BAD BEFORE, WORSE NOW

The Financial Crisis and the Skyrocketing Costs of Public Private Partnerships (P3s)

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Summary

Public private partnerships (P3s) turn certain types of public infrastructure projects like hospitals, courtrooms, roads, and schools over to private, for-profit corporations. Several provinces, including Ontario, have developed many of their public infrastructure projects as P3s in recent years.

A key feature of P3s is their reliance on private sector borrowing to finance the development of public infrastructure projects. Because governments can always borrow money more cheaply than can any private corporation, reliance on P3s for project financing has never made any economic sense. But the global credit crisis has made the economics of P3 financing even less favourable for governments.

This paper examines the extent of the impact of credit conditions on the economics of P3 financing.

The fundamental problem with P3s as a financing vehicle for public projects is that public authorities are able to borrow money at a cheaper rate than private corporations. There is a "spread" between the interest rates paid by governments to borrow money and those paid by private corporations. Even at the historically low – and with hindsight, unreasonably low – interest rate-spreads that prevailed in Canada before the credit crunch, P3 financing was such a bad deal for governments that on financing cost grounds alone, choosing to develop infrastructure projects through P3s was economically irrational.

With a 200 basis-point (2%) spread between a P3's borrowing cost and a government's borrowing cost, the present value of a P3's financing costs would be **60 per cent higher** than the present value of financing at the government's borrowing cost. In other words, a 2 per cent difference in interest costs increases financing costs by 60 per cent. Or to put it another way, financing through government borrowing would support *60 per cent more capital spending than financing through a P3*.

In the past two years, however, the changing financial situation has meant even higher costs and extra risks for P3 projects.

Two things are happening: First, the spread between the borrowing rate of the public sector and the private sector has widened. Although spreads had widened even further at the height of the credit crisis, the paper estimates that at present the P3-to-government borrowing cost spread is between 300 and 400 basis points. The paper shows that even if P3 sponsors accept a lower return on their own capital (12.5% instead of 15%), a spread widening of this magnitude would widen the P3 disadvantage from 60% to 70%.

Secondly, in the new world of tighter credit conditions, it is harder to borrow for highly-leveraged projects. In the past, the typical P3 aimed to make increased

profits by doing deals that are 80 per cent leveraged – financed with borrowed money, with the private corporation providing only 20 per cent of the capital cost. But the financial crisis makes it much more difficult for the private corporations to find a lender willing to lend to a project that is 80 per cent leveraged. A more realistic 60 per cent leverage in the current environment would widen the P3 financing disadvantage by a further 13 per cent.

As a result, even if P3 sponsors were to accept a lower rate of return, the paper estimates that the P3 financing cost disadvantage would widen to a staggering 83%.

As the paper points out, changing credit market conditions don't just affect the economics of new P3 projects, they also affect existing projects. Many projects were financed over a shorter time period than the life of the project on the assumption that they could be refinanced periodically during the life of the project at reasonable rates. That is no longer possible, and many P3 projects face serious financial problems in the future as refinancing deadlines approach.

An examination of current conditions in credit markets makes it clear that these risks are anything but theoretical. In recent months, corporate credit spreads – the difference in yields between those paid on private corporate securities and those paid on secure government bonds – have widened significantly and P3 projects have fallen into crisis. This paper also reflects on these experiences.

P3s were always a very expensive way to build public infrastructure *before* the crisis of private finance undermined the economics of all leveraged deals. Now with tighter, and more realistic, credit conditions, the financial limitations of the P3 model are even more apparent.

Introduction

The turmoil in financial markets around the world has resulted in outright failures, publicly-financed bail-outs and effective nationalizations across a broad spectrum of financial market enterprises.

The difference between private sector and public sector borrowing costs – known as the 'yield spread' – has widened dramatically as lenders have demanded higher returns for assuming greater risks.[1] This has had a significant impact on investment business models that have relied on borrowed money to enhance the returns on their investments. This financial leverage, which inflated returns when borrowing costs were relatively low, has had an equally powerful negative effect on returns as private sector borrowing costs have increased.

As business models based on financial leverage have come under economic pressure, banks have become reluctant to commit financing, demanding tougher conditions, covenants and stronger security. The feedback loops that pushed returns and values higher on the up-side now work on the down-side. Widening yield spreads put downward pressure on returns, which in turn induce financial institutions to take a more conservative approach to lending.

While public attention has been focused on the high-profile leveraged buyout deals that grab the headlines in the financial media, exactly the same pressure is coming to bear on all leveraged investments, including privately financed public infrastructure. Public private partnerships were a bad deal financially for governments even in the borrower-friendly period immediately before the financial markets seized up. In the current environment, those investments look much worse, both from the perspective of governments and from the perspective of private investors.

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[1] Pricing of financing risk for private borrowers relative to public borrowers has turned 180 degrees, from an environment in which risk premiums had virtually disappeared – investors were being paid relatively little more, by historical standards, for relatively more risky investments in the securities of private borrowers as they were for essentially risk-free investments in the securities of public sector borrowers. When the financing bubble burst, yield spreads between high-quality sovereign debt and virtually every other form of debt widened dramatically. High returns in leveraged financial transactions had contributed to a buyer's market for financing, attracting financial institutions to these deals and creating a buyer's market for buyout financing. As banks competed with each other to get into these massive deals, conditions and covenants weakened and lending standards deteriorated. Positive feedback between dealmakers and financers contributed materially to an upward spiral in returns and values. The opposite has happened on the down side. While P3 borrowers in particular continued to pay a significant premium over sovereign borrowers throughout the bubble period, when credit markets tightened, the environment for P3 borrowers worsened significantly. Borrowing cost premiums widened substantially. And the amount of leverage available (the maximum loan as a percentage of asset value available) shrank. In the process, the economics of P3 capital funding took a dive.

