

Direct Bilateral Transactions: *American Infrastructure Finance and U.S. Public Pension Funds*

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Two of the most difficult economic issues facing the United States are the relatively poor quality of American infrastructure and the funding inadequacy of many public pension plans. Addressing each will require trillions of dollars and years of consistent effort at a time when public sector resources are increasingly constrained.¹ Because both public pensions and most infrastructure projects are the responsibility of U.S. state and local governments, they will frequently compete for funding from the same limited annual budget, leading to difficult trade-offs and sub-optimal choices.²

In response to this situation, many state and local governments are looking to private investment for infrastructure projects through public-private partnerships (PPPs) and similar structures as an alternative to direct procurement. But proposed transactions that involve new or increased user fees are frequently met with fierce local resistance.³ The resistance is often centered on the idea that private investors seek only to maximize profit and do not have a more-general obligation to the community. This idea gains traction from the fact that infrastructure investors are usually large and sophisticated financial firms without an existing local presence and are often foreign owned. Whether justified or not, the perception that investment returns from the infrastructure

project will be maximized and transferred away from the community while the costs remain behind is difficult to counter in a public (and often politicized) forum.

At the same time, local public pension plans are often seeking to mitigate their funding gap and reduce required contributions by sourcing long-term private investments that are both higher-yielding and safer than public market alternatives.⁴ Infrastructure project debt and equity are a natural fit to this profile, especially with respect to long-term risk characteristics. But the supply of domestically sourced infrastructure investments arising from U.S. PPPs is very limited, due mainly to the widespread resistance noted previously. Limited supply volume puts downward pressure on potential returns.⁵ It is also a problem in itself, in light of investment volume required to mitigate the huge scale of public pension funding gaps.

In theory, the dynamics of these two, apparently separate, issues—resistance to private infrastructure investors in a local project and the lack of infrastructure investment opportunities for a local pension plan—can be connected in particular cases. If the right basic facts are present, a local government planning an infrastructure project as a PPP could turn to the local public pension plan for financing on a direct bilateral basis. Because the pension plan is clearly a local investor whose beneficiaries (public sector

employees) are by definition members of the community and whose funding is an obligation of the local government, resistance to the project might be reduced. For the pension plan, direct investment in a local infrastructure project could offer better returns, larger volume, and enhanced risk management compared with non-local alternatives.

In practice, a direct bilateral investment approach has been used successfully by superannuation funds for several infrastructure projects in Australia, where several regional governments face similar (although less severe) issues with respect to infrastructure development and pension funding as their American counterparts.⁶ In light of these successful precedents, could the approach be broadly useful in the U.S.?

This concept-level essay outlines the main concepts that are involved in answering this question. For simplicity, only senior debt direct bilateral investments are considered here. Most of the principles (although not specific structural concepts) should apply equally well to infrastructure project equity and mezzanine debt investments.

The first section describes the fundamental rationale and the basic structure of a direct bilateral transaction. If the approach is to be broadly useful, it should accomplish something more substantive than simply a change of perception. It is proposed here that a reduction of the basis for mistrust in connection with infrastructure private investment should be seen as the substantive driver for direct bilateral transactions.

The second and third sections sketch out potential benefits and intrinsic constraints, respectively. The most important long-term benefits of a direct bilateral approach arise from the smaller number of parties involved and a higher potential level of trust among them. However, realizing these benefits will be significantly constrained in most cases by the general characteristics of U.S. public pension funds with respect to maximum investment size, expertise levels, and fiduciary obligations. These intrinsic constraints are likely to be binding even when all the other facts in a particular case are favorable.

The fourth section proposes a path to mitigate the intrinsic constraints of public pension funds will face in connection with a direct bilateral debt investment in a local infrastructure project. The path is based on three well-established precedents from the private debt capital markets—secondary sales of loan participations, private

long-term infrastructure lending by buy-and-hold institutional investors, and project finance syndicated loan practices.

In the context of this path, the fifth section considers some aspects of potential support from U.S. federal government infrastructure loan programs. Infrastructure loan and loan guarantee programs may be especially effective as a policy tool that both enables direct bilateral transactions and achieves various federal policy objectives.

The article's final section outlines some practical initial steps to determine the usefulness of the approach. This is centered on identifying and contacting relevant constituents and stakeholders in infrastructure development, public pension fund issues, and U.S. infrastructure finance and retirement security policy.

RATIONALE AND STRUCTURE

In an ideal world, financing decisions for a local infrastructure project and investment sourcing for the local public pension plan would be individually optimized and completely separate. Bilateral investment would be rare and simply coincidental. In the real world, however, the trustworthiness of actors in a large and complex project cannot be taken for granted. To the extent that there can be a real or perceived difference in trustworthiness between non-local and local actors, financing decisions for an infrastructure project might be optimized differently with different types of investors.

A PPP approach to an infrastructure project is especially prone to trust issues. Private investment requires that a project have a revenue base, which means, in most cases, the imposition of new or increased user fees. Although the community might recognize that improved local infrastructure cannot be free, natural resistance to user fees can be focused on the fact that a portion of the fees will be devoted to the investors' financial return and not to direct project costs. The complexity and non-transparency of financial returns associated with the type of long-term private capital usually invested in a PPP makes it genuinely difficult to assess whether they are "fair" or not. This is the basis of both the perception and possible reality that sophisticated investors are taking advantage of the local government's need for private investment.⁷

A local public pension fund as financial investor in the PPP might be well-positioned to allay some of

the trust issues. The fund is by definition local and is often sponsored by the same or a related local government entity as the one responsible for developing the infrastructure project. The fund's beneficiaries are also local—current and retired local public sector workers who in many cases can be characterized as having provided true service to the community (e.g., teachers, policemen, firemen, and so on). These features can help improve the perception of trustworthiness.

