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**Refinancings in Public-Private Partnerships
Conceptual Issues and Empirical Results
from the UK and Germany**

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Abstract

Public-private partnerships (PPPs) are being increasingly used by authorities to procure public real estate projects. A major characteristic of this procurement approach is the reliance on private capital. Authority's contractors typically negotiate long-term financing agreements to fulfill capital requirements. A refinancing is an (initially unplanned) redesign of the project's original financing structure for which we provide an analysis of the private parties' rationale. After refinancing PPP projects in the UK had led to high profits for the private contractors, authorities started to claim a share in these gains. We discuss possible justifications of authorities claim. We infer that authority approval rights are justified on the basis of flexibility and reputation arguments. Authorities should receive a compensation for decreases in flexibility after a refinancing. These results are confronted with empirical observations from the UK and Germany. Furthermore, we provide an outlook for the post-financial crisis period and conclude that adequate preparation for refinancings improves contractual outcomes. Although the discussion in this paper is focused on projects in the public sector it is finally shown that similar issues are also prevalent in private sector financing contracts.

JEL Codes: D86, G32, H54, H57

Keywords: public-private partnership, renegotiation design, infrastructure financing, refinancing, project financing

1) Introduction

In recent years, a rising number of real estate projects in the public sector have been procured through so-called public-private partnerships (PPPs). In this approach, several tasks of service delivery in infrastructure projects, i.e. planning, construction, maintenance, and often operations, are bundled in a long-term contract and provided by one private contractor.¹ This contrasts with the conventional procurement approach, where the authority procures each of the tasks in separate short-term contracts or provides the tasks in-house. The PPP approach, where contracts typically have durations of 20 to 35 years, is used for new developments of infrastructure facilities as well as for rehabilitations and major expansions of existing assets.

A common feature in many PPP projects is the heavy reliance on private capital. Usually the contractor has to provide financing to fund the investments at the beginning of the project. The use of private capital in public procurement is generally justified for its safeguarding and incentive characteristics, i.e. private capital may lower the costs of contract enforcement as compared to alternative methods.² Contractors use different financial instruments to comply with these requirements. In particular, two basic financing types can be distinguished.

First, in a project financing, the successful bidder, called the sponsor of the project, establishes a special purpose company for the project and provides equity for the venture. However, the bulk of funds is provided by external financiers, particularly creditors, who are deeply involved in the structuring process of the project. Their decision on capital provision is based on the merits of the project alone since there is usually no or only limited recourse to the sponsor. Typical debt instruments used in PPP project financings are bank loans and bonds.

Second, private capital may be provided through (traditional) corporate financing, where there is no legal separation of the project. Rather, the project is an integral part of a larger company. Funding is provided by the finance department, which may use cash flows from other projects or tap capital markets. External financiers of the company are not directly involved in an individual project and rely on an evaluation of the company as a whole before capital provision. The composition of financial instruments and capital providers as well as their (originally) planned development throughout the contract term is termed the project's initial financial structure in this paper.

A refinancing is a redesign of the project's initial financial structure utilizing an optimization potential by the contractor. With it, the contractor attempts to reduce the costs of the procurement of financial

¹ See BENTZ / GROUT / HALONEN (2004, p. 3) and DE BETTIGNIES / ROSS (2004, p. 136).

² For the basic argument, see DEWATRIPONT / LEGROS (2005, pp. 133-4), and BECKERS / GEHRT / KLATT (2010a) for a thorough discussion.

services. In the United Kingdom, after the first instances of refinancing PPP projects led to high profits for the contractor, the public sector started to claim a share in these gains. The purpose of this paper is to clarify if this claim has an economic justification, or whether it is just outright opportunism. If there is a sound rationale for public sector involvement, it needs to be discussed how appropriate contractual provisions for authority's involvement should be structured. Furthermore, the determinants of refinancings are examined. Empirical evidence is provided for two selected markets, namely the UK and Germany. The UK has been chosen because the PPP approach has been heavily used as a procurement option already since the early 1990s. Some 880 projects with an estimated capital value of GBP 77bn have been implemented, primarily in real estate sectors like education, offices and health, but also for highways and public transport projects. Furthermore, many refinancings have been observed in this market. Germany, on the other hand, is taken as an example of an emerging market for PPP projects. This procurement approach has only been used since the late 1990s and contracts for some 100 projects have been signed so far. The majority of projects implemented have been schools and offices. However, in recent years, a number of road schemes of some sizable value were initiated as well. Although the analysis in this paper is focused on public sector procurement, it is also relevant for real estate transactions between private parties.