As a method for financing and operating public infrastructure, public private partnerships raise many significant issues, from public policy control and accountability, to cost management, to the exposure of public services to business and financial market risks, to their often hidden impact on public balance sheets. This paper restricts its focus to the financing costs embedded in P3 projects and the impact of the current financial market upheaval (and a likely future return to more normal financial market conditions) on the viability of the financial model underlying many P3 investments.

The paper is in three parts. In part I, we examine how P3 financing works from the perspective of private investors. In part II, we look at how P3 financing compares with conventional public financing from the perspective of governments. In part III, we consider the implications of financial market changes for current and potential P3 investors and for governments.

Part I. How infrastructure investments work – the miracle of financial leverage

On the surface, investment in public infrastructure does not look particularly attractive. One would expect the return on total capital employed to be stable, but relatively pedestrian – on a par with returns in regulated industries. Not the kind of returns that would generally appeal to private equity investors whose target returns would generally be for an average in the 15-20% range.

What makes these investments attractive financially is the opportunity to use financial leverage to enhance those returns.

How does that work? A simple example illustrates.

Let's suppose we have an investment that, with total capital employed of $100 million, generates a cash flow of $8 million per year. A decent return when compared with conventional fixed income investments, but not spectacular, and certainly not in the same league as private equity returns and therefore not attractive to investors seeking extraordinary returns.

Look what happens to the investment, however, when we introduce financial leverage into the picture. Let's assume that, instead of putting up $100 million of his own money, the investor borrows $80 million and puts up $20 million of his own money. In the good old days of leveraged investing – 2005, for example – the government borrowing rate might have been 4% and the P3's borrowing rate might have been 200 basis points (2%) above that, or 6%. Now the cash flows look like this: before interest, the cash flow is $8 million per year; after interest, it is $3.2 million per year – $8 million less 6% of $80 million or $4.8 million.

So on an investment of $20 million, the investor is generating a return of 16%, double the return on an unleveraged basis. Suddenly the investor is looking at a return that would be attractive to all but the most ambitious private equity investors. Not the most spectacular return, but potentially less risky.

To make the investment work, two conditions must be met. First, the gross cash flows must be as stable as possible. In regulated industries, that condition is generally taken care of by the regulator. In operations closer to the public sector, that condition is delivered in the agreement establishing the P3 by guaranteeing demand and protecting pricing against inflation. Second, the financing costs must be relatively stable.

The only way financing costs can be fully stabilized is to arrange for financing with the same term as that of the P3 project. Since public infrastructure projects are typically structured over a 25-to-30 year period, they would require 25-30 year financing. Since such financing is often hard to obtain and expensive when it can be obtained, and since long-term financing can complicate an investor's exit options from an investment, financing is normally structured to be renewed periodically, often on a five-year cycle.

While adopting shorter-term financing may be a practical solution to the problem of obtaining the capital needed to employ investment leverage, it introduces an element of risk that is tied exclusively to the financing.

To go back to our simple example, let's assume that when the project comes up for refinancing, the borrowing premium has increased from 200 basis points to 300 basis points and nothing else has changed. The borrowing rate is now 7%; the annual interest cost is now $5.6 million (7% of $80 million); the after-borrowing-cost cash flow is down to $2.4 million per year. The return has dropped from 16% to 12%.

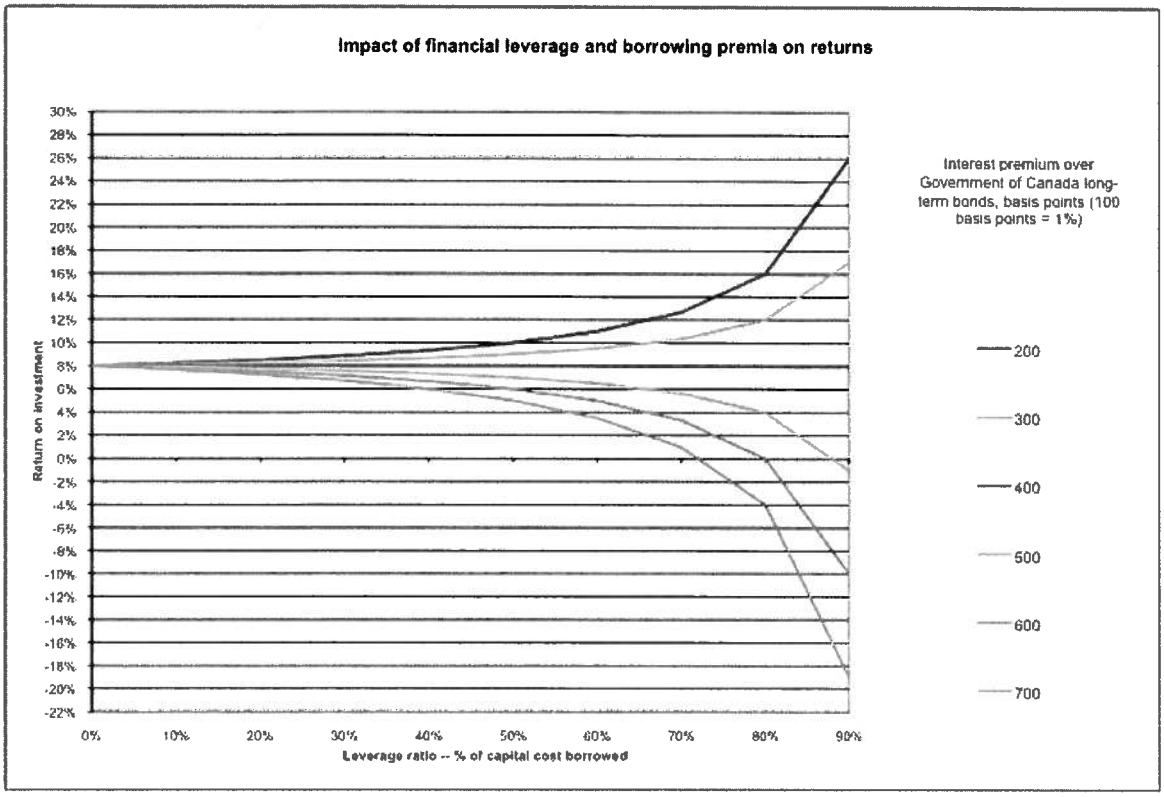
At 400 basis points – a borrowing rate of 8% – returns are exactly what they would have been on an unlevered basis.

