CHAPTER 4

PPP Contracts and Features

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Abstract This chapter analyzes the two PPP contracts for infrastructure and service delivery, the user fee-based PPP and availability-based PPP; it also presents and discusses build, lease, and transfer (BLT) contracts as a minor form of PPP. Further it sheds the light on some of the most important elements that need to be considered when structuring PPP contracts, such as: payment mechanisms, contract duration, systems of deductions/penalties to ensure appropriate incentives to SPVs, and how to link payments to inflation. This chapter also discusses the renegotiation of PPP contracts under a legal perspective.

Keywords Tariff-based PPP • Availability-based PPP • Indexation to inflation • PPP light • BLT

4.1 Introduction

PPP contracts are usually set up according to one of the two main models, namely one based on fees paid by end-users or the other one based on an availability payment by contracting authorities (CAs). User fee-based contracts, as described in Chap. 1, are internationally known as BOT, even though they should be more accurately defined as (DF)BOT—(Design, Finance), Build, Operate, Transfer. Availability-based contracts are known
as DBFMO—Design, Build, Finance, Maintain, and Operate. Since many acronyms have been used across the world to identify different models of PPP contracts, and considering that PPP contracts should be deeply customized according to the specific needs of the particular CA and the relevant context, we deem it better to refer to the two macro-categories, namely “user fee-based PPP” and “availability-based PPP.”

The user fee-based contract is often defined as a concession, that is, the classic legal model underpinning this type of contract. However, since a well-balanced PPP contract depends on technical (design, construction, service), economic, and financial, as well as, but not restricted to, legal issues, in this chapter, we refrain from referring to legal terminologies, while dealing with the legal dimension of PPP procurement separately (see Chap. 3). Furthermore, since legal frameworks are different across the world, it is better to avoid legal classifications when discussing PPP contractual features common to the entire international business community.

Traditionally, user fee-based PPPs were applied to transactions concerning economic infrastructure, whilst availability-based PPPs were introduced in the UK, under the so-called PFI (Private Finance Initiative) policy, in order to build and operate social infrastructure, such as schools, hospitals, and prisons. However, in recent years, policies have evolved, and availability-based PPPs have also been used for economic infrastructure, especially in markets where demand is very volatile, or unpredictable, as discussed in Chap. 1.

That said, however, in general, other contract models may also be considered PPPs. Among those, for example, the so-called Turnkey contracts, such as Design, Build, and Finance (DBF) and Build and Finance (BF), where the private partner—usually an EPC (Engineer, Procure, and Construct) company—is in charge of financing (designing) and building a new infrastructure, or refurbishing an existing one. Typically, the EPC company is paid, once works are completed, through a lump sum payment. Therefore, capital costs also include the cost of financing (rolled-up interests) raised by the EPC company to finance its investment. A similar model is the so-called Build, Lease, and Transfer (BLT), where CAs pay the investment through leasing instalments over a 10–20-year period. In BLT contracts, the counterpart is generally a consortium formed by an EPC company and a financial institution. This book does not specifically dwell on Design and Finance (DF) and Design, Build, and Finance (DBF), since, from a legal standpoint, they are de facto very similar to traditional procurement contracts. This is the case notwithstanding the fact that,
when well structured, they allow for allocation of on-time and on-budget risks. Conversely, a specific paragraph deals with BLT models since, in some countries, they are used as a simpler form of PPP, especially to deliver on-time and on-budget investments.

This chapter analyzes some of the most important elements that need to be considered when structuring PPP contracts. In particular, the following topics are discussed: payment mechanisms in user fee-based and availability-based PPPs, contract duration, systems of deductions/penalties to ensure appropriate incentives to SPVs, and how to link payments to inflation. Risk allocation, the most peculiar feature of PPP, is discussed in Chap. 5.

4.2 User Fee-Based PPP

As previously mentioned, this type of PPP is mainly used for economic infrastructure, that is, those contracts meant to deliver services paid by end-users. It is worth noting that this type of infrastructure is called economic because it can be economically exploited: in other words, it can be used to deliver services paid by end-users, through tariffs, which remunerate the private investments. Across the world, it is common practice to involve market players in the management of such services, as discussed in Chap. 1, in order to achieve higher levels of efficiency and effectiveness. Some examples include: building/revamping and operating motorways, carparks, sports facilities, tramways and subways, ports, logistic hubs, waste treatment plants, water sanitation and distribution plants, energy production, storage and distribution plants.

In such contracts, since the only source of revenue consists of tariffs paid by end-users, economic operators (EOs) bear all or most of the demand risks, although such risks may be mitigated by the CA through various types of guarantees, such as minimum revenue guarantee, as discussed in Chap. 2.