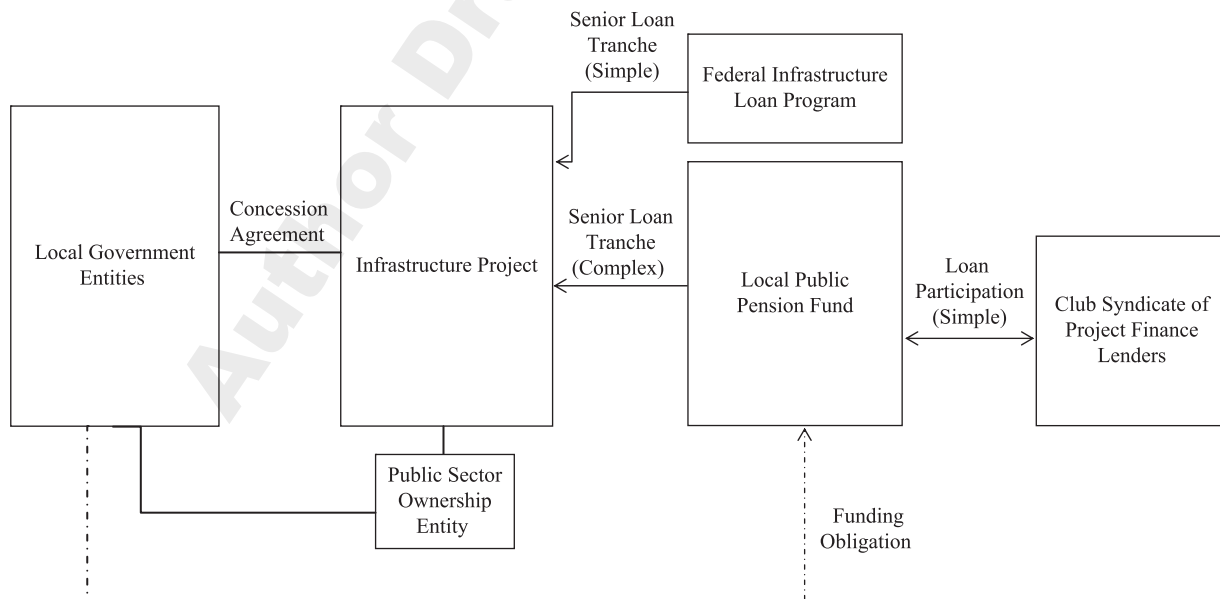
More subtle than the pension's obvious local characteristics—but far more substantive—are the implications of the fact that in almost all cases the community is obligated to pay the pension beneficiaries' defined benefits *regardless of the fund's earnings or lack thereof*. The public pension fund's net investment returns simply offset the local government's future contributions dollar-for-dollar. As a result, even if the financial returns from a PPP project in which the local pension fund is a bilateral investor were intentionally or fortuitously "excessive," the ultimate impact of this windfall should be lower required contributions (and therefore lower local taxes) than otherwise would have been required at some point in the future. The portion of user fees that provided the excessive returns would almost certainly represent some redistribution (i.e., local users of the infrastructure asset and local taxpayers would not be an identical set),

but at least the aggregate value would stay within the community.⁸

In effect, the relationship between the local government, the local community, and the local public pension fund in the context of significant obligations associated with defined pension benefits (which are assumed to be an exogenous factor) becomes a "closed loop" with respect to the financial returns that the pension fund might earn from a direct bilateral investment in a local infrastructure PPP project. This can be a substantive basis for a higher degree of trust between the parties because the difficult assessment of the fairness of PPP investment returns is much less important when the local pension is a direct bilateral investor than when sophisticated outside investors are involved. The value of any "excess" user fees (whether real or perceived) is effectively captured within the closed loop, regardless of the financial returns on the PPP's capitalization.

The basic structure of a bilateral senior debt investment should be straightforward, as illustrated in Exhibit 1. The local government or related entity could continue to own the project's equity (usually through a trust structure, an established authority, or other form of public sector ownership entity) with the local pension as the sole senior secured lender.⁹ Given the high

EXHIBIT 1 Direct Bilateral Senior Debt Transaction



senior leverage ratios that are possible in many infrastructure projects (often 80% or 90% of project cost), the senior debt should be by far the largest component of the PPP's capitalization. As a result, scheduled debt service payments on the pension's debt investment will largely determine the timing and amount of required user fees in excess of project operating costs.

In cases where the PPP has a significant brown-field component and there are net proceeds after funding construction or refurbishment costs (a typical situation for the lease or concession of an existing facility that is to be upgraded), the local government may be planning to use some or all of the proceeds to make a "catch-up" contribution to the local public pension fund. If that pension fund is also the PPP's bilateral investor, then the contribution and an equal portion of the pension's debt investment are in effect a "round-trip" that will net out from a cash perspective.¹⁰

POTENTIAL BENEFITS

By reducing both the perception and substance of mistrust, a direct bilateral investment by the local public pension might allow an otherwise stalled PPP project to proceed. To the extent that the project effectively and efficiently addresses an issue of poor local infrastructure, then this in itself is a benefit to the community. But apart from enabling the PPP at the outset, does a direct bilateral approach result in improvement within the PPP transaction itself, as compared with the same PPP project going forward with outside debt investors?

