

DOI: 10.26794/2587-5671-2023-27-1-54-62

UDC 336.22(045)

JEL H25, H21

# Tax on Digital Services: Assessment of the Advantage of the Introduction in Russia

A. Berger<sup>a</sup>, L.V. Polezharova<sup>b</sup><sup>a</sup> Lotus Cars Europe B.V., Amsterdam, Netherlands; <sup>b</sup> Financial University, Russia

## ABSTRACT

The topic of digital services tax (DST), applied in a number of foreign jurisdictions, remains relevant, and there is an active discussion in the scientific community on the advisability of introducing such a tax in Russia. The purpose of the study is to characterize the directions of the impact of such a tax on economic growth for the justification of the expediency of its introduction in Russia. The hypothesis is that the introduction of indirect DST will not lead to the withdrawal of part of the property of foreign digital giants in favor of the Russian budget, since the tax burden will be completely transferred to Russian consumers of these services, which in turn will have a negative impact on the economic growth of the domestic economy. The study of the theoretical foundations of DST and the practice of its application in foreign countries has revealed its inconsistency with the principles of neutrality and non-discrimination of taxation, the complexity of tax administration. Using economic and mathematical tools, a model was developed for transferring the tax burden when introducing DST from a foreign company to Russian clients of the platform and end consumers in Russia. A simulation experiment using Airbnb as an example showed that if a digital tax of 3% is introduced in Russia, Airbnb's profit indicator is potentially expected to grow (which will be taxed in the Netherlands); decrease in profits of Russian Airbnb clients (Russian hotels); increase in Airbnb's end-customer costs. Presumably, tolerable scenario is that the full burden of the digital tax will be passed on to domestic taxpayers due to the indirect nature of the digital tax. As a result of the study, the hypothesis about the lack of economic feasibility of introducing indirect DST in Russia was confirmed.

**Keywords:** digital tax; shifting the tax burden; foreign digital giants; taxation in the digital economy; economic growth; consumers of digital services

**For citation:** Berger A., Polezharova L.V. Tax for digital services: Assessment of the advantage of the introduction in Russia. *Finance: Theory and Practice*. 2023;27(1):54-62. DOI: 10.26794/2587-5671-2023-27-1-54-62

## INTRODUCTION

The existing system of international taxation is based on the fundamental assumptions that (1) transactions between business entities and their clients are of a physical nature, for which (2) it is necessary to have a physical place of activity where income is generated and (3) which is subject to distribution for tax purposes between the country of source of income and the country of residence of the taxpayer. These assumptions do not hold up in a digital economy which is characterized by an unprecedented reliance on intangible assets [1].

Outdated "tax connection" and source of income rules that require a physical presence to conduct business activities are not effective tools in light of the spread of digital business models [2]. The non-adaptability of the rules to modern challenges leads to financial consequences, including the lower effective tax rate for digital giants and the shortfall

in tax revenues in countries [3]. By the beginning of 2019, this led to the understanding that the value chain for such business models has undergone significant changes and its participants rightly attract the tax base to countries where TNCs carry out sales even in the absence of a physical presence [4].

The discussion of the problems of taxation of the digital economy and the search for a solution agreed upon by the countries took a long time. Only as part of work on Action 1 of the BEPS plan,<sup>1</sup> the OECD has devoted more than 5 years to them. Many governments are tired of waiting for such a uniform approach and have developed their own taxation

<sup>1</sup> OECD, Action 1 Final Report 2015 — Addressing the Tax Challenges of the Digital Economy (OECD 2015), International Organizations' Documentation IBFD. URL: <https://www.oecd.org/ctp/addressing-the-tax-challenges-of-the-digital-economy-action-1-2015-final-report-9789264241046-en.htm> (accessed on 20.03.2021).

rules. And it is turnover taxes which include: the equalization levy and the digital services tax (DST), that have become the most popular of these rules,<sup>2</sup> in particular, after the proposal for such rules by the European Commission (EC), put forward in 2018.<sup>3</sup>

The proposal was presented with a 3% tax on income generated by large TNCs from services in a situation where the “core value” is said to be “created through user participation”. With the exception of the UK DST, all national DSTs have been developed on the EU model.

Foreign researchers G. Kofler and J. Sinnig [5], M. Devereux [6], I. Grinberg [7] addressed the question of the impact of DST on the economy. They pointed out that the introduction of DST could pose a threat to the economic growth of states.

In domestic science, the idea of introducing a digital tax in Russia was put forward by the Center for Strategic Research [8], as well as in the works of D.A. Mitin [9, 10]. The experts concluded that such an additional indirect tax is appropriately in the Russian tax system.

In none of the conducted scientific studies, calculations of the impact of such a tax on economic growth, incentives for production, investment and consumption were presented for public discussion.