At 600 basis points – a borrowing rate of 10% – interest costs eat up the entire operating cash flow.

At any yield premium above 6%, the investment is losing money.

To make matters worse, as interest rates go up with stable operating cash flows, lenders start to become concerned about financial viability, asking for leverage to be reduced or for interest rates to be increased still further.

Chart 1 shows how investment returns vary with changing degrees of leverage and different interest rates on borrowing, given a pre-determined operating cash flow:



This chart shows the annual return from an investment that generates the cash flows set out above for various leverage ratios and various yield premiums over government bond rate. For example, it shows that with a leverage ratio of 80% and a yield premium of 200 basis points (2%) the return on capital invested would be 16%. When the yield premium widens to 300 basis points (3%), the return drops to 12%. When it widens to 400 basis points, the yield drops to 8%. And when it widens to 600 basis points, it turns into a return of 0%.

With 60% leverage, the return at a spread of 200 basis points is 11%; at 400 basis points it is 8%; at 600 basis points, the return is 5%.

So from the perspective of the investor, annual returns are extremely sensitive to the borrowing cost.

When the term of the financing is shorter than the term of the P3 project – as it normally is – increases in financing costs will drive returns down below what was anticipated when project commitments were made well into the life of the project. This in turn introduces additional risk, initially from the perspective of the P3 operator and indirectly from the perspective of the government in that it raises the prospect of the operator walking away from the project rather than complete it on a money-losing basis.

The consequences are much more serious, however, for P3 schemes that were established under earlier, more favourable economic conditions. In the analysis

that follows, we assume a simplified financial model for a project with a life of 30 years.[2]

For example, let's assume that a 30-year project was funded initially at 80% leverage for a five-year period, with a borrowing cost premium of 200 basis points and priced to the government to generate a 15% return on equity. After five years, financing comes up for renewal. Two things happen. Financial institutions are no longer prepared to fund at the 80% leverage level; they reduce their financing to 60%. This necessitates a cash injection of 20% in the sixth year. In addition, the interest rate spread widens from 200 basis points to 400 basis points for the next 5-year financing period. As above, we assume that the rate spread narrows again in year 11 to 300 basis points, and stays there until the end of the project.

On these assumptions, the return on the project drops to 10.23% from the initial 15%. In a more extreme case, if financing costs were to stay at a spread of 400 basis points after refinancing and the leverage were reduced from 80% to 50%, the return drops to 9.24%.

Lower anticipated returns and increased refinancing risks clearly make P3 investments less attractive from the perspective of P3 investors.

Part II. P3 funding from the perspective of governments

Even at the historically low interest rate spreads that prevailed in Canada before the credit crunch, P3s were such a bad deal for governments that their economics crossed the line into irrationality.

Of course, the cost of borrowing is not the only area of difference between P3 financing and traditional government procurement. The complexity of P3 deals results in substantial transactions costs that are not present in direct government procurement. P3 projects may absorb – and price in – risks that would be borne either by government or by a contractor with traditional procurement. P3 financing also introduces new types of risks related to the financial viability of the corporate entity responsible for the P3 projects. Depending on how a P3 contract is structured, it may introduce incentives for behaviour that differ from what would be expected under traditional public procurement and delivery. P3 financing may also shift control over operations from a publicly accountable agency to the P3 operator, with potentially negative consequences for longer-term public policy

[2] The model is described in more detail in Appendix I.

objectives. Proponents and opponents of P3s routinely cite these factors in debate over the appropriateness of P3 financing.

What is different about financing costs is that the P3 financing cost disadvantage is not subject to debate – it is just math. And the math runs so overwhelmingly against the P3 financing model – even with relatively favourable risk premiums that are now a thing of the recent past – that the financing cost disadvantage for P3s swamps even the most extreme of proponents' claims for cost advantages in other areas.

To see how financing cost differences drive the P3 disadvantage from governments' perspective, let's look again at our simplified financial model for a P3 project. In this example, we assume that the project has a life of 30 years. For simplicity's sake, we assume that the capital cost of the project is $100 million, and we ignore the higher transactions costs for the P3 model. We also assume that the government's cost of borrowing is 4%.[3] As a starting point for the analysis, we assume that the P3 project is financed 80% from debt and 20% from equity contributed by the proponent and that the targeted return on equity for the proponent is 15%.

