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Lost in Translation? Rethinking the Oil and Gas Industry Formula under the Common Consolidated Corporate Tax Base Directive Proposal

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Abstract: *The oil and gas industry is an important industry for several European countries. Due to the uniqueness of the industry, there have been special corporate taxation rules for the oil and gas industry where jurisdiction adopts formulary apportionment rules for levying cross-border corporate taxation. Alaska of the United States of America is a typical jurisdiction where a special formula for the oil and gas industry is provided and the Common Consolidated Corporate Tax Base Directive Proposal under the European Union law has also a special formula for the oil and gas industry, due to the influence from the United States of America formulary apportionment experiences. Based on the comparison between the Common Consolidated Corporate Tax Base and Alaska experiences, this paper shows that the Common Consolidated Corporate Tax Base's oil and gas industry formula has two theoretical flaws. The paper suggests that the fundamental rationale for the oil and gas industry should reaffirm the importance of the resource origin and a special asset factor is necessary for the oil and gas industry for improving the current Common Consolidated Corporate Tax Base Directive Proposal. The current Common Consolidated Corporate Tax Base Directive Proposal has made an effort to take into account the interests of the natural resource origin countries, but it used a wrong policy tool. The original aim of the oil and gas industry formula is not achieved and new tax planning loopholes are created. The Common Consolidated Corporate Tax Base's oil and gas industry formula is also a typical example that illustrates the risk of the "lost in translation" in comparative law research and legal transplantation.*

Key Words: *European Union Law; Oil and Gas Industry; Formulary Apportionment; Common Consolidated Corporate Tax Base; Alaska; the European Union.*

Introduction

The Common Consolidated Corporate Tax Base Directive Proposal[1] is an ambitious European Union tax reform attempt proposed by the European Commission. After adopting the Common Consolidated Corporate Tax Base, multinational enterprise taxpayers in the European Union will be subject to harmonized corporate group taxation and pre-decided sharing formula at the European Union law level and enjoy the benefits of a one-stop shop administration mechanism for filing their tax returns. The sharing formula of the Common Consolidated Corporate Tax Base Directive Proposal will replace the current bilateral tax treaties between the European Union Member States and set aside current national transfer pricing rules applicable to corporate group members.

The standard sharing formula under the Common Consolidated Corporate Tax Base Directive Proposal consists of three factors: the asset factor, the labour factor and the sales factor. These three factors are equally weighted, to represent the multinational enterprise taxpayers' activities from the supply side (the asset factor and the labour factor) and the demand side (the sales factor). The standard three-factor formula is based on the basic model of manufacturing industry.[2] The Common Consolidated Corporate Tax Base takes into account the unique feature of the oil and gas industry and provides a special sharing formula to allocate the consolidated tax base to the group members of the oil and gas industry. The oil and gas industry formula under the Common Consolidated Corporate Tax Base still maintains the standard three-factor formula design, but provides a special rule for the sales factor: the Common Consolidated Corporate Tax Base's oil and gas industry formula will attribute sales to the "origin", instead of "destination".[3] The original aim of this oil and gas industry formula is to protect the Member States in which oil and gas production and extraction take place.

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[1] See *Proposal for a Council Directive on a Common Consolidated Corporate Tax Base (CCCTB)* [2016-10-25]. COM (2016) 683 final, hereafter *2016 Common Consolidated Corporate Tax Base Directive*.

[2] See WEINER, J. M. *Taxation Papers: Formulary Apportionment and Group Taxation in the European Union: Insights from the United States and Canada* [online]. 1st ed. Luxembourg: Office for Official Publications of the European Communities, 2005. 66 p. [cit. 2018-12-14]. Working Paper, no. 8/2005. ISBN 92-894-6090-3. Available at: https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/gen_info/economic_analysis/tax_papers/2004_2073_en_web_final_version.pdf.

[3] See ibid., Article 42 of the *2016 Common Consolidated Corporate Tax Base Directive Proposal*. Infra, Section 2.2.

To evaluate whether the Common Consolidated Corporate Tax Base Directive's oil and gas industry formula has achieved its policy goal, we will also look into other formulas for the oil and gas industry. We choose Alaska's tax rules as the comparison target. From a comparative view, the Common Consolidated Corporate Tax Base will be analysed and checked to indicate several undesirable and illogical mistakes. The ultimate purpose of this comparison is to improve the current Common Consolidated Corporate Tax Base Proposal and to seek a proper formula that corresponds to the business feature of the oil and gas industry and the European Commission's original intent.

The structure of this paper is arranged as follows. Section 1 will first summarize the core concept and some academic discussions on taxation for the oil and gas industry. Section 2 will introduce the rationale of the Common Consolidated Corporate Tax Base Directive Proposal and the specific provision for the oil and gas industry in detail. Section 3 will introduce and discuss Alaska's legislation of state taxation for the oil and gas industry. In the Section 3, the different results of application of the Common Consolidated Corporate Tax Base formula and the Alaska formula will be presented, to illustrate the unreasonableness of the oil and gas formula designed by the Common Consolidated Corporate Tax Base Directive Proposal. In the Section 4, we will discuss illogical mistakes arising from the Common Consolidated Corporate Tax Base Directive and propose our suggestions to corrections. In the final section we will offer all the most relevant relating conclusions.

1 Levying corporate taxation on cross-border activities via formula apportionment: the case of extractive industry

Formulary apportionment has been practiced for levying corporate tax or business tax at sub-national level, such as in the United States of America, Canada, Germany and Switzerland.[4] The main idea of the formulary apportionment is that multinational enterprise taxpayers conduct cross-border activities and thus it would be fair to adopt a formula which con-

[4] See MAYER, St. *Formulary Apportionment for the Internal Market.* 1st ed. Amsterdam: IBFD, 2009. 336 p. ISBN 978-90-8722-048-8; and WEINER, J. M. *Taxation Papers: Formulary Apportionment and Group Taxation in the European Union: Insights from the United States and Canada* [online]. 1st ed. Luxembourg: Office for Official Publications of the European Communities, 2005. 66 p. [cit. 2018-12-14]. Working Paper, no. 8/2005. ISBN 92-894-6090-3. Available at: https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/gen_info/economic_analysis/tax_papers/2004_2073_en_web_final_version.pdf.

sists of different factors from the whole production-consumption chain, because such formula can represent interest of different jurisdiction. Levying corporate tax upon multinational enterprise taxpayers' cross-border activities via formulary apportionment approach has been discussed widely as an alternative to the current traditional international taxation system which relies on bilateral tax treaties to divide taxing powers of states. The most famous formula is the three-factor formula developed in the Massachusetts State in the United States of America which consists of the payroll, the asset and the sales factors.[5] The three-factor formula is a formula based on the model of manufacturing and merchandising industry,[6] reflecting the different stages of a supply chain – from production to customers' market. As to non-manufacturing industries, the standard formula might be inappropriate or unfair. Alaska, as a state where the oil and gas industry is important for its economy, provides a special oil and gas industry formula, alongside with the standard formula for levying corporate taxation from the non-oil and gas industry taxpayers.

