Institute and Faculty of Actuaries

Public-Private Partnerships

Opportunities for investment

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Executive Summary

There are now exciting opportunities to establish new kinds of partnership between public bodies and long-term investors to construct buildings and infrastructure for public use. These public-private partnerships (PPPs) would unlock infrastructure investment by UK insurance companies and pension funds and broaden the pool of ideas about a project. This paper describes how such a partnership would work and how it differs from previous arrangements. Financing guarantees from the UK Infrastructure Bank would make PPPs more attractive than they would have been in the past. It is proposed that such partnerships would cover the construction and leasing of new assets, without the provision of ancillary services. Construction risks would be taken by the investors. In some circumstances it may be possible for the relevant public body to receive a percentage of the ongoing revenues. The arrangements which could be introduced are outlined in the paper, on such topics as the roles of both sides, project development, asset designs for alternative uses, financial arrangements, risk-sharing, contractual provisions for a PPP to be unwound if needs change, local involvement where appropriate, and the governance of PPPs. The differences from the old Private Finance Initiative (PFI) arrangements are summarised in Appendix 1. One possibility is to establish a semi-permanent PPP covering a number of projects, as outlined in Appendix 2. Two imaginary case studies are set out in Appendix 3. Above all, the paper stresses the importance of fostering creativity, flexibility and collaboration as far as possible.

1. Introduction

This paper outlines a vision where much new infrastructure in the UK could be built using a partnership of public and private investors, harnessing the expertise of experts from both sides and releasing investment by insurance companies and pension funds. The aim would be to allow such investors to address national and local infrastructure needs whilst having the expectation of financial returns which are comparable to those obtainable from other forms of investment having similar degrees of risk. The emphasis in a partnership would be on genuinely open discussion, negotiation and co-operation, with information freely exchanged between the parties. The advantages of such partnerships would include:

- The ability for the nation to get more projects completed because of the use of private sector capital on top of public money;
- A broadening of the pool of ideas about a project, including a more complete exploration of the possibility of achieving the desired aim differently and a deeper insight into the scope for risk mitigation, innovation and possible efficiencies.

2. Background

From 1992-2018 many new assets were financed through the Private Finance Initiative (PFI) on 30-year contracts or longer. These assets included sorely-needed hospitals and schools which would not otherwise have been built because of a lack of enough Government funds to pay for the capital expenditure. As a result of the PFI many communities are today benefiting from these new assets, rather than having to make do in facilities which by now would have deteriorated to completely unacceptable levels. The investors not only paid for the construction costs but also provided ancillary services for the new assets, including cleaning, maintenance, catering, facilities management, etc. However, the public bodies started to find that the rents they had contracted to pay for these PFI assets and services were more than they could afford as public sector budgets declined, particularly because in most cases the rents were linked to inflation. Statements were made that PFI contracts offered poor value for money compared with public financing, though risks were not usually taken into account in such comparisons. It was also proving difficult to unwind the contracts in cases where public sector needs had changed and the assets no longer met requirements but could not be sold. In cases where the assets were still required, the public sector bodies concerned would have liked to have more flexibility over the ongoing services provided. The Government therefore decided that there would be no new PFI contracts after 2018, but existing contracts would continue in force until they were time-expired. (There is a good on-line article about the PFI in Wikipedia).

Since the UK Government discontinued the use of the PFI, there has been no standard mechanism in the last 6 years for the establishment of public-private partnerships (PPPs) to finance new infrastructure developments. One of the difficulties in the past has been that private sector debt finance has been more expensive than the terms on which the Government itself may borrow, and this has been an important factor in discouraging PPPs, since it has typically been perceived that debt finance is appropriate for the major part of a project's

capital cost. However, the UK Infrastructure Bank is now prepared to issue guarantees for approved projects which enable private debt finance to be raised on terms which are not much more costly than those on which the Government itself can borrow. This means that "public sector comparators" are likely to show financial results for a public body that will make a PPP not much more expensive (if at all) than the cost of financing the project itself. Moreover, it may well be appropriate for a PPP to be partly funded by risk-bearing equity capital in future. It is therefore timely to review the possibility of changing the investment landscape to encourage the development of PPPs in situations where they offer potential advantages.