With a 200 basis point spread between the P3's borrowing cost and a government borrowing cost, the present value of P3 financing costs is 60% higher than the present value of the government's borrowing cost. That means that, for the same value committed at the time of inception, government borrowing would support 60% more capital spending than the P3 model. In other words, a 2% difference in interest costs between the P3 financial model and government borrowing increases costs by 60%.

Now let's look at what happens when some of these assumptions are changed. Let's assume that the borrowing spread jumps to 400 basis points for the first five years, and then returns to a historically more normal spread of 300 basis points for the remaining 25 years. Similarly, in keeping with recent developments, we'll also assume that the target return on equity is lowered to 12.5%. As the market developments discussed in Part III suggest, these kinds of numbers would be representative of what governments seeking to raise infrastructure funding through the P3 model would face in 2009, although the assumption that financing could be found at these rates for an 80% levered investment is questionable.

On these revised assumptions, the P3 financing disadvantage increases to 70% on a present value basis.

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[3] The results of the analysis are not sensitive to the government cost-of-borrowing assumption or to the assumption concerning the capital cost of the project. The assumption that transaction costs are neutral works significantly to the advantage of the P3 model. Transactions costs for P3 projects typically amount to 4% of the capital cost per transaction party, or a minimum of 8% of project costs. That compares with typical underwriting costs for government bond issues of approximately 5 basis points, or .05% of the capital cost.

With the current state of credit markets, the likelihood that a P3 proponent would be in a position to finance an 80% levered investment at investment-grade interest rates is quite remote. If we assume instead that the project is financed with 60% leverage (60/40 debt/equity), the P3 disadvantage soars to 83%.

The P3 penalty faced by governments going into one of these arrangements was significant even in the borrower-friendly debt markets of the 2005 to 2007 period. In the current environment – even if one assumes that the historically high borrowing spreads we are currently experiencing are temporary – that penalty is prohibitive.[4]

The numbers are, to say the least, sobering. An investment model that might have generated an equity return of 15% at a 60% cost disadvantage to government has been transformed by financial market changes into an investment generating a 12.5% return at an 83% cost disadvantage.

Part III. Current market conditions and their implications for P3s

The foregoing analysis, based on a simplified model of P3 project financing, demonstrates clearly the implications of changing interest rate spreads and tighter borrowing conditions for the economics of P3 projects, both from the perspective of investors and from the perspective of governments.

An examination of current conditions in credit markets makes it clear that these risks are anything but theoretical.

In recent months, corporate credit spreads – the difference in yields between those paid on private corporate securities and those paid on secure government bonds – have widened significantly.

A story on corporate debt refinancing from the *New York Times* of January 18, 2009 is indicative of the issue:

> Even companies with strong credit ratings are paying about 5 percentage points more than the federal government to borrow money, according to Standard & Poor's. That is more than double the premium they paid last January. Companies with so-called junk credit ratings are paying a 15 percent premium.[5]

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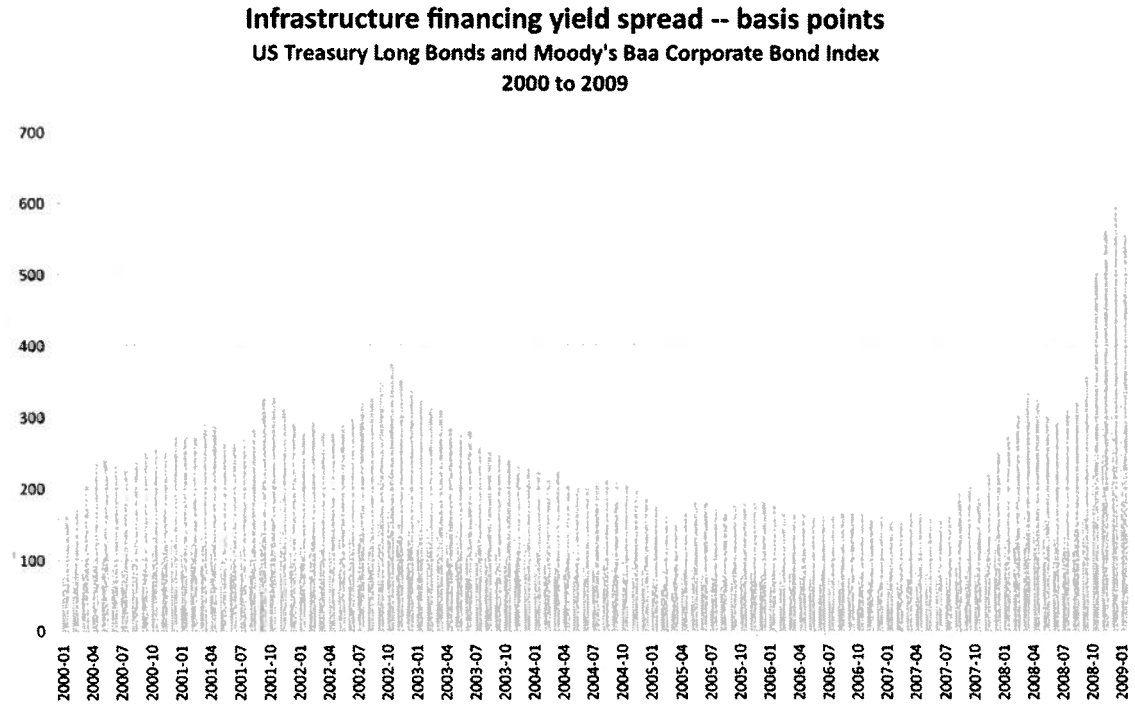
[4] The key assumptions for borrowing spreads, leverage ratios and target equity returns were selected to reflect conservative assumptions concerning the extent of the changes in infrastructure financing markets.

