension fund, emulates some of these strategies on a smaller scale.

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I. Introduction

The process of value creation in financial markets involves a long and complex chain of industry players connecting the real economy to the financial sector. Upstream in the chain, entrepreneurs and developers launch projects off the ground and create value.[2] Downstream, venture capitalists, private equity funds, and other early-stage investors provide financing to these entrepreneurs and oversee parts of the value creation process. Further downstream, mutual funds, hedge funds, and other financial intermediaries invest in these funds and then directly in the firms as they become more established. Finally, at the end of the value chain, pension funds and other types of institutional investors manage the savings of millions of individuals by allocating large amounts of capital to these specialized intermediaries.

One consequence of being at the end of the value chain is that pension funds miss out on much of the value creation captured by upstream players. Academic research shows that mutual fund managers generate significant value from their investments but then retain most of the value by charging high fees to downstream investors (Barras, Gagliardini, and Scailler 2022, Berk and van Binsbergen 2015, Pastor and Stambaugh, 2012). Similarly, private equity fund managers retain a large share of the profits they generate. The result is that, for limited partners, the returns on private equity investments are frequently comparable to those of passively managed public equity investments (Bollinger and Pagliari 2019, Ennis 2020, Ilmanen, Chandra, and McQuinn 2019, Phalippou 2020).

In this paper, we explore how some pension funds streamline the value chain in order to capture a greater proportion of the upstream value creation and earn greater returns for their beneficiaries. We focus our attention on large Canadian pension funds, which are known for their focus on direct investments (Ambachtsheer 2016, 2021). Beath et al. (2021) document that, among funds that manage over USD 50 billion of assets, Canadian pension funds manage more than 80% internally. This is more than twice the proportion managed internally by global peers. Moreover, Beath et al. (2022) find that large Canadian funds generate an annual net value added of approximately 1.5% in their direct real estate investments. We seek to understand *how* these funds are able to create and capture value. To do so, we study four landmark projects that have shaped the funds' direct investment strategy.

We first analyze Ontario Teachers Pension Plan (OTPP)'s acquisition of Cadillac Fairview, a major real estate operator and developer. The second project we examine is Public Sector Pension Investments (PSP)'s brownfield development of Mahi Pono, a large-scale agricultural operation in Hawaii. The third

[2] In the terminology of finance, the amount of value created is commonly referred to as Net Present Value (NPV). For investors, NPV results in a high risk-adjusted return, which is captured by the alpha component of the return. Alpha net of fees is also commonly referred to as net value added.

project is Caisse des Dépots et Placements du Quebec (CDPQ)'s greenfield development of Réseau Express Métropolitain (REM), a new metro system in Montreal. The fourth project is CPP Investments's acquisition of Antares Capital, a private credit platform for equity-sponsor owned mid-sized companies in the U.S..

These projects are noteworthy because they are large, complex, and span four asset classes: Real Estate, Natural Resources, Infrastructure, and Private Credit. They provide insight into a variety of business models and ownership structures. For example, since its acquisition of Cadillac Fairview in 2000, OTPP has used the real estate company as its central operator and developer for real estate investments. PSP develops Mahi Pono jointly with Pomona Farming, a U.S.-based operator that is itself majority owned by PSP. CDPQ builds the REM in a public-private partnership with the Quebec government, while CPP Investments uses Antares Capital as a platform to tap into the large American private credit market.

Our analysis of these projects highlights four ways in which the pension funds create and capture value. One way is by achieving meaningful scale in markets that bring strategic value to the funds. Each project enables the pension funds to consolidate their investments and thereby efficiently deploy large amounts of capital to these markets. Another way to capture value is by minimizing the fees going to upstream players. By vertically integrating parts of the value chain and hence by going further upstream, the pension funds have greater control over the projects and thereby reduce the fee drag that results from relying extensively on external General Partners (GPs). A third way to create value is by coordinating stakeholder groups, such as local communities and government whose buy-in is critical to the long-term success of the ventures. By stepping in as long-term anchor investors, the funds make it possible to coordinate multiple stakeholder groups and push complex development projects forward. A fourth way to create value is by developing internal synergies. The pension funds leverage these projects to create value elsewhere within their organization. For example, the funds use the on-the-field expertise of their operator to gain knowledge about active investment strategies in related markets.

