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EU JOINT TRANSFER PRICING FORUM

REPORT ON THE USE OF ECONOMIC VALUATION TECHNIQUES IN TRANSFER PRICING

Meeting of 22 June 2017

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I. Introduction

1. Chapter VI of the OECD Transfer Pricing Guidelines ('TPG') 2017 and IX TPG 2010 for the first time recognise economic valuation techniques as a useful tool for determining the transfer pricing consequences of a transfer of intangibles, rights in intangibles or the transfer of a business/part of a business (an ongoing concern)^{1,2}. In the context of transfer pricing, economic valuation techniques may be used by taxpayers and tax administrations as part of one of the five OECD transfer pricing methods or as a tool that can be usefully applied in identifying an arm's length price in situations where reliable comparable uncontrolled transactions cannot be identified³.
2. The objective of this report is to build a bridge between general practice of economic valuation and transfer pricing. It is therefore addressed to both, valuation experts having to apply their expertise in the context of transfer pricing and transfer pricing practitioners who are faced with the application of economic valuation techniques.
3. It is important to highlight that when using economic valuation techniques for transfer pricing purposes⁴, the principles set out in the TPG should be fully considered and the techniques should be adjusted accordingly. This paper is particularly relevant for the application of the updated TPG developed in the context of the OECD project on Base Erosion and Profit Shifting ('BEPS')⁵. In particular, the revised Chapter VI of the TPG addressing the challenges provided by the increase in transactions involving intangibles and Chapter IX of the TPG. Chapter VI provides guidance relating to the determination of economic benefits (cash flow and income⁶) to be attributed. Chapter IX provides guidance relating to the sale of assets as part of restructuring. It is noted that the application of valuation techniques is a sensitive issue due to the complexity of the techniques, the process and the potentially high amounts of tax revenue involved.

II. Applying Economic valuation techniques in the context of transfer pricing

1. General

4. When economic valuation techniques are applied in the context of transfer pricing it is necessary to apply them in a manner that is consistent with the Arm's Length Principle ('ALP')⁷. Valuation techniques would therefore need to factor in and be consistent with the guidance contained in Chapters I, II, III, VI and IX of the TPG. A further aspect in

1 Paragraph 9.69 TPG

2 Paragraphs 6.153 ff. OECD TPG

3 Paragraph 6.153 OECD TPG

4 Reasons and circumstances for using such economic valuation techniques are manifold- For illustration in situations where they can be used and have transfer pricing implications, see par.28 hereafter

5 BEPS refers to tax planning strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations where there is little or no economic activity.

6 the term income used in this report includes earnings

7 Paragraph 6.154 OECD TPG

transfer pricing is that the application of economic valuation techniques may require an evaluation from the perspective of all parties to the transaction, i.e. the transferor and the transferee.

5. Transfer pricing considerations may have implications on the economic valuation and vice versa. A valuation may rely explicitly or implicitly on transfer pricing considerations. Notably, when the economic valuation relates to an asset which yields cash flows or income, transfer pricing may be embedded in the economic valuation techniques as part of their application.

Recommendation 1

a) In case an economic valuation technique is used for transfer pricing it should be consistent with the ALP and the principles of the TPG. This consistency as well as the methodologies, assumptions and sources on which the economic valuation is based should be comprehensible to a reviewer and should be documented in accordance with generally applicable national rules and common international and EU practices.

b) Given that a number of economic valuation techniques build on inputs (e.g. cash flows) which are transfer pricing sensitive, it is important to ensure that there is a coherence between economic valuation techniques relied upon in a related party context and the arm's length nature of inputs used and assumptions made to determine transfer prices.

2. Valuation techniques and standards

2.1 Valuation techniques relevant in the context of transfer pricing

6. Revised Chapter VI of the TPG regards the application of income based valuation techniques, especially economic valuation techniques based on the calculation of the discounted value of projected future income streams, or cash flows derived from the exploitation of the intangible being valued, as particularly useful when applied properly.
7. Valuation techniques based on discounting future economic benefits of the subject of valuation⁸ are:
 - Capitalized earnings method or discounted future earnings method
 - Discounted cash flow method

These income based methods are based upon the assumption that the value of a business or an asset is equal to the present value of its projected future benefits. Therefore, both methods discount the projected future benefits (earnings or cash-flows) streams with a risk specific interest rate.

⁸ for a short non-binding description of the see Annex A 1

Regarding the determination of the cash flows or earnings related specifically to an intangible, it could be distinguished between the following methods:

- Incremental cash flow method
- Relief-from-royalty method, sometimes referred to as royalty savings method
- Premium profit method and
- Residual methods
 - Excess earnings method
 - Residual value method

8. While this report focusses on economic valuation techniques which are based on discounting future economic benefits, for instance the following techniques may also be relevant⁹ in some circumstances¹⁰:

- Market approach
 - Acquisition price method
 - Market capitalisation method
 - Comparable multiplies
- Asset or cost approach
 - Historical cost method
 - Replacement cost method.

2.2 Choice of an appropriate economic valuation technique and complementary use of valuation standards

9. The variety of economic valuation techniques available raises the question of which of them should be used when the use of economic valuation as such is considered useful for a specific transaction.