[5] "Cost of Borrowing Zooms Up for Corporations", Jack Healy and Vikas Bajaj, *New York Times*, 18 January 2009

Data compiled by the US Department of the Treasury provide an illustration of what has happened in credit markets around the world. Chart 2 shows the spread, in basis points, between yields on US Government 10-year-plus bonds and the yield from an index of corporate securities rated Baa complied by Moody's from 2000 to 2009:



It shows the compression of yields from 2002 to 2007 leading to spreads under 200 basis points, followed by a move back to more normal spreads in the 300 basis point ranges until mid-2008, and then the explosion of yield spreads to 600 basis points in the fall of 2008.

These readily available data, as dramatic as they may be, actually understate the extent of the problem facing infrastructure financing. These data are for Baa bonds; infrastructure bonds would normally be rated Bbb ("triple-B). Normal yield spreads would have been wider in the pre-2007 period. And the expansion of spreads in the credit crisis since then would be relatively greater.

Corporate fixed income securities are traded over-the-counter in a broker-to-broker market, not on public exchanges. As a result, it is difficult to obtain consistent market information concerning specific securities without being an active participant in the market. In addition, many fixed-income securities are held by investors to maturity, and therefore are not actively traded. While direct information on credit conditions in infrastructure financing markets is hard to come by, there is ample indirect evidence in media coverage to suggest that the infrastructure finance business model is under threat.

In Britain, the impact of the credit crunch on Private Finance Initiative (PFI)[6] projects hit home in late January 2009. The *Financial Times* reports that bond financing is no longer available to PFI projects and bank financing has essentially been curtailed by the credit crunch:

> By the end of last year, the bond market to finance **PFI deals had vanished**; bank funding, likewise, had dried up. In the UK, just a dozen small PFI projects were signed off in the second half of 2008. Over the whole year, just 34 deals were finalised – about half the annual rate seen over the previous decade.
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> Since December, some banks have returned to the market. But there are fewer than there used to be, according to PFI practitioners, so less money is available overall – quite possibly not enough to fund the billions of pounds' worth of projects in the pipeline.
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> The margins being demanded on bank lending have risen two- to threefold. In the past, just one or two banks, even on deals involving hundreds of millions of pounds, would provide the debt and then syndicate it out to others. Now, with the banks facing heavily competing demands for whatever lending they are prepared to undertake, few are willing to put in more than £30m-£50m on a deal. That requires large clubs of them to be assembled to fund bigger projects. That in turn takes time, costs money and runs the risk that banks will pursue the projects with less enthusiasm for fear that if some drop out, the deal will founder.
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> A recent survey of 20 banks by PwC showed a significant number wanting to lend only for seven or eight years, or seeking structures that would allow some form of refinancing around that time. That further complicates the deals and ill suits the 20- to 30-year timescale of many projects.[7]

The funding crisis has evolved to the point where the industry has approached the government looking for a substantial bail-out to loosen up the logjam of projects created by the financial crunch. As reported in the *Guardian*:

> The Treasury will announce a £2bn lifeline today to rescue construction programmes for motorway widening, new schools and incinerators after British and foreign banks pulled out as backers.[8]

Similar pressures are at play in British Columbia, the Canadian jurisdiction with the most extensive experience with P3 infrastructure development. In one high-profile case, the province was forced to renegotiate an agreement for the twinning of the Port Mann bridge with P3 developer Mcquarrie Group and provide an estimated $700 million in provincial financing to keep the project going. As reported in the *Globe and Mail*:

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[6] PFI is the name given to private financing of public infrastructure in the United Kingdom.

[7] "PFI Projects Seek Partners", Nicholas Timmins, Financial Times, 23 February 2009, http://www.ft.com/cms/s/0/efe3c052-01e2-11de-8199-000077b07658.html?nclick_check=1

[8] "Treasury rescues big building projects with £2bn injection", *The Guardian*, 3 March 2009 http://www.guardian.co.uk/politics/2009/mar/03/treasury-economy-construction

> The province of B.C. is now on the hook for a large share of financing one of B.C.'s biggest infrastructure projects - the twinning of the Port Mann bridge. Just weeks before construction is set to begin, Transportation Minister Kevin Falcon said Wednesday the private-public partnership had to be renegotiated to keep construction of the toll bridge on track.[9]

The financial problems facing the Port Mann bridge would appear to be just the tip of the iceberg, as major players in the international infrastructure private investment world struggle in the face of the credit crunch.