The paper is structured in the following way: In section 2, different types of refinancings are described. Furthermore, private parties' rationale for refinancing is discussed. In section 3, rationales for public sector involvement as well as the design of appropriate contractual rules is analyzed. Section 4 provides empirical evidence regarding the incidence of refinancings as well as the contractual rules between authorities and contractors governing such transactions. Based on the previous discussions, section 5 provides an outlook on the future probability of refinancing. Section 6 concludes.

2) Refinancings and Private Parties' Rationale

TYPES OF REFINANCINGS

By refinancing, the contractor reshapes a project's initial financing structure while the rest of the contractual agreements is usually maintained. In particular, service provisions between contractor and public authority are usually not touched in a refinancing. Furthermore, the total amount of private capital committed to the project remains mostly unchanged. Basically, a refinancing is a change in the composition of financial instruments and, possibly, in capital providers. In PPP projects, different types of refinancing have been observed.³ First, financial instruments were substituted. In many refinancings of project finance deals, the debt volume and the loan tenor was increased. Thus equity, often the more expensive financial instrument was released earlier than had been anticipated in the original plans and replaced by debt. Furthermore, some restrictive debt covenants were often relaxed and

³ See NAO (2002, p. 7) and 4Ps (2008, p. 19).

standby facilities that had been required by capital providers were released. In addition, debt instruments were changed in a refinancing, e.g. bonds took the place of bank loans. Even the basic financial structure was altered in some instances, i.e. corporate financing was replaced by project financing. Second, in connection with a change of financial instruments, but sometimes independently as well, projects' (debt) financing costs were reduced. Third and last, a refinancing was often connected with a change in capital providers which followed naturally from a change in instruments, e.g. banks providing loans were replaced by bondholders. However, even without a modification in financing structures, capital providers may change, e.g. when equity or debt shares are sold on secondary markets. In practice, refinancings are often a combination of the types mentioned. A typical instance of refinancing a PPP project is depicted in figure 1.