3. The basis of our proposal

We are not proposing to re-establish the PFI, where a key plank was the provision of ongoing services such as catering, cleaning and ongoing maintenance by private firms on the basis of inflexible contractual terms for long periods such as 30 or 40 years. Our proposal is based on the idea that the private investment will be used to construct the asset (taking the construction risk), which will then be leased to the relevant public body in return for a revenue stream for (say) 30 years on a predetermined contractual basis. The revenue stream would need to be sufficiently large to provide a fair remuneration to the investors for providing the capital (which would not be refunded) and for taking the construction risk. At the outset both sides will agree the design and specification of the asset, and construction contracts will then be controlled and supervised by the investors. No additional services other than the asset itself will normally be supplied to the public sector. At the end of the lease, the asset will be handed over to the public sector free of charge. If the needs of the public sector body change during the leasing period, so that it no longer requires the asset, there will be specific provision in the contract for resolving the situation in a way that is fair to both sides as far as possible. Appendix 1 sets out how our vision of PPPs would compare with the PFI. Basically, the PPP would be much simpler and more flexible.

4. Project development

A proposed PPP should be negotiated between an investor (or a consortium of investors) and a public body which needs new infrastructure in order to enable it to carry on its business effectively or provide services to the community. The negotiations should be conducted in a spirit of genuine partnership and openness, looking for the best solutions, and recognising the constraints which each party is under. A preliminary contract should set out the arrangements for the period between the start of detailed negotiations and the signing of the main contract which will govern relationships between the parties thereafter. Normally the main contract will be signed shortly before the start of constructing the asset.

The basic principle would be that the crucial preliminary stages of thinking about the community's needs and the form and scope of the project would be carried out in a joint working party between the investors (or their agents) and the public body, including representatives of the eventual operators and other stakeholders. The working party would

develop a preliminary contract and a main contract. The preliminary contract would be between the investors and the public body and it would include their agreement to set up a special purpose vehicle (SPV) to develop the project, with the joint working party continuing but now under the auspices of the SPV.

The preliminary contract should describe in broad terms the nature of the asset which is to be constructed, the method of negotiating the main contract, the anticipated timescales for the negotiations, and any agreement for work done by the investors during the negotiation period to be remunerated in whole or in part, if the project has to be abandoned before the main contract is signed. It is important that it should become the norm for potential investors in this position to have a guarantee of compensation of at least (say) 50% of the cost of their work up to a specified ceiling. This will provide an appropriate incentive for the investors to devote enough resource to the development work while it is possible that the project may be aborted.

The main contract should describe the responsibilities of the various parties and specify the financial outgoings and risks which each party will bear. It should transfer to the investors the ownership of land required for the project. If it is a requirement that there should be competitive tenders for the construction work, this should be specified. The contract should specify how and when the revenue stream from the project is to be determined and distributed. It should set out that the whole cost will be met by the public body of any changes in scope, specification or design which take place during the construction or commissioning stages at the request of the public body. (If agreed, this additional cost could be met by changes in the contract terms rather than cash payments). It may be that the risk of changes in scope, specification or design after commitment would be reduced if a range of standard designs could be made available for common projects such as hospitals, schools, transport infrastructure, etc. The ways for adjusting the project or its financial basis in the event of changes in the needs of the public body or the investors should be specified in advance in the contract as far as possible and an independent arbitration mechanism specified for deciding on any further adjustments or payments needed.

Unlike the PFI it should not be a requirement for the investors to provide additional services such as catering, cleaning and day-to-day maintenance, though these could be considered if needed. In some cases the asset, once constructed and commissioned, will be leased to the public body, which will control its operation and maintenance in the same way as if it rented a building commercially. In other cases the asset, once constructed and commissioned, will remain controlled by the investors, who will arrange for it to be operated on their behalf for the benefit of users or the public body.

In some cases it may be specified that the partnership will end at a predetermined time but in other cases it may continue indefinitely until either party wishes to end it. Discussion at the outset may centre round such questions as the long-term needs of the investors, the long-term needs of the users, the rate at which the building or infrastructure may start to deteriorate or become obsolete, possible impacts of climate change, etc. One possibility (particularly in the case of a service intended to continue in existence for a very long period such as 60 years or more) would be to provide that the partnership would come to an end after say 40 years but

could be renewed on different terms if the public body wants there to be further expenditure on the asset and the investors agree at that time to provide it.

Asset design and specification would be carried out on the instructions of the project team and when completed would need to be formally approved by both the public body and the investors. In some cases it may be possible for the asset to be designed in such a way as to be capable of being converted to an alternative use if necessary. The public body would be responsible for ensuring that the project meets all legal, regulatory, planning and service requirements, other than those associated with construction and commissioning (such as building regulations) which would be met by the contractors. The investors would be responsible for the contractual and financial aspects of the construction and commissioning of the asset, and for any structural maintenance required later. Once the constructed asset has been commissioned, the investors would sign it off formally as ready for operation. The public body would be responsible for operation and day-to-day maintenance, unless it was agreed that the investors would take this responsibility.