That is reflected in the following article from the *Globe and Mail*, flowing from the Port Mann bridge financing collapse:

> That is just one of the signs warning of slowing momentum for P3 projects in British Columbia. Here's another. The B.C. government is embarking on a $2- billion infrastructure spending spree as part of its effort to stimulate the provincial economy - and none of those projects are slated to be public-private partnerships. Instead, they will be built the old-fashioned way, with government money and operation. Private firms will play a part - pouring cement and the like - but it will be the public purse that pays.
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> ...
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> **Larry Blain**, head of **Partnerships BC**, says the government-corporate borrowing spread has widened to 1.5 percentage points from one percentage point last year, and is continuing to rise. That means it will be even tougher for corporations to come up with P3 bids that make fiscal sense for the government, and still turn them a profit.
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> But for Mr. Blain, the credit crisis is also dampening P3 investment in a more subtle way.
>
> Large projects requiring a consortium of financiers, such as the Port Mann bridge, are having a particularly rough time. It's not hard to see why - in the current toxic lending environment, financial institutions are extraordinarily wary of tumbling into a relationship with a stranger's balance sheet.
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> The United Kingdom is already abandoning the pure P3 model, now saying that government will help with financing.
>
> British Columbia has made no such policy shift, at least not formally. But Mr. Blain says some government financing is now likely to be considered for large projects - a tacit admission that everyone is not, as it turns out, happy.[10]

As reported in a feature article in the *Vancouver Sun*:

> But a look around the world suggests that in the new reality — in which several governments have already agreed to billion-dollar bailouts to keep banks from failure — anything is possible.

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[9] "BC assumes larger share of financing for twinning of Port Mann bridge", Justine Hunter, Globe and Mail, 28 January 2009

[10] "The pursuit of P3 happiness", Patrick Brethour, Globe and Mail, 27 March 2009

In Britain, the government this week announced it was cancelling an $8.75 billion plan to widen a series of major highways in time for London's 2012 Summer Olympics. The Guardian newspaper reported in October the government was struggling to raise private financing for the project because banks were reluctant to lend money.

In Manchester, new financing is being sought for a $1.3-million waste incinerator plant after four banks bailed out of the funding deal in December.

In Florida, officials are investigating whether they can salvage a plan to build a $1 billion Port of Miami tunnel after killing the project in December when the lead financier, Babcock and Brown, began to teeter on the edge of bankruptcy.

Babcock, an Australian-based investment firm, lost 98 per cent of its market value due to the credit crunch, and since Jan. 8 has temporarily halted the trading of its stock while determining how to repay its sizable debt.

A response from Babcock's creditors is expected this Monday, a company statement says.

The troubled Australian investment firm is the parent company of London-based Babcock & Brown Public Partnerships Ltd., which the B.C. government announced Jan. 12 was an equity partner in one of three consortiums shortlisted to build the $1-billion South Fraser Perimeter Road P3 project.

That isn't the only project Babcock and Brown was looking to fund in B.C.

Babcock was also initially the equity partner in one of two consortiums short-listed last year to build the $268-million Fort St. John Hospital P3 project. However, Blain told The Sun this week Bilfinger Berger now has joined that project — essentially bailing out Babcock — and many Babcock employees in Vancouver are now working for Bilfinger.

The second consortium bidding for the Fort St. John Hospital includes South African investment bank Investec, which is ensnared in a multi-million-dollar lawsuit that alleges wrongdoing in the selling of shares by an associated company, whose CEO was later murdered, according to a Johannesburg newspaper.

There are problems with consortiums vying to build the South Fraser Perimeter Road as well.

One group includes a Spanish company that needed a loan last year to refinance debt stemming from another road project, and the other involves a Texas company that is a defendant in a $160 million lawsuit alleging fraud in the way a highrise was built.[11]

In Quebec, P3 financing has come under intense scrutiny following the release of a report from the provincial auditor highlighting massive cost increases in a hospital project and raising concerns about future risks to the provincial government:

[11] "B.C.'s P3 projects not immune to world financial meltdown", Jonathon Fowlie and Lori Culbert, Vancouver Sun, 23 January 2009

> The massive $5.2-billion investment was revealed at the beginning of the week by the Charest government. It came just 48 hours before the Auditor- General tabled his report underscoring the $2-billion increase in costs when compared with the $3.2-billion approved by the government back in August 2006. By the time the projects are completed in 2018, more money will likely be needed, Mr. Lachance noted.
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> "Changes may still occur in the cost estimates as re-evaluations are expected," he said in his report.
>
> He also said it may be difficult for the government to secure the funding from the private consortium which will be chosen to build the project in a public-private partnership. If so, the government may face an even greater financial risk, the Auditor-General said.
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> "The conditions of funding of the projects have not been confirmed. The funds might not be obtained in their entirety. The government risks having to assume the unsecured portions of funding in addition to the amounts to which it has already committed."
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> The financial risks for the government appeared obvious after the media reported that two private consortiums, invited by the government to tender bids for the project within a year, were facing financial problems. One, the Innisfree-AXOR-OHL-Dalkia Group, was reported having difficulty raising funds for another public-private partnership project in the Maritimes.[12]

In Ontario, a P3 hospital complex in Niagara was delayed for several months as financing for the successful P3 consortium fell apart. The project was rescued in March, 2009 through the involvement of the infrastructure financing arm of OMERS under renegotiated financial terms that have not as yet been disclosed.

It is apparent that several subsequent hospital projects in Ontario are expected to be constructed on a design-build basis (in which the builder designs and builds the project on a turnkey basis, turning the project over to the government upon completion) rather than on a full P3 design-build-operate basis.

The financial predicament of the P3 model is indicated by calls by Canadian financial institutions for more favourable terms (in other words, higher costs for governments, lower risks for P3 operators) to sustain the viability of the Canadian P3 model.[13] Bankers called for government assumption of refinancing risks and smaller projects with shorter time horizons.