The lower number of parties and a higher intrinsic level of trust in a PPP using local bilateral investment should permit additional benefits within the transaction with respect to development, efficiency, and structure, including the following:

- *Less politicized project development.* If a direct bilateral approach is pursued from the outset of the infrastructure project's development, it could result in less controversy and politicization, because one source of public resistance and mistrust (sophisticated outside investors) will be absent. This is especially true if the expected bilateral investor is also the pension plan for the public sector union members who might be most affected by the project. A less politicized development phase should result in greater optimization of project fundamentals

and less expenditure of the local government's political capital.

- *Better transaction execution efficiency.* A direct bilateral financing for a PPP project should avoid a number of transaction steps and costs that are typically required for the placement of long-term infrastructure debt in the public or private capital markets. Overall execution efficiency should also be higher if the pension plan as bilateral investor is involved in the early stage of PPP project development, although some education and special advisory services will likely be required by most plans. In the case where the PPP is a brownfield and net transaction proceeds will be contributed to the pension plan, there can be an additional layer of efficiency in a direct bilateral approach: The costs of sourcing new outside investments (i.e., finding a use for the contributed funds) are automatically avoided by the simultaneous "round-trip" investment in the project.
- *More flexibility in PPP capitalization structure and terms.* If the PPP's financing does not need to be placed in the debt capital markets, it can be more flexibly structured by direct negotiation between the local government project sponsor and the local pension. Although the senior debt instrument will naturally need to conform to the relevant basic legal framework, market standards that are not relevant to the specific transaction can be ignored. In addition, complex and highly customized terms with respect to pricing can be considered, because (due to the closed-loop effect noted previously) the assessment of potential outcomes is not so crucial for a direct bilateral transaction as it would be for a market-based deal with sophisticated outside investors. Overall, a direct bilateral approach should result in a significantly increased scope to optimize PPP financing pricing and terms in order to reflect local facts and objectives.

The flexibility benefit described will almost certainly be the most important one with respect to long-term value for the PPP project. Following are several illustrations of how such value might arise:

- Infrastructure asset useful lives and pension planning horizons are often both very long term in comparison to the typical tenor available in the

long-term debt capital markets. A direct bilateral transaction allows the PPP project and the pension plan to create debt capitalization structures with exceptionally long terms that can reflect their respective strengths and objectives.

- Complex off-market debt service schedules and pricing indexes become feasible in a bilateral transaction within the context of the closed-loop relationship between the parties. These features may be very useful with respect to the initial schedule and future adjustments of the project's user fees. For example, if the project's senior debt has a lengthy period of delayed amortization, initial user fees can be kept low. If the debt's interest rate calculation directly includes a local inflation component, user fees can likewise be adjusted over time to that same local index. The pension may also benefit from long duration investments with inflation-adjusted returns, because this will more closely match the payout schedule of the typical defined benefit liability structure.
- Amendments and waivers are more easily accomplished in a bilateral transaction than when outside investors are involved in the PPP project, especially compared with outside financing in the form of widely distributed public debt (e.g., a municipal revenue bond issue). For complex projects that have a significant local economic impact (e.g., a port facility) the ability to make changes quickly and efficiently over the long-term is extremely important.
- Work-outs of default scenarios should also be more easily accomplished in a bilateral transaction. The closed-loop relationship between the local government project sponsor and the public pension plan is especially important in this scenario. Because both parties effectively share the downside risk on several indirect levels, a "walk away" option for either is essentially precluded. This should result in a more cooperative search for solutions and faster resolution of the project's problems than would be likely to occur with outside investors as direct lenders.

INTRINSIC CONSTRAINTS

If a public pension fund is seeking domestic infrastructure investments, and a local PPP project appears

to generally fit the sought-for profile, then the fund should be motivated to invest in it. On a direct bilateral basis, with the local pension fund as sole investor, the potential benefits of the investment would be greatly enhanced, as described previously. To the extent that a direct bilateral approach benefited the project itself (including enabling it to proceed in the first place), the pension fund—as a uniquely positioned sole investor—should be able to claim a share of this value through significantly improved terms on its investment in comparison to market alternatives.

There are, however, serious constraints to most (if not all) U.S. public pension plans acting as a sole investor in an infrastructure project, regardless of the attractiveness of a possible investment. These constraints are intrinsic. They arise from the current characteristics of U.S. public pension plans, which historically have only invested in publicly traded bonds and equities and for which alternative illiquid private asset classes, such as infrastructure PPP debt and equity, are relatively new. Public pensions' investment capabilities will doubtless expand over time (due in no small part to the need to address the funding gap issue noted here), but for the medium-term, constraints on large bilateral infrastructure investment will likely remain.

The most significant intrinsic constraints include the following:

- *Alternative investment size limits.* Pension funds invest in illiquid private assets through a specific portfolio allocation for alternatives. The alternative allocation is usually a small percentage (usually in the range of 5%–10%) of the fund's overall asset size. Within the alternative allocation, there are also the usual requirements for portfolio diversification. Relative to the size of most infrastructure projects, even large funds will be limited by maximum individual investment size restrictions to owning only a fraction of the project's debt or even equity capitalization.
- *Infrastructure investment management expertise.* Investment in infrastructure debt or equity requires specialized expertise, both at the outset of the transaction (due diligence, structuring, and so on.) and over the life of the investment (periodic monitoring, evaluation of proposed changes, renegotiation if necessary, and so on). U.S. public pension funds that invest in infrastructure assets

almost invariably lack in-house expertise and therefore invest on an indirect basis. This is typically accomplished through a limited partnership (LP) interest in a private closed-end fund established by an experienced asset manager acting as general partner (GP). Although the closed-end LP/GP fund model works well for many types of infrastructure investment, it is not effective for a direct bilateral transaction. As sole investor in an infrastructure project, most closed-end funds would face the same (or worse) diversification problems as the public pension. More fundamentally, the expensive expertise provided by the GP is mostly focused on asset sourcing and profitable exit strategies, neither of which is relevant to a bilateral buy-and-hold investment in a local project. Instead, relevant expertise entails a combination of intense and very detailed activity at the outset of the transaction with long-term periodic monitoring and re-negotiation capabilities thereafter. There does not currently appear to be a widely accepted model for U.S. public pensions to access this kind of expertise from outside providers.