Recommendation 2:

Where the application of an economic valuation technique in the context of transfer pricing is considered useful, the actual use of economic valuation technique as well as the choice of the technique should take the following aspects into account:

- the various features of some potential techniques (Annex A 2 and A3 provides an overview some of the techniques that may be useful) and the appropriateness of the techniques in view of the facts and circumstances of the transaction under review

- the availability of reliable information needed to properly apply the technique, and

- whether the complexity and the compliance burden linked with applying the technique and obtaining the relevant information is proportionate to the transaction under review

- providing some sensitivity analysis is a good practice¹¹

9 For a short description of the techniques see Annex A 1

10 Paragraphs 6.142 and 6.143 OECD TPG

11 Paragraph 6.160 OECD TPG

- *as with transfer pricing methods in general¹², this report does not require either the tax administration or the taxpayer to perform an analysis under more than one valuation technique.*
- *depending on the amount at stake or the potential implications on where profits are generated a 'sanity' check should be made.*
- *the reason for having chosen a particular valuation technique should be documented. If several techniques have been documented by the taxpayer (e.g. due to the amounts at stake or the size of the transaction), the reason for the choice of the technique retained should be explained.¹³*

10. At present there are a multitude of valuation standards set by different standardization bodies¹⁴. The goal of a standard is to provide for uniform approaches and treatments and to create common understanding among the users. A standard aims to unify the definition of a valuation objective and valuation perspective. Some standards include more text, for example on which technique to use in a certain situation and how to use it. Other forms of standards do not express themselves about valuation, but only on the ethics involved in making a valuation and how to secure a form of structure for valuation professionals¹⁵. The contents and recommendations of these different standards and guidelines are not contradictory in themselves. What matters are not the specific standards, but the valuation technique and its underlying assumptions.

Recommendation 3:

Taxpayers should document the reasons underlying the choice of a certain standard. Using a certain valuation standard including international standards should not by itself lead to the result being rejected, provided that the valuation and its underlying assumptions result in an arm's length outcome.

12 Paragraph 2.12 OECD TPG

13 As regards generally documenting the reasons for having chosen a specific standard see Recommendation 3

14 Examples of standards and corresponding standardization bodies:

IVCS. International valuation Standards: <https://www.ivsc.org/standards/international-valuation-standards>

RICS. International valuation standards: <http://www.rics.org/fo/knowledge/professional-guidance/international-standards/international-valuation-standards-2017/>

International Private Equity and Venture Capital Valuation Guidelines: <http://www.privateequityvaluation.com/2015-update/4590940575>

15 see above

III. Practical application of economic valuation techniques which are based on discounting future economic benefits of the subject of valuation

1. General information about the transaction to which economic valuation techniques are applied

11. Before elaborating on the practical application of the respective economic valuation techniques in the context of transfer pricing it should be recalled that at the outset the commercial or financial relations should be identified to accurately delineate the actual transaction. This analysis is to be performed in accordance with the relevant principles of the TPG¹⁶ and forms the basis for deciding whether in the specific facts and circumstances economic valuation techniques may be used as part of a transfer pricing method to meet the five comparability factors¹⁷.

Recommendation 4:

a) The question whether an economic valuation technique should be used as part of a transfer pricing method is part of the comparability analysis¹⁸. In addition to the general documentation requirements, relevant and available information on why an economic valuation technique was considered and how it was applied should be documented for an eventual subsequent review. Documentation should be governed by the principle of transparency, proportionality and consistency.

b) When considering and applying economic valuation techniques, the administrative burden on both, taxpayers and tax administrations should be proportionate in light of the transaction under review and the object of valuation.

2. Key parameters for economic valuation techniques

2.1 General

12. Although there are various economic valuation techniques and standards it is important to note that from a content perspective they are quite homogeneous throughout Europe, as well as in the leading third countries (including the US), in the sense that they are built on some common parameters.

13. Key parameters for applying the economic valuation techniques are (i) future cash flows or income including growth rates based on financial projections which can include royalty rates or routine returns, (ii) discount rates and (iii) the useful life of intangibles and any other assets, if relevant, and terminal values. These parameters are of different relevance when applying the economic valuation techniques addressed in this report.

16 Chapter I section D OECD TPG

17 Paragraphs 1.36 OECD TPG

18 Chapter I, II and III OECD TPG

Relevant parameters when applying economic valuation techniques which are regarded as particularly useful in the context of transfer pricing

	Financial projections	Royalty rates	Routine return	Discount rate	Useful life and/or terminal value
1. Incremental cash flow method	Cash flow (incl. growth rates) forecast	n.a.	n.a.	Required	Required
2. Relief from royalty	Limited (sales/turnover only)	Required	n.a.	Required	Required
3. Price/Profit Premium profit method	Limited (sales/turnover)	n.a.	n.a.	Required	Required
4. Excess earnings method or residual value method	Profit forecast	n.a.	Required (asset returns are used instead)	Required	Required

14. In a number of circumstances, economic valuation techniques are built upon or rely on assumptions with regards to transfer prices. For instance, the relief from royalty method notably requires the estimation of royalty rates. Transfer pricing methods can be relied upon to determine a royalty rate. The CUP¹⁹ method for example can sometimes be used (but not exclusively) in this context. When economic valuation techniques are used in a transfer pricing context, the application of an economic valuation technique that requires estimation of transfer pricing sensitive input (e.g., royalties or cash flows) should be performed in light of the proper application of the OECD transfer pricing methods, regardless of the valuation standards or norms. Similarly, when performing an economic valuation in a non-transfer pricing context, it may be customary to rely on techniques that focus primarily on the value of the assets without taking into consideration the functions of the parties. For this reason, economic valuation techniques that focus primarily on the assets can only be relevant if the comparability factors, notably with regards to functions performed, are properly addressed. Comparability factors are typically not addressed in valuation for purposes other than transfer pricing. In the table below, the link between some economic valuation techniques and transfer pricing methods is provided.