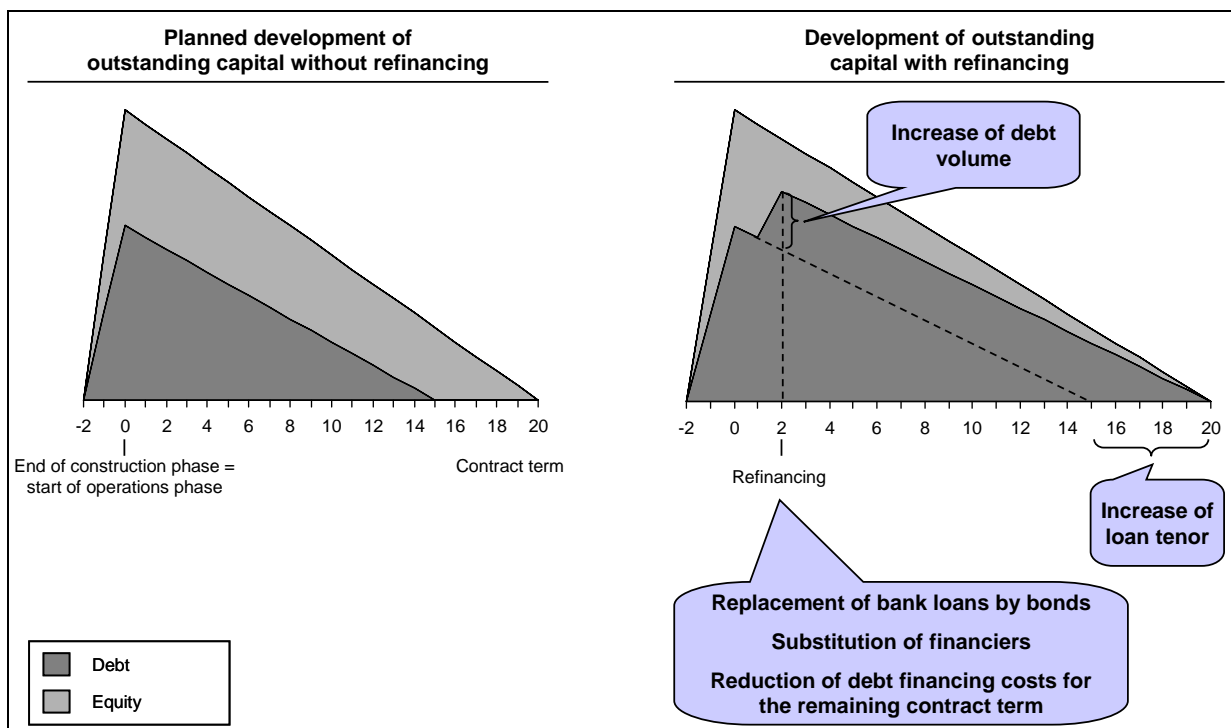


Figure 1. Schematic representation of a refinancing in a project financing

PRIVATE PARTIES' RATIONALE

Refinancings are typically initiated by the private contractor when there are incentives from the financing environment. Two distinct aspects have to be considered for an assessment of refinancing incentives.⁴ First, financing conditions may have improved. Such improvements may origin in different developments in the economy, in the market for the respective asset class or at the project level. For example, the interest level in the economy or the (market's) expectation of interest yields may have

⁴ For empirical analyses of the refinancing probability in retail mortgage markets, see SCHWARTZ / TOROUS (1989) and HAYRE / CHAUDHARY / YOUNG (2000). They identify similar factors influencing the refinancing probability.

lowered resulting in decreased long-term financing costs for individual projects. Furthermore, financing costs may decline because the financial market's perception of a particular asset class has changed. In an emerging market with restricted information on the long-term performance of a particular asset class, it is reasonable that only few capital providers are willing to take the respective risks. With increasing maturity and a higher number of successfully implemented projects, competition among capital providers increases and c. p. financing costs for projects decline. In addition, the quality of the individual project as perceived by capital providers may improve during the contract term. For instance, risks in the operations phase of a project are typically viewed as lower than those in the construction phase.⁵ Under these circumstances, financiers will be willing to provide capital at lower costs if this development was not anticipated in the original financing agreements.

The second aspect influencing the refinancing incentive is the financing volume and structure. With higher financing volume, the incentive from improved financing conditions is greater in absolute terms. At the same time, (one-off) transaction costs of a refinancing can be covered more easily with high private financing volumes. Furthermore, the initial financing structure and its originally planned development during the contract term affect the refinancing incentive. For instance, with leverage ratios and long loan lives already high relative to project duration, refinancing where debt is substituted by equity is less likely.

However, the contractor will not attempt a refinancing with each incremental improvement in the financing conditions since such a transaction causes costs. Three important cost components have to be taken into account. First, the contractor and (old as well as new) capital providers have to incur transaction costs. For example, they have to prepare new financing agreements and, possibly, have to adapt the financial model reflecting the cash flow plans for the project. Second, the contractor may have to pay breakage costs for the initial financing agreements. Even similar financial instruments may differ in termination and compensation provisions. Therefore, there may be disparities in the respective refinancing probabilities. Third, contractors can take account of influences from the regulatory environment or the contractual relationship with the authority. The rationale of such interferences by the public sector is analyzed in detail in section 3.

3) Analysis of Refinancing Provisions

Although a refinancing primarily touches the contractual relationship between the contractor and its finance providers, authorities claimed a share of gains after some early instances of refinancing in the UK. In this section, we analyze if authority's involvement is justified, i.e. we examine from the authority's point of view whether the public sector has a stake in refinancings and, if so, how

⁵ See ESTY (1999). It may also be argued that this is not a change in the risks of the asset itself but in its so-called plasticity, i.e. the degree to which the management can exploit (senior) lenders ex post by altering the asset outcome; see ALCHIAN / WOODWARD (1987).

contractual provisions or other rules should be designed to provide the authority with an approval right and possibly a share in the refinancing gains. For this purpose, we assume that the authority's objective is the minimization of costs from the implementation of the project. Further on, several possible arguments for an approval privilege and a gain sharing right are discussed.

FLEXIBILITY

PPP projects with their typically long-term fixed-price contract between authority and contractor are less flexible than comparable schemes that have been conventionally procured. This lower adaptability may provide benefits since it is connected with a long-term commitment of the respective public entity to provide sufficient funds for the delivery of infrastructure services at a pre-defined quality level. However, PPP projects' lower flexibility has substantial drawbacks. For example, renegotiations to adapt original service provisions to changing requirements result in considerable transaction costs and typically high compensations for the contractor, in particular when the compensation for the variation is determined in (bilateral) negotiations between authority and contractor.⁶ Beside adaptability in variations, authority's flexibility may also be influenced by possibly diverging termination provisions. With appropriate contractual renegotiation design, problems may be mitigated but not entirely eliminated.⁷