- *Fiduciary requirements.* Public pension plans are established to act solely in a fiduciary capacity for their beneficiaries. Plan investments thus typically require some clear demonstration and confirmation that they are prudent. For investments in publicly listed debt and equity, there are usually a number of features that can provide this outside validation (e.g., investment-grade ratings, listing on a major exchange, widely held status with established dealers, and so on). For private alternative investments, the range is narrower. Investment through a closed-end fund that includes other institutional and fiduciary-oriented limited partners, as well as an established and well-known fund manager, should (in theory) provide some validation. But for a direct bilateral investment in a local infrastructure project, demonstrating prudence will be especially challenging, regardless of the actual risk characteristics of the project or the closed-loop nature of the local government's obligation to support the pension's investment. The essence of the issue is that if the fund is a sole investor, the public pension trustees and investment officials will, by definition, have no other

investor in the project to point to for validation. As a practical matter, they will almost certainly be reluctant to "go it alone" even when they have the authority to do so.

A POSSIBLE PATH TO MITIGATE CONSTRAINTS

Unless mitigated in some way, the intrinsic constraints on U.S. public pension funds will almost certainly prevent a direct bilateral approach to infrastructure finance from becoming broadly useful. Unfortunately, the only practical ways to ease the constraints in the medium-term would seem to require reintroducing outside investors that can reduce the pension funds' net investment size, provide long-term expertise, and confirm the prudence of the investment. Clearly, simply including non-local financial firms as direct co-investors alongside the local public pension in a PPP project would undercut much of the perceptual and substantive bases of the reduction in mistrust that is the rationale for a direct bilateral approach in the first place.

Is there a practical way to include non-local investors in a PPP project on an indirect basis that will effectively mitigate the local pension's constraints while still preserving at least some of the benefits of a sole-investor direct bilateral approach? The potential usefulness of the direct bilateral approach for U.S. infrastructure PPPs essentially turns on this difficult question. There is not likely to be a simple answer, but in light of the scale and severity of the American infrastructure inadequacy and the public pension funding gap noted here, attempting to address the question would seem to be worthwhile.

The balance of this section outlines one possible path for the indirect inclusion of outside lenders in the senior debt of a PPP project where the local pension is the sole direct lender. The path is composed of three components that are standard, well-established features of the project finance debt market. The first component, intended to minimize outside investors' role in the transaction, is to accomplish a secondary sale of the senior debt through the legal form of a loan participation. The second component is to restrict the set of possible outside investors to qualified buy-and-hold non-bank institutional lenders with project and infrastructure finance expertise. The third component is to limit the participating outside investors to a small "club" that is orga-

nized and managed as a typical project finance lending syndicate. The three components are described in more detail in the following.

- *Loan participation form.* The pension fund as sole investor will need to reduce its net hold position in the PPP's senior debt to an acceptable size on or shortly after executing the transaction. If the pension were to make a full assignment of a percentage of the project's senior debt to outside investors, these investors would become direct lenders to the PPP, which would defeat much of the purpose of a direct bilateral approach. As a practical alternative, the pension can reduce its exposure by selling only the right to *participate* in a specified share of value of the PPP senior debt, as actually received by the pension fund as a direct lender. Such loan participations are a well-established and legally enforceable form of selling loan positions in the U.S. debt capital markets. Loan participations do not include any direct rights or recourse in the underlying loan and the identity of the buyers or even the sale itself does not need to be disclosed. Importantly for the purpose here, the participation does not need to be structured as a pro-rata sale of a percentage of the direct lender's full position in the underlying loan. Rather, the participation can be limited to any defined subset of what the direct lender expects to receive. In the context of a direct bilateral transaction, this means that the pension fund can sell a relatively plain-vanilla slice of the PPP senior debt, reflecting only standard market terms with respect to tenor, amortization, and pricing index, while retaining the more complex and off-market features on a sole investor basis.
- *Restricted universe of possible investors.* A growing number of institutional investors with long-term, buy-and-hold objectives similar to those of public pension plans are also increasingly interested in U.S. infrastructure assets and have developed the capability to make large investments in the sector. The institutions include insurance companies, major foundations, sovereign wealth funds, and larger corporate and Canadian pension plans. Many are involved as lenders in the illiquid U.S. private placement market, which reflects their buy-and-hold goals and a lack of interest in oppor-

tunistic trading or selling ancillary financial products (in contrast to the leveraged loan market or commercial/investment bank corporate lending). In the context of a direct bilateral approach, it is feasible to limit possible outside investors to only this universe of long-term buy-and-hold lenders in order to avoid the introduction of more aggressive and opportunistic financial firms into the transaction.

- *Club syndication.* A well-established way to manage the placement of a complex long-term project finance loan involves the formation of a syndicate composed of a small group or club of like-minded lenders that agree to organize themselves in a relatively standardized manner. Several features of typical club syndications could be useful in connection with a public pension plan's sale to outside investors of loan participations in its direct bilateral investment in a local PPP. First, the investor group needs to be small, composed of similar institutions, and organized for both deal execution and long-term cooperation. The basic club approach meets these needs. Second, the syndicate has a formal lead lender that can provide expertise, direct negotiation, and co-ordinate action among the lending group while serving as a single point of contact for the pension plan. Third, long-term commitment to the syndicate and to buy-and-hold behavior is expected and can be enforced by restrictions on sales and trading outside the group.