Overview of economic valuation techniques which regarded as particularly useful in the context of transfer pricing - link with transfer pricing methods

1. Incremental cash flow method	CUP or RPSM ²⁰ can be used to estimate the incremental cash flow. Their use should be consistent with the TPG.
2. Relief from royalty	CUP and profit based methods can be used to estimate the royalty. Their use should be consistent with the TPG
3. Price / Profit Premium method	CUP method, TNMM ²¹ , and RPSM may be relied upon to estimate premium profits. Their use should be consistent with the TPG
4. Excess earnings method or residual value method	RPSM is de facto applied to determine residual income or return. However, if an asset based routine return is determined, it needs to properly reflect the comparability standard notably with regards to the functional analysis (in line with the DEMPE ²² functions analysis)

19 Comparable Uncontrolled Price method

20 Residual Profit Split Method

21 the Transactional Net Margin Method ('TNMM')

22 Development, Enhancement, Maintenance, Protection, and Exploitation of intangibles (DEMPE) paragraph 6.32 TPG

2.2 Financial projections and growth rates

15. The reliability of a valuation using financial projections depends on the accuracy of projections of future cash flows or income on which the valuation is based. A key challenge is therefore to assess the reasonableness of a financial projection based on an established track record²³. In a business context cash flows are generally generated by the interaction of purpose-oriented combinations of intangibles, tangibles assets and business functions. Hence, there is a direct link between the valuation object defined in a valuation exercise and an appropriately derived projection of future cash flows. The valuation of a business (function), a tangible or an intangible asset, is always based on considering a particular scenario²⁴. This scenario is the basis for deriving appropriate projections of future cash flows. The TPG regard projections which are made for non-tax purposes as more reliable than projections made for tax purposes. Furthermore, they provide general guidance on how to assess the accuracy of financial projections and assumptions regarding growth rates²⁵ for the application of economic valuation techniques²⁶. The creation and review of a financial projection may be based on different sources of information which are either used directly or as a source for increasing the objectivity and addressing the challenges identified. A non exhaustive overview is provided in Annex B 1.

Recommendation 5:

A reviewer should be provided with the data on which the financial projection is based. Such internal or external information may include e.g. relevant and available management accounts as well as information supporting the assumptions made (inter alia growth rates, competitive industry data, the scenario assumed and the link between the valuation object and the projected cash flows or income).

16. A cash flow based valuation is based on the valuation object's inherent ability to generate future economic benefits in the form of cash flows freely available to the owner of the valuation object. The TPG provide that it may be necessary to evaluate and quantify the effect of taxes on the projected cash flows or income.²⁷ A taxation of economic benefits will be inevitably in accordance with the tax system prevailing in the country in which the economic benefits are generated. Hence, it is certain that taxes will be paid on positive economic benefits considered in the valuation. As taxes represent a cash outflow which reduces the net cash flows available to the owner of the asset, taxes have to be considered in cash flow based valuations²⁸.

17. If taxes have been deducted when calculating the cash flows or income the deduction of these taxes must be considered also in the corresponding discount rate. If a two-sided

23 paragraph 6.166 OECD TPG

24 Determined in accordance with the OECD TPG taking into account the options realistically available

25 Paragraphs 6.163 – 1.169 OECD TPG

26 Chapter VI paragraphs 6.186 – 6.194 OECD TPG

27 Paragraph 6.178 TPG

28 see Annex C.2 for illustration on how to calculate tax effects

approach is applied the corresponding principle is also valid, i.e. from the perspective of the buyer the tax amortization benefit ('TAB', see Annex C) has to be calculated and from the perspective of the seller the exit tax has to be determined.

Recommendation 6:

Economic valuation for transfer pricing purposes should in principle be based on a post-tax basis²⁹.

2.3 Royalty rate to be taken in the relief from royalty technique

18. Some economic valuation techniques require the determination of a royalty rate. The TPG provide the general requirement that when economic valuation techniques are used in transfer pricing it is necessary to apply them in a manner which is consistent with the ALP and the principles of the TPG³⁰. Comparable royalty rates will consequently have to be determined in accordance with the relevant guidance of the OECD TPG, especially Chapters II and VI of the TPG. For the determination of a comparable royalty rate different sources of information may be used in practice, either directly or as a source for addressing the challenges identified. A non-exhaustive overview is provided in Annex B 2. It should be noted that intangibles often have unique characteristics and differ widely which make it difficult to find appropriate external comparables.

2.4 Routine returns

19. Some economic valuation techniques require the determination of routine returns. The TPG provide the general requirement that when economic valuation techniques are utilised in transfer pricing it is necessary to apply them in a manner which is consistent with the ALP and the principles of the TPG³¹. Therefore the qualification as, and the determination of, a routine return needs to be determined in accordance with the applicable provisions of the TPG. For the determination of comparable routine returns different sources of information may be used, either directly or as a source for addressing the challenges (if a residual value method is applied, the time period for the deduction of the routine returns should be aligned with the useful life of the intangibles). A non-exhaustive overview is provided in Annex B 3.

2.5 Discount rate

20. Another critical element of all economic valuation techniques is the discount rate. For income based valuation models, the basic idea behind is to estimate a cash flow or income for each year in a forecasting period and calculate the present value of these cash flows based on an appropriate discount rate. This implies taking into account the time value of money and the risk of uncertainty at sectorial level. However, uncertainty can be accounted for only once, either at the level of income stream or the discount rate.