5. Financial arrangements

The detailed financial arrangements will be negotiated between the parties, project by project. It is envisaged that the investors will normally take responsibility for the construction of the asset, which will have to meet the plans and specifications agreed between the parties. The investors will normally meet all the construction costs involved (with assistance from temporary bank finance where appropriate). However, the main contract may sometimes specify that excess construction costs (or a proportion of them) over and above a specified figure will be reimbursed to the investors in one way or another – this might be necessary for "high tech" projects. Any structural maintenance costs required after the construction and commissioning of the asset are completed (but not day-to-day maintenance) will normally be met by the investors. The operational revenue stream to be distributed to the investors year by year will either be a share of the revenues generated by the project (including shadow tolls where appropriate) or alternatively it may be a specified rent payable by the public body for the ability to use the asset, to be uplifted from time to time by adjustments for inflation. (In some circumstances it may be agreed that inflation adjustments can have time lags). It may have been agreed between the parties that a specified percentage (up to 20%, say) of the yearly net revenue will be paid to the public body concerned, in return for its having contributed the land and ancillary resources, and generally facilitating the project, with only the remainder of the revenue being paid to the investors. A proportion of the investment funds may have to be in the form of risk-bearing equity, to allow for the possibility that construction may turn out to be more costly than anticipated. In cases where the investors will finance part of the construction and commissioning cost by debt finance, it is anticipated that a special purpose vehicle which they establish may be able to obtain a guarantee from the UK Infrastructure Bank to enable the debt finance to be raised on terms similar to those obtained by the Government.

6. Risk sharing

A thorough exploration by all parties of the risks associated with a proposed public-private partnership project is likely to be mutually beneficial. A deep understanding of these risks may often suggest ways in which the project should be modified (or even aborted) before design work is undertaken. The key point is that the risk assessment should bring together the ideas and experiences of a wider group of people than would be the case if the project were to be developed by the public body alone. The risks explored should not only be the financial ones facing each partner but also the risks for the end users of the new asset and the risks for the community as a whole. Creative thinking should be encouraged, not only in the identification and exploration of risks, but in finding suitable ways in which they can be mitigated in a cost-effective manner, using independent experts who are skilled at envisaging, modelling and placing financial values on risks. It is important that the risk assessment should not only be concerned with downside risk but should also seek proactively to find ways in which the project could be improved to provide greater benefits, both financially and otherwise. The risk assessment should start early on in the working party's discussions and should be repeated as the project becomes more developed. Once the mitigation measures to be adopted become clear, decisions should be made by the working party about the sharing of the residual risks between the parties, taking account of a number of factors including the ability of each party to control the risk as time goes on. Special consideration should be given to risks which would have big consequences for either partner or for end-users or the community if they materialised. While there is often a considerable amount of work in a full risk assessment of this kind, it could lead to an optimum project, save a considerable sum of money in the end, and avoid wasted expenditure. It should become the most important stage in project development, under suitably skilled and experienced leaders.

Of course not all risks can be fully identified and mitigated, and there will always remain uncertainties, but this does not remove the value of a full risk assessment for those risks which can be identified. New risks are likely to emerge during the lifetime of the partnership and there should be contractual provisions for continuing joint reviews by the partners to assess and manage those risks. An example of such a risk is climate change, where there was typically limited allowance for the advancing impact of climate change in project appraisal 5-10 years ago. It is only now that more rigorous techniques are being employed, by professionals such as climate scientists, actuaries and engineers, who use actuarial methods to reverse-stress-test possible impacts and their financial consequences, taking account of the "time value" of money.

One of the questions which should be considered is whether insurance ought to be taken out by either partner to cover certain types of risk. Suitable insurance firms should be contacted at an early stage in project development and their experts will often have great expertise which could add value to the risk assessment and mitigation process.

Another question is whether the UK Infrastructure Bank (or commercial banks) would be willing, in return for a fee, to offer any guarantees to cover some of the construction risks. If they were willing to do so, this would reduce the investors' risks and could enable them to offer better terms.