Higher costs for implementing service variations in PPP projects are partly attributable to the necessary involvement of (outside) capital providers. An approval right and possibly a compensation privilege for the financiers are generally justified since the project's risk profile may change with a service variation. Capital providers' involvement is furthermore obligatory if additional private capital is used to fund investments for the variation. Financing instruments that are used in PPP projects have different degrees of flexibility. Basic factors influencing the flexibility of financial instruments are the number of capital providers directly involved in the renegotiation and the degree to which a financial instrument is rule-based. With an increasing number of capital providers, the flexibility c.p. decreases.⁸ In addition, more rules usually lead to lower adaptability.⁹

Based on these parameters, project financings can be assumed to be less flexible than corporate financings since in project financings it is reasonable to directly involve external capital providers in renegotiations whereas, in corporate financing transactions, capital providers of the company are not concerned with a single project and, hence, with a service variation. Additionally, external capital providers in project financings protect themselves by imposing strict project-related rules which lower

⁶ Transaction cost theory highlights the problems of renegotiations, see, e.g., WILLIAMSON (1979) and CROCKER / MASTEN (1991).

⁷ For a discussion of appropriate renegotiation provisions in PPP contracts, see BECKERS / GEHRT / KLATT (2010b).

⁸ See SHLEIFER / VISHNY (1997).

⁹ For a respective argument in the discussion of debt and equity, see WILLIAMSON (1988).

flexibility. The comparatively low flexibility of project financings can be traced back to the typically high leverage in this basic financial structure, since debt is the more rule-based instrument as compared to equity. Comparing textbook-type debt instruments, bonds can be classified as less flexible than bank loans because of the typically higher number of capital providers involved and relatively higher levels of standardization.¹⁰ However, bonds in real-life PPP projects are often structured to replicate characteristics of bank loans, e.g. they involve only few institutional bondholders. Therefore, an assessment is only possible on a case-by-case basis.

Almost all refinancing types may change authority's flexibility. The only exceptions are changes in financing costs and the substitution of homogeneous capital providers. For all other refinancing types, an authority's privilege to approve a refinancing is justified on flexibility grounds. Furthermore, a sharing of refinancing gains is reasonable. The authority's share should cover at least the increased costs caused by lower flexibility. The cost effect resulting from possible differences in termination compensation payments can be estimated comparatively easily because contractual provisions determine the compensation amounts at different points in time. "Only" the probability of termination at these points needs to be assessed. In addition, and more problematically, the costs due to lower flexibility in variations have to be estimated, in particular higher transaction costs and the effect of the modified negotiation situation on its outcome. An assessment of these factors is usually very difficult.

HIGHER EXPECTED COSTS DUE TO OPPORTUNISTIC BEHAVIOR

The PPP approach with its characteristics of a fixed-price contract is mainly suitable for projects of relatively low complexity and comparatively little (environmental) uncertainty.¹¹ However, there are frequently parts of the service which are hardly or not at all contractible. In such tasks, there is scope for opportunistic behavior by the contractor and their capital providers which may be limited by reputation effects. Companies investing in a particular market on a long-term basis are more inclined to maintain a good reputation and emphasize an adequate service provision as compared to companies planning to leave the respective market. If a project or (equity or debt) shares are transferred from a capital provider with a good standing to one with a rather dubious reputation authority's long-term costs may increase after a refinancing. For example, costs of implementing service variations may rise when opportunistic financiers deliberately delay renegotiations.

However, one needs to consider that the relevance of reputation (as inhibitor of opportunistic behavior) is dependent on several factors, e.g. the expected frequency and value of service variations in the current project as well as the size and development of the respective PPP market at large.¹² Nevertheless, an authority's approval right and their sharing of refinancing gains may be justified on

¹⁰ See RAJAN (1992), BAGLIONI (1995), BOLTON / SCHARFSTEIN (1996) and BRIS / WELCH (2005).

¹¹ See QUIGGIN (2004).

¹² See BAKER / GIBBONS / MURPHY (1994) for a discussion of reputation in repeated games.

the basis of reputation arguments in particular cases. If reputation was considered, the authority should receive a compensation that covers at least the expected higher costs from increased chances of opportunistic behavior inherent in financiers' lower reputation. For this purpose, the connection between financiers' reputation and authority's expected costs needs to be evaluated. Even in a case-by-case analysis, this assessment is challenging, if not impossible. In this respect, there is a substantial evaluation problem for which there is possibly no satisfactory solution.

