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Damage Valuation of Indirect Expropriation in Public Services

by

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Abstract

During the 1990s, several emerging countries signed BITs (Bilateral Investment Treaties) to encourage foreign investment in public services. After more than a decade, we observe international arbitration disputes between investors and local Governments, resulting from Governmental actions leading to reductions of investors' expected returns, or indirect expropriation. Damage valuation of these cases is complex, and requires the use of appropriate methods. In this article we analyze and compare several methods applicable to international arbitration. We find fundamental to identify the expropriatory acts, and to understand the economics of the contract entirely. The choice among methods requires a case-by-case analysis.

I. Introduction

During the late 1980s and most of the 1990s, an important number of countries attracted, through massive privatization programs, foreign investment into public service sectors.[1] To facilitate the inflow of foreign capital, some countries signed Bilateral Investment Treaties (BITs) to grant additional protection to foreign investors.[2] BITs permit dispute settlements between private stakeholders and the local Government in international arbitration courts, instead of an ordinary judiciary process under local law.

In recent years, some of these countries are experiencing a growing number of conflicts between local Governments and foreign investors, arising from the widespread move towards privatization of public utilities. In some instances, contract disputes between

[1] Electricity, oil, natural gas, telecommunications, postal services, toll roads, waterways, railways, freight cargo, airports, airlines, ports, water and sewerage, are some examples of activities considered as public services, where we observed foreign investment through privatization arrangements in several countries.

[2] The first series of BITs under the International Center for Settlement of Investment Disputes (ICSID) of the World Bank were signed by Germany in 1959. In 1962 Switzerland and other European countries started to sign BITs. The first BIT signed under ICSID by the United States was with Egypt in 1982. The history of BITs under ICSID is detailed in http://www.worldbank.org/icsid/treaties/treaties.htm. Today there are more than 1,100 BITs in force, most of them since 1982.

private parties and local Government are contemporaneous to external macroeconomic shocks, like in the case of the or the 1997-98 South East Asian crisis, or the most recent 2001-02 Argentine debt default. In some others, it is either local Government opportunism or misbehavior by inexperienced regulators that have fueled similar type of conflicts. In both instances, conflicts do not necessarily end up in contractual termination or in the State retaking possession of the privatized assets, but rather in a partial or total reduction of investors' expected returns to investment. This indirect type of expropriation may or may not lead to the bankruptcy of the operating company, depending on the degree of damage inflicted by the acts and omissions by the local Government. With a BIT, though, the local Government assumes a potential compensation commitment when foreign investors are involved.

The assignment of impartial and efficient international arbitration courts constitutes a major factor affecting the nature of a litigation procedure against the Government for an indirect expropriation damage claim. Arbitrators approach the issue of damage valuation by resorting to expert opinions presented by each of the parties, which are tested as part of the arbitration procedure. Arbitrators may choose a particular methodology, or, they can make awards based on their own understanding of the different valuations presented by the experts. This is the approach used in ICSID, in US-Iranian cases, and also in other *ad-hoc* arbitral proceedings under BIT. In this article, we analyze damage valuation of indirect expropriation in public services from an economic perspective, in the sphere of international arbitration procedures.[3]

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[3] Indirect expropriation has also been related to the term "creeping" expropriation. According to Henkin, L., Pugh, R. C., Schachter, O., and Smit, H. "International Law. Cases and Materials" West Publishing Co. Third Edition. St. Paul, Minnesota, 1993; creeping expropriation is:

> *"… a short-hand term that has gained wide currency to describe the great variety of more subtle measures that can be employed by a foreign government to interfere with business operations and impair the rights of the foreign investor."*

However, the wording "creeping expropriation" is not an appropriate synonym to "indirect expropriation" as the former suggests a deliberate strategy on the part of the State, which may imply a negative moral judgment that is not necessarily present under some forms of indirect expropriation. See Dolzer, R. "Indirect Expropriation of Alien Property" *ICSID Review – Foreign Investment Law Journal* v.41, 1986, page 44.