²⁹ Taking into account paragraph 6.178 and the example 29 OECD TPG

³⁰ Paragraph 6.154 OECD TPG

³¹ Paragraph 6.154 OECD TPG

21. Different income based valuation models use different cash flows and different discount rates, but all income based valuation techniques will, at least theoretically, result in the same value under the same assumptions made and inputs applied. Therefore, even if models may give varying information about the company, with regard to valuation issues a valuator should be indifferent as to which income-based model is chosen as long as the model is used properly and the facts and assumptions are unchanged.
22. One issue about proper use of the models is the consistency between how the cash-flow is derived and which measure of a discount rate is used. The TPG further state that neither taxpayers nor tax administrations should assume that a discount rate based on Weighted Average Costs of Capital ('WACC')³² or any other approach should always be used.³³ Emphasis should rather be on consistency between the derivation of cash-flow and the discount rate applied to calculate the present value. Which formula to use, should always depend on how the cash-flow in the specific case is derived, and the required discount rate for this specific cash-flow.
23. For example³⁴: If the cash-flow goes to both equity holders and bondholders i.e. before financial items are subtracted, the discount rate should reflect both the cost of equity and cost of debt. In this case, the WACC could be appropriate as discount rate. If on the other hand, the cash-flow only flows to equity holders i.e. after financial items are subtracted, the discount rate should only reflect the cost of equity, which could be estimated based on Capital Asset Pricing Model ('CAPM') or taken from a comprehensible corporate strategy. Another way to estimate the discount rate could be based on the allocation of cash-flow to the specific asset classes. This could be intangibles on one side, and routine assets on the other. In this case the Weighted Average Return on Assets formula ('WARA')³⁵ could be applied. It is difficult to point out any preferred formulas to determine a proper discount rate. Defining a suitable discount rate depends on the specific cash-flow in the case. There is an internal link between the formulas e.g. the CAPM formula can be used to estimate the required return of equity, which is an input in the WACC formula. WACC and WARA should give the same result, where the difference is that WACC is calculated based on inputs from the liabilities side of the balance sheet and WARA based on inputs from the asset side.
24. For the determination of a discount rate different sources of information may be used, either directly or as a source for addressing the challenges identified. A non-exhaustive overview is provided in Annex B 4.

32 see Annex C.1 for the formula

33 Paragraphs 6.171 – 6.172 OECD TPG

34 Following examples for the use of valuation techniques have an illustration purpose, they are not prescriptive. Each case depends on the particular facts and circumstance

35 see Annex C.1 for the formula

Recommendation 7:

When using a discount rate in the context of an economic valuation for the purpose of transfer pricing it should be demonstrated by both taxpayers and tax authorities:

- how the discount rate was calculated or estimated,*
- why this calculation is regarded as appropriate (including consistency between how the cash-flow or income is derived and which measure of a discount rate is used), and*
- which information was used to calculate or estimate the discount rate (screenshots or electronically saved data at the time the valuation was done may be useful for documenting information that may not be available in the future).*

2.6 Useful life

25. The determination of the useful life of the item which is valued is another critical assumption supporting a valuation model.³⁶ The useful life considered in a valuation determines the total period of time to be taken into account as of the valuation date. The useful life considered in the valuation directly impacts the valuation result. Useful lives are generally specific to the valuation object. Sometimes terminal values are calculated. A further issue in transfer pricing is that in cases where a two-sided valuation is needed, the useful life would have to be evaluated from the perspective of both, the transferor and the transferee³⁷. For the determination of the useful life, different sources of information may be used, either directly or as a source for addressing the challenges identified. A non-exhaustive overview is provided in Annex B 5.

2.7 Simplification/Standardisation

26. The application of economic valuation techniques is complex, fact intensive and may create significant administrative burden and costs. The general objective of proportionality triggers the question whether there could be room for simplification. Simplification may theoretically be considered at the level of documentation or in the way the economic valuation techniques are applied.

27. Simplifying documentation bears a risk of missing relevant information and imprecision. Given that transactions for which the application of economic valuation techniques as part of OECD transfer pricing methods may be useful (intangibles and business restructurings) often involve high amounts or are of significant importance, the room for simplification

³⁶ Paragraphs 6.174 – 6.177 OECD TPG

³⁷ To be determined by a comparability analysis that considers the options realistically available to each of the parties to the transaction (paragraph 6.111 OECD TPG)

has to be assessed carefully. The need for and the way of simplification could be assessed by the JTPF in the future.

3. Two-sided versus one-sided valuation

28. As a general principle, a comparability analysis focussing only on one side of a transaction generally does not provide a sufficient basis for evaluating a transaction involving intangibles.³⁸ Consequently the TPG conclude that the calculation of discounted cash flow may need to be estimated from both perspectives of the transaction. Assuming that the transferors minimum sales price is lower than the maximum price the transferee is willing to pay³⁹, the arm's length price will fall somewhere within the range of present values evaluated from the perspectives of the transferor and transferee.⁴⁰ In cases, where it is not possible to appropriately determine a specific value within that range, e.g. by way of an analysis of bargaining power, some Member States take the mid-point as a fall-back position.

Recommendation 8:

In cases where the calculation of present values is evaluated from the perspectives of the transferor and transferee the result may be a range rather than a specific price. Where the transferors minimum price is lower than the transferees maximum price, the arm's length price will fall somewhere within such a range.⁴¹ A thorough analysis of all facts and circumstances at the time of the transaction including the potential bargaining power of the parties⁴² should be performed in order to decide which specific value within the range should be selected for the purpose of the assessment.

IV. Differences between valuation for TP and general valuation

29. Valuations are prepared for many different reasons. The reasons can be related to external financial reporting requirements, corporate law, tax law, entrepreneurial initiatives like mergers & acquisitions or business restructurings, contractual agreements or other reasons. When applied in the context of transfer pricing it is necessary to apply them in a manner that is consistent with the ALP and the principles of the TPG⁴³. This requirement may create differences between valuation for the purpose of transfer pricing and valuations made for other purposes.