Furthermore, public procurement law in many countries limits the use of reputation as an evaluation criterion. A consideration of reputation using a cardinal scale in the assessment of bidders is often impossible. In order to exclude dubious individual bidders from the award procedure it is frequently merely feasible to use some qualities of companies which are interrelated with reputation, e.g. law-abidance. Such public procurement rules have some justification because of the aforementioned problems regarding the evaluation of reputation. In this context, such procurement rules prevent corruption and discrimination, which is consistent with the economic goal of maintaining a high level of competition in the long term. Against this background, it appears reasonable to limit authority's privileges in a refinancing to an approval right when capital providers are merely being replaced. A financial compensation for the authority, however, is not justified.

RISK SHARING

Refinancing gain sharing and the associated authority approval privilege may also be seen as part of the contractual risk allocation. Refinancing gains are risky cash flows from the perspective of the original contract since the amount of gains as well as the refinancing date is not known in advance. In economic literature, it is generally suggested that public authorities incur lower costs of risk bearing.¹³ If we assume that this is the case, gain sharing may lower the costs of project delivery when only looking at this cost category. However, this appears to ignore several facts. For instance, it is questionable whether overall costs of project delivery decrease significantly as costs of risk bearing are probably much lower for risks with only upside potential.¹⁴ Furthermore, gain sharing has an effect on contractor's incentives. Refinancing gains are (in part) dependent on the development of the project's quality during the contract term. Hence, if gains are shared with the authority, private parties' incentives for cost efficient project delivery are lowered. It is difficult, if not impossible, to draw a general conclusion as to the result of these countervailing effects. Because of this ambiguity, authority approval rights as well as compensation privileges should not be based on risk-sharing arguments.

¹³ For a discussion, see VICKREY (1964), ARROW / LIND (1970), SPACKMAN (2004) and QUIGGIN (2005).

¹⁴ For respective experimental results which show that the willingness-to-pay is significantly lower than the willingness-to-accept (a loss), see KAHNEMAN / KNETSCH / THALER (1991).

INCENTIVE FOR DEVELOPING AND PRESERVING AN APPROPRIATE INSTITUTIONAL ENVIRONMENT

An assessment of the institutional environment in which a project is implemented is part of the risk evaluation undertaken by financiers before their decision to provide capital. Before contract closure, there may be uncertainty among capital providers as to the stability of institutions surrounding the project (“institutional risks”). Such worries may increase the costs of private capital. If the authority complies with the contract and public sector in general behaves adequately in PPP projects, the risks as perceived by the capital providers may decrease during the contract term. In this case, the financing costs available through refinancing may decline significantly. Hence, gain sharing may establish an incentive for the authority to develop and maintain an appropriate institutional environment.

However, there are several counter-arguments. First, it appears plausible that the mark-up for institutional risks is low in the developed countries that we are discussing here.¹⁵ Hence, the refinancing gain from this effect is probably only marginal.¹⁶ Second, the decline in financing margins may not only be attributed to authority’s good conduct. Rather, it may be argued that the contractor and capital providers have developed a better understanding of the institutional environment during the project. It is a public sector task to establish an adequate institutional environment early, i.e. well before a project is initiated. Furthermore, it is essential that the institutional framework is maintained and routinely refined as projects progress. Refinancing gain sharing on the basis of this argument, in contrast, should be rejected.

CONCLUSIONS AND IMPLEMENTATION PROBLEMS

A sharing of gains is justified to compensate the authority for project’s potentially lower flexibility after a refinancing. The expected costs resulting from lower adaptability provide a minimum limit for authority’s share. The contractor’s costs from refinancing, e.g. transaction costs, represent an upper limit. Furthermore, it has to be considered that the refinancing incentives for the contractor increase with shrinking authority’s share in the gains. Nonetheless, when authority’s overarching objective is to minimize the costs of project delivery, contractual rules should attempt to fix authority’s share as closely to the upper limit as possible while maintaining refinancing incentives. However, there are serious measurement problems regarding the upper and the lower limit. Furthermore, it is difficult to determine which minimum (monetary) incentive the contractor requires to implement a refinancing. Therefore, a simple gain sharing rule may be efficient for common types of refinancings. Nonetheless, deviations from this basic rule should be possible in particular cases, e.g. when authority’s flexibility is heavily affected.

¹⁵ See, e.g., BING ET AL. (2005, p. 32).

4) Empirical Observations

UK

Many refinancings, in particular the kind including a complete redesign of the financing structure, have been observed in the UK.¹⁷ Theoretically derived hypotheses on the probability of refinancings have been confirmed by (anecdotic) evidence. For example, it has been mainly large projects in which the financing structure was redesigned during the contract term.¹⁸ Furthermore, projects were refinanced immediately after the start of operations.¹⁹ This is plausible, since the risks of the construction phase that are comparatively high from lenders' point of view are not relevant anymore. Hence, it is reasonable to adjust the financing structure to the modified risk profile if this has not been provided for in the original contract. Additionally, outstanding capital is typically highest immediately after the start of operations. Finally, it was primarily in the early stages of the PPP approach that refinancing was most frequently applied.²⁰ Reasons for this can be assigned to two groups.

