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EU JOINT TRANSFER PRICING FORUM

DRAFT REPORT ON THE USE OF ECONOMIC VALUATION TECHNIQUES IN TRANSFER PRICING

Meeting of 9 March 2017

DISCLAIMER:
This is a DG TAXUD working paper prepared for discussion purposes. It does not represent a formal Commission or Commission services position or policy.

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Note from the Secretariat:

This draft report was prepared based on the discussion paper (doc JTPF/012/016/EN) and the written comments received on this discussion paper (doc. JTPF/002/2017/EN). Eleven Members provided responses. The Secretariat prepared this draft report based on the clear indication provided by the responses received.

I. Introduction

1. Background

1. Chapter VI and IX of the OECD Transfer Pricing Guidelines ("TPG") recognise economic valuation techniques as useful 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]. The JTPF has been asked to evaluate whether there are strengths and weaknesses within the various valuation methods when used for transfer pricing purposes and to identify advantages, obstacles and pitfalls in the practical application of these methods in the TP[34].
2. A scoping paper (DOC: JTPF/013/2015/EN) was discussed at the meeting in October 2015 and a study was commissioned from Deloitte Belgium which identified some areas for possible consideration as elaborated in sections II – V below. A discussion paper was prepared and submitted to the JTPF for written comments (DOC. JTPF/012/2016/EN). The responses to this paper served the preparation of this [draft] report.
3. The objective of this [draft] 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 methods.

II. Applying Economic valuation in the context of transfer pricing

1. Differences between valuation for TP and general valuation

4. In the context of transfer pricing, 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[5]. However, when 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) and the principles of the TPG[6]. This requirement may create differences between valuation for the purpose of transfer pricing and general valuations. These differences could stem from the type of the valuation exercise, the interest of the stakeholders, differences in the concepts (e.g. the need to apply a two-sided approach) or the scope of intangibles to be valued. In this context the TPG conclude that valuation made for accounting purposes should be used with caution[7].

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1 Chapter IX paragraph 9.94 TPG
2 Paragraphs 6.153 ff. of the Guidance on transfer pricing aspects of intangibles (Chapter VI TPG 2015)
3 Paragraph 2.4 JTPF Program of Work 2015 -2019 (doc. JTPF/005/FINAL/2015/EN)
4 For a glossary of the terms used it is referred to Appendix 8 of the Deloitte study
5 paragraph 6.153 OECD TPG (2015)
6 paragraph 6.154 OECD TPG (2015)
7 paragraph 6.155 OECD TPG (2015)

Note from the Secretariat:

The recommendation below received very broad support from those Members who commented. The additional suggestions received are reflected in track changes below:

Recommendation 1:

In case a valuation which was made for other purposes than for transfer pricing is used in a comparability analysis, its consistency with the ALP and the principles of the TPG should be documented in accordance with generally applicable national rules. Methodologies, assumptions and sources on which the valuation is based should be comprehensible to a reviewer. Principles of quality, transparency, proportionality and consistency apply.

In this context and depending on their relevance for the case at hand, the following general aspects should be considered when using a valuation which is made for different purposes than for transfer pricing:

- Are the two parties to the transaction regarded as broadly similar to typical market participants or not? (This may have impact on financial forecasts for the two parties, on tax rates considered, etc.)

- Are the assets or the business/part of a business to which the valuation applies comparable to what is considered to be transferred under transfer pricing principles (with reference to perimeter, scope, treatment of goodwill, lifetime of the assets etc.)?

- Are there specific transfer pricing principles that are different from general valuation approaches to take into account (in particular, is the two-sided approach likely to result in a different value)?

- Are the stakeholders' interests likely to bias 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)

- What is the level of documentation required, both in terms of providing a sufficient background on the transaction and documenting the methodology or methodologies chosen as being the most appropriate as well as the assumptions made for application of such methodology or methodologies including other aspects that may have an effect on the comparability analysis.

2. Valuation approaches and methods

2.1 Valuation Methods often relevant in the context of transfer pricing

5. Revised Chapter VI of the OECD TPG regards the application of income based valuation techniques, especially valuation techniques premised on the calculation of the discounted value of projected future income streams or cash flows derived from the exploitation of

the intangible being valued (Discounted Cash Flow Methods, “DCF”), as particularly useful when applied properly.

6. Valuation techniques based on discounting future economic benefits of the subject of valuation[8] are:

   - Relief-from-royalty method, sometimes referred to as royalty savings method
   - Premium profit method and
   - Excess earnings method.