II. Indirect expropriation in international arbitration

In general, BITs protect investors against expropriation both of a direct or indirect manner.[4] Direct expropriation consists in the physical takeover of private assets by the State. This type of expropriation is easily verified, and its compensation is internationally acknowledged. Most cases in international arbitration procedures, nonetheless, do not deal with direct but indirect expropriation.[5] Indirect expropriation cases are those where, by means of administrative or legislative procedures, the State provokes a unilateral change in contract conditions such that the investor is unable to recover the expected quasi rents[6] of the business under the original contractual framework.[7]

Indirect expropriation is the most common way of expropriation in the case of public service concessions. This is mainly because of the basic characteristics of public services: large sunk investments,[8] economies of scope or scale and massive consumption of the final product. In this context, the investor (actual or potential) will continue

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[4] In the *Progress Report and Background Studies on the Legal Framework for the Treatment of Foreign Investment,* compiled under the direction of the general Counsel of the World Bank in 1992, the authors assert that:

> "*The rule that prompt, adequate and effective compensation has to be paid for expropriation to be lawful appears in a large number of BITs and is supported by many Western jurists as reflecting customary international law*."

[5] Although most BITs contain guarantees against indirect expropriation, in general there are no clear legal distinctions between regulations and takings. From an economic point of view, however, both regulations and takings can lead to indirect expropriation. The same is true as to the definition of indirect expropriation in investment insurance contracts, where there are no uniform patterns among the various insurance policies.

[6] Quasi rent is defined as the investment expected cash flow that the stakeholder will not be able to recover if he/she abandons the operation.

[7] See Comeaux, Paul E. and N. Stephan Kinsella (1997) *"Protecting Foreign Investment Under International Law", page 8:*

> *"When expropriation is accomplished through a series of hostile actions that cumulatively deprive the investor of the value of its investment, it is often referred to as "creeping"or "indirect" expropriation. Such expropriatory actions deprive the investor of the use and benefit of its assets, thus depriving the investor of effective ownership of the asset, even though the investor may retain nominal ownership."*

Also, the Iran-United States Claims Tribunal addressed the topic of indirect expropriation since 1981. The tribunal held that compensation is due whenever a measure has deprived an alien owner of property rights of value to him, regardless of whether the state has thereby obtained anything of value to it.

[8] Sunk investments or assets are those whose value in an alternative use does not allow for recovery of the initial investment. In other words, these are assets that generate quasi rents.

operating as long as the cash flow is positive, even if he is unable to recover sunk investments. Public services imply large investments in sunk assets. As an example, compare a water provision company with a textile firm. If the operator of the water utility decides to abandon the market, it will not be able to take its pipes or processing plants too. Meanwhile, if the textile operator decides to abandon the business, it will be able to sell both the real state and machinery in the market. Also, economies of scale and scope are such that in each area there will be a few public service operators. Lastly, the fact that public services are massively consumed makes its pricing a political issue. Politicians are always tempted to reduce tariffs of public services, even if these do not allow private investors to recover all their investment. Indirect expropriation, then, constitutes a major risk for any public service operator as long as the Government knows that operation can be sustained even if revenues are not enough to fully compensate investments.

Indirect expropriation can be effected by means of a decree, a law, a biased interpretation of a contract clause, particular administrative processes, or simply through ordinary regulatory decision-making. For instance, delayed tariff adjustments that do not compensate the investor for the financial cost of such delay could be considered an indirect expropriation act. Another example is the enactment of price controls in formerly deregulated markets, such that investment recovery is unfeasible. The introduction of new quality requirements or additional investment plans to the original agreement between the parties, without a tariff modification, can also be considered an example of indirect expropriation.

Still, low profitability is not a synonym of indirect expropriation. Low profitability can be the result of bad management policies or adverse demand conditions. None of the latter necessarily implies the existence of indirect expropriation. Furthermore, indirect expropriation can be found in cases where profitability is either "normal" or "high". The main issue is to determine both the ex-ante expectations of the investor and the contract conditions and regulatory framework under which the State limited the risks to which investors would be subject to.

