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Subject: State Aid n° SA.41386 (2015/N) – United Kingdom
Research & Development Tax Credits - SME Scheme

Sir,

1. PROCEDURE

1) By electronic notification of 27 March 2015, registered by the Commission on the same date, the United Kingdom (hereinafter: UK) submitted a summary information sheet pursuant to Article 11(a) of Commission Regulation (EU) No. 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty[1] (hereinafter: "the GBER") on the aid scheme "Research & Development tax credits - SME scheme" (hereinafter: "the aid scheme"), which it plans to implement until the 31 March 2020. This submission was registered as SA.41386 (2015/X).

2) The aid scheme was put into effect on 1 April 2015 pursuant to Article 1(2)(a) concerning the scope of application of the GBER and Chapter III, Sections 4 of the same regulation concerning aid for research and development and innovation.

3) The aid scheme has an annual budget of GBP 470 million, thus constituting a large scheme within the meaning of Article 1(2)(a) of the GBER. Under this provision, those aid schemes whose "average annual State aid budget exceeds EUR 150 million" are exempted from the notification obligation only for a period of six months after their entry into force. This exemption can be prolonged for a longer period authorised by the

[1] OJ L 187 of 26.6.2014, p.1.

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Commission following the assessment of an evaluation plan notified by the Member State concerned.

4) To obtain that prolongation, the UK notified an evaluation plan for the aid scheme on 9 April 2015, which was registered by the Commission on the same date.

5) By letters of 13 May and 13 July 2015, the Commission asked for supplementary information, which has been provided by the UK by letters of 18 June and 17 July 2015, as well as by email of 26 August 2015.

2. DESCRIPTION OF THE NOTIFIED EVALUATION PLAN

6) As required by Article 2 (16) of the GBER and in line with the best practices recalled in the Commission Staff Working Document on Common methodology for State aid evaluation[2] (hereinafter: "Staff Working Document"), the notified plan contains the description of the following main elements: the objectives of the aid scheme to be evaluated, the evaluation questions, the result indicators, the envisaged methodology to conduct the evaluation, the data collection requirements, the proposed timing of the evaluation including the date of submission of the final evaluation report, the description of the independent body conducting the evaluation or the criteria that will be used for its selection, and the modalities for ensuring the publicity of the evaluation.

2.1. Objective of the aid scheme to be evaluated

7) The aid scheme was presented by the UK as an amendment to the existing measure SA.32768 (2011/N) assessed on the basis of the Community Framework for State aid for research and development and innovation[3] and approved by Commission Decision C(2011) 5249 on 19 July 2011.

8) The objective of the aid scheme is to incentivise additional research and development (hereinafter: "R&D") investment. In particular, under the aid scheme, tax credits[4] are granted to Small Medium Enterprises[5], as defined in the national legal basis (hereinafter: "SMEs"), undertaking R&D activities.

9) Under the UK corporation tax system, all companies may deduct a certain percentage of their R&D expenditure from their taxable income. The R&D tax credit allows SMEs to deduct an extra percentage of their qualifying R&D expenditure called "enhanced deductions". For SMEs not yet in profit, and therefore not liable for corporation tax, it is possible to surrender the R&D tax credit and receive a cash payment representing a certain percentage of the qualifying expenditure called "payable credits". The SMEs tax credit works as a super deduction in addition to the general measure known as the Research and Development Expenditure Credit (RDEC).

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[2] Commission Staff Working Document on Common methodology for State aid evaluation, SWD (2014) 179 final of 28.5.2014.

[3] OJ C 323, 30.12.2006, p. 1

[4] The term "*tax credit*" will be used across the whole text of this decision to reflect the specific language of the notified legal basis, although the system operated by the UK under this measure comes within the more general category of "*tax relief*" as it operates as deduction form the taxable income or as a cash payment for pre-profit SMEs.

[5] The UK definition of an SME for the purpose of this aid scheme is a company or organization with fewer than 500 employees and either an annual turnover not exceeding €100 million or a balance sheet not exceeding €86 million.

10) The aid scheme will cover aid for research and development projects (Article 25 of the GBER) and the eligible activities for the aid scheme fall under the R&D stages of fundamental research, industrial research and experimental development in the meaning of Article 2 of the GBER. The aid intensity limit for experimental development applies (25%) as the scheme does not distinguish between the different R&D categories.