38 paragraph 6.112 OECD TPG

39 In the opposite case there will be no range of present values. In such a case it may be necessary to consider whether the actual transaction should be disregarded under the criterion for non-recognition set out in Section D.2 of Chapter I OECD TPG, or whether the conditions of the transaction should otherwise be adjusted paragraph 6.114 OECD TPG.

40 paragraph 6.157 OECD TPG

41 paragraph 6.157 OECD TPG

42 Annex D lists some factors which may be considered when assessing the potential bargaining power of the parties involved in a certain transaction

43 paragraph 6.154 OECD TPG

Recommendation 9:

a) General aspects

As a valuation is always performed for a specific purpose, the underlying assumptions need to be considered. As a result, it is necessary to check if the valuation made for other purposes than transfer pricing and its underlying assumptions are appropriate for the TP analysis under review.

Two fundamental issues should be examined:

- Is the valuation object sufficiently comparable to the valuation object considered in the TP analysis? Comparability aspects should include the assets involved, the business functions performed as well as the perspective from which the valuation was conducted (for which entity was the valuation performed?). Valuation performed in a context other than transfer pricing might focus on the assets and capital investments in the intangible. Such valuation may disregard the functions performed by the legal owner and by other related parties that may perform DEMPE functions⁴⁴. Such use of valuation techniques may be inconsistent with the guidance in the TPG.

- Are the assumptions and technical aspects considered in the existing valuation exercise consistent with the circumstances and facts of the TP analysis at hand (e.g. are cash flow projections and risk levels comparable)?

- Could the stakeholders' interests have influenced the valuation and how can the valuation inputs be objectivised (and what level of objective support has been provided in the existing TP / non-TP valuation)?

b) Documentation

When using a valuation which is made for a different purpose than for transfer pricing, the level of documentation required for this purpose should be assessed, both in terms of providing a sufficient background on the transaction and documenting the methodology or methodologies chosen as being the most appropriate. In addition the assumptions made for the application of such methodology or methodologies (including other aspects that may have an effect on the comparability analysis) should be assessed. In case the valuation which was made for other purposes than for transfer pricing is used, its consistency with the ALP and the principles of the TPG should be documented in accordance with generally applicable national rules in relation to documentation of the countries involved. Methodologies, assumptions and sources on which the valuation is based should be comprehensible to a reviewer.

c) Step by step analysis

44 development, enhancement, maintenance, protection and exploitation of intangibles (DEMPE)

Depending on their relevance for the case at hand, the following technical aspects as regards the specific parameters should be considered when using a valuation which is made for different purposes than for transfer pricing:

- As regards cash flow projections:

-- Where the assets and functions contributing to the cash flows considered in the existing valuation exercise are not sufficiently comparable to the valuation object in the TP analysis, an adjustment of the cash flow projections is likely to be necessary.

-- It has to be verified whether the scenario considered⁴⁵ is comparable to the expected exploitation of the valuation object in the TP analysis, i.e. whether assumptions underlying the cash flows generated by exploiting the valuation object are comparable. Important aspects in this regard are: geographic regions considered, growth rates in cash flows, competitive environment, etc.

- As regards the discount rate applied:

-- As the discount rate reflects the risk associated with the expected cash flows, it has to be verified whether the risk level assumed in the existing valuation exercise is in line with the risk level of the valuation object in the TP analysis. Differences in risk levels have to be accounted for if not reflected in the cash flow projections.

-- The particular discount rate depends mainly on the market conditions of the location of the valuation object. This is especially true if a risk-free rate is assumed and a market risk premium is used in the calculation of the discount rate. Differences in capital market conditions have to be accounted for from the perspective of the transferor and transferee.

- As regards useful life:

Useful lives are generally specific to the valuation object. In case a limited useful life was considered in the existing valuation exercise, it needs to be taken into account that the remaining years of the useful life have already decreased in cases where the point in time when the TP analysis is performed deviates largely from the original valuation date of the existing valuation

- As regards the valuation date:

-- A valuation is always performed as at a particular point in time, the valuation date. The determination of the valuation date has an impact on the value of the underlying valuation object, all else being equal. In other words, any change in the valuation date will affect the valuation result even if all other assumptions remain unchanged. Hence, if the valuation date of an (older) existing valuation exercise deviates significantly from the valuation date relevant in the TP analysis the usability of the existing valuation exercise is limited. In

⁴⁵ Determined in accordance with the OECD TPG taking into account the options realistically available

addition to other adjustments that might be necessary to be applied to the assumptions used in the valuation, the existing valuation should be updated to the adjusted valuation date.

Annex A: Economic valuation techniques

1. Short description of the techniques

Income based approach (par. 7)

Income based techniques are generally used in determining the value of the appraisal subject from the viewpoint of an investor. This approach is based on the assumption that an investor could invest in a property with similar investment characteristics and looks to the earnings power, or cash generating capabilities, of the enterprise / asset being appraised.

Under the '**incremental cash flow method**' cash flows are directly attributable to the specific intangible. Therefore, the substantial requirement is that cash flow attributable to the intangible can be identified. This method is best used when the intangible is producing or when it allows an intangible to generate cash flow.

The '**relief from royalty**' method states that the income attributable to the intangible can be estimated based on a 'deemed royalty' payable for the rights to use the subject intangible asset. The estimated income (or cash flows) are then included in a DCF framework by discounting them to arrive at a present value estimate. In a transfer pricing context, the basis for estimating royalties would need to be consistent with the TPG methods. In this context, the CUP and profit based methods are likely to be relied upon to estimate the royalty.