These types of in-house projects come with important risks. We identify four primary sources of risk: (i) concentration and reputational risk that arises from the large size and illiquid nature of the projects, (ii) operational development risk, (iii) forms of government interference that would require the funds to be short-term focused and either modify or exit the projects early, and (iv) the failure to establish a proper governance structure that clearly outlines the roles and responsibilities of the different actors along the value chain. Put differently, vertical integration introduces the risk of "blurring the lines" of corporate governance. In the paper we describe the strategies that the pension funds have put in place to mitigate these risks and maximize long-term value creation.

The pension funds driving these four complex projects each manage more than CAD 200 billion of assets. So, an important question is whether smaller pension funds can emulate the same value creation strategies. To address this question, we study the case of University Pension Plan Ontario (UPP), a new pension fund that manages CAD 12 billion of assets for Ontario universities. Unlike the larger plans, UPP does not have the capacity to invest in large development projects by itself. Therefore, UPP has established a more flexible direct value creation strategy focused on (i) identifying smaller mid-market deals that align with their expertise and don't receive as much attention from the larger funds, and (ii) building strategic co-investment relationships with GPs.

In contrast with the direct investment strategy pursued by the four large Canadian Model pension funds, UPP's strategy can be viewed as a form of the collaborative model (Monk, Sharma and Sinclair, 2017), which emphasizes the development of an efficient and effective network to form long-term relationships with trusted investment partners. Monk and van Gelderen (2019) explain how these relationships can allow funds with limited capacity to build up full fledged internal investment operations to access value creation opportunities.

The findings from our paper should be interpreted with prudence. Our analysis does not aim to capture the whole range of value creation strategies these pension funds pursue. The transactions we focus on are not representative of the funds' entire portfolio. Moreover, because our analysis of those transactions is based on qualitative interviews, we are not quantifying their performance. The objective of our study is to uncover insights into the process of value creation and capture that formal quantitative analyses cannot easily see.

The next section covers each of the four landmark transactions. We then synthesize the information and summarize how the large pension funds are able to create and capture value and manage the risks. We finally study the case of UPP as a smaller pension fund and conclude.

II. Four Landmark Transactions by Large Pension Funds

A. Cadillac Fairview (Real Estate)

Cadillac Fairview is a globally focused owner, operator, investor, and developer of best-in-class real estate across multiple real estate sectors and strategies. The firm was publicly listed until OTPP purchased it in 2000 and then privatized it. Since then, Cadillac Fairview has been a wholly owned subsidiary of OTPP and is responsible for managing the fund's real estate portfolio.

The size and timing of the Cadillac Fairview transaction are both noteworthy. OTPP acquired Cadillac Fairview in 2000 at approximately CAD 6 billion, which represented close to 10% of OTPP's CAD 67 billion of assets under management at the time. To finance the transaction, the fund sold equities at the height of the tech bubble - a large contrarian trade. This transaction was the result of several key individuals leading OTPP at the time, in particular Bob Bertram, OTPP's Chief Investment Officer, and Claude Lamoureux, OTPP's Chief Executive Officer, who both convinced OTPP's board to switch gears toward real estate. The steady stream of cash flows and the natural inflation hedge for pension liabilities from real estate investments like Cadillac Fairview aligned well with OTPP's long-term mission to secure a steady pension for Ontario's school teachers. Today, recent research by Beath et al. (2021) shows that (i) Canadian pension funds are significantly more invested in real estate than their global peers and (ii) the large real estate investments have resulted in a high degree of alignment between the funds' asset and liability portfolios.