This type of contract faces some critical issues, especially when applied to greenfield infrastructure, where demand can be difficult to forecast. The unpredictability of demand can affect the feasibility and bankability of the project. Demand risk is easier to estimate in brownfield projects. Unpredictable demand may have a lesser impact on projects with minor investment components, where the main goal of PPP contracts is the delivery of intangible services. In this case, tariffs are mainly meant for remuneration of operational costs.
When demand is difficult to estimate, it is advisable to structure PPP contracts relying on availability charges, whereby the demand risk is retained by CAs. The latter can use the tariffs collected (often by the SPV) to fund availability payments. After the so-called ramp-up phase, that is, a transition period after the construction phase, as soon as revenues are more stable and it is possible to establish demand trends through a statistical method based on historical series, the payment mechanism can be switched to a tariff regime. At this stage, in general, demand is more predictable and, therefore, relative risks are quite similar to brownfield projects. The choice of basing PPP contracts on availability payments is further justified by considering that, in a well-structured contract, only those risks that can be controlled and influenced by EOs should be transferred to them. Indeed, for large infrastructure, especially when greenfield, not only is demand difficult to estimate but also it cannot be easily influenced by EOs through its management activities because it mainly depends on macroeconomic and social factors (see Box 4.1).

Box 4.1  Examples: availability payment in motorways  
A11 motorway, Belgium  
A DBFMO contract was chosen by the Flemish Agency for Roads and Traffic to design, finance, build, maintain, and operate the A11 motorway, in the surroundings of Bruges, in the Flanders region. The project was awarded in 2012. The 33.5-year contract, of which 3.5 years were for construction, presents some peculiarities. Apart from being one of the first motorway projects in Europe to be structured as a DBFMO contract, that is, providing for a remuneration structure based on an availability charge, it is also characterized by a public-private SPV, in which a public-owned limited company, Via Invest NV, owns 39.33% of the shares. Via Invest is a joint venture established in 2006 between the Flemish Transport Authority AWV and Participatiemaatschappij Vlaanderen (PMV), an independent investment company owned by the Flemish government to support the economic development of Flanders.

Further, the A11 project raised 88% of the required capital from capital markets, through a project bond. The project was made more appealing for bondholders, not only by the fact that demand risk was
Box 4.1 (continued)

retained by the authority, but, also, thanks to the provision of a guarantee by the European Investment Bank (EIB) through an unfunded project bond credit enhancement (PBCE) facility. Such a facility takes the form of a letter of credit, covering 20% of the senior debt during the construction phase. That can be used in order to provide liquidity in the event that cash flow generated by the project is not sufficient to ensure senior bond debt service or to cover construction costs. After completion of the construction phase, the maximum amount secured by the letter of credit steps down to 10% of the bonds. Despite the presence of an availability-based payment, the project rating would have been Baa3 in Moody’s view. Thanks to the involvement of the PBCE from the EIB, the rating of the bonds was enhanced by three notches, receiving a definitive A3 senior secured rating.

Source: Vecchi et al. (2015)

Pedemontana Veneta, Italy

This is another interesting case, where the availability payment was introduced as a consequence of the contract renegotiation, carried out in 2017–2018, with the aim to exclude the previously provided minimum revenue guarantee, which, if triggered, would have been extremely expensive for the regional authority, with an estimated disbursement of €14 billion. The latter was calculated as the difference between the forecasted revenues in the financial plan of the PPP and the revenues calculated according to more accurate estimates based on actual demand.

The original contract, signed in 2009, was based on a capital investment of €1.8 billion, to be mainly financed by the SPV, with a small capital grant of €174 million to be paid by the region. The economic and financial equilibrium was based on (1) revenues from tolls, estimated on the basis of generous traffic forecasts, probably to reduce the amount of public grant needed, and (2) an additional availability payment across 30 years of €14.5 million each year (totaling €18 billion). In 2013, the contract was renegotiated for the first time, as a consequence of an increase in capital costs (up to €2.2 billion). The renegotiation increased the amount of grant by €600 million and the payment of €18 billion of availability charges was concentrated in the first 15 years of the management phase.
Box 4.1  (continued)

The initially overestimated demand forecast had prevented some of the main development banks operating in Italy from financing the project: the lack of confidence demonstrated by such anchor investors had de facto made the project unbankable. Considering that works had already started, thus making it impossible, or at least unacceptable, to terminate the project without seriously harming public interest, the authority entered into a process of close scrutiny of the contract not only to find a sound solution for the SPV to be able to issue a project bond, but also to make the contract affordable for taxpayers while ensuring its compliance with EU and national laws. The solution found was to shift the payment mechanism, from demand-based to availability-based, by excluding the SPV from risks (and revenues) deriving from demand. Actually, demand risk was already virtually retained by the regional authority, anyway, because of the potentially expensive minimum revenue guarantee. The capital grant was increased by €300 million, borrowed by the region from the national development bank.