First, there has been an improvement of financing conditions. General interest levels in an economy have been identified as a potential factor influencing the refinancing probability. Accordingly, surveys examining refinancings in the UK market stress that the interest rate environment has improved since early projects have been closed.²¹ However, it is questionable if there is a refinancing incentive from lower overall interest rates if contractors protect themselves against interest rate fluctuations as they typically do.²² Furthermore, capital market's evaluation of PPP projects as an asset class may have evolved. Therefore, competition among financiers has increased driving down costs of capital for new as well as for refinanced projects as evidenced by empirical analyses.²³ Because of better capital supply, stringent financing conditions that had been typical in early projects were softened. For example, capital providers accepted longer debt durations relative to PPP contract terms and higher leverages in later agreements. Such developments increase the probability of refinancings for early projects and decrease the respective likelihood for later schemes.

¹⁶ Another problem would be the measurement of a decline in financing costs because of a decrease in institutional risks.

¹⁷ Results in this section are based on a survey of studies which have been published on refinancings, the analysis of contracts (standard contracts, model contracts, and contracts (made anonymous) from real-life projects) and guidelines as well as some 40 interviews with market participants in the UK and Germany.

¹⁸ The median (estimated) investment volume of refinanced projects is GBP 42m whereas the respective value for all British projects is GBP 20m. This analysis is based on Partnerships UK's project database which is available at <http://www.partnershipsuk.org.uk> (as of 20th June 2008) and a list of refinanced projects in NAO (2006, p. 60).

¹⁹ See NAO (2006, p. 1).

²⁰ See DELOITTE (2006, p. 32).

²¹ See, e.g., NAO (2002, p. 3).

²² For instruments used by private parties to protect against interest rate risk, see HM TREASURY (2006a).

The second cause of the earlier projects' greater refinancing probability is the lower costs associated with them. In the early projects there were only few contractual provisions hampering the implementation of a refinancing. For instance, termination clauses in bank loans for early PPP project financings often did not provide creditors with compensations beyond outstanding capital resulting in a comparatively high refinancing probability.²⁴ This probability was increased by the fact that interest charges were in many cases not differentiated in accordance with the risk structure of the project. Under these circumstances contractors were able to refinance projects developing more favorably compared to original plans, whereas lenders remained tied to projects in which plans were not met, possibly leading to higher losses than anticipated. However, banks have changed their requirements in recent years. They now require compensation to be paid when a loan is terminated. Furthermore, debt financing costs typically change at the start of the operation phase to reflect the altering risk structure. Hence, the refinancing probability has decreased for bank loans.

Furthermore, in the early projects there were rarely any gain sharing clauses between authorities and contractors.²⁵ However, such provisions have been introduced over the years. The second version of the "Standardisation of PFI contracts" that was published in 1999 provided guidance that it may be appropriate to share refinancing gains in limited circumstances.²⁶ After some early instances of refinancing involving a redesign of the whole financing structure had led to substantial profits for private contractors, guidance was issued to share respective benefits. In a first step, a voluntary code of conduct valid for all contracts already closed at the time of publication required a 70:30 sharing in favor of the contractors.²⁷ For all new PPP agreements, a 50:50 sharing rule was introduced which has been valid up to now.²⁸ As mentioned before, the introduction of a simple sharing rule may provide efficient outcomes for common kinds of refinancings.

²³ For evidence on the development of debt margins in PPP projects, see BLANC-BRUDE / STRANGE (2007a, pp. 18 and 31).

²⁴ For evidence on compensation payments of bank loans in (early) PPP projects, see HM TREASURY (2006b). Refinancing probability for project financings with bond financing, in contrast, was low. Originally, bonds had a so-called Spens Clause, which stipulated a compensation payment in a termination event based on risk-free discounting of outstanding cash flows, i.e. significant compensation payments which make a bond refinancing (prohibitively) costly. Based on an argument which is sound from an economist's perspective, the British government introduced rules that lowered compensation payments for bonds in the recent past and thereby c.p. increased refinancing probability; see HM TREASURY (2006b). Nonetheless, refinancing probability appears to remain small for PPP project financings based on bonds.

²⁵ See NAO (2001, p. 12) and NAO (2002, p. 2).