Currently, there are only few theoretical discussions[7] on applying formulary apportionment to the oil and gas industry, though it is widely accepted that the extractive industry has a unique feature for its economic activities. So, the typical three-factor Massachusetts formula does not reflect the uniqueness of the extractive industry. Generally speaking, the underlying rationale of adopting a special industry formula is that the economic reality and the business model of that specific industry are different from the manufacturing and merchandising industry on which the standard three-factor formula is based on. It is indeed the case of the oil and gas industry. There is a distinctive feature of the oil and gas industry: its profits heavily rely on the natural resource itself. Therefore, the standard formula cannot reflect the contribution from the oil reserves

[5] See WEINER, J. M. *Taxation Papers: Formulary Apportionment and Group Taxation in the European Union: Insights from the United States and Canada* [online]. 1st ed. Luxembourg: Office for Official Publications of the European Communities, 2005. 66 p. [cit. 2018-12-14]. Working Paper, no. 8/2005. ISBN 92-894-6090-3. Available at: https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/gen_info/economic_analysis/tax_papers/2004_2073_en_web_final_version.pdf.

[6] See the *Common Consolidated Corporate Tax Base Directive Proposal*. Preamble (11) and detailed explanation at p. 10.

[7] See DAYLE SIU, E., S. PICCIOTTO, J. MINTZ and A. SAWYERR. *Unitary Taxation in the Extractive Industry Sector*. 1st ed. Brighton: Institute of Development Studies, International Centre for Tax and Development, 2015. 48 p. ICTD Working Paper, no. 35. ISBN 978-1-78118-231-4.

which the extractive industry makes profits from, because they are typically not "assets" of the company for any length of time.[8] It seems that the jurisdiction where the mine is located should have some kind of priority, but the classical three-factor formula does not reflect its importance enough. Here we can summarize this rationale as *"the importance of resource origin"* principle for the oil and gas industry. In fact, the rationale of *"the importance of resource origin"* has been long recognized and applied in the field of levying tax in the mining industry; the amount of production has been a key criterion to design royalties or tax levy.[9] The mining industry and the oil and gas industry share the feature in common that the natural resource origin is the ultimate driver for the economic activities of the supply chain.

Nowadays, the complexity of the cross-border taxation in the oil and gas industry results also from the vertically integrated feature of an oil and gas group – a group can consist of members conducting quite different economic activities. The tension between the mining jurisdiction, the transit jurisdiction and the sales jurisdiction then becomes clear too. One oil and gas group can involve these three types of jurisdictions at the same time. In the current transfer pricing system, it is also difficult to allocate profits from the oil and gas multinational enterprise groups,[10] just like is the difficulty embedded in the multinational enterprise groups in other industries. If the standard three-factor formula applies to an oil and gas group, it is very likely that the transit jurisdiction will be apportioned to even a larger share than the mining jurisdiction, because in the transit jurisdiction the costs to establish transition pipeline network for the oil and gas can be enormous and consequently increase the asset factor attributed to the transit jurisdiction. Such apportionment result seems contrary to the principle of "the importance of resource origin" and causes some unfairness.

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[8] See AVI-YONAH, R. S. Between Formulary Apportionment and the OECD Guidelines: A Proposal for Reconciliation. *World Tax Journal*. 2010, vol. 2, no. 1, pp. 3-18. ISSN 1878-4917.

[9] See FINÉR, L. and M. YLÖNEN. Tax-driven Wealth Chains: A Multiple Case Study of Tax Avoidance in the Finnish Mining Sector. *Critical Perspectives on Accounting*. 2017, vol. 48, pp. 53-81. ISSN 1045-2354.

[10] See CALDER, J. Transfer Pricing – Special Extractive Industry Issues. In: Ph. DANIEL, M. KEEN, A. ŚWISTAK and V. THURONYI, eds. *International Taxation and the Extractive Industries: Resources without Borders*. 1st ed. New York, NY: Routledge, 2017, pp. 79-110. ISBN 978-1-138-99962-6.

A harmonized formulary apportionment for different jurisdictions is neutral when it can reflect the economic reality of the multinational enterprise taxpayers in each jurisdiction and can correspond to the public benefits provided by these domestic governments. The benefit principle is consistent with the inter-nation equity and also justifies the resource origin state's taxing power.[11] The resource origin jurisdictions not only grant the access for multinational enterprises to explore the mine and further to produce the oil and gas product, but also bear extra burden to maintain the domestic economy. As many economists have observed, a resource-rich state can suffer from the "natural resource curse",[12] because exploration, production and exportation of a non-renewable resource can contribute to the economic growth for a short-term period, but in a long-term period the economy does not necessarily prosper and local people can suffer from inequalities. In any case, the resource origin state has to provide extra public services to manage the local environment due to the development of the oil and gas industry.

From our point of view, a supranational harmonized formulary apportionment system, as the Common Consolidated Corporate Tax Base, should indeed provide a special oil and gas industry formula for the whole European Union, because such industry has a quite different business model from the manufacturing industry on which the standard three-factor formula is based on. The importance of the resource origin theory should be also normative framework for the Common Consolidated Corporate Tax Base's oil and gas formula. In the following section, we will analyse closely the status quo of the Common Consolidated Corporate Tax Base Directive Proposal.

[11] See MAYER, St. *Formulary Apportionment for the Internal Market*. 1st ed. Amsterdam: IBFD, 2009, p. 37. ISBN 978-90-8722-048-8.

[12] See *World Trade Report 2010: Trade in Natural Resources* [online]. 1st ed. Geneva: World Trade Organization, 2010. 252 p. [cit. 2018-12-14]. ISBN 978-92-870-3708-4. Available at: https://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report10_e.pdf.

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2 The Common Consolidated Corporate Tax Base Directive and its special formula for the oil and gas industry

2.1 Overview of the Common Consolidated Corporate Tax Base Directive's consolidation and formulary apportionment mechanism: the metaphor of a pie and a knife

Before we discuss the oil and gas formula under the Common Consolidated Corporate Tax Base, it is worthwhile to recap the overview of the Common Consolidated Corporate Tax Base and its basic design. The proposed Common Consolidated Corporate Tax Base system is a harmonized group formulary apportionment taxation system at the European Union level. The system will treat a multinational corporate group as a taxpayer and provide a one-stop shop administrative mechanism. The direct benefit for multinational taxpayers is to reduce compliance costs of operating within the European Union internal market, because all group members (i.e. all qualifying subsidiaries) of a multinational group will file a consolidated tax return altogether. As a metaphor of a multinational group's tax base as a pie, the Common Consolidated Corporate Tax Base Directive decides the size of the pie (consolidation) and the way of cutting the pie (the sharing formula).[13]

Administrative benefits are obvious. The formulary apportionment provided in the Common Consolidated Corporate Tax Base will replace tax treaties and divide the taxing powers of the European Union Member States. Therefore, the current transfer pricing rules that relate to these bilateral tax treaties will cease to apply to multinational taxpayers within the European Union after the Common Consolidated Corporate Tax Base is adopted. It is expected that unreasonable costs spent on transfer pricing documentation and aggressive tax planning will both decrease.

Due to the consolidation, losses and profits from all group members will automatically be offset with each other. Therefore, adopting the consolidated tax base has an embedded benefit of cross-border loss offsetting. With the same metaphor of the whole consolidated pie and the knife, the process of loss offsetting is to make the consolidated pie smaller or to make the apportioned piece smaller. The "knife", the Common Consolidated Corporate Tax Base sharing formula, consists of three

[13] Note: The latest proposal of adopting the Common Consolidated Corporate Tax Base system, issued in 2016, consists of two sub-proposals: *Common Corporate Tax Base Proposal* and *Common Consolidated Corporate Tax Base Proposal*.

equally weighted factors: the sales factor, the asset factor and the labour factor.[14] Each factor is a ratio; the denominator is the whole group's factor item and the numerator is the factor item which can be attributed to the group member.