The availability payment was determined so as to match the tolls collected and retained by the authority. Since a stable payment and an increased capital grant allowed a reduction by almost 50% of the revenues needed to achieve the expected return, through the renegotiation of the contract, the SPV accepted a slight reduction in the return of the project. At the same time, the region benefited from a more stable prospect and a significant reduction of its potential risks, as well as a stronger commitment by the SPV to deliver high-quality and reliable services. Similarly to the A11 project, the availability payment is only partially linked to the inflation (see Sect. 4.5 for an explanation of such feature). The availability payment is subject to deductions and penalties in order to ensure sound risk allocation and appropriate incentives to make certain the infrastructure is well managed and maintained according to predefined quality standards.

Overall, the renegotiation allowed the region to cancel the minimum revenue mechanism that would have exposed the regional budget to a likely payment of €14 billion. The new and more conservative traffic estimates would be able to ensure the collection of tolls for an amount sufficient to cover not only availability payments but also the debt service toward the development bank.

Source: Official documents of Regione del Veneto and Delibera ANAC n. 1202—22 November 2017
When availability charge is applied, it is fundamental to ensure other risks, such as construction and service performance, are appropriately allocated. To this end, adequate deductions and/or penalties should be applied to the availability payment when service standards are not met, from a quantitative and/or qualitative standpoint. However, sound contract monitoring, based on key performance indicators, should also be put in place when the payment mechanism is based on tariffs, charged directly to end-users, since many economic infrastructures have a rigid demand, due to their characteristics as a natural monopoly. In these instances, the quality of services does not drive the demand and EOs may fail to deliver the expected quality with, potentially, lesser effect on the project revenues.

The payment to the EO may also be shaped as a shadow toll, whereby CAs pay EOs per each single user, without effectively charging end-users. However, this form of payment does not address the lack of predictability of the demand since demand risk is retained by EOs. This form of indirect tolling is, therefore, chosen for policy reasons by those authorities who are willing to allow end-users’ access to relevant infrastructure and services free of charge. The shadow toll system has mostly been applied to transport infrastructure projects.

Demand forecast is even more difficult in emerging countries, where people are not used to paying a fee for services and the majority of the population may prefer to continue to use old infrastructure; this is quite common for transport infrastructures. In such contexts, CAs may choose to apply lower tariffs to accustom people progressively to paying tariffs. Such choice entails the need for CAs to integrate EOs’ revenues from fees with additional resources collected through general taxation.

When demand is difficult to estimate, the use of a revenue-sharing mechanism is another option to consider. This is, usually, applied when revenues are generous and forecasted returns of the project are likely to be higher than the optimal level of return as pre-determined on the basis of the level of transferred risks. In the case of hard-to-be-predicted demand, CAs can choose to structure a PPP contract based on a conservative estimate of demand and to support it with a capital grant. In such cases, including a revenue-sharing mechanism in the contract allows for adjustment should revenues increase to a level above the set ceiling, by “clawing back” the excess, thus generating a sort of “remuneration” of the initial grant paid by CAs. The revenue-sharing mechanism should be triggered by increased revenues above a certain level, to be defined prior to the awarding procedure or the closing of the contract, on the basis of a
sensitivity analysis of financial plan. In such cases, it is fundamental to put in place a transparent mechanism of revenue/demand monitoring. Sometimes, CAs are not keen on granting revenue or capital contributions or tariff integrations to EOs, for budgetary constraints or for fear of sanctions from audit authorities, thus preferring to extend contract duration. However, this approach is wrong since it is not based on solid financial evaluations. When the gross margin (i.e. the difference between revenues and operational expenses) of a PPP project is limited, the achievement of financial equilibrium would, in fact, require an excessive extension of the contract duration, which, in turn, may provoke a de facto monopoly. Furthermore, an abnormally long contract duration would not be consistent with the average length of financial contracts, which is generally set between 10 and 20 years. A longer maturity period is possible only where a development bank is part of the financial jigsaw of the deal. Therefore, the need to match contract duration with debt maturity requires entering a debt renegotiation: this is a risk EOs are rarely willing to bear.

Demand risk may prove difficult to manage not only in case of endogenous demand rigidity or demand unpredictability, but also when CAs make the demand rigid as a consequence of certain policy goals to be achieved. For example, if CAs are willing to promote equity, through generalized and equal access to critical services, a remunerative tariff, that is, a tariff covering operational cost, capital cost, and the cost of financial resources invested by EOs, is not appropriate or may not be affordable by end-users and, therefore, an availability mechanism should be preferred.

Also, if CAs decide to provide social tariffs for some categories of users, such as the young or the elderly, sometimes associated with specific service requirements (e.g. in sports facilities CAs often require services and tariffs to be set so as to encourage certain categories of users, such as students or sports associations), a revenue integration could be a sound option. Revenue integration mechanism should be adequately crafted. Such mechanism may provide for tariff integrations—that is, an integration for each tariff paid by specific categories of end-users in order to reach the level of remuneration needed for the project to be sustainable—thus leaving demand risk with EOs, or it can take the form of a fixed revenue integration to be calculated on the basis of the financial plan. The latter solution should be preferred when specific policy goals heavily influence the revenues structure, thus limiting EOs’ room for maneuver.