Ex-ante expected profitability is related to investment risk. This risk can be decomposed in commercial risk, technological risk, country risk, and, mainly, regulatory risk. The main purpose of contracts, and in particular, of service concession contracts between private operators and the Governments, is the partial transfer of regulatory and country risks to the State. The larger the risk assumed by the State, the larger the value of the concession. In this way, when the concession is awarded to private investors, the passthrough of risks to the State allows for either a higher sale price of the business or a lower tariff for service provision (depending on the type of bid). The passthrough of risks to the State is accomplished by the specification of duties, both explicit or implicit, and contractual or not. If the State does not transfer risks to itself, investors may be taking over a significant amount of regulatory risk. Nonetheless, if the Government creates a comprehensive regulatory framework, a major part of regulatory risk is absorbed by the State.

III. Damage Valuation Approaches

There are two major damage valuation approaches for indirect expropriation: the specific damages approach and the generic damages approach. The former consists in the calculation of the corresponding damage to the investor for each breach of contract by the State. This approach requires, for each case, a cash flow analysis comparing figures with and without the contract violations. The sum of all damages is thus the expropriation damage. Although this approach seems to be conceptually accurate, it is not. The estimation of each damage as a separate fact does not consider the potential interaction between each specific contract violation.

The generic damage approach estimates the difference between the original cash flow without contract violations and the actual cash flow with contract violations. This approach provides an accurate estimation of global damages. When performing this analysis, it is important to discriminate between the decrease in profitability due to expropriation and cash flow variations due to specific business management or changes in macroeconomic conditions unrelated to arbitrary decisions by the Government.

IV. Compensation

Compensation can be partial or total. Partial compensation is applied in extraordinary circumstances, such as war, agricultural reform, special treatments and other; still the enforcement of this criterion has been troublesome. In most recent international arbitration cases of indirect expropriation, the general tendency is to award total, complete appropriate compensation. Total compensation is based on the acknowledgement of the consequences of the expropriatory act so as to reestablish, for the investor, the situation that would have occurred with full probability before expropriation. Thus, compensation should return the investor the fair value of the business at the time of expropriation.[9,10]

In addition, most BITs mandate that the compensation should be paid promptly in cash or equivalent, and include interest from the date of expropriation.[11] For example, Article IV.1 of the US/Argentina BIT, signed in November 1991, states:

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[9] In *Factory at Chorzów Case (Ger. V. Pol.) (Indemnity), 1928 P.C.I.J. (ser. A) No. 17,* the permanent Court of International Justice stated: "The essential principle contained in the actual notion of an illegal act -a principle which seems to be established by international practice and in particular by the decisions of arbitral tribunals- is that reparation must, as far as possible, wipe out all consequences of the illegal act and reestablish the situation which would in all probability, have existed had the act not been committed." For a reference to this principle as applied in damage valuation, see Friedland, P.D., and Wong, E ("Friedland and Wong"): "Measuring Damages for the Deprivation of Income-Producing Assets: ICSID Case Studies," *Foreign Investment Law Journal*, 1991, page 404.

[10] In *INA Corporation v. The Government of the Islamic Republic of Iran* case, Award No. 184-161-1, 8 IRAN-U.S.C.T.R. 373 (1985) the Iran-U.S. Claims Tribunal held that: "*Fair market value* may be stated as the amount which a willing buyer would have paid a willing seller for the shares of a going concern, disregarding any disminution of value due to the nationalization itself or the anticipation thereof, and excluding consideration of events thereafter that might have increased or decreased the value of the shares."

[11] Once the arbitral panel makes a decision on the valuation of the damage, the issue of enforcement arises. In ICSID cases, the enforcement should be done through the local courts, and the ICSID arbitral decision should have the same hierarchy as of a decision by the local Supreme Court. If the country does not comply with the decision, there are penalties and retaliation measures that other governments could impose. In the US, for example, the Helms Amendment of 1994 limits foreign aid, as well as approval of financing by international financial institutions "to a country that has expropriated the property of a U.S. citizen or corporation at least 50% owned by U.S. citizens…"

> *"Compensation shall be equivalent to the fair market value of the expropriated investment immediately before the expropriatory action was taken or became known, whichever is earlier; be paid without delay; include interest at a commercially reasonable rate from the date of expropriation; be fully realizable; and be freely transferable at the prevailing market rate of exchange on the date of expropriation."*

The problem, then, is how to estimate damages. There are two possibilities: when the contract is terminated and when it is not. If expropriation is such that the business is no longer feasible, damages are estimated for the case of contract termination as the fair value of the business prior to expropriation. If the business is still viable as a going concern, the total compensation should return the investor the difference between the fair value of the concern immediately before expropriation and the value of the concern after expropriation. Interests since expropriation date to the date of payment of the claim must be added to the compensation.