Under the '**premium profit method**' the income attributable to the intangible is given by the profit differential arising from a price premium of products using certain intangible over usual substitute products (e.g. branded products over non-branded). The price premium and profit differential should be estimated in line with the OECD TPG. The CUP method is likely to apply in this context. The estimated income or cash flows are then included in a DCF framework by discounting them to arrive at a present value estimate.

The **residual value method** is based on the forecast future free cash flow (relevant for IP-containing products and services). The cash flows are discounted to arrive at a present value estimate. To determine the intangible component in a transfer pricing context, this approach is likely to embed first application of the Residual Profit Split Method ('RPSM'). Application of this method typically requires firstly an estimation of a routine return for the activities or functions the remuneration of which can be benchmarked. Such routine returns are deducted from the total return to obtain the "residual profit" cash flows. The resulting "residual profit" cash flows are considered to be attributable to the subject intangible(s) and are discounted to estimate the present value of the intangible.

The **excess earnings method** is similar. However, the routine returns are estimated as asset return(s) on contributory assets (tangibles, other intangibles, financial assets).

Market approaches (par. 8)

Under the **market approach** observable market-based transactions of identical or substantially similar intangibles or enterprises (business units) have to be identified.

The **acquisition price method** determines the value of a contributed intangible by reference to the acquisition price of a contemporaneous acquisition of that intangible in an asset or stock acquisition from an uncontrolled party.

The **market capitalization** of a company is simply its share price multiplied by the number of shares a company has outstanding. Enterprise value is calculated as the market capitalization plus debt, minority interest and preferred shares, minus total cash and cash equivalents.

The **comparable multiples method** looks at comparable (peer) businesses for which independent market value information exists (based on stock market listings) in order to determine the value of the subject business. Common market multiples include the following: enterprise value to sales (EV/S), enterprise value to EBIT (EV/EBIT) and enterprise value to EBITDA (EV/EBITDA), price to earnings (P/E), price to book (P/B) and price to free cash flow (P/FCF).

Assets or cost approaches (par. 8)

Cost based analyses are based on the economic principle of substitution and usually ignore the amount, timing, and duration of future economic benefits, as well as the risk of performance within a competitive environment.

The **historical cost method** obtains the value by capitalization of historical costs incurred for the development of the intangible or the business (unit).

The **replacement cost method** obtains the value by capitalization of forecast costs to be incurred for the replacement of intangible or the business (unit). Replacement cost measures the total cost, in current prices, to develop a new intangible or business (unit) having the same functionality or utility as the intangible or business (unit). Application of the replacement costs may require estimation of the opportunity costs for reconstructing the intangibles, including for example foregone revenues.

2. Analysis of strengths and weaknesses of some economic valuation techniques that may be useful in the context of transfer pricing

Technique	Strengths	Weaknesses
1. Relief from royalty	<ul style="list-style-type: none"> - reflects economic value at time of valuation - relatively easy to use - Key inputs rely on the market data - Amount of data required rather limited 	<ul style="list-style-type: none"> - often a lack of appropriate benchmarks and market data
2. Premium profit method	<ul style="list-style-type: none"> - reflects economic value at time of valuation - relatively easy to use - Key inputs rely on the market data - Amount of data required rather limited 	<ul style="list-style-type: none"> - often a lack of appropriate benchmarks
3. Excess earnings method	<ul style="list-style-type: none"> - reflects economic value at time of valuation - due to reliance on individual company data benchmarking may only be needed for objectivizing 	<ul style="list-style-type: none"> - high reliance on individual data with limited possibilities to objectivize the result - more complex to use due to the need for constructing financial models - no direct connection to third party transactions
4. Replacement cost	<ul style="list-style-type: none"> - medium degree of objectivity due to reliance on costs - relatively easy to use - Amount of data required rather limited 	<ul style="list-style-type: none"> - Less connected to economic value at time of valuation - Often difficult to benchmark or observe costs required for replacement on the market - Limited connection to market data

5. Residual value method	<ul style="list-style-type: none"> - reflects economic value at time of valuation - due to reliance on individual company data benchmarking may only be needed for objectivizing 	<ul style="list-style-type: none"> - high reliance on individual data with limited possibilities to objectivize the result - more complex to use due to the need for constructing financial models - no direct connection to third party transactions
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3. Analysis of opportunities and threats of some economic valuation techniques that may be useful in the context of transfer pricing

Technique	Opportunities	Threats
1. Relief from royalty	<ul style="list-style-type: none"> - potential to be used for intangibles with "me too" features, for which reliable comparables can be found - potentially to use for intangibles where comparability can be justified by strong references 	<ul style="list-style-type: none"> - typically not used for intangibles with unique features, for which reliable comparables do not exist
2. Premium profit method	<ul style="list-style-type: none"> - potential to be used for marketing intangibles (brands, trademarks), e.g. for trademarks, where a branded product is priced clearly differently than a non-branded product (or more generally there is clear distinction between forecast for product containing the intangible and one without). - potentially to use for intangibles that will save costs in the future 	<ul style="list-style-type: none"> - typically not used when price premium assessment involves subjectivity (e.g. when there are no clear generic alternatives to branded products, etc.)
3. Excess earnings method	<ul style="list-style-type: none"> - potential to be used for customer contracts, customer relationships and in process research and development projects 	<ul style="list-style-type: none"> - typically not used when definition of "contributory assets" is not clear - typically not used when it is difficult to identify all assets and the return attributable to each of them - high possibility of overlap - Typically very limited use in valuation for transfer pricing purposes due to a disconnect with functional and risk