The main contract should specify which risks each party will bear, for example the risk that construction costs more than expected or revenues fall short of expectations. In some cases it may be determined that the costs of any significant risks which materialise are shared between the parties. It should be permissible (but not required) for a public body to negotiate a contract where investors in a PPP bear a significant share of the risks but for the public body (and/or the UK Infrastructure Bank?) to bear the more extreme "tail" risks. The definition of such risks will vary from one project to another, and so will the mechanism for determining whether one of the specified risks has arisen and how one party or the other should be compensated. For PPPs involving the use of untried technology the investors are unlikely to be able to bear the more extreme risks, so some form of public sector guarantee (for example in the form of contracts for difference) will probably be essential. A special case is where the occurrence of the risk event is within the control of the public body, for example if it were able to impose rent controls which reduced investors' income from a low cost housing scheme: in this kind of case it may be that the public body itself should bear the cost of the risk if it arises.

7. Unwinding a PPP

It will sometimes happen that circumstances change after construction of the asset has commenced or after it has come into operation, and the public sector body in a PPP wishes to make amendments to the asset's scope, design or specification, or even to discontinue the project altogether. It is important that the main contract should specify in advance what financial arrangements should be made at the time, based on the principle of fairness to both sides. For example, in the event of discontinuance at the request of the public sector partner after the commencement of operation, payments to the investors for the construction of the asset might have to continue as if it was still in use, unless these future payments could be commuted for a capital sum of equivalent value. The investors would have an obligation, if the asset was no longer in use, to facilitate its sale on behalf of the public body if this would enable the future payments to be commuted. It would be helpful if HM Treasury could draft some standard rules which could be used (with amendment if necessary) by agreement between the parties at the time the main contract is negotiated. Similarly the contract should specify what financial arrangements would apply if the investors wish to discontinue their involvement at any time after construction has commenced, or if the asset is delivered late, and again some standard rules would be helpful. The main contract will normally run for a specified period (often 30 or 40 years) after the asset comes into operation but at the end of that time the ownership of the asset will usually be handed back to the public body for a nominal payment and no further revenues will be payable to the investors. It would be helpful if the Treasury were to draft some standard clauses on the hand-back, too, for public sector bodies to propose for inclusion in their PPP contracts. Sometimes, though, there might be no specified date for termination of the partnership, and after a minimum period it will continue in force indefinitely until one side or the other wishes to terminate it.

8. Local Involvement

In the case of projects benefiting specific localities, there should be a greater emphasis on local involvement with a project than has often been the case in the past. This will help to ensure that local needs are satisfied and that the project is viewed favourably. In some cases it may be appropriate to consider crowd funding alongside professional investment. For example local businesses and individuals might be invited to make interest-bearing deposits or purchase dividend-bearing shares in the special purpose vehicle set up by investors. It would be necessary to check that such an arrangement would not cause any tax difficulties. Crowd funding is likely to be particularly appropriate where the project would be of significant financial benefit to a local community, for example the construction of a new railway line or tram system. One potential advantage of crowd funding is that it would foster a spirit of community ownership of the asset being created, which would encourage the community to contribute to the project's development and might enable day-to-day maintenance to be minimised once the asset is in operation, if members of the community took pride in it and discouraged litter and vandalism. Even if crowd funding is impracticable for a particular project, it will usually be important for the SPV to engage with the representatives of local people during the project development phase, for example by inviting them to participate in some of the project design sessions, and also, once the asset comes into operation, to ensure that any concerns are taken into account as far as possible. In some cases where specific local needs from the project can be defined, it may be possible for the public body to have a contractual obligation to enhance the revenue stream by adding an "achievement bonus" to it when the needs are satisfied. These needs might include a variety of numerical targets where achievement can easily be independently verified, such as job creation, waiting times for users, results in user satisfaction surveys, fares and charges, signposting, litter generation, crime, CO2 emissions, water quality, public toilets, climate mitigation, disability access, etc.

9. The governance of PPPs

Once a PPP has been established, it is important that there should be effective ongoing regular and confidential liaison between the parties, including risk reviews, to foresee possible changes in the strategic environment, to investigate any problems which are arising, and generally to look ahead at possible issues while there is still time to do something about them.

We suggest that consideration should be given to establishing a special "public interest standing committee" at national level, to supervise all aspects of PPPs and provide advice on moving forwards for future projects. The Treasury and local authorities would be represented on the committee, along with other experienced public officials, as well as appointees from the private sector, including bankers and institutional investors. The committee's principal objective would be to develop, maintain and adapt over time a set of recommended approaches to PPPs, having regard to any difficulties experienced. As far as possible there should be a long-term cross-party approach, designed to establish sustainable partnerships which are fair to all parties.