Whether dealing with termination or continuing operation, though, there is not a unique valuation methodology. In general, it depends on the nature of the asset under consideration. For instance, the analysis depends on questions such as:

- Does the asset have a market price?
- Does the asset have a liquidation value?
- Is the business a *going concern*?
- Does the company have proven benefits?
- Does book value reflect the actual value of investments?
- Was there an initial payment? Was the auction competitive or not?
- What was the capital under risk and the expropriated one?
- Are there intangibles not being reflected in the company's financial statements?

The answers to these questions lead to a particular damage valuation approach. Indeed, each of these questions may suggest a specific approach to account for damages. For example, if assets have a market price, such price might be used to value the damage. Nonetheless, market value might not reflect the value of using those assets in the

business. This difference is, precisely, the present value of the quasi rent. Therefore, if assets have a lower market value than its use value, market value is merely a "lower bound" for damage valuation. A similar situation is encountered if the asset has a liquidation value. The difference here is that if there is no actual market for that asset, it is possible to say that such asset could be eventually auctioned or liquidated. Once again, value estimates obtained from this approach may be substantially lower than the actual damage, if the value of using the asset in the business is higher than the termination value.

Also, book value might not be accurate. If there are intangible assets not being registered in books, or if book value does not account for inflation adjustments, or technological changes, the book value approach might be over or underestimating actual damages. In the case where there is a need to use book value but it has not been adjusted for inflation or technological changes, it would be necessary to consider the replacement value of these assets. Replacement value analysis would account for the actual value of those assets. Still, this figure might be substantially different from the value of actual investments, and thus it might not provide a proper compensation estimate for the investor who has been expropriated.

All these methodologies must be compared with a cash flow analysis considering the original situation and the actual under expropriation. The cash flow analysis, however, must be consistent with the expectations of the private party at the moment of the investment and these expectations should be reasonably based on the regulatory framework and the contractual conditions under which the investment was carried out.

V. Valuation Methods

V.1. Market Value

This method applies for those cases where there exists a liquid market for the asset under consideration, with several sellers and buyers (*e.g.,* public offerings), multiple similar assets and a continuous flow of transactions (*e.g.,* real state). For example, if companies' shares are widely held and publicly traded with enough liquidity, the stock market

valuation, before the expropriation, could be used as a proxy for a fair market value. This method is particularly suitable for intangible assets, which are pretty homogeneous.[12]

Stock market valuations, however, are problematic in that they may anticipate the probability of expropriation, and the "pre-expropriation" measure should not include the downward effect on valuation because of the probability of expropriation. For example, this might be the case of the market value of real state investment after the announcement of an agricultural reform that has not been enforced yet. Land value will already account for the expectation of expropriation, and thus market value will not be accurate for damage valuation.[13]

This methodology, however, is not generally applicable to public service concessions. These types of assets are not homogeneous, and they do not have a liquid market. Also, private utilities in developing countries are seldom traded in open markets, or sold in public offerings. At most, there might be bilateral transfers of shares among companies that may provide a good proxy for market value. But the use of these transaction prices as a reference for damage valuation may be incorrect, since it will depend on the moment when the transaction is done. For instance, if the transfer occurs after the expropriatory act(s), the transfer price will already include a reduction in value due to expropriation and, in addition, the probability that further expropriatory acts may be encountered in the future.