Lastly, CAs may opt to allow EOs’ access to commercial revenues in order to sustain an infrastructure project with a weak demand. Such a
solution should be carefully explored since it may increase the complexity of the project, thus requiring the execution of the contract by a consortium of EOs with multiple competencies.

**4.3 Availability-Based PPP**

As already mentioned, availability-based PPPs—setting aside the above suggestions regarding economic infrastructure in cases where demand is unpredictable or greatly impacted by policy choices—are usually appropriate for projects aimed at delivering:

1. infrastructure or investments needed for the delivery of services directly operated by public authorities, as it may be the case for some critical services, such as health or education. These are also considered merit goods, that is, services ensuring great public benefits and, therefore, are generally funded with general taxation, especially because tariffs may not be affordable for the majority of the population;
2. general public services, when tariffs cannot be applied because they are provided on a communal basis, as opposed to services provided to a specific target of users (for this reason general public services are considered public good, which are defined by the economic theory as non-excludable and non-rivalrous). These are, therefore, funded by general taxation, such as street lighting or urban facility management;
3. infrastructures used by public authorities (office buildings or facilities in the defense sector); and
4. non-core services bought by authorities, such as energy management.

In such transactions, EOs are in charge of design, financing, and building of infrastructure and delivery of so-called non-core services. The availability charge is set so as to ensure the remuneration of operational costs, capital costs, and costs of the private capital invested. Payment of the availability charge is ensured by CAs through public resources deriving from general taxation.

When PPP contracts involve infrastructure for the delivery of merit goods, such as schools and hospitals, availability charges generally ensure the remuneration of investment and infrastructure maintenance (hard-facility management costs); all other possible services, to be included in
the contract, are usually paid via specific tariffs, sometimes even based on consumption, though minimum quantities are generally provided for in the contract.

In such cases, it is advisable to avoid extending the scope of contracts, by including too many services, and a light model should be preferred in order to avoid excessive complexity (see Box 4.2). This is even more the case as non-core services tend to evolve rapidly and their quick evolution is difficult to contractualize while maintaining balanced risk allocation. In emerging countries, however, the main trend is to include many non-core services in the scope of the contract, aspiring to reach wider or even complete outsourcing. This approach is based on the assumption that private

Box 4.2 PPP light
In the “light” PPP model, SPVs are entrusted with design, financing, and building of non-economic facilities (such as schools and hospitals), and with the technical management thereof, namely with hard-facility services only, that is, those strictly related to the availability of the newly built facility. The rationale of such a “light model” is that only those services strictly related to the core and main investments shall be included in PPP contracts. Therefore, for example, if a hospital authority needs the renewal of medical equipment (investment component), the management component of the contract should include only those services related to the underlying investment, that is, the maintenance and renewal of equipment. In this case, the contract may also include the delivery of supporting services when relevant to the performance of the main service through nurses or specialized technicians, who would support and work under the clinical governance of the health authority.

The “light model” allows CAs to avoid many of the drawbacks present in overly extended contracts, such as the following ones.

- Rigidity and benchmarking clauses. Including many non-core services within the scope of an availability-based PPP contract may induce rigidity in future decisions of CAs. This is because prices and delivery modes of non-core services, as well as the needs of CAs, may change significantly during contract life. In the health-care sector, for example, de-hospitalization trends lead to the

(continued)
progressive reduction of hospital capacity and length of stay. This implies that non-core services should be modified accordingly. The same happens in the education sector, where new technologies, but also disruptive events such as those observed during the Covid-19 pandemic, can change service requirements. In order to avoid rigidity, many of such contracts provide for benchmarking clauses. In principle, such clauses, aimed at renegotiating the scope and price of non-core services, have proven ineffective in granting the flexibility needed to update contractual conditions. This is because, traditionally, they have been solely conceived as a way to reduce fees for services in order to achieve spending review targets. The benchmark test methodology, currently applied to many contracts, is based on the calculation of an average price, on the assumption that it should capture market price. The latter may be defined on the basis of a representative number of bids collected by CAs, a new offer submitted by the SPV, and an official benchmark, such as a standard price released by national authorities or observatories. If the resulting average price falls within a certain price-band, generally within a range of +/−10%, the price of the service involved does not need to be rectified. Otherwise, provided it does not appear anomalous, the price of the contract service has to be modified accordingly. This methodology may induce the EOs and SPVs to adopt moral hazard behaviors. This is because EOs, not part of the contract, only have to provide offers, but they are not committed because, at a later stage, the SPV will not involve them in the delivery of the service. Therefore, such players may be tempted to offer below-market prices in order to try and reduce the SPV’s marginalities so as to undermine their competitors. On the other hand, the same mechanism may induce SPVs to offer higher prices in order to keep the average price within the initial range and thus avoiding price reductions.