In purchasing Cadillac Fairview, OTPP acquired not only a large portfolio of landmark properties, which included assets such as the CF Toronto Eaton Centre and CF Pacific Centre in Vancouver, but also an operating company that specialized in developing and managing properties both in Canada and abroad. The acquisition of the operating company allowed the fund to have direct influence over the operations of the business, including the acquisition, sale, and development of their buildings. OTPP's greater influence on Cadillac Fairview's strategic direction involved selling non-strategic holdings and taking on additional risks in development projects instead of simply targeting lower value properties.

The knowledge and best practices that OTPP acquired from owning Cadillac Fairview gave the fund the confidence necessary to pursue new real estate deals. Following the acquisition, Real Estate and Infrastructure at OTPP grew significantly, ushering in new and larger deals in the United Kingdom, Brazil, Chile and Australia. The Cadillac Fairview acquisition allowed OTPP to extract additional value from these deals because teams gained expert knowledge that was not typically available to pension investors.

Purchasing a large operator like Cadillac Fairview also brought synergies. For example, instead of having two high-quality malls that featured identical brands and services operating independently, they could coordinate complementary offerings since both were managed by the same operator. These benefits can become significant over the long term, allowing for a high level of marketing synergies across real estate holdings that in turn maximizes the return potential of the investments.

Another benefit from this acquisition was improving OTPP's talent attraction and retention. Having both a Canadian operator and investor, the talent remained in Canada, which would not have been necessarily the case if an international firm had purchased Cadillac Fairview. The acquisition also made it easier to attract and retain top talent because deals were larger and more interesting.

Along with significant benefits, entering into the development business involves important risks. The advantage of an established firm like Cadillac Fairview is that it brings the expertise to manage these risks. Also, by having direct control, OTPP has a greater ability to mitigate risks throughout the life cycle of a project. The logic is that owning the operator provides OTPP with a greater selection of levers to control risk, and it also allows for the establishment of pre-emptive practices that would prevent potential reputational cost.

B. Mahi Pono (Natural Resources)

In December 2018, PSP acquired 41,000 acres of what was once a sugar cane plantation in central Maui, Hawaii. With this acquisition from Alexander & Baldwin, PSP established the Mahi Pono farming company. Mahi Pono means "to farm or cultivate morally and properly" and their vision was to revitalize and develop the unproductive sugar cane land into a thriving hub of diversified agriculture.

The acquisition opportunity was brought to PSP's attention by its existing partner, Pomona Farming, a U.S.-based operator that is itself majority owned by PSP. 41,000 acres of prime land on Maui had been allowed to lay fallow for about two years before the PSP purchase because the owner could not operate the sugar cane fields at a profit. With the transaction, PSP differentiated itself from other buyers not only by stepping in as a long-term investor and a responsible steward of the land, but also by purchasing all of the land instead of individual parcels.

A distinct feature of the investment in Mahi Pono is its transformational nature. In a traditional direct investment, an operator runs an *ongoing* business. By contrast, Mahi Pono began from scratch and transformed the fallow land into a large-scale farming venture that emphasized permanent crops such as avocados, citrus, coffee, and macadamia nuts. These were complemented by row crops and pasture-raised cattle. As a long-term investor in Mahi Pono, PSP is able to capture the direct value created from the land optimization.

Mahi Pono shows how the agriculture sector provides several advantages for large pension funds. These include a direct hedge against inflation, portfolio diversification, and ownership of the land which gives a floor in the valuation. In addition, because most investments in the agricultural space are private, pension funds have access to opportunities not available in public markets, and they can also earn a liquidity premium.

The reason why agriculture has traditionally received little attention from large institutional investors has to do with the relatively small agricultural deal sizes, which makes it challenging to rapidly deploy capital. Consequently, many investments take the form of land leases where pension funds essentially become “passive” landlords. Other sectors in the Natural Resources asset class, such as Forestry, tend to be more popular among large investors because the deal sizes are larger.