In addition it would be worth having a unit in the Treasury which would issue statistics of PPPs and monitor the calculations made by public partners to show that value for money is being achieved. The Treasury unit would also help local authorities to learn about PPPs and would supervise the negotiations for the first few PPP contracts made by local authorities, with a view to drawing up standard (but flexible) contract clauses for any local authority to suggest in future negotiations, with adjustments where necessary. Furthermore, the unit could advise the Treasury on any potential tax or statistical difficulties which might need to be remedied.

A mechanism should be established for resolving disputes, for inclusion in the main contract unless the parties agree otherwise. Disputes might arise for a number of underlying causes, including a change in operational capacity, new service requirements, shock changes in costs, premature obsolescence, and commercial, environmental or social challenges. The mechanism should facilitate discussion and negotiation of ways to manage and resolve the problem, leading on if necessary to mediation and leaving legal action as a last resort if all else fails.

10. Partnerships covering more than one project

There is one additional idea which is worth considering seriously, i.e. the establishment of a sustainable long-term partnership between a group of investors and a single public authority. The diagram in Appendix 2 outlines a possible framework for such a partnership. The partnership would invest in a number of projects over a period of years, rather than having to have separate arrangements for each project. This would enable semi-permanent relationships to become established, which would facilitate discussions and the resolution of emerging issues, as well as encourage knowledge transfers. Moreover, the risks for the investors would be diversified to a greater extent than with a single project, which would mean that they could be content with a somewhat lower return or be more willing to accept technological risks. The liquidity provided for an investor by being able to dispose of their shares to other investors would encourage participation in the partnership. The group of investors would normally consist entirely of institutional bodies willing to inject funds in the expectation of future financial returns. There would be scope for different investors to participate in risks to a greater or lesser extent with differing levels of financial return. The Government could prepare a standard framework for use (with appropriate adjustments) by Local Authorities which wished to establish their own multi-project PPPs.

11. Conclusion

The new thinking outlined here may have to be modified in detail but in principle it should form a sound foundation for moving forwards with a variety of PPPs in a spirit of genuine partnership. Construction will be financed by investors and lenders in return for a revenue stream expected to remunerate the capital invested, with an appropriate degree of risk sharing specific to the project, and with the possibility of public bodies having a minority share in the revenues received. Two illustrative imaginary case studies are set out in Appendix 3.

Although this paper has covered in the main the financial basis of a public-private partnership and the sharing of risk, the partners may value the potential success of a partnership by other factors as well. These include reputation, the opportunity to gain experience useful for other projects, the ability to provide community benefits which could not otherwise be afforded, environmental impacts of the project, and whether the project itself is widely regarded as successful by end users once it comes into operation. Although such matters are outside the scope of this paper, they may have an important bearing on partnership negotiations.

Appendix 1

A comparison between PFI projects and PPPs

- Whereas in a PFI project the shape of the project and the design and specification tended to be the responsibility of only the public sector body concerned, in a PPP this responsibility would be shared with the investors in a genuine spirit of partnership, recognising the needs of the other party, though it would always be necessary for each party to sign off its agreement to the design and specification before construction commenced. Experts could be appointed on behalf of potential PPP investors from the very outset of project conception if there was a guarantee that the investors would be refunded half of their expenses of the project if it did not proceed - in the PFI the cost of any preliminary work done by investors before construction was borne solely by the investors, and this led to much bad feeling if the public body pulled out. Involving both sides from the beginning would tend to enhance project quality by bringing to bear a wider range of expert ideas.

- Those PPPs established with the aim of carrying out a series of projects over a period of several years for a single public body would be more likely to have continuing constructive relationships between both sides than was the case in the PFI, where the relationship tended to wind down once the contract for a project was signed. Both sides would have the incentive of getting future projects off the ground if a constructive relationship continued. The likelihood of continuing co-operation would be strengthened if the public body was granted a share in the ongoing net revenues from the projects undertaken. The importance of a continuing constructive relationship is that it would enable unexpected situations to be dealt with by both parties flexibly when necessary, for example by introducing enhanced risk management or additional investment.

- The PFI investors needed to raise construction finance on commercial terms, whereas a PPP might nowadays be able (subject to tax considerations) to raise debt finance on terms only a little less favourable than the Government itself, making use of a guarantee from the UK Infrastructure Bank. This reduces the likelihood that the PPP would be seen as offering comparatively poor value for money. Unlike the PFI, the fact that investors will bear the construction risks in a PPP means that a proportion of the investment funds will probably need to be in the form of risk-bearing equity.