• Indexation. When service fees, generally fully indexed to inflation rates, are designed so as to remunerate also the investment component, there is a risk of over-indexation. This can undermine value for money and affordability of the project. The indexation
mechanism may also expose SPVs to the risk of under-profitability if actual inflation rate is lower than forecasted in the financial plan. In the latter case, however, SPVs are generally protected since the contract can be renegotiated. However, the indexation mechanism is complex to manage. For instance, if CAs renegotiate the contract using the wrong method, this can cause an extra payment to the SPV.

- Overpricing. When multiple non-core services are included and the main SPV shareholders are industrial players, as is often the case, in a context of low competition due to the complexity of PPP transactions, the risk of over-estimated services prices is high, thus increasing extra-profitability for the SPV. To explain how the extra-profitability is generated, an example proves useful. In one project, upon scrutiny by the competent Audit Authority, it was found that the annual overall difference between the costs for non-core services in comparable hospitals and the unitary payment due (which, in that case, was calculated as the sum of service fees since the contract did not include an availability charge) was about €25–26 million. Considering that production costs for PPP and traditional contracts are similar (even though, generally, SPVs are able to get more favorable prices from subcontracts than healthcare organizations entering traditional procurement contracts), this difference can be considered as the remuneration for the investment, thus increasing de facto the return for investors (implying a project IRR in the range 12.5% and 13%, which is far higher than that derived from the financial model annexed to the contract [6.60%]). However, it must be noted that this net margin is not wholly retained by the SPV directly, but is instead mainly passed on to subcontractors, which are also the SPV’s shareholders. This case clearly draws attention because extra margins hidden in non-core services, difficult to detect and also reduced thanks to the competition during the tender phase, may generate returns that are not captured in the official financial plan of the contract.
Box 4.2 (continued)

- Other possible drawbacks. The inclusion of too many non-core services in standard DBFMO contracts may also generate possible further drawbacks. First of all, it can jeopardize the market for small and medium enterprises, including those of a social nature, often involved in the delivery of non-core services, creating insurmountable entry barriers. Such EOs may not have the necessary means, especially equity, to become industrial investors and, as mere subcontractors of SPVs, they may be forced to reduce their marginalities to the benefit of industrial and financial investors. This is because they usually act as subcontractors of industrial investors, thus allowing them to extract a higher return than those officially declared in the contract. Furthermore, when the scope of the project is widened through the addition of a significant number of non-core services, the contract may turn out to be incomplete, thus enhancing the risk of contract renegotiation, with potential negative consequences in terms of affordability and value for money.

Source: Vecchi et al. (2020)

Players should be more efficient than the public sector or to avoid multiple awarding procedures, which are expensive, time consuming, and risky, especially in terms of litigation. The truth is that EOs’ efficiency can be captured also by traditional, though sophisticated, contracts, while transaction costs associated with the management of such contracts are not higher than those associated with the effective management of complex PPP contracts. Therefore, the features of the contract, and, especially, the services to be included therein, must be carefully considered and designed ex ante since avoiding any misconceived emulation effect is of the essence. An important lesson to be learned is that the institutional and regulatory framework, as well as factual circumstances, do matter and although a contract model may work in a jurisdiction, this conclusion may not be true in another one.

An effective payment mechanism should be conceived as follows:

*Availability Payment: investment component + maintenance component + service fees (if further services are included)*
The investment component remunerates capital expenses, such as design and construction costs, and the cost of capital (debt and equity). Therefore, the actual amount of the availability payment depends on the volume of investments and duration of the contract since its aim is to achieve the economic and financial equilibrium, according to the methodology illustrated in Chap. 7.

As with user fee-based PPP, the duration of availability-based PPP contracts should also be defined on the basis of the average maturity of loans available in the financial market. In order to choose an appropriate duration for the contract, the life span of the involved technologies should also be accurately taken into account. As regards technology, it is suggested that refresh provisions should be limited to a minimum since they increase contract complexity and costs; indeed, technology refresh requires the provision of sophisticated contract clauses, in order to allow flexibility, while maintaining an adequate risk allocation. The definition of the technical and price evolution of technologies across a long-term contract might be challenging. There is a potential risk CAs may not access the best and most appropriate technologies available, at market prices. That said, it may also be difficult for EOs to accurately foresee technical and price evolution. This scenario explains the tendency to overestimate the attached risks, affecting the affordability and value for money of contracts.