In Alberta, the provincial government abruptly abandoned plans to finance a group of new secondary schools in Calgary and Edmonton on the same P3 model as it used for elementary schools in the two cities a year earlier.[14]

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[12] "High cost of Montreal hospitals raises concerns", Rhéal Séguin, Globe and Mail, 2 April 2009

[13] "Shoulder more risk, banks urge governments", Boyd Erman, Globe and Mail, 23 April 2009.

[14] "Alberta decides against P3 for new high schools", Sarah O'Donnell, *Edmonton Journal*, 1 May 2009

As reported in the industry newsletter *Project Finance*, "Plenary Group has closed a combination of senior debt, equity and government-provided funding for the Niagara hospital project in Ontario. The financing has been repeatedly delayed, and closed in the teeth of difficult debt market conditions."[15]

These are not isolated events restricted to British Columbia, Quebec, Alberta or Ontario. They afflict the entire infrastructure industry worldwide, as a sampling from January and February 2009 issues of the industry newsletter *Infrastructure Investor Week in Review* makes clear:

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23 April 2009

Chicago terminates $2.5bn Midway deal

Counterparties to the largest long-term lease of an airport in US history agreed not to extend a deadline for financial close. A Citi-led consortium secured debt for the deal but fell short in raising more equity for the upfront fee. Chicago intends to rebid the airport.

9 April 2009

"Fundraising," to quote Probitas partner Kelly DePonte, "has fallen off a cliff." He was talking last month, when the figures his firm had compiled suggested fundraising had tumbled by a third last year. But the latest figures suggest that commitments have pretty well dried up over the past six months. This threatens to slow the development of a private infrastructure market, with many schemes at least delayed for lack of cash. But the fundraising quest will also force funds to change strategy. The new institutional investors emerging for this young market are demanding a change from the highly leveraged fare of recent years.

19 February 2009

MIG sees no mandate for new investments
Due to its depressed share price, the Macquarie Infrastructure Group will not seek to invest in any new toll roads. The firm also marked down the value of its existing assets by 18%, or 6% less than its indicative guidance issued in December.

12 February 2009

There is growing consensus among infrastructure investment professionals that the asset class has reached a new stage in its development: one in which owners of infrastructure assets must derive their returns not from financial engineering but making operational improvements to their assets.

Babcock reaches agreement with banking syndicate
The deal allows the troubled infrastructure fund manager to proceed with a sell down of its assets over a two to three year period as it begins to repay the A$3.2bn it owes to a syndicate of 25 banks on a 'pay if you can' basis.

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[15] *Project Finance*, April 2009

29 January 2009

Babcock warns shares could become worthless
As the struggling firm continues its negotiations with its syndicate of lenders to restructure its balance sheet, it is warning investors that any agreement will likely leave "no value for equity holders" and "negligible or no value" for holders of the company's subordinated debt.

And from another industry publication, *Project Finance Magazine*, February 2009 issue:

Trillium pulls out of UK PFI

Three weeks after being sold by Land Securities to property developer Telereal, Trillium is pulling out of the UK PFI market and intends to concentrate on its property business.

Trillium is a rival bidder with Catalyst for the delayed £1.2 billion ($1.7 billion) Birmingham BSF scheme and intends to stick with the deal, but will not be bidding for future PFI projects on the grounds the "expensive and lengthy bidding processes do not offer sufficient return on investment in a reasonable time." Last year, Trillium headed up the winning consortium on the Kent BSF project.

In December Trillium pulled out of the Metrix consortium, the preferred bidder for the UK's £12 billion ($18.05 billion) Defence Training Review PFI scheme, citing rising costs on the project as the reason for its withdrawal.

Metrix -- a consortium led by Qinetiq and Land Securities Trillium with Raytheon, AgustaWestland, EDS, Currie & Brown, Sodexho, Serco and Laing O'Rourke -- is to provide academies and technical, non-military training and communications to the UK's armed forces for 25 years. The construction costs are estimated at £1 billion.

The news is the latest blow what is proving a controversial programme. There have already been concerns about the viability of the project after it emerged costs had risen by nearly 10% since the beginning of 2007. Metrix also had to abandon its original plan to raise up to £1 billion through a bond issue because of the liquidity crunch.

The consortium has moved to allay concerns that the project is in trouble. Qinetiq is in discussions with a number of firms interested in replacing Trillium as an equity partner and construction is still due to start after financial close in the middle of 2010.

These articles highlight many of the problems facing the infrastructure financing business model:

- A fee structure for fund managers (2% of assets under management plus 20% of returns in excess of a hurdle rate – so-called "2 and 20" fees) that is predicated on investment returns at the level of the levered private equity investments of the late 1990s and early 2000s;
- Increases in infrastructure debt yield spreads to levels approaching

anticipated equity returns;
- Limited availability of traditional bank and debt financing.

Conclusion. The credit crunch and P3 financing – an opportunity not to be missed

The impact of the credit crunch on P3 financing serves the useful purpose of highlighting the fundamental weakness of the P3 financial model – its reliance on financing leveraged by corporate debt. The dramatic widening of even investment grade credit spreads in the past year makes it impossible to ignore the fact that P3s waste public money because it costs substantially more to raise capital for public infrastructure indirectly through a P3 than directly through public borrowing.

Thomas Ross, a senior associate dean at the University of B.C. put it this way in a *Vancouver Sun* article on January 23, 2009.