		analysis (return on contributory assets and not economic returns on functions)
4. Replacement cost	<ul style="list-style-type: none"> - potential to be used for intangibles that can be replaced with quantifiable resources (e.g. software) -) - sometimes applied for replacement of workforce in place 	<ul style="list-style-type: none"> - typically not used for fully developed intangibles (that are already generating income streams) - typically not used for high-valued marketing intangibles whose value rely on popularity with consumers
5. Residual value method	<ul style="list-style-type: none"> - potential to be used for intangibles with unique features - potentially to use when reliable financial projections are available - potentially to use for unpatented technology or customer relations (for which cost- and market- based approaches deem irrelevant) 	<ul style="list-style-type: none"> - typically not used when definition of "routine function" is not clear - typically not used when it is difficult to identify all routine functions and to find reliable comparables in order to asses profitability for each of them - high possibility of overlap - difficult to use reliably when the forecast is highly uncertain

Annex B: Internal and external sources for relevant parameters when applying some of the economic valuation techniques which are regarded as particularly useful in the context of transfer pricing

1. Financial projections

	Source	Main challenges	Potential solution(s) to challenges
internal	Management projections/financial forecasts	<ul style="list-style-type: none"> -Limited availability of projections for other purposes and, especially of relevant segmented financial projections. -Uncertainty of projections and, as a consequence limited accuracy and questionable reasonability of projections - Unreliability of projects based on linear growth rates and past performance due to uncertainty 	<ul style="list-style-type: none"> - Preferred use of internal forecasts created for non-tax purposes - Challenge reasonability of projections: question growth rates including long term growth, profitability each year - Comparison with industry or competitors and comparables and request for explanations of deviations: finally potential adjustments based on joint discussion - Focus on key economic and financial indicators for reasonability check - Keep caution in using linear growth rates and past performance indicators
external		<ul style="list-style-type: none"> -Availability and applicability of competitors' and industry data - Applicability of data from competitors and/or industry averages specifically to the financial projections in question 	<ul style="list-style-type: none"> - Challenge and assessment of projections based on economic and financial indicators (industry forecasts / industry expectations) - Cross-check of projections with competitors' data - Cross-check and challenge of the forecast provided, based on company's record of achievement of forecast <p>Provide and document justifications of deviations of forecast from industry statistics – forecast from competitors and from the historical statistics (past growth and profitability)</p>

2. Royalty rates

	Source	Main challenges	Potential solution(s) to challenges
internal	<p>Internal comparables: Agreements of a company in the same group with unrelated parties covering the same intangible under the same conditions</p> <p>External comparables: Information regarding or available third party agreements known to the company (such as agreements of competitors which are in the same industry and are similar/comparable)</p>	<ul style="list-style-type: none"> - Limited availability of internal comparables or any information on third party agreements available to the company - If any agreements provided, comparability to the studied transaction and IP in the scope of this transaction 	<ul style="list-style-type: none"> - Access comparability of identified agreements according to OECD TPG (geography products & their profit potential, market level, applications, terms of agreements, etc.)
external	<p>Search and identification of agreements between unrelated parties covering the same type of similar intangibles under the same or similar conditions, obtain the royalty rate</p> <ul style="list-style-type: none"> - Agreements databases, e.g. Royaltystat, Royaltysource, KTMINE, TP Catalyst, Lexis Nexis 	<ul style="list-style-type: none"> -Availability and reliability of third party agreements -Comparability of third party agreements in terms of characteristics of intangibles and of rights transferred, contractual conditions, geographical scope 	<ul style="list-style-type: none"> - Assess and document the comparability analysis of external agreements according to OECD TPG, i.e. geographical coverage, same application of IP etc.) - Cross check of assumed royalty rate by reference to an operating margin required from sales generated from the use of the IP

3. Routine returns

	Source	Main challenges	Potential solution(s) to challenges
internal	Internal comparable companies (e.g. third party routine distribution/manufacturing entities performing functions for one entity of the Group and possibly their financial information allowing to assess their rate of return/profitability)	- Unavailability of internal comparables and or their information necessary to calculate routine return	- see JTPF report on the use of comparables in the EU
external	Search and identification of external comparable companies (e.g. entities with same routine functional profile) to obtain a benchmark for routine return Company databases: Bureau van Dijk's Amadeus, Orbis, local databases)	- Definition of routine function -Comparability in terms of risks and performance of routine functions - Availability of local comparables - Availability of sufficient information for assessing comparability	-Perform functional and risk analysis of tested company (in respect to routine function(s) it performs. - Perform comparable search and comparability analysis according to OECD TPG and JTPF report on use of comparables in the EU - Document the search and identification of the comparable companies (including all steps of the search and review of potential companies)

4. Discount rates

	Source	Main challenges	Potential solution(s) to challenges
internal	Information on the discount rate (or inputs used to calculate it) used by company's management for internal financial management on the company basis and or ideally in respect to projects with intangibles or information on different inputs that go into WACC calculations	-Appropriateness of the discount rate (other parameters of WACC) that is available from management (special risk of the IP being valued etc.) and more widely, availability of the discount rate and ability of the company to justify it	- Assessment of the full rate if provided by management (what is application of the rate provided, etc.) with intangible valuation at hand - Analysis and assessment of various inputs for WACC calculations, if provided by management
external	Search for relevant information for WACC parameters (company beta, market premium and risk free rate (all for application of CAPM formula). Possibly search on industry wide WACC -Financial databases: Bloomberg, Reuters, Capital IQ S&P, Damodaran	- Identification of potential differences between parameters for the Company (i.e. relevant for IP project and reflecting additional risk) and industry wide parameters	-Sensitivity analysis (change in the value of analysed IP) based on the change of parameters for calculation of discount rate -detailed justification of the chosen parameters (and their applicability to the analysed transaction)