When all three are used together in a direct bilateral transaction where the public pension sells loan participations in the PPP senior project debt to a club syndicate of qualified institutional investors, the components should accomplish a series of actions that mitigate the pension's constraints while preserving some of the benefits of the bilateral approach, including the following:

1. The loan participation form ensures that outside investors are not directly involved in the local PPP project. This has clear perceptual and substantive benefits. But the participation form is also a well-established private debt market instrument, which makes it a practical and cost-effective technique for this purpose.

2. Although the PPP's project's optimal senior debt structure might be very long term and complex, the loan participation can be structured in accordance with current market terms by including only a subset of the underlying debt package. Relatively simple market-oriented loan participations will maximize appeal to outside investors while still fundamentally transferring credit and other risks away from the pension. This accomplishes the necessary reduction in the pension's net investment size while retaining the benefits of complex and customized bilateral features of the PPP project's debt.
3. Because the loan participation will be structured in close accordance to market terms, with straight-forward maturity, amortization, and pricing index characteristics, proposed interest rate schedules should be easily comparable with relevant market benchmarks. This transparency makes it possible to credibly establish the "fairness" of the relatively simple and transparent participation transaction and reduces a fundamental source of mistrust associated with outside investors. The complex and non-transparent aspects of the project's debt will remain with the pension fund where issues of mistrust are mitigated by the closed-loop effect described earlier.
4. Restricting the universe of participation buyers to those institutions with objectives that are very similar to those of the local pension but with greater capabilities with respect to infrastructure investments should improve the perception and substance of their role in the bilateral transaction.
5. The club syndicate form with trading restrictions will ensure co-alignment of long-term interests and coordination of action among the outside investors and between the syndicate and the pension fund.
6. The syndicate's formal lead lender role provides the correct type of expertise to the pension fund on a cost-effective basis.

In addition to specific actions, there is a more general way that the combined components can work together as a practical path for direct bilateral transactions. This arises from the two different perspectives that the combined components make simultaneously possible. With regard to the preserving the *benefits* of

direct bilateral investments that are based on the local public pension fund as a sole investor, the sale of syndicated loan participations can be seen as a specialized type of back-leveraging by the pension that is unrelated to the PPP transaction itself (e.g., in the same way a bank uses wholesale funding to make loans). In contrast, with regard to the pension's *constraints*, the sale can be viewed as introducing outside investors as co-lenders to the infrastructure project that are organized along with the pension in a form of long-term partnership. Any solution to the fundamental issues of a direct bilateral transaction will probably rely on similar subtle shifts of perspectives.

FEDERAL INFRASTRUCTURE LOAN PROGRAMS

Although most American infrastructure is primarily the responsibility of U.S. state and local governments, U.S. federal economic policy is increasingly focused on the sector with respect to national macroeconomic objectives for industrial competitiveness, employment, and so on. Apart from questions of sovereignty, however, federal policy is limited by difficult budget issues,¹¹ so the range of possible actions is not extensive. One economic policy tool that can avoid both potential conflict with local authorities on infrastructure decisions and large federal appropriations is a program that offers loans and loan guarantees to qualified U.S. infrastructure projects, including PPPs. Not surprisingly, there is a considerable amount of bipartisan support for infrastructure loan programs among U.S. policymakers and legislators.¹² Even in Washington's current legislative environment, an existing transportation loan program was significantly expanded, a new pilot loan program for water assets was established, and a number of other loan programs and variations on the theme (e.g., infrastructure banks) have been proposed on a bipartisan basis.¹³ In light of the current scale of America's much-needed infrastructure investment, federal loan programs for a wide range of infrastructure sectors, including transportation, water, social, and energy, are likely to become an increasingly important and growing feature of U.S. economic policy for the foreseeable future.

U.S. infrastructure loan programs should be very effective in supporting qualified PPP projects that are financed with senior debt by the local public pension fund on a direct bilateral basis. This expectation is based

on two main observations. First, most federal loan programs act as a co-lender (not sole investor) alongside other lenders, so a necessary role for the local pension as lender to the PPP project will remain. Second, although the U.S. loan program is an “outside” investor, it is obviously governmental and policy-oriented, not profit-maximizing, so perceptual and substantive issues of trust do not arise. As a result, there should not be any limitation on the loan program acting as a direct lender or direct guarantor of the project’s senior debt. In effect, the U.S. government is a natural direct co-lender with local public pension funds for local PPP infrastructure projects.

Other, more technical, factors related to the integration of support from an infrastructure loan program in a direct bilateral transaction may also be favorable, including the following.