Therefore, each group member's apportioned share[15] of the pie would be:

the consolidated tax base ×

$$\left(\frac{1}{3}\times\frac{\textit{the member's sales}}{\textit{group sales}}+\frac{1}{3}\times\frac{\textit{the member's assets}}{\textit{group assets}}+\frac{1}{3}\times\frac{\textit{the member's labour}}{\textit{group labour}}\right) \quad (1)$$

Each group member's actual amount of tax due is the apportioned share multiplies the national corporate tax rate applicable to that group member.[16]

As to the weighting factor selection, the European Commission argues that a three-factor formula would be less vulnerable to be abused, because it is too difficult to abuse every factor at the same time.[17] In any case, even though the European Commission has tried to prevent possible abusive scenarios that already took place in the United States of America, the current Common Consolidated Corporate Tax Base Directive Proposal is not perfect. In fact, even in the sales factor which is argued as harder to manipulate,[18] there are still possibilities to inflate the ratio if the sales factor is not properly designed.[19] Based on formulary

[14] Note: The labour factor consists of two sub-factors: the head counts of employees and the amount of payroll. Both sub-factors are equally weighted as 50 % in the labour factor.

[15] See Article 28 of the *2016 Common Consolidated Corporate Tax Base Directive Proposal*.

[16] See Article 45 of the *2016 Common Consolidated Corporate Tax Base Directive Proposal* which provides: "The tax liability of each group member shall be the outcome of the application of the national tax rate to the apportioned share, adjusted in accordance with the Article 44, and further reduced with the deductions provided for in the Article 25."

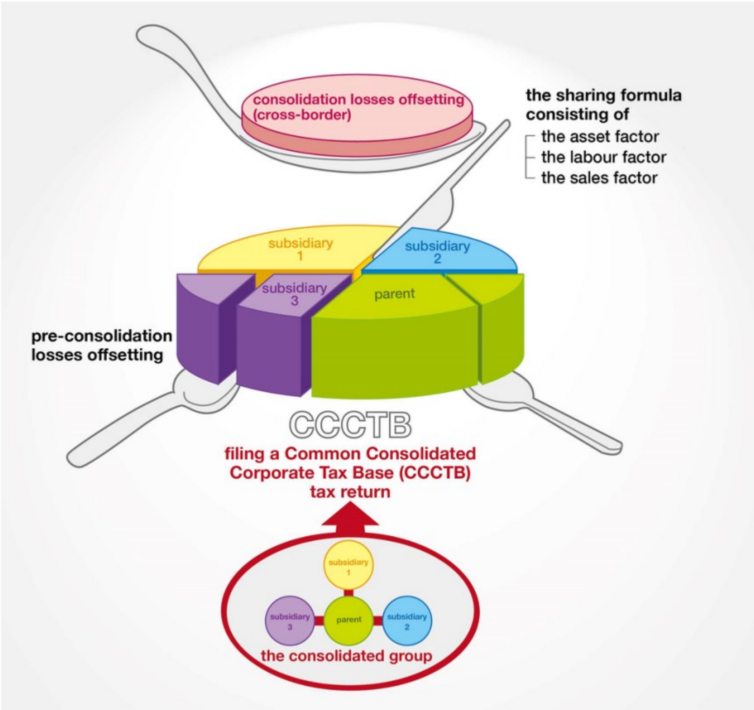
[17] See paragraph 63 of the *Common Consolidated Corporate Tax Base* [online]. 2007, p. 16 [cit. 2018-09-12]. Working Paper, no. 60. Available at: https://ec.europa.eu/taxation_customs/sites/taxation/files/docs/body/ccctbwp060_en.pdf.

[18] See De WILDE, M. Tax Competition within the European Union – Is the CCCTB Directive a Solution?. *Erasmus Law Review*. 2014, vol. 7, no. 1, pp. 24-38. ISSN 2210-2671.

[19] See CHEN, S.-Ch. Tax Avoidance in the Sales Factor: Comparison between the CCCTB and USA's Formulary Apportionment Taxation. *Indian Journal of Tax Law*. 2017, vol. 3, no. 2, pp. 1-27.

apportionment experiences in the United States of America, there are still quite a few possibilities to manipulate the sharing formula.[20]

Figure 1 Common Consolidated Corporate Tax Base



Source: Own processing.

As to the rules in each weighting factor, the asset factor includes all tangible fixed assets owned or rented by the taxpayer. Inventories and

[20] See HELLERSTEIN, W. Tax Planning under the CCCTB's Formulary Apportionment Provisions: The Good, the Bad and the Ugly. In: D. WEBER, ed. *CCCTB: Selected Issues*. 1st ed. Alphen aan den Rijn: Kluwer Law International, 2012, pp. 221-252. ISBN 978-90-411-3872-9; HELLERSTEIN, W. Formulary Apportionment in the EU and the US: A Comparative Perspective on the Sharing Mechanism of the Proposed CCCTB. In: A. P. DOURADO, ed. *Movement of Persons and Tax Mobility in the EU: Changing Winds*. 1st ed. Amsterdam: IBFD, 2014, pp. 413-459. ISBN 978-90-8722-223-9; and De WILDE, M. Tax Competition within the European Union Revisited: Is the Relaunched CCCTB a Solution?. In: D. WEBER and J. van de STREEK, eds. *The EU Common Consolidated Corporate Tax Base: Critical Analysis*. 1st ed. Alphen aan den Rijn: Kluwer Law International, 2018, pp. 205-233. ISBN 978-90-411-9233-2.

intangibles are excluded from the asset factor. In principle, assets are attributed to the economic owner. As to the sales factor, Article 38 of the Common Consolidated Corporate Tax Base Directive regulates the attribution of sales when deciding the sales factor of group members. In principle, the sales should be attributed to the destination (according to the Article 38 (1)). If the destination is a third country or there is no permanent establishment or subsidiary in the destination, the sales should be pro-rata thrown back to other group members (the throw-back rules are provided by the Article 38 (4) and the Article 38 (5)). The standard formula would apply, unless there are special rules. The oil and gas industry is subject to special rule under the Common Consolidated Corporate Tax Base, as explained in the Section 2.2.

2.2 Special formula for the oil and gas industry of the Common Consolidated Corporate Tax Base Directive Proposal

As discussed in the Section 1, the standard three-factor formula cannot reflect the activity of the oil and gas industry. Following the same rationale, the Common Consolidated Corporate Tax Base takes also this concern into account and provides a special formula. Article 42 of the 2016 Common Consolidated Corporate Tax Base Directive implies a special formula for the oil and gas industry. It contains a special attribution rule for deciding the sales factor of group members conducting principal business in the field of the exploration or production of oil or gas. Article 42 provides not only the special sales-by-origin rule, but also the special "fully throw-back rule" to one European Union group member.

Article 42 of the 2016 Common Consolidated Corporate Tax Base Directive sets out:

"Article 42 Oil and Gas

By way of derogation from Article 38 (1), (2) and (3), sales of a group member conducting its principal business in the field of the exploration or production of oil or gas shall be attributed to the group member in the Member State where the oil or gas is to be extracted or produced.