The introduction of DST in Russia remains a topical debatable issue, therefore, the further logic of our study is to analyze the directions of the impact of such a tax on economic growth. The hypothesis of the study is that the introduction of DST, indirect in nature, will not lead to the withdrawal of part of the property of foreign digital giants — digital service providers in favor of the Russian budget, since the tax burden will be completely transferred to Russian consumers of these services, which in turn will have a negative impact on the economic growth of the domestic economy. The author’s methodological approach includes the following areas:

- 1) transfer of the tax burden under DST;

- 2) the impact of DST on small and medium-sized businesses (SME) in Russia;

- 3) the impact of DST on the economic growth of the country;

- 4) the possibility of eliminating multiple taxation;

- 5) preliminary results of the practice of introducing DST in other countries.

The need for a qualitative assessment of DST in each of the proposed areas is due to the high degree of uncertainty of the consequences of its introduction due to the indirect nature of the tax.

## THEORETICAL ASPECTS OF TAX ON DIGITAL SERVICES

The OECD’s Final Report on Action 1 of the 2015 BEPS Plan reflected the following position — as the digital economy increasingly permeates the entire economy, over time it will be difficult, if not impossible, to separate it from the rest of the economy for tax purposes.<sup>4</sup> At the same time, the application of a digital tax only to MNCs that use certain types of digital business models can even cause further “ring-fencing” of a part of the digital economy within the digital economy itself.

Back at the 1998 conference in Ottawa on the taxation, a number of principles were declared to be followed by an appropriate tax policy, including the principle of neutrality.<sup>5</sup> This principle provides that taxation should be neutral irrespective of the form and methods of economic activity selected by the taxpayer. In the situation with the digital economy, it is the use of business models that differ in the form of doing business that becomes a factor that determines the need for new rules. Violation of the principle of neutrality can influence the distortion of the economic decisions of taxpayers and, as a result, can slow down economic growth. Thus, the Singaporean authorities criticize the approach of introducing independent taxation measures for

<sup>2</sup> Fundamentally, these rules do not differ, however, the rules in India are generally referred to as the equalization levy and the EU rules as digital services tax.

<sup>3</sup> European Commission, Proposal for a Council Directive on the common system of a digital services tax on revenues from the provision of certain digital services, COM (2018) 148 final, Brussels, March 21, 2018. URL: [https://ec.europa.eu/taxation\\_customs/sites/taxation/files/proposal\\_common\\_system\\_digital\\_services\\_tax\\_21032018\\_en.pdf](https://ec.europa.eu/taxation_customs/sites/taxation/files/proposal_common_system_digital_services_tax_21032018_en.pdf) (accessed on 12.10.2021).

<sup>4</sup> OECD, Action 1 Final Report 2015 — Addressing the Tax Challenges of the Digital Economy (OECD 2015), International Organizations’ Documentation IBFD. URL: <https://www.oecd.org/ctp/addressing-the-tax-challenges-of-the-digital-economy-action-1-2015-final-report-9789264241046-en.htm> (accessed on 20.03.2021).

<sup>5</sup> OECD (1998) OECD Ministerial Conference Ottawa, Progress Report on the OECD Action Plan for Electronic Commerce. URL: <https://www.oecd.org/ctp/consumption/1923256.pdf> (accessed on 22.03.2021).

digital MNCs, emphasizing the importance of the principle of neutrality between traditional and digital business models.<sup>6</sup>

Discrimination occurs even at the level of digital business models themselves, as digital tax rules target certain types of such models. DST in UK only targets three highly digitalized business models: search engines, social media platforms and marketplaces. The question arises why these particular services, and not other services, such as, for example, music and video streaming were chosen for taxation [11]. If the justification for imposing a tax on digital services is a user-created value, then a similar approach should be applicable to all business models whose value chain includes a user participation factor, or even, according to some authors [12], in relation to all sectors of the economy. The reform of the rules in the field of the digital economy should be aimed at all digital business models that receive economic profit from remote access to data of a significant part of the population of the source country [13]. OECD in its developments seeks to prevent the “ring-fencing” of the digital economy.

To calculate the tax liability of an MNC, it would be necessary to identify the business activities that are covered by each digital tax in a given country, then separate the revenues generated from such activities, and then calculate the amounts of these revenues attributable to users in a particular jurisdiction. This approach can require significant work to determine the tax liability in each jurisdiction. There is a need to reduce the range of subjects of taxation, which would allow SME to be taken out of the digital tax area.

The object of taxation is the sale of digital services. The issues of determining the object of taxation on the basis of the principle of the occurrence of taxation on the location of service users are complex, i.e. the user acts as a kind of factor in the emergence of a tax connection with the source country — to determine the place of taxation for both B 2B and B 2C supplies [14]. However, there are exceptions to

this rule in relation to certain services, such as the services of sites for renting real estate — the source of revenue should be determined by the location of the property. Since it is there that the user consumes the service [15].