- With respect to PPP project senior debt that has complex or specialized non-market features, U.S. loan programs may be limited by internal rules or regulations (e.g., an absolute maturity restriction) from supporting some aspects of the loan. This can likely be addressed by separating the debt into tranches, with one tranche that conforms to the program’s specific requirements (and which is shared between the loan program and the pension fund) and another tranche containing the complex features (where the pension is sole investor). Where the support is in the form of a loan guarantee, simply explicitly limiting the terms covered by the guarantee to what is permitted by the program should be effective.
- Even if a significant portion of the project’s senior debt is provided or guaranteed by the federal loan program, for larger projects, the local public pension (as sole investor in the balance of the loan) is still likely to find it necessary to reduce its single-investment exposure. The involvement of the federal loan program as a direct lender should not impede the pension fund managing its own position through a sale of loan participations to a club syndicate. The smaller amount that needs to be placed with the outside lenders should make the club syndication process even more cost-effective and manageable.
- One of the most important elements of support from an infrastructure loan program is a subsidi-

dized, below-market interest rate or guarantee fee. This should result in either a lower overall cost of the senior debt (which, it should be recalled, is usually by far the biggest portion of the project’s long-term capitalization) and thereby lower project user fees or the same overall cost but a higher return on the local pension’s share. In either case, the local community should realize benefits on a relatively transparent and demonstrable basis. In addition, if the PPP project is eligible to issue tax-exempt debt (e.g., municipal revenue bonds, private activity bonds, and so on.) there is a specific opportunity cost to raising taxable financing through the direct bilateral transaction. There are, of course, a number of factors beyond the lower tax-exempt interest rate to be considered in structuring the project’s long-term debt, but if the loan program can provide a subsidized, low-cost share of the project’s senior debt, the specific opportunity cost of using taxable debt for the direct bilateral transaction will be lowered or eliminated.

- A direct bilateral approach may have broader implications for the program itself or for other federal economic policy areas. For example, if support from the program is instrumental in an infrastructure PPP project choosing a taxable direct bilateral transaction instead of a tax-exempt bond issue, then future federal tax revenues will be higher. Because this effect is relatively quantifiable, in theory, it should be included as a reduction in the “scoring” of the program’s overall cost and impact on projected federal deficits. More generally, federal economic policy actively encourages the development of private sources of investment capital for American infrastructure outside of the municipal bond market. Direct bilateral transactions that involve local pension plans directly and other institutional investors indirectly are consistent with this objective.
- Retirement security is also becoming an important focus of U.S. federal economic policy.¹⁴ To the extent that direct bilateral investments can help improve local public pension’s funding position, federal policy objectives regarding retirement security could provide a further impetus to expand infrastructure loan programs in specific ways to support public pension funds through direct bilateral transactions.

DEVELOPING THE APPROACH

The overall conclusion of the foregoing sections is that, in theory, direct bilateral transactions could be broadly useful in the U.S. They appear to have a perceptual and substantive rationale in connection with financing infrastructure PPP projects, significant potential benefits, a practical path to mitigate pension fund constraints, and the ability to efficiently include support from federal infrastructure loan programs. Whether these factors are the basis of any practical development of a direct bilateral approach for U.S. infrastructure PPPs is likely to be a matter of motivation among the parties that could realize benefits from specific transactions.

Motivation is fundamentally an empirical question. The next steps to develop a practical direct bilateral approach should center on discussions of possible interest among constituents and stakeholders in local infrastructure and public pension matters. Because most of the context is within the public sector or well-known institutional investment markets, it should be a relatively straightforward to identify specific groups and contact relevant individuals. Likely prospects include the following:

- U.S. state and local governments that have initiated PPP programs for infrastructure, especially if they have experienced stalled projects due to public resistance to user fees;
- U.S. public pension funds that have announced their intention to seek infrastructure investments, especially those that have a relatively large funding gap;
- institutional investors in the U.S. debt private placement markets that have interest and proven capability in infrastructure investment combined with a record of buy-and-hold portfolio management;
- existing federal infrastructure loan programs, as well as policymakers and elected officials who are proposing new programs;
- federal policymakers and national interest groups that are concerned with retirement security, especially those with a focus on U.S. public pension funding issues.

In the course of discussions with these constituents and stakeholders, it may become apparent that many of the actual factors and dynamics behind potential direct

bilateral transactions will differ—perhaps markedly so—from the concepts outlined in this essay, especially with respect to the specific mechanics of mitigating pension fund constraints. But in light of the huge scale and long timeframe of infrastructure finance and public pension funding issues, and U.S. state and local government responsibility for both, frequent interaction between the two issues is inevitable. This interaction will provide a long-term context and impetus for combined solutions, almost certainly including some form of direct bilateral transactions, which suggests that early-stage consideration of a broad range of potentially relevant concepts will be a valuable exercise regardless of specific outcomes.

ENDNOTES

¹A recent estimate by American Society of Civil Engineers (ASCE) of the cost to improve American infrastructure up to an adequate standard is \$3.6 trillion, or about 22% of 2013 U.S. GDP. The ASCE Report Card (ASCE [2013b]) is the most frequently cited measure of the American infrastructure challenge, and it is focused on the fundamental physical aspects of the problem. ASCE also assesses the economic aspect of the problem (ASCE [2013a]), as does the McKinsey Global Institute, for example, where infrastructure investment is one of the five U.S. economic “game changers” identified in a recent major study (MGI [2013]).

The pension funding gap is not much smaller. According to the Center for Retirement Research (CRR), a realistic estimate of the aggregate unfunded liabilities of state and local public pension plans in 2012 was approximately \$2.7 trillion, or 16% of GDP. As the U.S. public pension challenge is increasingly recognized, there are a growing number of different studies of its magnitude. Most are consistent with this scale. The CRR study is often quoted and appears to be considered moderate and non-ideological (Munnell [2013]). Rating agency reports are also frequently cited as credible because their purpose is neutrally commercial. Moody’s [2013] estimate of the state adjusted unfunded liabilities is consistent with the CRR approach and results in an aggregate estimate of \$1 trillion for states alone.

These huge obligations come at a difficult time. The State Budget Crisis Task Force, chaired by Paul Volcker and Richard Ravitch, issued a final report in January 2014 (SBCTF [2014]), which forecast a very challenging future for U.S. state finances. Of the six major negative trends identified, two were infrastructure and pension fund challenges. Many municipal and county local governments also face equally difficult fiscal issues.