By way of derogation from Article 38 (4) and (5), where there is no group member in the Member State of exploration or production of oil and gas or the exploration or production takes place in a third country where the group member that carries on the exploration or production of oil and gas does not maintain a permanent establishment, the sales shall be attributed to that group member."

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Article 42 is the only Article in the Common Consolidated Corporate Tax Base Directive Proposal regulating the oil and gas industry. It is designed as a special rule to the standard formula. Although it is short, there are few implications worth analysing. Article 42 (2) is an exception to the Article 38 (4) and the Article 38 (5). Instead of a throw-around provision in the standard formula, for oil and gas exploration and production group member, the sales which cannot be attributed to the place of origin should be attributed to the specific group member carrying on the exploration or production of oil and gas. In other words, Article 42 (2) is the comparable provision to the "throw-around" provision in the standard formula in cases of no-where sales or uncertain-where sales. But the Article 42 (2) adopts the "fully throw-back rule" to one European Union approach.

2.2.1 (Too) limited application scope: only the upstream industry, not the midstream industry

Article 42 provides a special formula for the groups which conduct their principal business "in the field of the exploration or production of oil or gas". The scope of the "oil and gas industry" in the Article 42 seems quite restrictive. In reality, the oil and gas industry covers a wide range of industries, including the upstream, midstream and downstream industries and other relevant service industries.[21] The upstream industries include *production and extraction*, midstream and downstream industries include *transportation, storage, wholesale, refining, purifying and even some financial services*. A typical oil or gas corporate group is fully integrated from the upstream industry to the downstream industry.

As for terminology in the Article 42, Article 42 applies only to group members whose principal activities are *exploration and production*. The "exploration and production" belong to the oil and gas upstream industry. In other words, the midstream industry is not in the scope of the Article 42. Group members in the oil and gas midstream industries will be subject to the standard formula of the Article 28. In other words, the scope of the Article 42 of the Common Consolidated Corporate Tax Base Directive is quite limited and does not include the pipeline industry (this is quite different from Alaska, see Section 3).

[21] See TALUS, K. *EU Energy Law and Policy: A Critical Account.* 1st ed. Oxford: Oxford University Press, 2013, p. 114. ISBN 978-0-19-968639-1.

The European Commission's idea on the necessity of a special formula for the oil and gas industry can be traced back to the Joann Martens Weiner's consultation paper for the European Commission.[22] Weiner mentioned that the underlying reason being that the standard formula cannot reflect the unique feature of the pipeline industry. Not only the United States of America but also Canada has such special industry formula. Since the pipeline is so important to the pipeline operator, "the miles of pipelines in the province" replace the sales factor in the special sharing formula for the pipeline generator companies, because the pipelines are valuable assets. However, in the current Common Consolidated Corporate Tax Base Directive Proposal, Article 42 does not include the pipeline industry, because the pipeline industry is not in the scope of the "exploration and production". The limited application scope of the Article 42 seems to only solve part of the problem in the oil and gas industry.

2.2.2 The sales-by-origin rule: a mistake with good intention

Unlike the destination principle of the sales factor in the standard formula, the oil and gas industry formula provides that the sales of the oil and gas members should be attributed to in the group member's sales factor *"where the oil or gas is to be extracted or produced"*. In other words, the sales factor for the oil and gas industry should be decided by the origin principle rather than the destination principle.

The underlying reason for the oil and gas industry special formula is explained in the Common Consolidated Corporate Tax Base Working Document No. 68: *"Extracting oil is not a trading activity and should be treated on an origin basis."*[23] The European Commission further expressed that such a special oil and gas industry formula will not apply to other mineral resource industries, because the European Commission presumes that only the oil and gas industry, after the Common Consolidated Corporate Tax Base is adopted, will substantially influence the European Union Member States,[24] so no other extracted natural resource

[22] See WEINER, J. M. *Taxation Papers: Formulary Apportionment and Group Taxation in the European Union: Insights from the United States and Canada* [online]. 1st ed. Luxembourg: Office for Official Publications of the European Communities, 2005. 66 p. [cit. 2018-12-14]. Working Paper, no. 8/2005. ISBN 92-894-6090-3. Available at: https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/gen_info/economic_analysis/tax_papers/2004_2073_en_web_final_version.pdf.

[23] See paragraphs 47 and 48 of the *Common Consolidated Corporate Tax Base*. Working Paper, no. 68.

[24] See paragraph 49 of the *Common Consolidated Corporate Tax Base*. Working Paper, no. 68.

product would have the same ground to justify favouring the state of origin.[25] Therefore, other mineral resource industries will still adopt the destination rule for deciding the sales factor in the standard formula.

As to the labour factor and the asset factor, it is not so clear whether the Article 42 completely precludes the application of the asset factor and the labour factor in the standard formula or not. From the view of systematic interpretation, since the Common Consolidated Corporate Tax Base Directive Article 28 regarding the three-factor formula is the general rule, Article 42 seems to follow the general rule, unless it is otherwise provided. Therefore, Article 42 is not understood or interpreted as a single-sales factor formula, but merely provides a special rule for the sales factor.

The current design of the Article 42 seems not really consistent with the European Commission's original intention to provide a proper special formula for the oil and gas industry. An oil and gas multinational is usually highly vertical-integrated and can consist of subsidiaries and branches from upstream, midstream and downstream industries. Different subsidiaries conduct different activities respectively. Unfortunately, Article 42 is limited to the upstream activities.

2.3 The throw-back rule in the Article 42 (2): only for European Union Member States' fiscal interests

A typical example that can fall within the conditions of the Article 42 (1) is a corporate group member which conducts extraction and production activities and sells products from exploration and production activities to irrelevant third parties directly. In this regard, the origin of the sales is corresponding to the place of extraction and production. The sales-by-origin rule seems only representing the interest of the extraction and production origin state. In the European Commission's simple presumption, the origin of sales of oil and gas product is the same as jurisdiction where extraction and production activities take place.

Article 42 (2) provides exception to "the sales-by-origin rule". There are listed three situations in this paragraph: first, when there is no group member in the Member State where extraction and production activities take place; second, when the group member carries out extraction and production activities in a third country; and third, when the group mem-

[25] See paragraph 49 of the *Common Consolidated Corporate Tax Base*. Working Paper, no. 68.

ber carries out extraction and production activities in a Member State where no permanent establishment is established. In these situations, the special "throw-back" rule applies: the sales should be attributed to the group member within a European Union Member State.

The first and the third situation of no group member in the Member State of extraction and production of oil and gas or no permanent establishment might *not* happen very often, because the permanent establishment threshold under the Common Consolidated Corporate Tax Base Directive is quite low – "a mine, an oil or a gas well, a quarry or any other place of extraction of natural resources"[26] can be regarded as a permanent establishment. A qualifying subsidiary and a permanent establishment are both qualified as a "group member". Comparing to other permanent establishment definitions in the tax treaties, the permanent establishment threshold of the Common Consolidated Corporate Tax Base Directive for the oil and gas industry is quite low, because it does not require a separate time threshold. This is not always the case in a bilateral tax treaty. For example, Article 23 of the Denmark-Germany Income, Capital, Inheritance and Gift Tax Treaty (1995) provides several time thresholds for drilling activities and pipelines to constitute a permanent establishment.[27] In other words, the permanent establishment definition of the Common Consolidated Corporate Tax Base Directive is quite easy to fulfil. In this regard, it is less likely that exploration and production activities do not constitute a permanent establishment in the source state. Thus, paragraph 2 of the Article 42 might not be applicable very often in case of "no group member in the Member State of extraction and production of oil and gas".