PSP addresses the scale issue of the agricultural deals in two ways. First, the fund invests in platform companies typically alongside local operators who have expertise in a given commodity with the aim of aggregating assets. Investing in or partnering with an established local operator such as Pomona Farming allows a large fund like PSP to invest directly in a large number of small farms while retaining control and gaining economies of scale. The second way to address the scale issue is by choosing local operators based in economically stable countries with strong institutions, such as the U.S. and Australia, where there are opportunities for meaningful scale.

Despite its distinct benefits, the Mahi Poho investment presents important development and social risks associated with growing multiple crops in a foreign country. And, unlike the purchase of a pre-existing and well-run agricultural business, the re-development of a large agricultural land involves managing multiple stakeholder groups and navigating politically complex relationships. Prior to PSP’s acquisition, there was a conflict between the sugar cane plantation and the local community over water rights, which is a sensitive issue because freshwater sources are limited on the Hawaiian islands and also because water has a sacred, spiritual value for indigenous Hawaiians.

PSP approached these risks in several ways. First, the fund uses a U.S.-based operator, Pomona Farming, to oversee operations and mitigate the development risk. Pomona Farming has extensive experience in sustainable farming and with water rights management. They also have a good track record with stakeholder relations, which is crucial for addressing community concerns. Second, PSP has worked to ensure that the project brings value to the local community by creating new jobs and opportunities for economic diversification, especially since Hawaii imports most of its food. Today, Mahi Pono employs over 300 local individuals full-time, and the COO, Shan Tsutsui, is a Maui native and the former Lieutenant Governor and President of the State Senate. PSP believes that building lasting trust with the community and enhancing their social license is essential to the project’s success and will build long term value.

C. Réseau express métropolitain (Infrastructure)

The Réseau Express Métropolitain (REM) is a new rail system in Montreal that CDPQ is developing in partnership with the Quebec and Canadian governments and through its operator, CDPQ Infra. Launched in 2015, the REM is expected to become operational between 2023 and 2027 and is the largest public transit project in Quebec since the Montreal metro in 1966. CDPQ's direct involvement and near full control over the REM gives the fund a significant value creation opportunity that is expected to generate a long-term annualized return of 8-9%.

The REM began by aligning the interests of multiple stakeholders. For CDPQ, the REM gave them upstream access to the value creation process on a large scale while also generating significant economic gains for the province. This aligned with CDPQ's dual mandate to generate risk-adjusted returns and support the Quebec economy. Additionally, an infrastructure project like the REM brought strategic value to CDPQ because of its steady cash flows and inflation hedging properties over the long term. The REM also aligned with the interests of Montreal since it would build an airport train, connect the South Shore community to the downtown area via the new Champlain Bridge, renovate the major rail tunnel underneath Mont-Royal, and build two additional rail lines to relieve traffic congestion. Finally, for the provincial and federal governments, the partnership with CDPQ provided an additional source of financing for a major infrastructure project.

The innovative financing structure of the REM project also helped to align the stakeholder groups. CDPQ invested CAD 3.3 billion in the REM, which is a significant portion of the CAD 6.9 billion total estimated cost. The remaining financing came from loans and other investors such as Hydro Quebec and the Quebec government. Rather than subsidizing the project, the Quebec government became an investor instead and can expect to earn a return of 3.7-4% from CDPQ. Cash flows would come primarily from ticket sales, and CDPQ would also receive a portion of the revenues, up to a maximum of CAD 600 million over 50 years, from new private development surrounding the REM stations. In terms of value creation, the REM was a win-win for both CDPQ and the Quebec government.

However, the REM project is highly complex at both technical and stakeholder levels. The rail system spans over 67 kilometres, passing through multiple cities, crossing over water, and managing century-old tunnel infrastructure. Much of the REM needs to be constructed outdoors because areas of unstable ground make it challenging to build an underground system. Given the complexity of these risk factors, the REM's long-term success depends on the buy-in from local communities and governments.