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[12] In *SEDCO, Inc. v. National Iranian Oil Company, et al.,* Awd. No. 309-129-3, 15 IRAN-U.S.C.T.R. at 35 (1987), the Iran-U.S. Claims Tribunal held that the compensation due was

> *"...the fair market value of the properties, i.e., what a willing buyer and a willing seller would reasonably have agreed on as a fair price at the time of the taking in the absence of coercion on either party."*

[13] In Section 3 of the Guideline IV for the Treatment of Foreign Investment, the World Bank's report explains that:

> "*...the level of compensation for such taking will be deemed to be adequate if it is based on the fair market value of the taken asset immediately before the taking occurred or the State's decision to take the asset became publicly known.*"

See World Bank, *Development Issues: Presentations to the 44th meeting of the Development Committee,* Washington D.C., September 21, 1992, .

V.2. Liquidation Value

This method is usually applied when the company is not profitable, and thus a cash flow analysis is not feasible.[14] Liquidation value provides an opportunity for the market to reveal (i.e. by means of an auction) the value of a firm whose profitability has been negative in former periods. Still, as in the case of market value methodologies, there must be a market for the assets under consideration. For damage valuation, it is important to deduct liquidation costs from the overall sale price (i.e. layoffs, etc.). Once again, this methodology is not directly applicable to public service concessions since liquidation (by means of a new auction or bid process) will be influenced by the decisions of the same party that committed the expropriatory act -that is to say, the Government-.

V.3 Book Value

This method accounts for firm value as it is reflected in its books.[15] If the concession is fully returned to the State (including liabilities), termination claims by the investors will be limited to their *equity* value, computed as the difference between total assets and total liabilities. If liabilities remain on the side of investors, the claim for compensation should be based on total assets.

This approach has the advantage of being objective, based on accounting principles and proven figures. As long as regulatory accounting (if available) does not differ significantly from book value, this method is consistent with the net asset book value acknowledged by the regulator. Also, still, this method has the same problems previously mentioned. If assets are old, if significant technological changes occurred, or if economic and regulatory depreciation are not similar, book value will not be close to the value of

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[14] In World Bank (1992), *op.cit.,* paragraph 43, the following is said about the liquidation value method: *"This method values an enterprise with demonstrated lack of profitability as the sum of the amounts at which the individual assets comprising the enterprise could be sold less any liabilities that the enterprise might have to meet"*

[15] According to the World Bank, book value means

> *"…the difference between the enterprise's assets and liabilities as recorded on its financial statements or the amount at which the taken tangible assets appear on the balance sheet of the enterprise, representing their cost after deducting accumulated depreciation in accordance with generally accepted accounting principles."*

See World Bank Guidelines on the Treatment of Foreign Direct Investment, 31 I.L.M. 1363, 1379, 1383 (1992).

actual investments carried out by stakeholders. Nevertheless, the advantages of this method are strong and it is usually considered at least as a minimum base standard for compensation estimates.[16]

When book value is distorted by regulatory or accounting methods, it is useful to apply alternative methods such as replacement value or effective investment. Replacement value quantifies the necessary investments to acquire and replace existing assets in a similar situation of economic depreciation.

V.4 Actual Investment or Net Capital Contribution

This method is based on historic documented figures related to direct investments (either in the form of equity or debt) carried out by shareholders of the concession, net of historic distributions (dividends or interests paid out). The underlying concept is that investors have the right to recover their capital contributions to the firm, making a return equal to the opportunity cost of capital. The method has the advantage of not being distorted by accounting or regulatory standards. Thus, it is simple. It can be used either in *on going concerns* without positive profitability history or expropriation cases where investments are recent and there is still no history of positive profitability.[17]

To estimate compensation values, it is assumed that investments by shareholders will provide profitability equal to its expected return, adjusted by business risk and net of dividend payments, interests and/or other compensations to equity and debt contributions that shareholders might have done before expropriation.