The case of the second situation when the exploration or production takes place in a third country might occur more often than other two situations. In fact, Norway is a third country under the Common Consolidated Corporate Tax Base (see Section 4.4 further). In this case, the second paragraph of the Article 42 throws the sales back to "the group member" of the European Union Member State. It seems that this rule concerns about the fiscal interest of the European Union Member States,

[26] See Article 5(2)(f) of the *Proposal for a Council Directive on a Common Corporate Tax Base* [2016-10-25]. COM (2016) 685 final.

[27] See STUBBE GELINECK, M. Permanent Establishments and the Offshore Oil and Gas Industry – Part 1. *Bulletin for International Taxation*. 2016, vol. 70, no. 4, pp. 208-218. ISSN 0007-4624.

rather than the purpose of consistent rationale for the oil and gas industry. It also deviates from the original policy goal of the Article 42.

2.4 Examples illustrating unfairness of the Article 42 for the Nordic oil source countries

Article 42 of the Common Consolidated Corporate Tax Base Directive Proposal has a good intention to reflect the oil and gas industry's economic reality and to take into account the oil production state. However, the design of the oil and gas industry formula has several theoretical flaws due to deviating from both the fundamental rationale of the sales factor and the rationale of emphasizing the oil and gas origin. The flaws will lead to unfair result; sometimes the attribution can be neither the origin nor the destination.

Take one example of illustrating the flaw arising from the Article 42 (1): A German oil company has a Danish subsidiary and this Danish subsidiary conducts oil exploration and production in the North Sea. In this group, there is a Dutch subsidiary to conduct marketing and sales activities in the Netherlands. The oil is transmitted via the pipeline network to the Netherlands. The oil products produced by the Danish subsidiary are directly sold to the Dutch customers. According to the Article 42, the sales of the Danish subsidiary should be attributed to the Danish subsidiary. However, if the Danish subsidiary conducts an intra-group sale of the oil, first to the Dutch subsidiary, such intra-group sales are eliminated and regarded as non-existent; furthermore, the sales from the Dutch subsidiary to the Dutch customers will fall back to the scope of the sales by the destination rule, because the Dutch marketing company will have to follow the standard formula. Article 42 (1) will be easily circumvented. Such scenario is similar to the old "setting up an intermediary" scenario of the standard formula to manipulate or to reduce the sales factor. In the oil and gas industry, the upstream and downstream industries are typically vertical-integrated and such intra-group transactions are just normal in business practice.

Take another example regarding an illogical result of the throw-back rule of the Article 42 (2): Suppose in the same group, the German parent cooperates with a local Norwegian producer and trades the oil and gas products directly to the Netherlands, on a project basis. The European Economic Area Agreement does not cover direct taxation competence and thus the Common Consolidated Corporate Tax Base would not apply to Norway.[28] Therefore, in this example, the sales of the oil from Norway will be attributed to the German parent company, according to the Article 42 (2), because the "exploration or production of oil and gas takes place in a third country". The sales would be thrown back to a group member; in this case, it is the German parent who would be attributed to the sales of oil and gas products produced in Norway. Article 42 (2)'s throw-back rule is no longer a rule of correction, but deviates from the underlying imperative in the oil and gas industry – the production origin's state should be fairly emphasized. In this case, the sales of oil and gas products from Norway by a German parent, in fact, are not attributed to the origin (Norway) nor to the destination (the Netherlands), but merely to jurisdiction where the group member's headquarter is established. Such result has also missed out the rationale of the sales factor. In other words, Norway, a third-country jurisdiction where the quantity of oil and gas products is large, can be easily manipulated for the Common Consolidated Corporate Tax Base purpose under the Article 42 (2). Designing the oil and gas formula in this way is not only unfair for the resource origin state, i.e. Norway, but also harmful for the Common Consolidated Corporate Tax Base system itself for creating a manipulation opportunity. To seek solutions for the Common Consolidated Corporate Tax Base's problems, the coming section will discuss law and practice developed in Alaska.

3 Law and practice of the oil and gas formula in the United States of America: Alaska as typical example

3.1 Overview of the States' oil and gas formulas in the United States of America

Most states in the United States of America do not have a special formula for pipeline or upstream industry, and still use their standard three factors or single sales factor formula in the oil and gas industry. This is be-

[28] See PEREIRA, T. A. *International Aspects of the CCCTB in Europe* [online]. 1st ed. Maastricht: Maastricht University, 2014, p. 51 [cit. 2018-12-14]. ISBN 978-90-5681-441-0. Available at: https://cris.maastrichtuniversity.nl/portal/files/1670646/guid-a64ea355-e7ad-4393-acb9-6010980cd6eb-ASSET1.0; and HJORT, J. B., K. ISAKSEN and R. S. LYSTAD. Norway. In: M. LANG, P. PISTONE, J. SCHUCH and C. STARINGER, eds. *Procedural Rules in Tax Law in the Context of European Union and Domestic Law*. 1st ed. Alphen aan den Rijn: Kluwer Law International, 2010, p. 490. ISBN 978-90-411-3376-2.

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cause most of the states in the United States of America do not have special need to regulate the oil and gas industry.

There are still quite a few examples of the oil and gas industry formulas in different states. It should be noted that the midstream industry, such as pipeline industry, and the upstream industry, such as oil exploration and production, are very often regulated differently by the states, though these two types of industries both might need to deviate from the standard formula. For example, there are a few U.S. States, including Pennsylvania, Tennessee or Oklahoma, already adopting a special formula other than the standard three-factor formula for the pipeline industry.[29] A further question would arise, what a formula should be applicable when a group consists of different types of industries at the same time. This type of group is referred as “divided business” or “conglomerate group”.[30] As to an oil and gas/petroleum group, it is quite possible that the group members belong to upstream, midstream and downstream industries respectively. Therefore, it is arguable how the application scope of a special industry formula should be designed. Among these states, Alaska has provided a quite comprehensive statutory oil and gas industry formula also for the upstream industry as well as the midstream industry. For the Common Consolidated Corporate Tax Base, Alaska might provide some insight.

3.2 Alaska’s legislation on the oil and gas formula

Alaska has adopted a set of special formulas applicable to the pipeline industry and the oil and gas industry,[31] which is quite unique and thus worth discussing. Alaska’s apportionment rules for the oil and gas indus-

[29] See HELLERSTEIN, J. R. and W. HELLERSTEIN. *State Taxation*. 3rd ed. Boston: Warren, Gorham & Lamont, 2016, p. 10.03[4]. ISBN 978-0-7913-3649-6.

[30] See WEINER, J. M. *Taxation Papers: Formulary Apportionment and Group Taxation in the European Union: Insights from the United States and Canada* [online]. 1st ed. Luxembourg: Office for Official Publications of the European Communities, 2005. 66 p. [cit. 2018-12-14]. Working Paper, no. 8/2005. ISBN 92-894-6090-3. Available at: https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/gen_info/economic_analysis/tax_papers/2004_2073_en_web_final_version.pdf.