CDPQ manages the complexity in several ways. First, CDPQ created its own operator, CDPQ Infra, to oversee the operations and manage the development risks. The team at CDPQ Infra, which includes more than 100 employees, is responsible for designing the system and managing issues that arise over the life of the project. Second, CDPQ leveraged its expertise gained from its involvement in the development of the "Canada Line" of Vancouver's metro rail system. Third, CDPQ leverages its partnerships and works closely with contractors, governments, and the public throughout the lifecycle of the project. For example, it was agreed that the government would be responsible for clearing the surface-ground area of the REM, which would involve expropriating some of the land.

Risks surrounding public opinion are also significant. Failure to gain public support could lead to the failure of the project. This was the case with other REM extension proposals. Hosting consultation sessions and involving the public in the decision-making processes helps to mitigate this risk.

D. Antares Capital (Private Equity/Credit)

The Chicago-based Antares Capital is a private loan platform that targets equity-sponsor owned mid-sized companies in the U.S.. In 2015, CPP Investments fully acquired Antares Capital from GE Capital. The transaction, valued at USD 12 billion including USD 3.9 billion of equity financing and the remainder as debt financing from a consortium of global banks, was the fund's largest investment outside of Canada and the second largest in its history. Antares Capital is an interesting hybrid investment, giving CPP Investments exposure to both private equity investments (as the owner of the platform) and private credit investments (through the platform's loans).

With its acquisition, CPP Investments has been able to achieve meaningful scale in the mid-cap segment of the private credit space - a space where the fund believes it can achieve superior risk-adjusted returns. One challenge for CPP Investments was that the mid-cap loan market is not very liquid and is usually comprised of numerous small ticket items. On top of that, loans in this market are typically not rated nor syndicated. These characteristics make it challenging to deploy large amounts of capital efficiently. In order to gain scale, a fund can invest with multiple GPs. The problem is that this results in high fees. By purchasing Antares Capital, CPP Investments was able to efficiently achieve scale through the platform's size, established market position and its relationships. As of March 2023, Antares's Capital under Management and Administration (CUMA) reached USD 61+ billion, and it had approximately USD 20 billion (2016-1Q2023) in annual originations with approximately 470 borrowers. Of the USD 61+ billion total CUMA, Antares Capital invests around USD 34+ billion on behalf of third-party investors and is the lead arranger on ~90% of its deals (2016-1Q2023).

In addition to achieving scale, CPP Investments's acquisition of Antares Capital has created value in the pension fund's wider portfolio. Antares Capital's team collaborates with CPP Investments's internal private credit team and shares their knowledge surrounding underwriters, loan structures, etc. that can apply to the pension fund's other investments.

One of the most important risks with the acquisition of Antares Capital was not having a governance structure that provided the platform sufficient bandwidth to operate. CPP Investments managed this risk in several ways. First, CPP Investments stays out of the operations and investments at Antares Capital, and acts through the board rather than installing its own leadership. Additionally, CPP Investments sold 16% of the firm to a long-term capital fund managed by Northleaf Capital Partners, a global private markets investment firm. Sharing ownership brings transparency and diversifies expertise on investment and governance decisions. Antares Capital also has additional access to third party capital and manages its own balance sheet and capital position. Together, these governance characteristics give Antares Capital the freedom and capital to operate while remaining aligned with CPP Investments' objectives.

III. Sources of Value Creation and Risk Management

A. Sources of Value Creation and Capture

These four case studies highlight several ways in which the Canadian pension funds create and capture value upstream. Each project allows a pension fund to achieve scale and efficiency in strategic markets. The cash flows generated from Real Estate, Natural resources, Infrastructure, and Private Credit all have appealing hedging properties for the pension funds whose liabilities look like long-term indexed bonds. In the context of fragmented markets that make deploying large amounts of capital difficult, platforms such as Cadillac Fairview and Antares Capital become the central vehicle through which the funds are able to consolidate and grow investments.