²See, for example, Boyd [2014]: “If (public pension fund) contributions increase, governments will have to cut services such as education, police protection, or care for the needy, or cut investments in roads, clean water, and other infrastructure assets, or else raise taxes, often at times when those affected are least able to bear the consequences... This “crowd-out” phenomenon has been profound and widespread in recent years.”

This is not only a problem in severe economic situations as in Detroit or several California cities. For example, New York City (which has a very strong local economy and adequately funded pensions) requires significant investment in its infrastructure in order to stay competitive or even functional (see CUF [2014]), but the city’s increasing pension fund obligations are beginning to crowd out these priorities (see Honan [2013]).

In addition, the connection between infrastructure and public pension funding is being increasingly noted in the context of pragmatic solutions, prompted by difficulty, as opposed to a theoretical approach. See Glasgall [2014], for example, for observations in connection with Philadelphia’s planned sale of energy infrastructure to fund the local pension. To the extent that this type of “reactive” interaction between infrastructure and pensions is seen to work, a more “proactive” approach will likely follow. This development would have clear implications for the direct bilateral approach.

³See, for example, Anderson [2008]: “For many politicians, privatization also remains a painful process. Mitch Daniels, the governor of Indiana, faced a severe backlash when he collected \$3.8 billion for a 75-year lease of the Indiana Toll Road. A popular bumper sticker in Indiana reads, ‘Keep the toll road, lease Mitch.’”

In particular, user fees are the “elephant in the room” for PPP development. See, for example, Alves [2011]: “There’s been a dramatic change in the political and social appreciation of infrastructure. The public takes infrastructure for granted, especially in the Western world. We (infrastructure investors) are now part of a mechanism that will force these assets to be paid for. This is *social dynamite*. And we’d better be very careful about how we explain this,” Thomas Putter, former chief executive of Allianz Capital Partners, told a roomful of attendees at a recent conference organized by insurer Marsh.” (Emphasis added).

Public resistance to user fees will also limit the range of objectives that private sector investors can realistically pursue in most cases, especially with respect to seeking upside profits. This is important in the context of PPP transactions: If the purpose of the deal is to finance infrastructure improvements on an off-balance-sheet and off-credit basis, then the PPP transaction is, in effect, a type of secured debt financing, not a profit-maximizing equity opportunity. Public sector authorities might not always recognize this (and private investors are

not incentivized to point it out), but public pressure to minimize user fees will likely force PPP capitalization to become increasingly focused on debt, with minimal private-sector equity or even continued public-sector ownership.

⁴See, for example, Williams-Walsh [2010]: “[S]tates and other bodies of government are seeking higher returns for their pension funds, to make up for ground lost in the last couple of years and to pay all the benefits promised to present and future retirees. Higher returns come with more risk.” See also Murphy [2013].

This level of risk causes concerns. The type of conservative investment most required by long-term institutional fiduciary investors to rebuild after the 2008 crisis is ironically the type most truncated by central bank policies seeking to mitigate the damage of that same crisis. Recent equity returns have been quite positive but these results are likely not sustainable over the long run. Infrastructure private investment is seen as one sector that is less prone to market volatility.

⁵The supply and demand imbalance for infrastructure investment is putting such pressure on deal return and quality that some funds are reconsidering the sector. For example, one Texas public pension CIO has recently decided to wait for market improvement, as quoted in Gournis [2014]: “Based on the market environment right now—there’s just too many going after too few good deals,’ [the CIO] said, adding that given current conditions it was not worth the risk.”

⁶In 2011, the state of Queensland, Australia, transferred the Queensland Motorway system to its Defined Benefit Fund, the superannuation (i.e., pension) fund for Queensland’s current public sector employees, for a stipulated price of A\$2.9 billion with the obligation to make capital and operational improvements. In effect, this was a direct bilateral transaction where the purchase price was a “round trip” (a simultaneous contribution by the state and investment by the fund of the A\$2.9 billion price) with additional investment in the asset over time. In 2014, the Defined Benefit Fund sold the motorway for A\$7.1 billion, thus realizing a significant profit and overall a great improvement in its funding position (see Remeikis [2014]).

In another Australian infrastructure asset sale, in 2013 the state of New South Wales sold two port facilities to a consortium of Australian superannuation funds managed by Industry Funds Management (IFM) for A\$5.1 billion. IFM explicitly used the concept of “social privatization” to generate public support for the transaction. Social privatization underscores the local character of the superannuation fund investors and the fact that earnings from the investments will benefit local retirees. Reportedly, the approach significantly improved the perception of the port transaction and effectively enabled its successful completion (see Alves [2013]).

⁷The 2009 Chicago parking meter deal is an example of a PPP where the economics were complicated and possibly

justified, but the public perception was uniformly extremely negative. A typical observation can be seen in Wilson [2013]: “In some cases, privatizing city services proved a smart way to infuse a cash-poor city with financial resources while trimming budgetary requirements. But in others, privatization was the governmental version of a payday loan gone bad; some cities will regret their decisions to trade long-term resources for one-time cash payments for years to come... Privatization skeptics hold up one deal as particularly bad: an agreement to hand control of Chicago’s 36,000 parking meters to a private corporation, in exchange for about \$1.15 billion in quick cash.”

⁸It is worth noting that traditional procurement, where the infrastructure asset is “free” to users but paid for with taxes on the community, can also be redistributive in the other direction (i.e., from local taxpayers to project users). To the extent that many large infrastructure assets will have a complex and possibly far-reaching effect on the local economy, however, the overall benefits to the local community may be more evenly spread than the strict calculation of redistributive effects might imply.