[31] See DAYLE SIU, E., S. PICCIOTTO, J. MINTZ and A. SAWYERR. *Unitary Taxation in the Extractive Industry Sector*. 1st ed. Brighton: Institute of Development Studies, International Centre for Tax and Development, 2015. 48 p. ICTD Working Paper, no. 35. ISBN 978-1-78118-231-4.

try are included in the Alaska Statutes Section 43.20.144 since 1981.[32] It provides a very comprehensive formula for the oil and gas industry companies, including pipeline companies and extracting companies. In other words, not only the upstream, but also the midstream oil and gas industries are also subject to the special industry formula. This is quite different from the Article 42 of the Common Consolidated Corporate Tax Base Directive, because Alaska's oil and gas industry formula has a broader application scope.

As to the downstream industries, such as marketing companies, they are still subject to Alaska's standard formula,[33] which is a three-factor formula consisting of the sales factor, the payroll factor and the property factor. As to the upstream and midstream industries, Alaska Statutes Section 43.20.144[34] provides three formulas respectively for the oil and gas producing companies, transporting companies and "conglomerate" companies, which both produce and transport oil and gas.

For oil and gas production companies not engaged in transportation, i.e. pure upstream oil and gas extracting companies, the formula contains two factors: *the property factor* and *"the extraction factor"*.[35] As to the pure pipeline transportation industry, i.e. pure midstream company, the formula consists of two factors: *the property factor* and *the sales factor*.[36] As to the taxpayer engaged in both production and transportation of oil and gas, the formula includes three factors: *the property factor*, *the sales factor* and *the extraction factor*.[37] In Alaska's oil and gas industry formula, the payroll factor is completely left out.

"The extraction factor" is a factor based on extraction activities. It is an independent factor and calculates "the quantity of production" by the number of barrels by oil production and the number of Mcf[38] by gas production. "Barrel" and "Mcf" are both measures of production. Therefore, the extraction factor is closely related to the results of extraction activi-

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[32] See document Corporate Income Tax Historical Overview. In: *Alaska Department of Revenue – Tax Division* [online]. 2018 [cit. 2018-05-21]. Available at: http://tax.alaska.gov/programs/programs/reports/Historical.aspx?60380.

[33] See Alaska Statutes Section 43.20.143 referring to 43.19.010, which incorporates the Multistate Tax Compact.

[34] See Alaska Statutes Section 43.20.144(c)(2).

[35] See Alaska Statutes Section 43.20.144(c)(1).

[36] See Alaska Statutes Section 43.20.144(c)(2), Alaska Statutes Section 43.20.144(d).

[37] See Alaska Statutes Section 43.20.144(c)(3).

[38] Note: One Mcf means 1 000 cubic feet – a quantity unit of measure in the oil and gas industry for natural gas.

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ties.[39] "The extraction factor" reflects the extraction activities in the oil and gas industry and thus has a closer link than "the sales-by-origin" principle adopted by the Common Consolidated Corporate Tax Base Directive in the Article 42. Alaska's extraction factor is especially reflective of the origin state's interest. Therefore, the extraction factor is more appropriate than the sales-by-origin principle to represent the origin states' interests.

3.3 Disputes regarding the property factor of the oil and gas industry in Alaska

Before laying down the statutory oil and gas formula, there have been other state taxation disputes on the oil and gas industry in Alaska, dated back to 1980's. The disputed center lies on the property factor. As Walter Hellerstein has discussed,[40] it was argued whether the intangible drilling costs,[41] Outer Continental Shelf,[42] non-production oil wells[43] should be included in the asset factor or not. Alaska's legislation and the Alaska Supreme Court have given affirmative answers in these rulings. In other words, intangible drilling costs, Outer Continental Shelf, non-production oil wells are all included in the asset factor. Although the arguments in each case are formulated differently, the common rationale developed in these rulings is that the oil and gas resource origin is the key element of the industry. Therefore, production efforts related to the resource origin

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[39] See Alaska Statutes Section 43.20.144(f) which provides: "The extraction factor of a taxpayer subject to this section is a fraction, (1) the numerator of which is the sum of the following for the tax period: (A) the number of barrels of the taxpayer's oil (net of royalty to an unrelated party) produced from or allocated to leases or properties of the taxpayer in this state; and (B) one-sixth of the number of Mcf of the taxpayer's gas (net of royalty to an unrelated party) produced from or allocated to leases or properties of the taxpayer in this state, excluding reinjected gas; and (2) the denominator of which is the sum of the following for the tax period: (A) the number of barrels of oil of the taxpayer's consolidated business (net of royalty to an unrelated party) produced from or allocated to leases or properties of the taxpayer's consolidated business everywhere; and (B) one-sixth of the number of Mcf of gas of the taxpayer's consolidated business (net of royalty to an unrelated party) produced from or allocated to leases or properties of the taxpayer's consolidated business everywhere, excluding reinjected gas."

[40] See HELLERSTEIN, W. Recent Judicial Developments in State Income Taxation of the Oil and Gas Industry. *Oil and Gas Tax Quarterly*. 1986, vol. 34, no. 3, pp. 533-537. ISSN 0030-1396.

[41] See the current Alaska Statutes Section 43.20.144(1)(1)(B).

[42] See Des. No. 83-30, Alaska Department of Revenue, September 7, 1983.

[43] See *State Department of Revenue v. Amoco Production Co.* [1984-01-06]. Department of Revenue, Opinion No. 676 P.2d 595.

are all included in the asset factor to represent the origin jurisdiction's taxing powers.

In addition to the importance of the resource origin rationale, the Alaska Supreme Court also reaffirms the integrated feature of the oil and gas industry to the definition of unitary business.[44] When the unitary business between an instate company and the out-of-state affiliates is established, a state can have the taxing powers to apportion the whole unitary group's taxable income to the attributable extent.[45] In 2013, in the Tesoro case, Alaska's Court ruled on the unitary business and the formula.[46] The ruling of Alaska clearly reiterates that the integration between the upstream industry, the midstream industry and the downstream industry is so strong to constitute unitary business and thus the State Alaska has the taxing power to apportion part of the taxable income from the Tesoro group. Tesoro is a famous oil and gas group with the headquarter established in Texas. Tesoro has conducted its retail and marketing service in Alaska since 1969 and Tesoro's exploration and production activities take place largely in Texas and Bolivia. In 1995, Tesoro acquired a pipeline company Kensai Pipeline which serves its refinery business in Alaska. Tesoro argued that Kensai Pipeline does not constitute unitary business with other business segments of the Tesoro group. However, the Court ruled that there are indeed functional integration, centralized management, economies of scale between the pipeline company Kensai Pipeline and other affiliates of Tesoro. Such unitary business justifies Alaska's nexus apportionment.

To sum up, according to the experiences from Alaska, we can observe that the importance of resource origin theory has been extensively accepted and implemented. In our view, this is what the Common Consolidated Corporate Tax Base should follow as the normative framework, because it reflects the industry feature as well as the justification for the origin jurisdiction to tax and provides relevant public benefits.

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[44] See SCHADEWALD, M. S. Alaska Supreme Court Rules that Petroleum Company is Unitary. *Journal of State Taxation*. 2014, vol. 32, no. 3, pp. 9-10 and 66-67. ISSN 0744-6713.