Second, the pension funds vertically integrate parts of the value chain in order to go further upstream, have greater control over the projects, and reduce the fee drag that results from relying extensively on external GPs. Vertical integration comes in the form of working with established operators that bring the expertise to identify opportunities for value creation and manage the development projects. In all four projects, the pension funds have a controlling stake in the operators and therefore can directly influence the strategic direction of the businesses.

Third, the pension funds unlock value creation opportunities by stepping in as anchor investors in large development projects that are profitable over the long-term but risky and complex to set up due to a large number of stakeholders. In the cases of Mahi Pono and the REM, the large and long-term capital commitments of PSP and CDPQ give credibility to each development project and make it possible to coordinate multiple stakeholder groups, including the local communities and public authorities whose buy-in is critical to the long-term success of the ventures. These types of projects are unlikely to succeed without the involvement of a long-term anchor investor. Because of this, they present an opportunity for pension funds to step in as the anchor investor and create value.

Fourth, the pension funds leverage the projects to create value elsewhere within their organization. For example, the pension funds use the on-the-field expertise of their operator to gain knowledge about active investment strategies in other parts of their portfolio. In addition, by actively developing large and complex projects, the pension funds are able to grow and retain internal talent.

B. Primary Risks and Risk Management

These types of large in-house projects come with important risks. We identify four main forms of risk and discuss the strategies that the pension funds have put in place to mitigate them. One significant risk is that, because these projects are large and illiquid, an underperforming investment may have material consequences at the total fund level and cause reputational damage to the pension fund. In each project, we find this risk is mitigated through the careful development of a distinct business model and ownership structure that aligns the incentives of the different stakeholders and therefore minimizes the likelihood of future conflicts. There is no cookie-cutter approach to these large and direct transactions.

Operational development risk is also a first-order focal point for large and complex development projects that involve multiple stakeholder groups. Development risk is mitigated by the use of well-established operators and the productive involvement of the different stakeholder groups. Additionally, having control over their operators allows the pension funds to better oversee development risks throughout the life cycle of the project.

The success of these projects requires pension funds to stay invested over the long-term, and so any form of political or public pressure or regulatory constraint that forces the pension funds to be short-term driven presents a key risk factor. For the large public Canadian pension funds, this risk is reduced because they are not subject to strict solvency requirements such as those set out by Solvency II in the E.U..[3] As a result, the funds have greater capacity to invest over the long-term. The funds also benefit from a strong governance structure allowing them to operate at an arm's length from their public sponsors (Ambachtsheer 2016, World Bank 2017). In addition, the funds have agile and responsive professional boards and establish clear authority delegation structures enabling them to invest in complex projects in private markets.

Fourth, vertical integration along the value chain introduces the risk of "blurring the lines," that is, of failing to establish a proper governance structure that clearly outlines the roles and responsibilities of the

[3] https://www.eiopa.europa.eu/browse/regulation-and-policy/solvency-ii_en.

different actors. For example, one problem may be that a pension fund becomes too involved in the day-to-day operations of its operator without understanding the complexities of the underlying business. Another problem is that a pension fund struggles to assess the unit's performance because it is more challenging to tease apart costs associated with the investment function from costs associated with the development function. An additional problem is that a pension fund may not provide sufficient capital to meet the operator's needs. In each of the four projects discussed, the funds have mitigated this risk by investing in or partnering with operators that are separate legal entities and by giving them the bandwidth to run their operations independently. Pension funds act through the operators' boards and commit to providing ongoing financing. Moreover, the fact that the projects are in strategic markets for the pension funds means that their growth aligns with the risk profile of the funds' liabilities.

IV. Value Creation for Smaller Pension Funds

The four case studies involve four large pension funds that each invest over CAD 200 billion of assets. An important question is, can smaller funds also create and capture value? The case of University Pension Plan Ontario (UPP) gives us insight into how a new and significantly smaller fund is pursuing upstream direct value creation in the private markets space.