> ... the current economic crisis – and the higher cost of borrowing that accompanies it – should spark a rethinking of how big public projects are financed.
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> "What's kind of happened is a concern for some existing deals that might come unraveled because everybody thought the banks that were lending the money were fine, and now it turns out the banks that were lending the money aren't fine," he said, citing the Port Mann Bridge as a possible example.
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> "It may be that some of them are difficult to finance in these times, and it may be that the only people that can really borrow are governments, and so we go back to the more traditional model of procurement until financial markets settle down."[16]

The fact is that even when the corporations that build and manage P3 projects can borrow, they can only do so at a significant premium over direct government borrowing costs, and those increased costs go straight to the bottom line.

P3 advocates inside and outside government have benefitted from the extreme secrecy surrounding the finances of P3 projects. They have also capitalized on a carefully cultivated public confusion about the impact of what appear to be relatively small differences in interest rates on the total financing cost for a project. A difference of 2-3% in interest costs doesn't sound like much when it is put that way. But that 2-3% difference in costs translates to a 50% to 80% higher financing cost for the project.

The time is indeed ripe for a fundamental re-think of the way public infrastructure

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[16] "B.C.'s P3 projects not immune to world financial meltdown", Jonathon Fowlie and Lori Culbert, *Vancouver Sun*, 23 January 2009

finance has been evolving in Canada over the past two decades. Thanks to the higher borrowing costs and equity return expectations of P3 operators, governments across Canada are accumulating financing obligations through their P3 agreements that are far in excess of what those obligations would have been under conventional public financing. And those greater financial obligations inevitably mean that less public infrastructure will be built.

Although project financing on the P3 model may not be viable as a way to rebuild Canada's infrastructure, many of the mechanisms and capacities that have been created by governments to manage P3 procurement would add significant value to public projects that are built by private contractors and conventionally financed.

The centralized capacities for project management that have been created in most provinces represent a significant step forward from the decentralized, uncoordinated and fragmented infrastructure procurement processes they replaced. In working through the P3 procurement process, public authorities have become much more aware of, and much more sophisticated in, managing the risks associated with large scale public infrastructure projects. Standardized forms of contract are much easier to negotiate and to enforce. The specialized teams of project management experts that have been formed to guide the P3 process in many jurisdictions serve to level a playing field that, in conventional infrastructure projects, was often tilted in favour of the project's contractors. A stronger management approach also forces the agencies commissioning infrastructure projects to tighten up specifications and expectations at the concept and design stage of infrastructure projects. The headline-grabbing cost overruns that have often served as a justification for P3 financing are invariably the result of inadequately specified contracts, poor contract enforcement and a lack of discipline in design and expectations.

There is a role for the private sector. The private sector expertise that is needed to deliver public infrastructure projects that meet public needs on time and on budget is available through conventionally financed infrastructure procurement. The ideal public private partnership is one that brings together the strengths of both parties: the private sector's design, construction and project management expertise; and the public sector's unequalled capacity for raising debt capital cheaply and efficiently and its ability to spread risk over an entire population.

The stakes for governments, both economically and politically, are high. Economically, reliance on private financing of infrastructure locks in substantially higher financing costs for public infrastructure projects than would be incurred had those projects been financed conventionally. Higher private financing costs drive the P3 financial disadvantage even higher. On the other side of the coin, widening yield spreads make it more difficult for the multinational corporations that dominate public infrastructure financing to offer attractive terms in bidding on

projects, and simultaneously threaten the economic viability of existing projects whose financing is subject to periodic renewal.

Politically, the stakes for many governments are just as high. Several provincial governments are extraordinarily exposed politically to the fate of the P3 financial model. The Government of British Columbia has been the most enthusiastic adopter of the P3 model, relying on this method of financing for projects ranging from hospitals and schools to roads and bridges.[17] The Government of Alberta put a considerable amount of its political capital behind the use of a P3 model for school construction in Calgary and Edmonton. The Charest Government in Quebec has faced down widespread criticism of its forays into P3 financing of hospitals.

Although the Government of Canada has little direct responsibility for public infrastructure, it has fashioned itself as an enthusiastic and ideological promoter of the P3 model in Canada and has required recipients of transfer payments for infrastructure to give exhaustive consideration of P3 financing as a condition for receiving those payments.

The Government of Ontario has taken the political heat for reversing its earlier opposition to P3 financing of hospitals by the previous government and putting all of its eggs into the P3 basket for its massive investment in hospital renewal in communities across Ontario. Now, the political and economic stakes for the Ontario government have stepped up considerably, if it continues with this policy.

[17] BC's use of P3 financing has grown to such an extent that the Provincial Auditor has noted that the present value of obligations under P3 agreements now exceeds the official provincial debt. See footnote 20 to the BC Financial Statements, 2007-8 and 2006-7.

Appendix I. The financing model

The financial model used for this analysis assumes for the base case a leverage ratio of 80% and a 200 basis point spread between public borrowing rates and private borrowing rates.

It also assumes a target equity return for project investors of 15%.

Conservatively, it assumes no transaction cost differences between P3 financing and conventional government financing. In fact, while conventional financing costs generally fall in the range of 5-10 basis points, the general rule of thumb in the P3 industry is that deal costs will amount to approximately 400 basis points for each party to the transaction.

Based on these parameters, the model projects financing cash flows over the assumed 30-year life of the project and compares costs by discounting those cash flows at the government's discount rate – the government long-term borrowing rate.

From this base, further analysis can be performed by assuming refinancings at various points in the history of the project, as well as variations in leverage ratios, expected returns and borrowing interest rates.