[45] See PICCIOTTO, S. ed. *Taxing Multinational Enterprises as Unitary Firms* [online]. 1st ed. Brighton: Institute of Development Studies, 2017. 184 p. [cit. 2018-12-14]. ISBN 978-1-78118-341-0. Available at: http://www.ids.ac.uk/publication/taxing-multinational-enterprises-as-unitary-firms.

[46] See *Tesoro Corporation and Subsidiaries, Appellants, v. State of Alaska* [2013-10-25]. Department of Revenue, Appellee No. S-14326.

4 Correcting the problems from the Common Consolidated Corporate Tax Base's oil and gas industry formula

As indicated above, Article 42 has several theoretical flaws. This section will discuss the correction methods respectively. Since the Common Consolidated Corporate Tax Base is a supranational formula, copying Alaska without modifications would not work.

4.1 Correction of the Common Consolidated Corporate Tax Base's misunderstanding of the sales factor's function

The European Commission has been recognizing the need for a special formula for the oil and gas industry in the Common Consolidated Corporate Tax Base. This is clearly recorded in the Common Consolidated Corporate Tax Base Working Document.[47] Despite of acknowledging the necessity of special industry formulas, the European Commission is still very cautious with creating differentiated industry formulas, because too many special formulas might hinder important goals of pursuing simplicity and reducing compliance costs under the Common Consolidated Corporate Tax Base.

Due to this cautious attitude to prove a separate industry formula, the European Commission designed in the Article 42 the oil and gas industry formula very close to the form of the standard formula. Article 42 chooses the same three factors – the labour, the asset and the sales as the standard. The only difference from the Article 42 is the attribution rule for the sales factor – Article 42 of the Common Consolidated Corporate Tax Base Directive Proposal adopts the sales-by-origin rule, instead of the sales-by-destination rule. Being still quite similar to the standard three-factor formula, the oil and gas industry formula has reflected the European Commission's effort to seek a proper formula for this industry and to pursue simplicity at the same time.

The rationale of adopting the "sales-by-destination" for the oil and gas industry, according to the European Commission's Working Document, is that "extracting the oil is not a trading activity and should be treated on an origin basis". The origin basis seems corresponding to the idea of production and extraction of oil and gas. The European Commission's reasoning has a right starting point, but ends up in a wrong direc-

[47] See paragraph 69 of the *Common Consolidated Corporate Tax Base* [online]. 2007, p. 17 [cit. 2018-09-12]. Working Paper, no. 60. Available at: https://ec.europa.eu/taxation_customs/sites/taxation/files/docs/body/ccctbwp060_en.pdf.

tion. The European Commission has made a conceptual mistake regarding the idea of sales. Since extracting the oil is not a trading activity *per se*, choosing the sales factor in the formula is incorrect and illogical from the very beginning, no matter the attribution rule is "sales-by-destination" or "sales-by-origin".

The sales factor is expected to represent the demand side of the taxpayer's economic activities and, therefore, a non-trading activity cannot be reflected by the sales factor, because sales, per se, are defined as activities related to trading. As the Working Document's record showed, the European Commission believes that adopting the origin based sales factor in the sharing formula can serve the need of representing a non-trading activity and "output" of the taxpayer in the oil and gas industry. Such belief is merely a misunderstanding. The European Commission has just chosen a wrong tool to reflect "output" of the oil and gas industry.

Comparing to Alaska's special formula for the oil and gas industry, Alaska's formula does not have such conceptual mistake. Alaska's formula takes into account also the feature of production and extraction activity and thus has in the special industry formula "the extraction factor", for the taxpayer conducting production and extraction activities. The extraction factor is based on the quantity of extraction and production and thus reflects the extraction activities in the oil and gas industry. It obviously has a direct and close link, other than the sales-by-origin principle adopted by the Common Consolidated Corporate Tax Base Directive in the Article 42.

Though we are indeed inspired by Alaska's comprehensive rules, it should be clarified that here we do not argue that Alaska's oil and gas industry is the only correct or perfect approach to apportion the consolidated tax base. Alaska's formula is merely a unilateral formula that reflects the interest of its own jurisdiction, so it is not wise to just copy it to the Common Consolidated Corporate Tax Base, since the Common Consolidated Corporate Tax Base as a supranational formula must strike a balance between interests of the different European Union Member States in advance. Alaska's oil and gas industry formula, however, is indeed a convincing perspective to remind us the economic reality of the oil and gas industry. The "extraction factor" in Alaska's oil and gas formula does convey a key message that the production of crude oil should play a role in the formulary apportionment, because extraction represents also an important aspect in the production process. Alaska's oil and gas formula replaces the payroll factor by the extraction factor, but the Common Consolidated Corporate Tax Base does not need to abandon the labour factor for the oil and gas industry.

With the similar rationale like Alaska, the European Commission just wrongly made use of the sales factor to achieve the aim of taking into account the production jurisdiction. Instead, the asset factor can achieve this aim. In fact, the oil products extracted from the oil reserves have their function as an asset for further production. The extraction result/ quantity should be categorized as a type of assets and attributed to the physical location of the mine/oil reserves. The logic in this way is that the extraction result should be recognized as a type of contribution from the production stage, but should not be categorized as sales with an exceptional attribution rule.

The sales factor of the oil and gas group should still follow the sales-by-destination rule and should be calculated by the actual amount of receipts earned. The sales-by-destination rule can reflect the jurisdiction where the downstream industry takes place. It is a fair attribution rule and should not be altered simply because the need to accommodate the importance of resource origin theory. The sales-by-origin rule cannot serve the need of the importance of resource origin theory, because exploration and production of oil is inherently different from sales as trading activities, no matter in destination or in origin. The correction should be applying the importance of resource origin theory to the asset factor in the formula. From our point of view, the quantitative result of extraction activity, i.e. the amount of crude oil and gas, should be evaluated and included in the asset factor. In this way, the resource origin jurisdiction can be represented.

4.2 Establishing a comprehensive formula suitable for the whole oil and gas group

In addition to the misunderstanding of the sales factor as indicated above, the Common Consolidated Corporate Tax Base Directive Proposal in the Article 42 ignores the important feature of a group in the oil and gas industry – being vertically integrated between the upstream and the midstream or the downstream. The European Commission seems to presume that the oil exploration and production companies will sell the crude oil directly to the market. However, it is quite popular that the crude oil is sold to another group member, to conduct further purifying and refining realised by another subsidiary.

As the above-mentioned examples from the United States of America state's taxation for the oil and gas industry indicate, it has been popular to treat the group members of upstream and midstream industries differently, so different formulas apply. However, such distinction will result in the consequence that two different formulas apply to group members from one single group. Under the Common Consolidated Corporate Tax Base, a harmonized formula has the ultimate aim to be applicable consistently and also has the privilege to be applicable as a supra-national rule throughout the European Union. For the European Union, it is logical to design a Common Consolidated Corporate Tax Base industry formula that is suitable for the oil and gas industry as a whole group, not just to copy a unilateral oil and gas formula from any state of the United States of America, because a unilateral formula can only represent political interest of (that type of) specific state, depending on whether that state has oil and gas resources or not.

Therefore, in order to make sure that the formula faithfully reflects the economic activities of the whole oil and gas group, the oil and gas formula should consist of factors that can reflect economic activities from the upstream industry to the downstream industry; the factors should also reflect the integrated relation between the group members. In other words, the pipeline industry, for example, should also follow the specialized formula for the oil and gas industry altogether with the group members of exploration and production.