²⁶ See NAO (2002, p. 20). The Standardisation of PFI Contracts, which was published by HM Treasury contains contract clauses which have to be used in British PPP contracts if the central government is to finance (part of) the investments. Even in the majority of local authority projects, the central government provides funds through so-called PFI credits. For the current version of the standard contract, see HM TREASURY (2007a).

²⁷ See HM TREASURY (2002).

²⁸ See NAO (2002, pp. 19-29) and HM TREASURY (2007a, pp. 268-80).

The motivation for the use of sharing rules, however, has changed over time. Initially, public sector officials referred to increased termination liabilities as a reason to share refinancing gains, which is a sound argument from an economic perspective.²⁹ Afterwards, debate was focused on arguments the economic justification of which is at least questionable. For example, it was argued that private contractors have realized unexpected gains that were not shown in the original plans and, therefore, need to be shared.³⁰ Such arguments open doors for governmental interference whenever something unexpected happens, which is inevitable in long-term contracts like those used in PPP projects. In recent publications, emphasis is put on the good credit standing of the authorities that is important for solid cash flows from the project and, therefore, a prerequisite for refinancings at favorable rates.³¹ On this basis, it is claimed, a sharing of gains is justified. However, this line of reasoning resembles the case that gain sharing is an adequate incentive for the authorities to maintain an appropriate institutional framework, which has been rejected as a reasonable argument in the discussion above. We may infer that a rule which is economically sound (because of flexibility issues) is justified with rather dubious arguments.

It is furthermore notable that there are several exceptions to the general sharing rule. For example, if (equity or debt) shares in the project are sold, the authority does not participate in the potential appreciation which is reflected in the price paid by the new capital provider.³² Keeping this in mind, it appears rational that after the introduction of sharing rules, sales of equity stakes increased significantly whereas refinancings involving a complete redesign of project's financial structure declined.³³ Although it is reasonable that the public authority does not have a compensation right in such sales of capital shares, it does not even have an approval privilege. For a change in ownership, the contractor has to inform the authority, but only after the fact.³⁴ The waiver of approval privileges may lead to involvement of unsuitable parties that possibly would have been eliminated from the bidding for the original contract. This is at least problematic from authority's point of view.

A second remarkable exemption from the sharing rules is the refinancing of corporate finance transactions.³⁵ It has been argued that it is not feasible to identify any refinancing benefit that the

²⁹ See NAO (2000, p. 3).

³⁰ See COMMITTEE ON PUBLIC ACCOUNTS (2001).

³¹ See HM TREASURY (2007a, p. 268).

³² See HM TREASURY (2007a, pp. 124-7 and 272).

³³ See NAO (2006, p. 4) and POULTER (2006, p. 15).

³⁴ See HM TREASURY (2007a, pp. 124-127). For usual PPP projects, there are only restrictions for the so-called lock-in period which comprises the construction phase as well as the defects liability period. Furthermore, the authority may limit transfers of ownership in projects where (national) security issues are prevalent, e.g. defence or prison projects.

³⁵ See HM TREASURY (2007a, p. 271).

contractor may secure.³⁶ Indeed, there are specific measurement and evaluation problems with refinancing a corporate finance transaction, in particular because service provider and financier are identical in this basic financial structure. Nonetheless, refinancing a corporate finance transaction and, in particular, a shift from corporate to project financing may have significant effects on authority's flexibility. Particularly in this case, it may be wise for the authority to define its expected flexibility level throughout the contract term to inhibit rigid financing agreements and associated costs after a refinancing. If the expected flexibility level is met by the contractor's refinancing proposal, no authority compensation is due. Nonetheless, approval privileges should not be touched. Altogether, this approach may significantly reduce transaction costs of both parties.

GERMANY

In Germany, there have been only few refinancings so far. On the basis of theoretical discussions as well as current project and contract characteristics, this appears plausible. For example, industry experts revealed that, even in early PPP projects, financing agreements contained comparatively sophisticated provisions. Because of the relatively late adoption of the PPP approach in Germany, financiers could use experiences from other markets. Even in early projects, for instance, project participants agreed on rather long debt durations, a reduction of debt margins after start of operations, relatively high gearings as well as comparatively high compensation payments for termination events in bank loans. All of these measures decrease refinancing probability significantly. Furthermore, as compared to the UK, German PPP schemes have lower volumes (on average), in particular the real estate projects.³⁷ Finally, in many real estate projects, a so-called forfeiting model is used. These models, in which the authority is the relevant (economic) debtor, have a very low, if not negligible refinancing probability.³⁸

Up to now, there have been few rules governing refinancings in German PPP contracts. Even with the hypothesized low refinancing probability, this is inefficient. Transaction costs for agreeing (simple) rules are limited and may be more than outweighed if only few projects refinance.