Availability payment mechanisms should be associated with an adequate system of deductions and penalties in case SPVs should not be able to deliver the predefined level of availability of the facilities or meet the quality standards for services. A sound mechanism of deductions for the availability payment should be based on two different levels, that is, a minimum and an average one. Therefore, for each of the main areas of the facility involved, the contract should include minimum and average indicators, thus allowing for a granular definition of the meaning of availability and, therefore, the application of deductions/penalties. The system could, for instance, be designed in the following ways:

- if the SPV meets the average parameters, no deductions are applied;
- if the availability falls between the minimum and the average levels, to be detected and measured for each single indicator, deductions associated with each of such indicators can be applied only to the maintenance component of the payment;
- if the availability further falls below the minimum target, then deductions may also affect the investment component, thus resulting in an actual reduction of the return.
When other non-core services are included, specific key performance indicators and deductions should be applied to service fees. It is important that the amount of the deduction creates incentives for SPVs to foster a sound management of the contract. In fact, if deductions are too low, SPVs have no incentive to put in place all the measures to avoid the under-performance, because the impact of deductions/penalties on their return is lower than the cost involved in delivering the expected standards. In some cases, it may be useful for CAs to calculate the social costs generated by disruption in the availability of the facility or services: this could be a good benchmark in order to identify the appropriate level of applicable deductions/penalties.

A sound system of deductions and penalties, ensuring the appropriate risk allocation is maintained throughout the duration of the contract, is required for availability-based contracts under European Union rules in order to ensure the off-balance sheet treatment of the investment (see Chap. 5).

The payment mechanism illustrated above is typically applied to availability-based contracts in health and education. However, as written above, the need for a sound deduction/penalty system can also be applied to user fee-based PPPs when the demand is rigid and user satisfaction is not a sufficiently appropriate efficient driver to enhance the performance by the SPV.

Payment mechanisms can be conceived in a different way when PPP contracts apply to the delivery of general public services and non-core services, such as energy management of office buildings. PPP contracts for energy management are often referred to as Energy Performance Contracts. In such contracts, the authority can pay a service fee on the basis of energy consumption, which covers not only the energy used but also the investment and maintenance of the relevant appliances and systems. In standard Energy Performance Contracts, the service fee is generally set at the same level of the costs faced by CAs for energy management before the energy efficiency investment. However, it is often the case that the efficiency achieved is not sufficient to ensure remuneration of the capital invested when investments are significant. In this case, payment should be structured as follows:

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\text{Availability Payment: investment component + maintenance component + energy consumptions}
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4.4 Build, Lease, and Transfer

BLT contracts are sometimes used to procure investments such as schools, hospitals, complex medical equipment, and office buildings, in contexts where the main service is delivered by the authority itself. As per classic availability-based PPPs, BLT contracts allow assets to be purchased by CAs without incurring in upfront investments. Consequently, this type of contract is attractive for CAs suffering from inadequate budgets to meet capital requirements or in contexts where conservative fiscal policies impose a reduction of the level of public debt. Furthermore, because BLT contracts may be easier to structure, since they are rather similar to standard procurement contracts, they are appreciated by authorities, especially the smallest ones.

A lease is a contract between a lessee (in this case, a CA) and a lessor (an association of EOs, including, at least, an asset provider and a specialized leasing firm or a bank). The contract establishes that the authority has the right to use the specified asset, by paying periodic installments to the lessor. Periodic fees are generally fixed, as in a standard financial contract. Therefore, the leasing structure provides a de facto guarantee on payments from CAs to the leasing company, thus providing additional comfort to lenders. As a consequence, debt providers apply a lower interest rate to lease contracts concluded with the public sector, compared to traditional PPP contracts, where the borrowers are SPVs, whose rating (or, rather, the project rating) is lower. This entails leasing fees being, usually, more affordable than standard availability charges. However, to achieve the same advantages of availability-based PPP contracts, the BLT contract should be conceived so as to fully allocate the availability risk on the lessor through a system of deductions and penalties, as explained in Sect. 4.3.

To fully understand how to structure a BLT contract, it is important to appreciate the differences between finance leases and operating leases. The difference between the two models lies with the economic ownership of the asset, based on the allocation of the relevant “risks and rewards.” In finance leases, CAs retain the so-called economic ownership of the asset (which means all the risks associated with ownership, maintenance in particular) and the lessors’ role is equivalent to that of a debt providers. In this case, public deficit and debt are impacted for the full value of the assets at the time CAs take possession thereof, namely as soon as CAs can use the asset. By contrast, an operating lease implies no ownership transfer to the lessee, and the risks and rewards typical of economic ownership (such as
designing and constructing the asset, along with insuring and maintaining it) are kept on the private sector lessor’s balance-sheet. In this case, lease fees paid by CAs can be regarded as current expenses and the deficit and debt impact of investment are spread over the duration of the contract. In conclusion, BLT contracts can be regarded as PPP contracts only if they are structured as operating leases, able to ensure that not only on-time and on-budget goals are achieved, but also to guarantee the quality of the investment (i.e. the availability).