11) Beside the main objective of incentivising additional R&D investment (direct impact), the evaluation plan foresees to evaluate the wider economic impacts of the aid scheme, at firm level and beyond, and considers whether competition is distorted by R&D tax relief in terms of altering the dynamic entry and exit of firms (indirect impacts).

2.2. Evaluation questions and result indicators

12) The notified evaluation plan sets out the specific questions to be addressed by the evaluation. The questions cover both the direct and indirect impacts of the aid scheme.

13) As regards the *direct impact,* the evaluation will in particular address the incentive effect of R&D tax credits by assessing the additionality effect on R&D expenditure as a result of support from R&D tax credits. For the assessment of such impact, the result indicators will include: the number of firms claiming the aid and the amount of R&D investment, the amount of tax relief claimed, the amount of R&D expenditure and the changes of these amounts over time, the additional R&D expenditure.

14) As regards the *indirect impact*, the evaluation will investigate the wider economic effects and in particular whether the aid scheme leads to an increase of the firms' *productivity* and whether it distorts competition in the market. For the assessment of the increase in the firms' productivity, the result indicators will include: the change in number of patents filed and the change in the company's turnover. For the assessment of the *distortion of competition* in the market, the result indicators will include: a breakdown, by industry, of the aid granted (to assess a possible sectorial bias), the analysis of the tax relief granted by age of firm (to assess whether support is more likely to aid incumbents or new entrants), unexplained concentration of beneficiaries in one location (to assess location effects), relevant concentration indicators such as the Herfindhal-Hirschman Index (HHI) and a comparison that looks at the amount of R&D tax credit received by firms with large market shares compared to the amount of R&D tax credit received by smaller firms (to assess whether aid is more likely to support market actors with more power).

15) Where appropriate, for some results indicators, the evaluation plan will provide a breakdown in relation to the size of business, differentiating between undertakings with fewer than 250 employees and annual turnover not exceeding EUR 50 million and/or a balance sheet not exceeding EUR 43 million; and undertakings with employees between 250 and 499 and annual turnover between EUR 50 million and EUR 100 million and/or a balance sheet between EUR 43 million and EUR 86 million. This will provide indications on the effectiveness of having an enhanced deduction for larger undertakings.

16) With regard to the *proportionality,* the evaluation will investigate whether the same impacts could have been realised with less aid. To this end, the evaluation will show how R&D investment responds to the relief by exploiting changes in the user cost of capital for R&D investment caused by changes to the scheme and tax rate changes. A

change in the rate alters the user cost and thus models the change in investment that is incentivised by a higher rate. Alongside this, the evaluation will use qualitative survey data to find out the levels of R&D investment firms would have undertaken if the rate had been lower. This will then be used to find out how much additional investment they have undertaken as a result of the rate being at the current level.

17) In order to examine the *appropriateness* of the instruments used, the evaluation will consider whether alternative delivery mechanisms, such as grants, might have been more appropriate. To this end, the evaluation will carry out a qualitative survey to provide an indication of the appropriateness of the measure. This should allow an assessment of the levels of R&D investment that firms would have undertaken if the rate had been lower or an alternative form of support had been available. The evaluation will also consider any evidence from similar schemes and continually monitor the relative impacts of tax credits and grant schemes to ensure that the most appropriate instruments are used.

2.3. Envisaged methodology to conduct the evaluation

2.3.1 Methodology for the estimation of the scheme's direct impact

18) The direct causal impact of the aid scheme on the beneficiaries will be identified by employing econometric modelling techniques, which will be focused on the main objective of incentivising additional R&D investment. According to the UK authorities, the methodology presented in the evaluation plan is based on previous experience of evaluating R&D tax credits, most recently in the 2015 "Evaluation of Research and Development Tax Credit"[6].

19) In particular, the evaluation plan proposes to estimate the price elasticity of R&D expenditure, that is, the relationship between a 1% change in the user cost of capital and the resulting change in R&D expenditure. From this, the additional expenditure on R&D stimulated by an increase in the tax credit rate for each £1 of tax revenue forgone can be calculated.

20) To this purpose, the evaluation plan proposes to estimate three models which build upon each other: a simple Ordinary Least Squares (OLS) model, a fixed effect model and a more complex Arellano-Bond (A-B) model. According to the UK authorities, the A-B estimator is the preferred model but can become unstable if it is over-specified, that is, if too many variables are included – especially endogenous variables. Because of this, the evaluation plan proposes to use a staged approach, which means that the evaluation will start by running the simpler regression and gradually will introduce complexity (both more variables and dynamics) to understand what the sources of instability might be.