- In those cases where the expectation is that the PPP would undertake a series of projects, there would be a benefit to the investors of diversifying their risks, particularly some of the more idiosyncratic location-specific risks. Any unexpected gains on one project could be expected to balance at least part of the losses on another, so that risk-bearing equity finance could perhaps be raised somewhat more easily than for one project alone, particularly for "higher tech" or untried projects. The PFI tended to be used for single projects.

- Unlike the PFI, a PPP would not normally provide ancillary services such as cleaning, maintenance, catering and facilities management, and the public body would be free to commission those services itself and achieve maximum flexibility in the level and cost of those services as needs and budgets changed (subject, of course, to maintaining the asset in good condition). The investors and the public body would be in much the same position as if a commercial asset such as shops, offices or warehouses had been created by the private sector and then leased to the public body

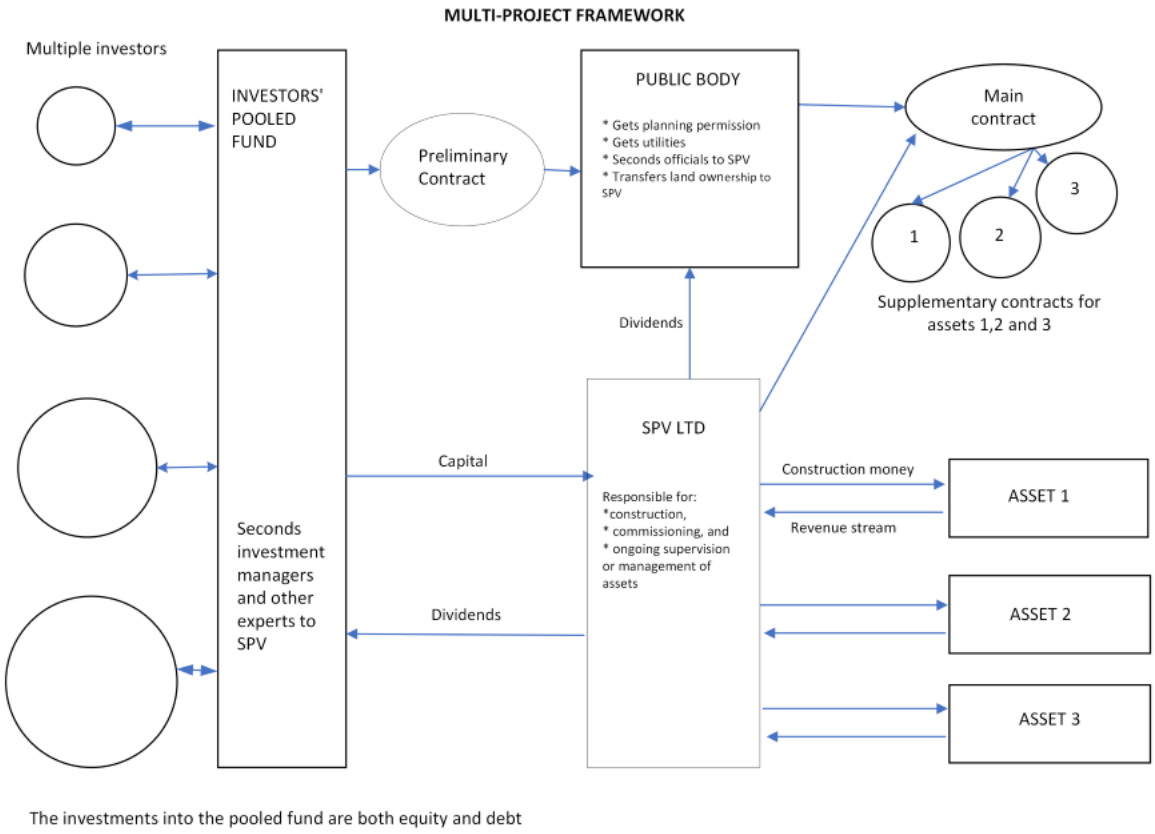
for rent (except that the public body would own the land as well as the asset once the contract had expired).

- In some cases the investors in a PPP project might be able to influence the design of new assets in such a way that the assets would have the possibility of conversion to an alternative use (for example conversion from a hospital to residential, hotel or student accommodation) without too much expense, in which case the investors might be able to offer the public body an option to get out of some of its ongoing commitments to the investors if needs or budgets changed. It would have been unusual for such an option to be granted for a PFI project.