4.5 **How to Link PPP Payments to Inflation**

When structuring the payment mechanism of PPP contracts, of any kind, indexation to inflation rate is always a critical element to consider carefully. Indexation is important in long-term contracts in order to ensure revenues maintain the purchasing power needed to cover operating costs throughout their entire duration. However, when the project involves significant investments, the majority of revenues is committed to covering capital expenses and the cost of debt, which, as a general rule, are both fixed. Actually, investment costs included in the financial plan may already incorporate the estimated inflation, at least in mature economies where inflation is quite stable and predictable. Therefore, only the part of revenues intended to cover operating costs and equity remuneration should be linked to inflation. Inflation assumptions incorporated in the financial plan of the project might result in being quite different from actual inflation, used to index tolls and availability payments during contract execution. In this context, if the entire revenues provided for in the contract are linked to inflation, project returns may change significantly, thus exposing both parties to a risk that they cannot control, as is shown in Table 4.1. If actual inflation is lower than predicted, revenues will grow at a slower pace, thus generating a contraction of the return; if, on the contrary, actual inflation is higher than predicted, revenues will grow more rapidly, thus generating a higher profitability. By reducing the amount of revenues linked to the inflation, a higher portion thereof has to be forecasted in the financial plan, at least in the first years of the management phase. This can be a critical issue; however, partial indexation is fundamental in order to reduce the return volatility, thereby limiting the risk of contract renegotiation. Furthermore, the suggested approach is also useful to reduce the overall amount of revenues needed to secure the target return, improving the value for money for taxpayers and the affordability of availability-based PPPs for CAs. The latter is shown in Table 4.2.
From a legal standpoint, it is possible to modify the conditions of a PPP contract, during its execution, only if the following two main requirements are satisfied, namely:

- on one hand, the CAs’ power to impose certain changes, for reasons relating to public interest. These CAs’ prerogative emphasizes EOs obligations to abide by CAs’ requirements, provided the total amount of the requested changes is below certain threshold values;
- on the other hand, to avoid distortion of competition, to ensure equal treatment and a level playing field for actual and potential competitors. These prerequisites limit CAs’ power to modify the original conditions.

### Table 4.1 Impacts of inflation on contract return (measured through the net present value) when revenues are partially or totally linked to inflation

| Forecasted and actual inflation | 50% of revenues are linked to inflation. Figures in local currency (revenues at year 0:531) | Revenues fully linked to inflation. Figures in local currency (revenues at year 0:456) |
|--------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Ex ante NPV                    |                                                                                                 |                                                                                                 |
| Forecasted inflation in the economic-financial plan: 10% | 74                                                                                              | 74                                                                                              |
| Actual inflation: 7% (lower than forecasted) | 27                                                                                              | -1.8                                                                                           |
| Actual inflation: 15% (higher than forecasted) | 60                                                                                              | 218                                                                                           |

### Table 4.2 Impact of the inflation indexation on the availability charge for a contract with a capital investment of 100 million and a forecasted inflation at 2%

| Availability charge (AC) | 40% of the AC is linked to the inflation (in local currency) | 100% of the AC is linked to the inflation (in local currency) |
|--------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| AC at year 0             | 17.5 million                                               | 16.2 million                                               |
| Total ACs across the contract | 445 million                                           | 460 million                                               |
| Present value of ACs across the contract | 282 million                                             | 288 million                                               |

### 4.6 Modifications and Re-negotiation of PPP Contracts: A Legal Perspective

From a legal standpoint, it is possible to modify the conditions of a PPP contract, during its execution, only if the following two main requirements are satisfied, namely:
upon which initial competition was solicited, that is, the awarding procedure. In particular, under EU legal framework, CAs must ensure equal treatment and transparency in the awarding procedure. The abidance to these principles also implies initial conditions requested during the awarding phase cannot be modified by entering into a (new) contract featuring elements not requested during the procedure, or by substantially modifying the same contract during its performance. In this perspective, any substantial modification of a contract in execution is equivalent to the (direct) negotiation of a new contract.

The EU Court of Justice case law provides interpretative guidance to determine whether the changes to a given contract should be considered substantial, within the meaning of EU legal framework (refer to Chap. 3 for a description of the most relevant features of the EU Directive on concessions) and, therefore, trigger a new award. According to the EU Court case-law, the “amendments to the provisions of a public contract during the currency of the contract constitute a new award of a contract [...] when they are materially different in character from the original contract and, therefore, such as to demonstrate the intention of the parties to renegotiate the essential terms of that contracts.” It follows that the modification of a contract can be considered “material”:

- when it introduces conditions which, had they been part of the initial award procedure, would have allowed for the admission of tenderers other than those initially admitted or would have allowed for the acceptance of a tender other than the one initially accepted, or
- when it extends the scope of the contract considerably to encompass services not initially covered, or, again
- when it changes the economic balance of the contract in favor of the contractor in a manner which was not provided for in the terms and conditions of the initial contract.