7. In addition the following methods are considered as relevant[9]:
   - Historical cost method
   - Replacement cost method
   - Residual value method

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

8. The variety of methods theoretically available raises the question of which methods should be used after the use of economic valuation as such was considered useful for a specific transaction.

Note from the Secretariat:

The recommendation below received broad support from those Members who commented. The additional suggestions received are reflected in track changes below:

Recommendation 2:

In case the application of an economic valuation method is considered useful, the actual use of economic valuation method as well as the choice of the method should take the following aspects into account:

- the general strengths, weaknesses, opportunities and threats ('SWOT') of potential methods as described in Annex A[10]

- the appropriateness of the method in view of the facts and circumstances of the transaction under review

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

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

8 for a short non-binding description of the methods and non-binding and illustrative examples see Annex 2A and 2B of the Deloitte study

9 for a short description of the methods and examples see Annex 2A and 2B of the Deloitte study

10 for a general overview of potential strengths, weaknesses, opportunities and threats and an exemplary overview of methods without any claim to completeness and binding force it is referred to section 3.5.1 and Appendix 2A and 2B of the Deloitte study

As with transfer pricing methods in general, this report does not require either the tax administration or the taxpayer to perform an analysis under more than one method. A method chosen should only be challenged if it can be demonstrated that the application of another method is clearly more reliable.

For discussion:

Some commentators suggest adding language on the fact that it would be useful or even recommended to use another method as a sanity check. Another commentator suggested that a valuation method chosen should only be challenged in cases where e.g. core economic principles are obviously violated.

Q: Your views on the recommendation and the additional suggestions are invited

9. At present there is a multitude of IP valuation standards set by different standardization bodies[11]. The report, however, also concludes that the contents and recommendations of these different standards and guidelines are not contradictory in themselves. When applied to transfer pricing a standard to be used for applying an economic valuation method will have to be acceptable by both MS.

Note from the Secretariat:

On the question whether a certain standard can be recommended, responses were balanced (Yes 5, No 6) and additional suggestions were made. The Secretariat suggests capturing the comments with the following recommendation:

Recommendation 3:

A valuation standard should be used which is considered to best achieve an arm's length outcome for the transaction under review. Taxpayers should document the reasons underlying the choice of the respective standard. Internationally recognised standards are preferable provided their application results in an arm's length outcome. A valuation standard should, however, not be rejected solely based on being a national standard.

Q: Do you agree with this recommendation?

III. Practical application of economic valuation methods

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

10. Before elaborating on the practical application of the respective valuation techniques in the context of transfer pricing it should be recalled that at the outset a thorough factual and functional analysis should be performed to understand the transaction under review. This

[11] for a general overview of the national and international standards see Appendix 3 of the Deloitte study. An exemplary overview on potential strengths, weaknesses, opportunities and threats and an overview of standards without any claim to completeness and binding force can be found section 3.7.3.

analysis forms the basis for deciding whether in the specific facts and circumstances valuation techniques may be used for the respective transfer pricing method to meet the five comparability factors.

Note from the Secretariat:

The recommendation below received broad support from those Members who commented. The additional suggestions received are reflected in track changes below:

Recommendation 4:

For analysing a transaction to which an economic valuation method may be applied, relevant and available information should be documented for an eventual subsequent review. The principles of quality, transparency and proportionality in light of the transaction under review and the object of valuation apply.

Especially the following information should be made available:

- the functional and risk profiles of the parties participating in the transaction

- the relevant contracts

- an explanation of the business and in case of a restructuring, the reasons for the restructuring

- information on the business and market strategy

- relevant factual details surrounding the transaction

- all information that is important to determine the value of the transferred IP correctly and all historical quantitative information behind these assets (costs to develop, former acquisition value if assets were acquired even if long time ago, etc.)

- a description of options realistically available to the parties.

2. Key parameters for economic valuation methods

2.1 General

11. Although there are various economic valuation methods 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.
12. Key parameters for applying the methods are (i) financial projections of future cash flows including growth rates, (ii) royalty rates, (iii) routine returns, (iv) discount rates and (v) the useful life of intangibles and terminal values. These parameters are of different relevance when applying the valuation methods addressed in this report.