One of the characteristics of this method is that it computes a "theoretical" return on equity contributions that in general should not differ substantially from the "actual"

[16] See, for example, *Asian Agricultural Products Limited* (AAPL) v. *Democratic Socialist Republic of Sri Lanka*, 30 I.L.M. 577 (1991)

[17] This method was used to determine the amount of the award in cases like *Phelps Dodge Corp. v. Iran*, 25 I.L.M. 619, 628 (1986); *LETCO v. Liberia*, 26 I.L.M. 647, 670, 674-75 (1987); *Biloune v. Ghana Investments Centre*, 95 I.L.R. 184, 229 (1990); and *Metalclad Corp. v. United Mexican States,* 16 ICSID Rev.—FILJ 168, 199 (2001). See, also, *Benvenuti et Bonfant v. Peoples Republic of Congo*, 21 I.L.M. 740 (1982) and *AGIP Co. V. Popular (sic) Republic of Congo*, 21 I.L.M. 726 (1982)

historic return. However, there are circumstances in which there might be a gap between the two. Deviations can happen when management outperforms or underperforms investors' expected returns. It can also occur as a result on business conditions not turning out as expected. Another source of deviation is, indeed, the effects of some forms of expropriation. Expropriation produces lower actual returns than theoretical. In a regulated environment under a price cap system, deviations caused by factors other than business risks ought to be corrected on a looking-forward basis at periodic tariff reviews (typically every five years), but if delay takes place or they are not corrected, then expropriation in the form of a lower rate of return than expected ensues. Another example of deviations occurs in concessions where equity contributions are low compared to debt. In this case, compensation will omit the additional value created by the company due to the achievement of rates of return larger than debt costs.

V.5 Discounted Cash Flow

For those companies with history of positive net incomes, the discounted cash flow (DCF) method may be used.[18] The DCF method is well suited to calculate damages in companies with a history of profitability since this reflects the firms' capacity to generate positive returns in the future.[19] It is also widely used in tariff reviews for regulated utilities.[20]

Since this method requires the extrapolation of future entrepreneurial and market conditions, it is key to avoid entering into large speculations about cash flow projections. Cash flow analyses must be consistent with the expectations of the private party at the time of the investment and these expectations must be reasonably based on the regulatory

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[18] For a brief explanation of the DCF method see William C. Lieblich, *Determinations by International tribunals of the Economic Value of Expropriated Enterprises,* 8 J. INT'L ARB. 37, 38-39 (1990).

[19] See, for an example, *Phillips Petroleum Co. Iran v. Iran,* Awd. No. 425-39-2, 21 IRAN-U.S.C.T.R. 79 (1989).

[20] This method is used for tariff reviews of *price cap* concessions in various sectors. For the electric sector, see Westlake B. and Beckett R. (1995), *"The OFFER Electricity Distribution Review and Its Aftermath. A Regional Electricity Company's Perspective"*, Utilities Policy, Volume 5, N° 3 and 4, July – October. For the telecommunications sector, see OFTEL, *"Pricing of Telecommunications Services from 1997"*, specially those referred to *"General Issues in Price Cap Regulation"*, *"Form and Structure of Retail Price Control"* and *"Cost of Capital, Asset Base and Financial Modeling"*, and OFTEL *"OFTEL's Proposals for Price Control and Fair Trading"*.

framework and the contractual conditions under which the investment was carried out. Available historic series of the firm's profitability allow for projections of reasonable flows accurately supported and estimated as if the current *management* continued running the company.[21]

A particular difficulty of this method is that it must take market conditions into account. This requires substantial amount of fine tuning when at the same time of the expropriatory act there are macroeconomic or market changes that affect firm value. Some of the contract disputes arise because of financial crises or other events that can be considered exogenous to the concession. In those circumstances, even if there was no expropriatory act, the company could face a reduction in its market value. Thus it is important to separate the loss in value arising from the effects of non-arbitrary governmental decisions that are unrelated to the expropriation act (i.e.. macroeconomic changes, market disappearance, etc.) from the loss in value that is directly related to expropriation.[22]

V.6 Comparables

This method examines "comparable" firm indicators or "comparable" transactions in the market that can be used as a proxy for the company valuation. A typical comparable firm indicator used to infer valuation is the price/earnings ratio. The main drawback of this approach is that "comparables" are only a very indirect approximation, as indicators and transactions are not only company-specific, but also time-specific. Company-specificity means that we would require access to privileged information to disentangle the specific aspects of each "comparable" transaction, in particular if we are dealing with privately-held companies, as it is the case of many public services companies. Time-specificity, on the other hand, precludes the use of transaction prices as a reference for damage