- If a local authority sponsors a PPP for local projects, it might be possible to achieve part of the investment from local sources which would benefit from the newly created assets. Even crowd funding might be a possible component. There would be strong incentives for the local community to protect the assets against vandalism. None of this was possible with the PFI.

Appendix 2

Outline of a possible framework for a multi-project PPP (see paragraph 10)



Notes:

1. The preliminary contract agrees to the formation of SPV Ltd and includes premature termination provisions.

2. The SPV may borrow from external lenders part of the capital needed, with a guarantee from the UK Infrastructure Bank.

3. The SPV will appoint its own experts and obtain advice from contractors and stakeholders.

4. In some cases the revenue stream (or part of it) may come from the public body and in other cases from end users.

5. Having a semi-permanent pooled fund of multiple investors is likely to shorten the timescales between the initial project conception and the infrastructure coming into service, since the pool will already have been established for previous projects.

6. A pooled fund has the advantage that it can enable the risks of all the projects in the pool to be balanced against each other, in the hope that the losses on one will be offset by gains on another, and this will sometimes enable investors to accept a lower return than for a single project. Pools can enable various forms of debt and equity to be offered to participating investors with differing risk appetites. In a PPP they can encourage a genuine partnership between a public body and the investors, which will tend to improve project quality. Pools would not put too much strain on the very limited in-house investment resources which most institutional investors possess, since pools would be able to appoint their own professional experts with wide experience to work in selecting a portfolio with a suitable balance of risk. This might enable public bodies to be offered more favourable contracts than a single investor in one project could contemplate. Investors in a pool would find it attractive to have a chance of liquidity if their needs change, since they may be able to sell their holdings to other investors in the pool, whereas if they are the sole investor they could be effectively locked in.

Appendix 3

PPPs – imaginary case studies

The following are much simplified hypothetical examples, designed to illustrate some of the principles we have in mind. The figures used are not intended to be realistic. Many variations on these examples will be negotiated in practice.

(a) A revenue earning project

This example shows how project development may proceed, with both sides sharing ideas. In this case the ideas contributed by the investors have the effect of expanding the scope of the project, in order to give the public body an acceptable financial cost and level of risk. The arrangements which emerge will give both parties every incentive to co-operate to keep construction risks to a minimum.

A city council wants a new tramway to stimulate private housebuilding in a run-down area on the outskirts of a large city. The initial proposal is that the tramway will run from that area to the city centre. If the council funds that scheme itself, the construction cost is estimated at £470m and the cost of tram purchase will be £30m, making a total capital cost of £500m. The revenues will be £25m a year, the interest cost will be £30m a year and the cost of operation and maintenance will be £8m a year, so there will be a deficit of £13m p.a., which the council cannot afford. Moreover, the whole cost of any over-spend would have to be met by the council.

A pooled fund for investors holds preliminary discussions in a working party with council officials to discuss how the initial proposal could be further developed. It is agreed that the scope of the project will be increased (at additional cost) so that the tramway is extended from the city centre to a railway station, sports stadium and hospital beyond; this is expected to double the revenues. At the suggestion of the investors, a vacant site in the run-down area will be sold to the investors for a small sum as part of the project and used to construct a tram depot and a shopping/office/leisure centre. The pooled fund's capital cost of constructing the track, tram depot and shopping/office/leisure centre is estimated to be £800m (i.e. £700m for the track and £100m for the depot and centre, including a 20% contingency allowance). The council will itself meet the cost of purchasing/leasing, operating and maintaining the trams, while the pooled fund will meet the cost of maintaining the track, estimated at £3m p.a.

It is agreed that the gross revenue from the trams, estimated at £50m p.a., will be split between the pooled fund and the council on an 80/20 basis. The pooled fund will meet the capital cost of constructing the depot and shopping/office/leisure centre and will itself let the centre for rents estimated at £20m p.a. net. From the investors' viewpoint, the capital cost totals £800m, while annual revenues are estimated at £40m (trams) plus £20m (shopping/office/leisure centre) less £3m (track maintenance), i.e. £57m, which can be expected to rise with inflation and may grow in real terms if the run-down area prospers. The pooled fund's initial yield will be just over 7% p.a. (which will be parcelled out between

debt and equity investors, so that debt investors get about 6% p.a. and risk-bearing equity investors about 8% p.a.). The pooled fund may obtain a guarantee from the UK Infrastructure Bank to help it to raise debt finance.