		Financial projections	Royalty	Routine return	Discount rate	Useful life and terminal value
Inco me-	**1. Relief from royalty**	Limited (sales/ turnover only)	Required	n.a.	Required	Required
	2. Premium profit	Limited (sales	n.a.	n.a.	Required	Required

	method	/turnover)				
	3. Excess earnings method	Full forecast	n.a.	Required (asset returns are used instead)	Required	Required
Cost-based methods	**4. Historical cost**	n.a.	n.a.	n.a.	Required	n.a.
	5. Replacement cost	Limited (costs only)	n.a.	n.a.	Required	n.a.
	6. Residual value	Full detailed forecast	n.a.	Required (based on functional returns)	Required	Required

2.2 Financial projections and growth rates

13. 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. 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 rates[12]. 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.

Note from the Secretariat:

The recommendation below received broad support from those Members who commented. The additional suggestions received are reflected in track changes below:

Recommendation 5:

A reviewer should be provided with data on which the financial projection is based e.g. management accounts as well as with information supporting the assumptions made including growth rates.

Q: Do you agree?

Note from the Secretariat:

Paragraph 6.178 TPG provides that it may be necessary to evaluate and quantify the effect of taxes on the projected cash flows. Figure 38 (for MS) and figure 42 (for the major trade partners) of the Deloitte study indicate that there are different practices.

The majority of those Members who commented (Yes:8; No:2) supported additional guidance by the JTPF. In additional comments most contributors supported a post tax approach but not referring to major trade partners.

[12] paragraphs 6.163 – 1.169 OECD TPG (2015)

Q: Do you agree to the following recommendation?

Recommendation 6:

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

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

14. Some economic valuation methods require the determination of a royalty rate. The TPG provide the general requirement that when economic valuation methods 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 TPG[13]. For the determination of a comparable royalty rate different sources of information may be used, either directly or as a source for addressing the challenges identified. A non exhaustiveoverview is provided in Annex B 2. It should be noted that intangibles often have unique characteristics and differ widely which can make it difficult to find appropriate external comparables.

Note from the Secretariat:

The recommendation below received broad support from those Members who commented. The additional suggestions received are reflected in track changes below:

Recommendation 7:

In cases where the economic valuation method requires the determination of a comparable royalty rate, the following general aspects should be taken into account. The importance of each of the aspects may vary. The list is not exhaustive and in a specific case consideration of additional or different aspects may have to be taken into account:

- Exclusivity of the right – parties that have the exclusive right to exclude others from using the intangibles have a greater degree of market power or influence as parties holding non-exclusive rights;

- Extent and duration of legal protection – for some intangibles that have limited useful life (e.g. patents), the duration of the legal protection affects the expectation of the parties of the future benefits;

- Is it a stand-alone royalty agreement or is it part of a larger arrangement

- Geographic scope – global rights prove more valuable than geographically limited rights;

- Useful life – the useful life is impacted by the rate of technological change in a certain industry and by the development of similar or potentially improved products; the useful life is also linked to expected future benefits from the use of intangibles,

13 paragraph 6.154 OECD TPG (new)

- Stage of development – generally intangibles relating to products with established commercial viability are more valuable than those related to products whose commercial viability is not yet established; for partially developed intangibles, the likelihood that the development will lead to future benefits must be evaluated;

- Rights to enhancements, revisions, updates – having access to updates, enhancements can make the difference between deriving short- or long-term advantages from the intangibles;

- Expectation of future benefit – in cases where a significant discrepancy is observed between the anticipated future benefit of using one intangible as opposed to another, it is difficult to consider the intangibles as being sufficiently comparable in the absence of reliable comparability adjustments; moreover, actual and potential profitability of products or potential products must be considered.

Furthermore, when performing a comparability analysis, the existence of risks related to the likelihood of obtaining future benefits from the intangibles should be considered, especially taking into account the following types of risks:

- Risks related to the future development of the intangibles;

- Risks related to product obsolescence and loss of the value of the intangibles;

- Risks related to infringement of the intangible rights; and

- Product liability and similar risks related to the future use of the intangibles.

- Royalty rates determined in valuations which were not made for transfer pricing purposes should be used with caution.

Q: Do you agree?

2.4 Routine returns

15. Some economic valuation methods require the determination of routine returns. The TPG provide the general requirement that when economic valuation methods 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 TPG[14]. For the determination of a comparable routine returns different sources of information may be used, either directly or as a source for addressing the challenges. A non exhaustive overview is provided in Annex B 3.