21) Moreover, the UK authorities recognised that regression discontinuity design (RDD) would be a possible alternative method to evaluating R&D tax credits and that an independent evaluation of R&D tax credits, using this approach, is already being conducted. The UK authorities will include the findings from this in the overall assessment of the scheme.

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6 Available at: https://www.gov.uk/government/publications/evaluation-of-research-and-development-tax-credit.

2.3.2 Methodology for the estimation of the scheme's indirect impact

22) To investigate whether the R&D tax credits lead to increases in firm *productivity*, the evaluation will compare changes in the relevant result indicators and their growth over time. According to the UK authorities, this will allow a qualitative analysis on the impact of R&D tax credits on their wider economic objectives. Data from the UK Innovation Survey will be used to provide supporting information on the level of activity of companies engaging in innovation activity.

23) As far as the assessment of the *distortion of competition* in the market is concerned, the evaluation will provide descriptive statistics on the level of competition in R&D claiming markets. These will include measures of concentration, such as HHI, and a comparison of the amount of R&D tax credit received by firms with large market shares and to the amount received by firms with small market shares. The UK authorities will also continually assess the industry split of R&D tax credits by the number of claims and amounts claimed as part of their annual National Statistics outputs.

2.4. Data collection requirements

24) The evaluation will make use of the information collected in companies' Corporation Tax returns which companies submit covering their accounting periods, as well as other Her Majesty's Revenue and Customs (HMRC) records. This includes details of R&D relief claimed under the aid scheme. This data can be combined with administrative data collected by Companies House, the UK registrar of companies. Being administrative data, these sources will cover all relevant companies. Using the unique company registration number issued to each company in the UK, it will be possible to match company demographic and accounts data from Companies House and tax returns data.

25) This data set will be supplemented by other firm level data which include variables on turnover, profits, number of employees and liquidity ratio.

26) Additional data from the Community Innovation Survey, providing measures of innovation investment, activities, outputs and outcomes, and the UK Intellectual Property Office, will also be used in the analysis.

27) The UK authorities propose to survey a sample of companies to provide additional data on the impact of R&D tax credits.

28) Taxpayer information held by HMRC is confidential and is subject to various statutory provisions including Commissioners of Revenue and Customs Act (CRCA) 2005 and the UK Data Protection Act. However, where evaluations are carried out by external researchers, HMRC normally create an anonymous database of this information to allow further analysis of the study should it be needed for future policy decisions. The HMRC Datalab allows the UK research community to access de-identified HMRC data for analytical purposes.

2.5. Independent body to conduct the evaluation

29) According to the United Kingdom authorities HMRC research projects are commissioned from the DWP/HMRC social and economic research framework 2013 which is likely to be in place until 2017. The United Kingdom authorities confirmed

that any replacement framework would be set in line with EU Procurement guidelines with a notice in the Official Journal of the European Union. Suppliers on the framework are invited to tender for the study detailing their skills and experience and are evaluated by a panel of staff to select the most appropriate supplier. The selection criteria are agreed between HMRC researchers and policy advisors in HMRC/HMT and made available to all suppliers in advance.

30) Suppliers on the framework are all independent research agencies and academic institutions. Any conflict of interests would be considered at the time of procuring the work and resolved in line with HMRC's conflict of interest policy. The contract will be awarded to the organisation deemed to best meet HMRC's requirements and provide best value for money.

2.6. Proposed timeline of the evaluation

31) The United Kingdom authorities have committed to submit the final evaluation report to the Commission no later than end September 2019.

2.7. Modalities for ensuring the publicity of the evaluation

32) In the light of the requirement to ensure the evaluation plan receives adequate publicity and is made available to any interested parties, the United Kingdom authorities will allow for its publication.

33) The evaluation report will be published on UK Government website https://www.gov.uk.

3. ASSESSMENT

34) It should be recalled that the correct application of the GBER is the responsibility of the Member State. The Commission decision approving an evaluation plan does not assess whether the aid scheme to be evaluated was put into effect by the Member State in full respect of all applicable provisions of the GBER. It does therefore neither create legitimate expectations, nor does it prejudge the orientation the Commission might take regarding the conformity of the aid scheme with the GBER when monitoring it or assessing complaints against individual aid granted under it.