From the council's viewpoint, there will be capital expenditure on the purchase of trams (estimated at £40m), though these could be leased commercially instead to avoid the need for this sum to be spent immediately. There will be income of £10m a year gross from the trams' revenues, less expenditure on operating and maintaining the trams estimated at £12m per annum, leading to a net cost of £2m per annum. If traffic grows, there will be increased revenues from the trams, which may mean that the cost of maintaining and operating them can eventually be fully covered. If the run-down area prospers, the council can expect increased revenue from council taxes in due course.

The ownership of land for the track, the depot and the shopping/office/leisure centre will be transferred to the pooled fund before construction commences. Decisions will need to be made at the outset on whether ownership of the land for the track and depot will be transferred back to the council after 30 or 40 years. The pooled fund will own freehold the land for the shopping/office/leisure centre and it will not be handed back.

The parties have agreed to share the risks of any over-spend on constructing the tram tracks on the same basis as the revenue will be shared, so that an over-spend of £100m will be met £80m by the pooled fund and £20m by the council – this means that both sides will have every incentive to estimate the construction costs as accurately as possible, having regard to preliminary investigations of expected ground conditions and existing cables and gas-pipe routes. The council will have an incentive to keep construction costs down by diverting traffic flows to leave construction sites free and accessible. It is possible that banks or insurance may be able to cover part of the cost of an over-spend if it occurs.

(b) <u>A building which will be rented by a public body</u>

This example illustrates a PPP to construct a public building which will be built at the risk of the investors and paid for by an annual rent from a public body for 40 years. The design is such that any future reduction in the public body's need for the building can be dealt with by turning all or part of it into residential accommodation.

A Health Trust wishes to construct a new hospital on a green-field site, to replace several buildings at scattered locations. The site and building will cost £400m – this is a detailed estimate after site investigation and includes a 10% contingency allowance. In addition the Trust will have to spend £50m equipping the hospital, though some of the equipment could be leased and the cost spread over a number of years. The site will include a large car park. The capital cost could be financed from Government funds when these become available for the hospital in a few years' time at an indeterminate date.

A pooled fund holds discussions with the Trust in a joint working party. One of the Trust's objectives is to achieve flexibility if it needs to reduce space as advances in medical science enable more people to be treated at home in due course. Another objective is to get its hospital built as soon as possible, without having to wait for an indeterminate number of years. The pooled fund agrees with the Trust that the hospital buildings will incorporate a design which would enable at least part of the hospital and car park to be converted into a hotel or a residential block of flats at a future date. The pooled fund will finance the capital cost of building the hospital at £420m (to include the flexible design at an extra construction cost of £20m) and will then lease it to the Trust for a rent of £25m p.a. for 40 years, increasing in line with inflation. (To reduce this net cost the Trust may then save money on the other buildings it is renting in the meantime, which will no longer be needed.) . The whole cost of maintaining and equipping the building will be met by the Trust. After 40 years the rent will cease and the building and its site will be handed over to the Trust free of charge.

If at some date the whole or part of the building and site is no longer required for the hospital, it will be cleaned up by the hospital staff, the building will be converted (the whole of the conversion cost being met by the pooled fund), and 70% of the gross revenues from letting the new building will be applied to reduce the continuing rental payable by the Trust to the pooled fund for the original building. The other 30% will be retained by the pooled fund until the end of the 40 year period, and 100% will then revert to the pooled fund, which will retain the freehold of the new building's land and its car park.

Suppose, for example, that after 21 years the Trust requires only half the hospital and car parking space. The Trust would remove its equipment from the redundant portion and the pooled fund could convert it to flats for a capital cost of (say) £20m and let it to an intermediary for gross rents of (say) £12m p.a., of which £8.4m p.a. would be used to reduce the Trust's annual rent from £25m to £16.6m. (These figures would all have increased by inflation over the 16-year period). The pooled fund would thus receive an extra net annual income of £3.6m p.a. to remunerate it for its investment of £20m., and it would retain the freehold of the flats and their car park even after the end of the hospital contract.

The pooled fund will bear the whole of the construction and commissioning risk of the original hospital building (a risk which it may be possible to insure to some extent), and the construction, commissioning and revenue risks for the new building if it is required in due course. The pooled fund will probably raise part of its capital by debt (with a guarantee from the UK Infrastructure Bank) but it will also need to raise some of its capital by risk-bearing equity.

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