The EU Court also specified that “the very fact that, because of their subject matter, certain public contracts may immediately be categorised as being unpredictable in nature means that there is a foreseeable risk that difficulties may occur at the implementation stage. Accordingly, in respect
of such a contract, it is for the contracting authority not only to use the most appropriate procurement procedures, but also to take care when defining the subject matter of that contract. Furthermore, […] the contracting authority may retain the possibility of making amendments, even material ones, to the contract, after it has been awarded, on condition that this is provided for in the documents which governed the award procedure. […] Although the principle of equal treatment and the obligation of transparency must be guaranteed even in regard to specific public contracts, this does not mean that the particular aspects of those contracts cannot be taken into account. That legal imperative and that practical necessity are reconciled, first, through strict compliance with the conditions of a contract as they were laid down in the contract documents up to the end of the implementation phase of that contract, but also, second, through the possibility of making express provision, in those documents, for the option for the contracting authority to adjust certain conditions, even material ones, of that contract after it has been awarded. By expressly providing for that option and setting the rules for the application thereof in those documents, the contracting authority ensures that all economic operators interested in participating in the procurement procedure are aware of that possibility from the outset and are therefore on an equal footing when formulating their respective tenders.”

The above-quoted case-law was expressly taken into account in the provisions of the EU Directives on public procurement contracts and concessions, by providing for explicit cases when modifications to contracts may occur without triggering a new award, namely:

- modifications considered non-material, that is, those whose value is below the applicable EU thresholds, and does not reach 10% of the value of the initial contract;
- modifications that, although substantial, do not require a new awarding procedure, provided they comply with specific requirements and do not alter the “general nature” of the contract.

In compliance with the aforementioned principles, however material, some changes do not require a new awarding procedure, that is, those that “irrespective of their monetary value, have been provided for in the initial concession documents in clear, precise and unequivocal review clauses, which may include value revision clauses, or options. Such clauses shall state the scope and nature of possible modifications or options as well as
the conditions under which they may be used. They shall not provide for modifications or options that would alter the overall nature of the concession.\textsuperscript{3}

However, due to the generally long duration of concession/PPP contracts, as well as the evolution over time, of the concept of operating risk—whose features have been gradually refined—currently existing concession/PPP contracts may often need re-negotiation in order to preserve their legal nature and balanced allocation of risks. This revision calls for careful execution, since, even when driven by sound economic and financial rationale, nevertheless, such re-negotiations must be assessed from a stringent legal perspective, as any other contract modification. The fundamental criterion is the above-mentioned “material changes.” The same applies for the assessment of the risk structure allocated to EOs and the impact of any contractual changes on such allocation. This is because, since concessions/PPPs are long-term contracts, their compliance with the specific nature of the concession type—in particular in relation to the correct allocation of risks—must be verified not only at the time of their signing, but also during their execution, that is, when operational risk materializes. Therefore, where some aspects of a contract, legitimately stipulated according to the regulations in force at the time, become inconsistent with the concession/PPP model emerging from the evolution brought about by case-law, legislation, and practice, a revision of the contract itself is not only allowed, but necessary. Clearly, this review must have the purpose of ensuring the continuing compliance of the contract with the concession/PPP legal model and cannot have the effect of conferring an advantage not initially provided to the concessionaire, nor can it alter the original nature of the contract. Furthermore, it must guarantee compliance with the principles of transparency and equal treatment.

Within this regulatory framework, the revision of the economic and financial plan is, in principle, a contractual amendment too, since such plan is a necessary and fundamental part of the contract itself. In fact, the conditions underpinning the economic and financial plan are the fundamental benchmark for verifying—when awarding the contract—that operating risk is appropriately allocated, while ensuring that the transaction is economically and financially viable and sustainable.

In this context, the provision of a specific contractual clause, precisely defining the conditions and methods for rebalancing the economic and

\textsuperscript{3}Article 43 of the EU Directive on concessions.
financial plan in advance, represents a very useful tool, since—to satisfy the public interest in the construction and management of works and delivery of services—the rationale of concession/PPP contracts requires the contract balance to be maintained for the entire duration of the contract. From this point of view, as EOs take on operating risks with the prospect of making a profit, this risk assumption must be based on solid estimates and assumptions, reasonably stable and allowing the allocated risk to be forecasted and monitored. Where such conditions vary—for reasons not attributable to the private partner, especially his inability to fulfil contractual obligations—the appropriate allocation of risks may be jeopardized and contracts can be re-negotiated legitimately. In other words, the provisions on re-negotiation should be triggered whenever the initial balance between the respective obligations allocated between the public and the private party is at risk, for reasons not deriving from poor performance or normal—or, rather, foreseeable—variations in market conditions. Compliance with the principles of equal treatment and transparency, in this context, is therefore ensured by a clear regulation, within the contract, of the conditions triggering re-negotiation, which must be enacted according to the allocation of risks as per the relevant risk matrix. In other words, re-negotiation may only take place if the triggering event is not due to the occurrence of those risks that were transferred to the EO in the first place.

This concept has been implemented in the EU Directive on concessions, whereby “The concessionaire shall be deemed to assume operating risk where, under normal operating conditions, it is not guaranteed to recoup the investments made or the costs incurred in operating the works or the services which are the subject-matter of the concession” (emphasis added).

The renegotiation of PPP contracts may imply also a renegotiation of the financial plan, which is analyzed in Chap. 7.

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