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[21] In *American International Group v. the Islamic republic of Iran* Awd. No. 92-2-3, 4 IRAN-U.S.C.T.R. (1983), the tribunal held that for the determination of compensation, if market value is not available,

> *"The appropriate method is to value the company as a going concern, taking into account not only the net book value of its assets, but also such elements as goodwill and likely future profitability, had the company been allowed to continue its business under its former manager."*

valuation; as such price depends on the moment when the transaction is done. For instance, if the transfer occurs after any of the expropriatory acts, the transfer price will already include a reduction in value due to expropriation and, in addition, the probability that further expropriatory acts may be encountered in the future.

V.7 Option Value

The option value method values the investment by reference to the alternative uses that can be given to assets, assessing costs and benefits to each use. Option valuation is appropriate when the value of the asset can be readily changed by investment or dis-investment.

In public services, the choices for analyzing the option value of the assets is limited by the nature of the assets, which typically involves sunk network assets which do not have viable alternative uses, and by the legal restrictions imposed to the terms of the contractual arrangement with the Government. Assets usually can not be used for purposes other than those stated in the contract, and therefore cannot be re-deployed elsewhere.

V.8 Hybrid Methods

Since no method is perfect, it is quite common in international arbitrations to provide arbitrators with several damage estimates, including combinations of "pure" methods. For example, it is possible to combine replacement value of (depreciated) assets with the *going concern* value, adjusted by inflation and interests.[23] Also, it is possible to ensemble book value with the value of intangible assets (*goodwill*) and potential future benefits if the company were to continue operating with its current *management*.[24] Note that if there have been historic damages or capital contributions (debt or equity) variations after the expropriation date; these should be added to any damage calculation. Another combination is that of discounted cash flows with intangible assets.

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[22] An extreme example is *Sola Tiles, Inc. Vs. Islamic Republic of Iran*, Awd. No. 298-317-1, 14 Iran-U.S.T.C.R. 223 (1987).
[23] See *Government of Kuwait v. American Independent Oil Company* (AMINOIL), 21 I.L.M.976 (1982).

VI. Problems Encountered in Public Service Concessions

All public service concessions include clauses that consider alternative forms of compensation depending on the contract termination scenarios. A very frequent question is if damages due to indirect expropriation should be limited to those formulas indicated in the corresponding contract clauses. Even if these clauses are relevant, international arbitrators are not constrained to limit their analysis to those clauses only. International arbitrators will normally refer to well know compensation criteria accepted in international law, based on the idea that the contract should respect property rights as well as business unity, and that compensation should be fair and not lower than the value of the investment in the absence of expropriation. Thus damages may vary if the reason for termination was a violation of the concession contract or an expropriation.

Nonetheless, since a public service concessionaire owns the right to run assets and provide a service subject to a contractual and regulatory framework, it is necessary to fully understand the economics of the contract to make a comprehensive analysis of the case. This mainly implies the understanding of risk allocation between the State and the concessionaire, as well as private expectations at the moment of the investment.

VII. Conclusion

In synthesis, damage valuation of indirect expropriation in public services starts with the identification of the expropriatory acts. These can be defined as the moment when the government action constrains quasi rent rights related to the assets under consideration. Once expropriatory acts have been determined, it is necessary to assess the *fair market value* of the expropriated asset. This implies selecting alternative acceptable methods for damage valuation. It is fundamental to understand the economics of the contract in its entirety. Since this valuation requires the sum of intertemporal flows, it is important to determine the appropriate rate both to discount cash flows and to adjust historic damages to the date of its payment. Common practice indicates that each case requires a judicial

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[24] See *American International Group, Inc. (AIG) v. The Islamic Republic of Iran*, Awd. No. 184-161-1, 8 Iran-U.S.C.T.R. 96 (1983).

choice among alternative valuation methods, and the analysis of their applicability to the issues and characteristics of the case.