2.5 Discount rate

16. A critical element of all economic valuation methods is the discount rate which converts e.g. a stream of projected cash flows into a present value. It takes into account the time value of money and the risk of uncertainty of the anticipated stream. The TPG stress that the specific circumstances and risks associated with the facts of a given case and the particular cash flows in question should be evaluated in determining the appropriate

14 paragraph 6.154 OECD TPG (new)

discount rate. The TPG state that neither taxpayers nor tax administrations should assume that a discount rate based on Weighted Average Costs of Capital ("WACC") or any other approach should always be used. 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.

Note from the Secretariat:

The recommendation below received broad support from those Members who commented. **Recommendation 8:**

When using a discount rate in the context of an economic valuation for the purpose of transfer pricing it should be demonstrated

- *how the discount rate was calculated,*

- *why this calculation is regarded as appropriate, and*

- *which information was used to calculate the discount rate.*

Q: Do you agree?

Note from the Secretariat:

The TPG mention only the WACC formula. Members suggested other formulas that may be used (Capital Asset Pricing Model, Weighted Average Return on Assets, Adjusted present value method.)

Q: Which of the formulas do you think should be added to Annex B 4?

Q: Do you think that in light of the scope of this paper more guidance can realistically be given by the JTPF beyond of what is listed in Annex 4?

2.6 Useful life

17. The determination of the useful life of the item which is valued is one of the critical assumptions supporting a valuation model.[15]. 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 transferee. 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.

[15] paragraphs 6.174 – 6.177 OECD TPG (2015)

2.7 Simplification

Note from the Secretariat:

The application of economic valuation methods is complex, highly fact specific and often based on assumptions rather than on tangible evidence. Members were asked to consider whether there maybe potential for simplifying the methods[16].

In the discussion draft, Members were asked whether they see room for simplification. While some Members saw room for simplification and suggested a simplification measure provided for in their law, others considered this as going beyond of what can be achieved by the JTPF and suggested a further survey. Some Members expressed their hesitance as regards simplification given that often small differences may have a huge impact.

Members who have experience with simplified valuation approaches are invited to present an outline of their simplification measures to the JTPF.

Based on these presentations it will be discussed whether these simplification measures should be further considered (as method or as a sanity check) or whether this would go beyond the scope of this paper.

3. Two-sided vs. one sided valuation

18. 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.[17] Consequently the TPG conclude that the calculation of discounted cash flow may need to be estimated from both perspectives of the transaction. Further, the arm's length price will fall somewhere within the range of present values evaluated from the perspectives of the transferor and transferee.[18]

Note from the Secretariat:

On the question which approaches could be used to determine the point in the range some Members noted that while bargaining analysis may provide a reliable answer it is difficult to apply in practice. Others suggested that this is a facts and circumstances decision and flexibility is required. As regards the question whether a certain approach should be recommended some stated that the mid-point may serve as a fall-back position.

The Secretariat suggests a recommendation along the lines:

Recommendation 9:

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. The arm's

[16] At the October 2015 JTPF meeting MS were concerned that a simplified approach to be developed may become the norm, NGMs supported the development of such simplification mechanisms.

[17] paragraph 6.112 OECD TPG (2015)

[18] paragraph 6.157 OECD TPG (2015)

length price will fall somewhere within such a range.[19] *A thorough analysis of all facts and circumstances should be performed in order to decide which specific value within the range should be selected for the purpose of the assessment. The mid-point should be applied unless another point can be justified..*

Q: Do you agree?

IV. Legislative measures

19. The OECD concludes that valuation techniques may be used by taxpayers and tax administrations as part of one of the five transfer pricing methods described in Chapter II or as a tool that can be usefully applied in identifying an arm's length price.
20. It appears that only one country's regulations[20], i.e. the US, actually lay down detailed rules on the application of valuation methods to intangibles for transfer pricing purposes. The other countries' laws may contain general corporate finance valuation guidelines. Similarly, the transfer pricing regulations in the nine trade partners do not explicitly refer to valuation of intangible assets (besides the reference and acceptance of the OECD guidelines). The same applies to all EU Member States with the exception of Germany.
21. When the scoping paper was discussed at the October 2015 JTPF meeting it was concluded that assessing whether legislative changes are necessary in MS would go beyond the role of the JTPF which is working on practical solutions rather than on legislative aspects.

Note from the Secretariat:

The recommendation below received broad support from those Members who commented.

Recommendation 10:

MS are recommended to ensure that their transfer pricing legislation allows the use of economic valuation methods as part of one of the OECD transfer pricing methods and as a tool that can be usefully applied in identifying an arm's length price (including measures which are designed to simplify the application).