³⁶ See NAO (2006, p. 18).

³⁷ Median investment volume of German projects is EUR 16m compared to GBP 20m in the median UK project and GBP 42m in the median refinanced project; analysis for German projects is based on the PPP project databases of the Federal PPP task force (<http://www.ppp-projekt-datenbank.de/>) and of the German Association of Construction Companies (<http://www.ppp-plattform.de/>) as of 04th August 2008.

³⁸ The use of forfeiting models lacks economic justification because privately provided capital loses its safeguarding and incentive features if the authority – as it is typically done in practice – declares a waiver of objection regarding the services of the underlying contract; for a more detailed discussion, see BECKERS / GEHRT / KLATT (2010a).

5) Outlook

In the last few years, market conditions for financing long-term assets may have been overly slack. However, circumstances may change as could be observed during the recent financial crisis. With the downturn of financial markets capital costs for private ventures have been rocketing. At the same time, other conditions in financing agreements, e.g. gearing and maximum debt tenors, have tightened. This may suggest that refinancing probability increases in the future. This poses questions as to whether and how possible refinancing gains should be considered in the (quantitative) economic feasibility assessment that is a prerequisite for the selection of the PPP approach in many markets.³⁹ Up to now, cash flows from refinancing have not been included.

However, contracting parties' behavior has to be taken into account for a prediction of the likelihood of future refinancings. The optimal volume of private capital which should be required by the public authority depends heavily on its costs.⁴⁰ Current market conditions then suggest that authorities should lower respective requirements. If this is implemented, it is questionable if refinancings will occur more often in the future since private financing volumes would decrease significantly. In practice, however, public authorities frequently do not attempt to derive an optimal volume of private capital but use a rather simple all-or-nothing approach, i.e. either they use private finance for the whole investment or they refrain from it completely. If private finance is used (for the whole investment sum), probability of refinancing depends on the private parties' behavior. On the one hand, they may negotiate project finance agreements with a relatively long tenor as they did in the past. The probability of refinancings is then heavily dependent on the termination clauses in the financing agreements. With considerable likelihood of refinancing, corresponding cash flows should be considered in the economic feasibility assessment. On the other hand, if private parties assume that they may secure better terms in, say, five or ten years time, they may choose corporate financing and then attempt to refinance it when conditions are appropriate. Again, authorities should define their expected level of flexibility for the contract term and should not participate in refinancing gains if this standard is met.

6) Conclusions

In this paper, we examined refinancings in PPP projects. In the analysis, we discussed factors influencing the refinancing probability. In particular, contractual rules between capital providers and contractor as well as between contractor and authority have been identified as one of the major causes of refinancings. With this, we have been able to explain the emergence and subsequent

³⁹ For guidelines in UK projects, see HM TREASURY (2007b) and COULSON (2008) for a discussion.

⁴⁰ See BECKERS / GEHRT / KLATT (2010a).

slowdown of refinancings in the UK as well as the comparatively low number of such transactions in Germany up to now. Although we are not able to adequately predict private parties' behavior, refinancings may become more important again in the future with the effects of the current financial crisis on private capital costs. Therefore, contracting parties should prepare appropriately. Specifically, authorities should protect their interests in refinancings through appropriate contractual rules. Approval rights are justified on the basis of flexibility and reputation arguments. Furthermore, authorities should be compensated for potential losses of flexibility after a refinancing. It even appears plausible that authorities define their respective need for flexibility during the contract in some kind of base case model reflecting the project development.

The analyses in this paper have been conducted in the context of public sector procurement. However, similar considerations are relevant in financing relationships with exclusively private sector parties as is evidenced by the recent legal dispute between Donald Trump and, among others, Deutsche Bank.⁴¹ Trump as the borrower claimed that a prolongation of the original loan was impossible since Deutsche had securitized the loan and had distributed it in the market. Furthermore, some banks provide retail mortgages in which, for a small mark-up, a contractual provision prohibits a sale of this loan in financial markets. Although current market conditions may not allow securitization of loans or loan packages and widespread distribution, the market may revive. Debtors should also look at the flexibility of the financing relationship while drafting initial agreements.

⁴¹ See The Wall Street Journal's article „Trump Files Suit Against Lenders“ by Alex Frangos, dated 8th of November 2008; the article is available online (<http://online.wsj.com> as of 20th of January 2009).

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