35) Only those aid schemes[7] falling under the provisions of Article 1(2)(a) of the GBER are subject to evaluation. The annual average budget of the present aid scheme, namely GBP 470 million, exceeds the threshold of EUR 150 million set in Article 1(2)(a) of the GBER and, therefore, it is subject to the obligation of notification of the evaluation plan as a condition for continuing to benefit from the block exemption after the expiry of the transitional 6-month period set out in that Article.

36) As the Commission explained in recital 8 of the GBER, the evaluation of large schemes is required *"[i]n view of the greater potential impact of large schemes on trade and competition"*. The required *"evaluation should aim at verifying whether the*

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[7] Under Article 2(15) of the GBER 'aid scheme' means "any act on the basis of which, without further implementing measures being required, individual aid awards may be made to undertakings defined within the act in a general and abstract manner and any act on the basis of which aid which is not linked to a specific project may be granted to one or several undertakings for an indefinite period of time and/or for an indefinite amount".

assumptions and conditions underlying the compatibility of the scheme have been achieved, as well as the effectiveness of the aid measure in the light of its general and specific objectives and should provide indications on the impact of the scheme on competition and trade." State aid evaluation should in particular allow the direct incentive effect of the aid on the beneficiary to be assessed (i.e. whether the aid has led the beneficiary to take a different course of action, and how significant the impact of the aid has been). It should also provide an indication of the general positive and negative effects of the aid scheme on the attainment of the desired policy objective and on competition and trade respectively. State aid evaluation examines moreover the proportionality and appropriateness of the chosen aid instrument[8].

37) In the light of these considerations, Article 2(16) of the GBER defines as evaluation plan *"a document containing at least the following minimum elements: the objectives of the aid scheme to be evaluated, the evaluation questions, the result indicators, the envisaged methodology to conduct the evaluation, the data collection requirements, the proposed timing of the evaluation including the date of submission of the final evaluation report, the description of the independent body conducting the evaluation or the criteria that will be used for its selection and the modalities for ensuring the publicity of the evaluation".*

38) The Commission considers that the notified evaluation plan contains the minimum elements outlined in Article 2(16) of the GBER.

39) The notified evaluation plan provides in concise manner a description of the functioning of the aid scheme and its key objectives, as well as sufficient information to understand its intervention logic. The scope of the evaluation is defined in an appropriate way. It comprises a list of result indicators that are used for the evaluation questions in order to measure the aid scheme's direct and indirect impact on the market and possible distortions on competition. The data gathered by external and internal sources will provide a sufficient basis to collect the evidence necessary to answer the evaluation questions.

40) The evaluation plan also sets out the main methods that will be used in order to identify the impacts of the scheme, and discusses why these methods are likely to be appropriate for the scheme in question. The proposed evaluation methodology sufficiently allows for identifying the causal impact of the scheme on its beneficiaries and will provide relevant evidence with regards to the scheme's indirect impacts, its proportionality and appropriateness.

41) The proposed timeline of the evaluation is reasonable in view of the characteristics of the measure concerned and the projects supported under the aid scheme. Findings of the evaluation can constitute an important source of information for the revision of the scheme.

42) The Commission notes the commitments made by the United Kingdom authorities to conduct an evaluation according to the plan described in the present decision by an appointed independent evaluation body. The procedures envisaged for selecting such evaluation body are appropriate in terms of independence and skills. Moreover, the

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8 Commission Staff Working Document on Common methodology for State aid evaluation, SWD (2014) 179 final of 28.5.2014.

proposed modalities for the publication of the evaluation results are adequate to ensure transparency.

43) Finally, the Commission notes the commitment made by the United Kingdom authorities to submit the final evaluation no later than the end September 2019.

44) In view of the above, pursuant to Article 1(2)(a) of the GBER, the Commission considers that the exemption for the aid scheme for which the evaluation plan was submitted may continue to apply until 31 March 2020.

45) Alterations to this scheme, other than modifications which cannot affect its compatibility under the GBER or cannot significantly affect the content of the approved evaluation plan, are pursuant to Article 1(2)(b) of the GBER, excluded from the scope of the GBER and need therefore to be notified to the Commission.

4. CONCLUSION

46) After having assessed the evaluation plan notified by the United Kingdom, the Commission has accordingly decided that:

- Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty will continue to apply to the "Research & Development Tax Credits - SME Scheme" until 31 March 2020;

- This decision will be published.

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Your request should be sent electronically to the following address:

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Yours faithfully
For the Commission

Margrethe VESTAGER
Member of the Commission

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Jordi AYET PUIGARNAU
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