4.3 Realigning with the importance of resource origin theory by modifying the asset factor in a three-factor formula

As indicated in the Section 2, Article 42 (2) adopts the throw-back rule to protect the interest of the European Union; and such rule directly deviates from the fundamental rationale. The unfairness embedded in the Article 42 of the Common Consolidated Corporate Tax Base Directive Proposal is exactly resulting from this deviation. Such a European Union-centred approach instead of following the economic reality of this industry is obviously unreasonable. Since we accept that the importance of resource origin should be the decisive guiding principle for a fair and neutral oil and gas industry formula, adopting a throw-back rule that only concerns the European Union's fiscal interests is contrary to the policy objective.

Furthermore, the original aim of the throw-back rule in a standard formula is to adjust no-where or not-certain-where sales and to fully catch the contribution from the sales factor. Article 42 (2)'s "throw-back rule" is obviously not the case. The current Article 42 (2) applies simply because the oil and gas production activities do not constitute a permanent establishment or the oil and gas production activities take place outside the European Union. Article 42 (2) has become an arbitrary rule to increase the sales factor attributed to a European Union group member, instead of reflecting the industry feature. In our view, the current Article 42 (2)'s throw-back rule is actually a legislative mistake, lacking any justification. The valid Article 42 (2) should be amended, because it is not reflecting the economic reality.

From our point of view, in order to reflect the economic reality of an integrated oil and gas group, the traditional three-factor formula still can play a role. The sales factor can reflect the economic activity from the downstream industry; the asset factor can reflect the economic activity from the midstream and the upstream industries, provided that the asset factor has some modifications. Therefore, there should be some other types of special items to be included in the asset factor. The crude oil which represents the extraction result and can be refined as product should also be included in the asset factor. As to the value of the extraction result, it is not more troublesome than the transfer pricing practice. In fact, oil and gas, as types of commodities, are easier to be evaluated than other intangibles. There are already some commodity price benchmarks for oil and gas, such the Brent Crude. The government can also issue some evaluation criteria. For example, the New York State tax authorities (based on valid property law) announce the "Tentative Oil and Gas Unit of Production Values" every year for the property tax law purpose.[48] Evaluation of oil and gas can be conducted in a simple and certain way. It is attributed to the mine jurisdiction and should be evaluated according to a well-accepted benchmark in the oil and gas market. Therefore, the sales factor and the asset factor will function well and will not overlap.

Furthermore, in order to reflect the risky feature of the oil and gas industry, "intangible drilling costs" should also be included in the asset factor, being regarded as a special item. Alaska has included "intangible drilling costs" in the asset factor, as indicated above. The Common Con-

[48] Note: It is published online and updated annually, see document Index: Manual for Valuation and Assessment of Oil and Gas Producing Property in New York State. In: *New York State Department of Taxation and Finance* [online]. 2018 [cit. 2018-12-14]. Available at: http://www.tax.ny.gov/research/property/valuation/oilgas/index.htm.

solidated Corporate Tax Base should take the same approach. Such inclusion of intangible drilling costs is not only aligning with the importance of resource origin theory, but similar idea can also be found in the asset factor of the Common Consolidated Corporate Tax Base standard formula. Intangible drilling costs are costs used to drilling and necessary for the preparation of wells for production, without salvage value. Intangible drilling costs are a risky investment that might not result in any concrete or successful production. In the asset factor rule of the Common Consolidated Corporate Tax Base Directive's standard formula, research and development costs are also regarded as a special type of asset. In the oil and gas industry, intangible drilling costs play similar function as research and development – successful research and development will create efficiencies and improve production, but research and development are also risky activities that cannot guarantee the return. Intangible drilling costs have the same feature as research and development. When including intangible drilling costs in the asset factor, these costs should not include related wages, because wages are already calculated in the labour factor.

Last but not the least, although the asset factor can be designed to reflect the oil and gas origin importance, it is not necessary to abandon the labour factor from the oil and gas industry formula. As indicated above, an oil and gas group is usually a vertical integrated group. Unitary business often exists between group members from the upstream industry to the midstream industry. A suitable industry formula should be a formula which can also reflect the close relation between group members. The labour factor will reflect the contribution from employees, even though it is natural that the labour factor of a less labour-intense group member usually would be smaller than of a capital-intense group member. Since these two types of industries (upstream and midstream) constitute the whole oil and gas industry, a formula consisting of the labour factor, the asset factor and the sales factor will be fair to all involved Member States.

4.4 Implications to the Nordic countries: the oil and gas industry in the European Economic Area

Among the Nordic countries, the interaction between Norway and the neighbouring European Union Member States is worth noticing. As indicated above, the Common Consolidated Corporate Tax Base would not be applicable to Norway, because the European Economic Area Agreement does not harmonize the direct taxation matters. However, the oil and gas fields in the North Sea belong to various states, including Norway and other European Union Member States. The current Common Consolidated Corporate Tax Base Directive Proposal's oil and gas industry formula is based on the European Union-centred rationale, instead of oil and gas source-centred rationale. Since the oil and gas industry has an integrated feature, it is quite possible that an oil and gas group conducts the upstream to the downstream business across Nordic countries, including the European Union and the non-European Union Member States. In such case, honouring the importance of resource origin theory is, in fact, the best solution. When the Common Consolidated Corporate Tax Base adopts the oil and gas formula that includes a special asset factor incorporating the extraction result multiplying an objectified price index, it does not matter whether the origin jurisdiction is a European Union Member State or not. It is fair to attribute the extraction result to where extraction, i.e. production and exploration activities, really takes place. In the current Article 42, the Common Consolidated Corporate Tax Base Directive Proposal's oil and gas industry attribution rule already fails to reflect the importance of the origin and its throw-back rule even deviates further to attribute the sales to neither origin nor source, when it involves a third country. It should modify the asset factor and amend the current Article 42 of the Proposal for all relevant Nordic countries.

Conclusions

From the comparison above, it is clear that both the Common Consolidated Corporate Tax Base Directive Proposal's oil and gas formula and the experiences from Alaska have the same rationale: recognizing the importance of the resource origin. However, the current Common Consolidated Corporate Tax Base Directive Proposal's oil and gas industry formula fails to reflect the importance of the resource origin theory, because it wrongly chooses the sales factor as the policy tool. It is a twofold misunderstanding of the sales factor and the oil and gas industry. A domino effect then inevitably occurs – the Common Consolidated Corporate Tax Base tries to adopt "the sales-by-origin" rule to achieve the policy goal, but it is lost in translation, even further when designing the throw-back rule for the oil and gas industry formula. To expect a sales factor to reflect the resource origin is just redundant. The Common Consolidated Corporate Tax Base Directive Proposal misunderstands the function of the sales factor. Fortunately, experiences from Alaska provide us inspirations. While maintaining the three-factor formula structure for the oil and gas industry, it would be feasible and reasonable to include the extraction result as an item in the asset factor for the oil and gas industry. The sales factor should just follow the standard formula, attributing the sales to the destination. The oil and gas industry formula of the current Common Consolidated Corporate Tax Base Directive Proposal needs several amendments, to realign with the importance of the resource origin rationale. Such amendments are also necessary to correct the misunderstanding arising from the process of legal transplantation when the European Union legislators tried to learn lessons from another jurisdiction.

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