5. Useful life

	Source	Main challenges	Potential solution(s) to challenges
internal	<ul style="list-style-type: none"> - Information from the company regarding the speed of replacement of products containing the IP value and speed of development of new technology and its updates -Information on the planned use of the acquired IP by the buyer Information in the potential use of the IP by the seller under the scenario of options realistically available 	<ul style="list-style-type: none"> - Level of judgement for finding factors affecting the useful life, e.g. technical changes, economic life, functional life 	<ul style="list-style-type: none"> - Reasonability check with external data industry average data and with expert publications but preference to understanding better the specifics of the company, its products, markets etc.
external	<ul style="list-style-type: none"> - Industry practices/ external studies mentioning useful life for similar types of intangibles, similar products (for which the IP is used) and considering observations of useful life in similar industries and markets - Econlit (database of economic academic literature or internet search for other publicly available publications studying useful life, product life cycles etc. 	<ul style="list-style-type: none"> -Limited information in the useful life of the intangibles in the literature and absence of any specific databases to consult. - The characteristics of intangibles studied are unique and thus any industry wide information including information on speed of technological changes, product life cycles, etc.) may be appropriate to use 	<ul style="list-style-type: none"> -Explanation and documentation of selected life including documentation any external sources and their applicability

Annex C: Formulas

1. Calculation of Discount Rates

Following is a non-exhaustive list of examples on how to calculate the required return on equity, WACC and WARA.

According to the CAPM, the required rate on equity is estimated as:

$$r_E = r_f + \beta_e \times (E(r_m) - r_f)$$

Where the variables are defined as:

r_E	=	Required return on equity
r_f	=	Risk free rate
β_e	=	Beta value of equity, a measure of systematic risk relative to the market
$(E(r_m) - r_f)$	=	Market risk premium.

WACC is calculated as a Weighted Average of Cost of Capital

$$WACC = r_E \times \frac{E}{V} + r_D \times (1 - \tau_C) \times \frac{D}{V}$$

Where the variables are defined as:

E	=	Equity
D	=	Debt
V	=	Value of total assets
r_E	=	Required return on equity
r_D	=	cost of debt
τ_C	=	tax rate

WARA is calculated as a Weighted Average Return on Assets

$$WARA = r_{\text{Asset A}} \times \frac{\text{Asset A}}{\text{Total Assets}} + r_{\text{Asset B}} \times \frac{\text{Asset B}}{\text{Total Assets}} + \dots + r_{\text{Asset X}} \times \frac{\text{Asset X}}{\text{Total Assets}}$$

2. Calculation of Tax Effects

a) Calculation of the Tax Amortisation Benefit

$$TAB - Factor = \frac{n}{n - \frac{(1+k)^n - 1}{k \times (1+k)^n} \times (1+k)^{0,5} \times \tau_C S}$$

TAB = Tax Amortisation benefit

n = Amortization period

τ_C = Tax rate

k = Discount rate (cost of capital)

0.5 = the factor 0.5 provides for a mid-year convention, i.e. payments are assumed to be made at mid-year and not at the end of the year

b) Calculation of Exit Tax

$$Seller\ minimum\ price\ with\ Exit\ tax = \frac{price - \tau_C \times value}{1 - \tau_C}$$

Where the variables are defined as:

price = Seller price determined based on earnings or cashflows after deducting income taxes without exit tax

value: = value relevant for tax purposes, usually the book value taken from the tax balance sheet

τ_C = Tax rate

Annex D: Assessing bargaining power

As an example, in a decisions of a US Court , the following 15 factors were relied upon to determine the type of monetary payments that would compensate for a patent infringement (from Georgia-Pacific Corp. v. United States Plywood Corp., 318 F Supp 1116, 6 USPQ 235 (SD NY 1970)). This case is commonly referred to in international valuation practice (including in the EU):

1. The royalties received by the licensor for licensing the intangible, proving or tending to prove an established royalty.
2. The rates paid by the licensee for the use of other similar intangibles.
3. The nature and scope of the license, such as whether it is exclusive or nonexclusive, restricted or non-restricted in terms of territory or customers.
4. The licensor's policy of maintaining its intangible monopoly by licensing the use of the invention only under special conditions designed to preserve the monopoly.
5. The commercial relationship between the licensor and licensees, such as whether they are competitors in the same territory in the same line of business or whether they are inventor and promoter.
6. The effect of selling the intangible in promoting sales of other licensor's products; the existing value of the invention to the licensor as a generator of sales of other products that do not include the intangible and the extent of such derivative or "convoyed" sales.
7. The duration of the intangible (patent) and the term of the license.
8. The established profitability of the product that include the intangible, its commercial success and its current popularity.
9. The utility and advantages of the intangible over any old modes or devices that had been used.
10. The nature of the intangible, its character in the commercial embodiment owned and produced by the licensor, and the benefits to those who used it.
11. The extent to which the infringer used the invention and any evidence probative of the value of that use.
12. The portion of the profit or selling price that is customary in the particular business or in comparable businesses.
13. The portion of the realizable profit that should be credited to the intangible as distinguished from any other elements, manufacturing process, business risks or significant features or improvements added by the infringer.
14. The opinion testimony of qualified experts.

15. The amount that Georgia-Pacific and a licensee would have agreed upon at the time the infringement began if they had reasonably and voluntarily tried to reach an agreement.

Some of the above factors may not apply systematically. Also, if such reasoning were to be relied upon, it would need to be applied in light of the issues at stake (proportionality).