Launched in July 2021, UPP currently manages CAD 12 billion in pension assets for Ontario's university sector. As a relatively small fund, UPP targets private market spaces where it has expertise and looks for smaller mid-market deals that receive less attention from the larger funds. UPP assesses deals from a total fund perspective and looks for investments with attractive characteristics such as cash flows that are inflation-hedged, resilient and sustainable in order to make the most efficient use of its limited capital.

UPP's value creation strategy is built upon its relationship with its GPs. Unlike the larger funds that compete directly with GPs on deals, UPP can be both an active owner and a complementary partner with the GPs. UPP investment teams position themselves as both providers of capital and as experts who can bring knowledge and experience to a deal. If UPP can establish its reputation as a credible and "selective" investor, GPs will want UPP as a chosen partner because UPP's participation signals that the deals are high quality.

In order for UPP to become a name brand for quality investment choices, it needed a responsive board that would support a value capture strategy and trust the asset management team to delegate authority. Building relationships within the fund and establishing a fast, but comprehensive, governance structure became the focal strategy.

Several constraints and risks characterize the direct value creation and capture strategy of a smaller fund like UPP. Because smaller funds have less capital and fewer diversification opportunities, higher conviction is needed for each investment. Additionally, because UPP often has a minority stake in its private investments, it is exposed to more reputational risk because it can only indirectly influence the actions of its investment partners. Human capital retention is also a key concern. With a smaller team, the loss of one or two members can negatively impact a deal. To mitigate these risks, UPP builds strategic long-term relationships with its partners, recruits selectively, ensures that its investment professionals are experienced in many aspects of the portfolio, and provides competitive performance-based compensation and benefits. Focusing on mid-market firms also allows the fund to be a more significant partner at a lower cheque size and increases its ability to negotiate better fees, governance rights, and access to co-investment opportunities.

UPP also faces greater liquidity risk as a small fund pursuing direct value creation strategies. In order to be a good investment partner, they must be able to supply liquidity quickly to its GPs during times of need. UPP therefore needed to develop a comprehensive liquidity management framework to measure and control liquidity at the fund level. In order to do this, UPP ensured that it had access to key liquidity tools such as derivatives and synthetic securities before expanding its allocation to private markets. In addition, UPP has implemented initiatives to prevent work silos so that all team members across the organization are aware of liquidity needs and concerns.

In summary, UPP's ability to create and capture value and emulate larger Canadian funds demonstrates that, by establishing the right types of strategic partnerships, focusing on mid-market deals, and adapting their governance, recruitment, and liquidity management processes, smaller funds can have access to long-term direct value creation.

V. Conclusion

This paper examines four landmark transactions made by large Canadian pension funds in order to understand how these funds are able to capture a greater proportion of the upstream value creation. Because the transactions are large, complex and varied, we get insights into the breadth and depth of some of the value creation and risk mitigation strategies implemented by these funds. We also study how a smaller pension fund is able to emulate some of these strategies on a smaller scale through the development of strategic partnerships. Our findings contribute to the growing research literature on the benefits and challenges of institutional long-term investing (Ivashina and Lerner, 2019; Monk, Sharma and Sinclair, 2017).

Our paper has focused primarily on the ability of pension funds to create and capture value. A related research topic is about the *real* impact of direct investments made by pension funds. For example, Beath et al. (2022) find that the majority of Toronto buildings that obtained LEED Platinum – the highest level of green building certification – correspond to Canadian pension funds' direct investments. Beetsma and al. (2022) document that pension funds raise firms' productivity by investing in their equity. Andonov and Rauh (2023) further show that power plants directly owned by institutional investors have longer contracts and lower price volatility than those owned by private equity investors. These studies all suggest that pension funds that are willing and able to invest directly and patiently not only create and capture value for their beneficiaries but may also generate real benefits for society as a whole.

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