In one sense, the portion of user fees that is paid to the local pension fund in a direct bilateral transaction can also be seen as a subtle form of “sales tax” on the services provided by infrastructure project and dedicated to public pension contributions. In this case, the overall benefits to the community would include not only the new or improved infrastructure itself, but a better funded position for the local pension. In this case, strict calculation of redistributive effects should be even less important.

⁹The retention of long-term ownership of the infrastructure asset by the public sector is typical of brownfield sale-leasebacks and concessions, although the buyer may capitalize the purchase price with equity as well as debt.

A recent water system concession transaction in Allentown, Pennsylvania, illustrates the basic structure in the case where only debt is used. In 2013, Allentown sold its water system to a public authority for \$211 million, which was raised exclusively by the issuance of tax-exempt, non-recourse revenue bonds. A significant portion of the proceeds (about \$160 million) was paid to local public pension funds as a one-time contribution to improve the pensions’ funding status (the need for which prompted the transaction in the first place) with most of the balance going to debt repayment and system capital improvements (see Holeywell [2013]).

If the local pension had provided the \$211 million of debt directly (on a taxable basis), the transaction would in effect have been a direct bilateral transaction as described here.

¹⁰In theory, a new greenfield project could be a source of net proceeds for the public sector if the value of services that it provides can be priced (i.e., charge sufficient user fees) in a way that creates a present value sufficient to sup-

port capitalization in excess of the project cost. However, the opportunity to do this in a developed economy (where basic infrastructure is already in place) is probably very limited due to financial cost and political factors. In practice, net monetization is probably only possible—if at all—with brownfield projects.

The concept of releasing value from existing public assets is expanded in Geddes [2013]. This article proposes a concept of “investment public-private partnership” (IP3) transactions that fully monetize existing brownfield road assets and use the proceeds to create dividend-paying sovereign wealth funds. The relevant point for our purposes here is the paper’s position that infrastructure assets are owned by the public as a whole, not just the users, and that the public is entitled to realize that value for other purposes. It is logically a short step from using an IP3 to fund a sovereign wealth fund to using the same transaction to pay off an obligation—a local public pension funding gap—that is also “owned” by the community as a whole.

¹¹In light of the central role of the U.S. federal deficit in current political polarization, bipartisan positions can be strongest for infrastructure policies that do not increase the deficit. In effect, like state and local governments, the U.S. federal government faces its own fiscal constraints caused by pension obligations (Social Security) and healthcare (Medicaid and Medicare). As a result, practical proposals are likely to continue to focus on financing support that is off both the federal balance sheet and the annual budget (see Ryan [2011]).

¹²All official descriptions of infrastructure policy proposals highlight the word “bipartisan” (for example, see Warner [2014]), but it is not just talk. There was clear and effective bipartisan support to increase a major transportation loan program’s funding and scope in the 2012 MAP-21 transportation bill (Pub.L.112-141 <http://www.gpo.gov/fdsys/pkg/PLAW-112publ141/html/PLAW-112publ141.htm>), even in an election year that prominently and negatively featured a failed loan, Solyndra, from another federal loan program. With the passage of the budget in 2014, and some apparent thawing in Congress on economic matters, bipartisan action for infrastructure may become even more feasible (see Gourntis [2013]).

¹³The Transportation Infrastructure Finance and Innovation Act (TIFIA), a federal loan program originally established in 2005, was significantly expanded in the 2012 MAP-21 transportation bill (see Note 12). TIFIA was the model for a new loan program for water infrastructure, the Water Infrastructure Finance and Innovation Act (WIFIA), established on a pilot basis in the Water Resources Development Act of 2013 (Pub.L.113-121 <http://www.gpo.gov/fdsys/pkg/PLAW-113publ121/html/PLAW-113publ121.htm>). As one of several similar proposals, a large and multi-sectoral infrastructure loan program, the Building and Renewing

Infrastructure for Development and Growth in Employment Act (the BRIDGE Act) was proposed in Congress on a bipartisan basis in 2013 (see Warner [2014]).

¹⁴See for example Boyd [2014]:

Retirement security is a priority concern of the national government, as evidenced by Social Security and Medicare programs. In many states, government employees, particularly teachers, do not participate in Social Security, yet their benefits, which are not portable, are seldom higher than those of employees who also are covered by Social Security. In those states, and in all states where the ability to provide the core promise of retirement security is jeopardized by the serious unfunded status of their pension systems and inadequate means to correct rather than compound inadequacy, national objectives may fail... More broadly, there is also a national interest in much of what states and localities do, whether for federal programs such as Medicaid, or for investments and services that can have benefits that extend beyond state borders, such as infrastructure and education. If these state and local government activities are crowded out by sharp and sudden increases in retirement contributions, then the national interest suffers.

The public pension crisis in specific is beginning to receive legislative attention. Senator Orrin Hatch recently proposed a bill that encouraged some privatization of public pension functions going forward (see Williams-Walsh [2013]). More relevant to direct bilateral transactions are ideas related to unfunded liabilities. Two ideas, from the former mayor of Los Angeles and a leading academic, respectively, proposed federal support to reduce the cost of state and local debt financing (either by guarantee or subsidy) for funding pension obligations (see Riordan [2013] and Rauh [2013]). Predictably, these were seen as unacceptable bailouts among some commentators (for example, Malanga [2013]). As with federal infrastructure policies, bipartisan support for federal pension policies is more likely for ideas that do not increase the federal deficit. Combining support for public pensions with infrastructure renewal might be a subtle and politically practical path to accomplish more of both.

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