Q: Do you agree?

[19] paragraph 6.157 OECD TPG (2015)

[20] see section 5 of the Deloitte study on the use of economic valuation methods for transfer pricing which also contains a description of the US regulations and the German

V. Capacity building

22. Economic valuation is an interdisciplinary study drawing upon law, economics, finance, accounting and investment. This makes it a rather complex exercise. Applying economic valuation methods requires sufficient capacities in the tax administrations and on the side of taxpayers.

Note from the Secretariat:

The recommendation below received broad support from those Members who commented. The additional suggestions received are reflected in track changes below:

Recommendation 11:

MS and taxpayers should ensure that sufficient resources are available for assessing when the application of economic valuation methods would be appropriate in the context of transfer pricing.
In case economic valuation methods are applied tax administrations and taxpayers should be in a position to apply them properly and to review their proper application.
The following approaches may be considered for building capacity:
- provide training for staff by using internal or external resources
- employ new staff with the required skills
- create the possibility to hire external experts in case expertise is needed to apply or review the application of economic valuation methods
- make skilled personnel available to local/regional entities or tax offices
- provide taxpayers and tax administration with guidance on the expected level of requirements when performing a valuation in a transfer pricing context.

Annex A: SWOT Analysis of economic valuation methods for TP purposes

1. Analysis of strengths and weaknesses

Method	Strengths	Weaknesses
1. Relief from royalty	- Strongly reflects economic value at time of valuation - relatively easy to use - Key inputs rely on the market data - Amount of data required rather limited	- often a lack of appropriate benchmarks and market data
2. Premium profit method	- Strongly reflects economic value at time of valuation - relatively easy to use - Key inputs rely on the market data - Amount of data required rather limited	- often a lack of appropriate benchmarks
3. Excess earnings method	- Strongly reflects economic value at time of valuation - due to reliance on individual company data benchmarking may only be needed for objectivizing	- 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. Historical cost	- high degree of objectivity due to reliance on actual costs - relatively easy to use - no need for benchmarking due to reliance on actual historical costs - Amount of data required rather limited	- Less connected to economic value at time of valuation - no direct connection to market data and observation

5. Replacement cost	- medium degree of objectivity due to reliance on costs - relatively easy to use - Amount of data required rather limited	- 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
6. Residual value method	- Strongly reflects economic value at time of valuation - due to reliance on individual company data benchmarking may only be needed for objectivizing	- 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

2. Analysis of opportunities and threats

Method	Opportunities	Threats
1. Relief from royalty	- 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	- typically not used for intangibles with unique features, for which reliable comparables do not exist
2. Premium profit method	- 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	- 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	- potential to be used for customer contracts, customer relationships and in process research and	- typically not used when definition of "contributory assets" is not clear

	development projects	- 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. Historical cost	- potential to be used for internally generated intangibles with no identifiable income streams (e.g. self-developed software, websites) - potentially to use for intangibles in early stages of development, that have not yet resulted in a final product (e.g. early stage pharmaceuticals)	- typically not used for complex intangibles - 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. Replacement cost	- potential to be used for intangibles that can be replaced with quantifiable resources (e.g. software) - potentially to use for intangibles in early stages of development, that have not yet resulted in a final product (e.g. pharmaceuticals)	- typically not used for complex intangibles - 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
6. Residual value method	- 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)	- 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 of parameters

1. Financial projections

	Source	Main challenges	Potential solution(s) to challenges
internal	Management projections/financial forecasts	-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	- 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		-Availability and applicability of competitors' and industry data - Applicability of data from competitors and/or industry averages specifically to the financial projections in question	- 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 Provide and document justifications of deviations of forecast from industry statistics – forecast from competitors and from the historical statistics (past growth and profitability)

2. Royalty rates

	Source	Main challenges	Potential solution(s) to challenges
internal	Internal comparables: Agreements of a company in the same group with unrelated parties covering the same intangible under the same conditions 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	- 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	- Access comparability of identified agreements according to OECD TPG (geography products & their profit potential, market level, applications, terms of agreements, etc.
external	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 - Agreements databases, e.g. Royaltystat, Royaltysource, KTMINE, TP Catalyst, Lexis Nexis	-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	- 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, CaptainIQ, 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	- 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	- Level of judgement for finding factors affecting the useful life, e.g. technical changes, economic life, functional life	- 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	- 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.	-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 sycles etc.) may be appropriate to use	Explanation and documentation of selected life including documentation any external sources and their applicability