The introduction of DST requires the establishment of rules to determine the location of the user. Identified by IP addresses can lead to erroneous information because users may connect to a VPN server located in other jurisdictions in order to access more favorable rates. The existing VAT on digital services in some countries has led to situations where taxpayers create barriers to determining their location. While technological solutions can establish the true location of a user even when using a VPN, in general, consideration will need to be given to what level of user identification will be sufficient.<sup>7</sup>

### QUALITATIVE ASSESSMENT OF THE NEED TO INTRODUCE A DIGITAL TAX IN RUSSIA

The attractiveness of introducing a digital tax into the tax system of the Russia is due to the significant popularity of the implementation of this proposal both among developed European countries and in developing countries suffering from a lack of budgetary funds. However, neither at the EU level, nor at the level of individual countries, the digital tax rules have been assessed in order to identify risks for the tax system and consequences for the economy as a whole. The lack of a comprehensive assessment of the proposal for a digital tax, including the effects of shifting and redistributing the tax burden, inflationary effects, as well as the long-term consequences of a digital tax in the context of Russia’s strategic goals, is also noted by other domestic researchers [16].

Turning to the budget indicators of countries that have introduced/are introducing DST, one cannot fail to notice that countries with a budget deficit (Belgium, Spain, France, Italy, Hungary, UK)<sup>8</sup> are more interested in such measures. Countries with significant budget surpluses are not currently

<sup>6</sup> SMU-TA Centre for Excellence in Taxation Conference — Speech by Ms Indranee Rajah, Senior Minister of State for Law and Finance. URL: <https://www.iras.gov.sg/irashome/News-and-Events/Newsroom/Media-Releases-and-Speeches/Speeches/2017/SMU-TA-Centre-for-Excellence-in-Taxation-Conference—Speech-by-Ms-Indranee-Rajah—Senior-Minister-of-State-for-Law-and-Finance/> (accessed on 21.10.2021).

<sup>7</sup> Sean Lowry, Congressional Research Service, Digital Services Taxes (DSTs): Policy and Economic Analysis. URL: [https://crsreports.congress.gov/product/pdf/R/R\\_45532/1](https://crsreports.congress.gov/product/pdf/R/R_45532/1) (accessed on 12.10.2021).

<sup>8</sup> Eurostat. URL: <https://ec.europa.eu/eurostat/web/national-accounts/data/main-tables> (accessed on 12.10.2021).

considering introducing such a tax (e.g. Germany, Denmark, Bulgaria). Obviously, countries want to strengthen in this indicator and are looking for new sources of income. However, it should be borne in mind that budget revenues are not expected to be significant during DST start periods — projected revenues in countries where DST has been introduced / planned to be introduced do not exceed 0.1% of all tax revenues [17].

According to the authors, if it is recognized that it is expedient to introduce DST in a jurisdiction, it is necessary:

- to pay special attention to the minimum thresholds used to determine the circle of taxpayers in order to protect not so large-scale domestic business from its influence, it is recommended to set a threshold not in relation to the total amount of revenue, but in relation to the amount of revenue from digital services;
- provide mechanisms for the elimination of double taxation: it is necessary to provide for the deduction from the tax base for income tax of both the national DST and the DST paid abroad;
- establish rules that include approaches to determining the source of income and to identifying the location of users so that there is no uncertainty for taxpayers.

***To resolve the issue of the advisability of introducing DST in Russia, it is necessary to analyze and evaluate the following points.***

***(1) How will the DST tax burden be distributed, and what consequences can this have?***

It is important to take into account that, by its nature, DST is a tax levied on turnover and it has the nature of an indirect tax [18]. This means that it can have a significant adverse effect on increasing the overall effective tax burden, on shifting the balance of competition not in favor of small and medium-sized businesses.

It is the effect of a significant shift of the fiscal burden on consumers and a possible additional increase in the cost of services even above such a new burden that is typical for taxes levied on turnover [19]. The introduction of DST will affect not only the conduct of business by the giants of digital industries, but also domestic SMEs. In the work of Bergmann and Hansen [19], it is substantiated that the introduction

of indirect taxes can lead to such an increase in prices that exceeds the initial tax increase.

***(2) What impact will DST have on Russian SMEs?***

In fact, the tax burden will be consistently shifted by digital service providers — the largest digital companies to customers of such services — SMEs and, ultimately, to end users. According to a study by German economists regarding the impact of DST on the German domestic market: the tax burden of DST will be partly, if not completely, shifted from digital platforms to German businesses, and ultimately to German consumers and investors [20].

The possibility of such an outcome is also supported by the statement by Amazon's Director of International Tax Policy that the company has notified more than 10,000 French companies selling goods through Amazon online stores of a 3% price increase for Amazon services when it was expected to introduce digital tax in France.<sup>9</sup> It was noted that the French DST will require companies to implement new complex transaction reporting systems.

***(3) How will the introduction of DST affect the country's economic growth and innovation?***

New digital companies are actively involved in the development of various sectors of the economy. The real economic benefits for companies using digital business models are created not only where these companies are located. Benefits are also created where services and innovations are consumed. The impact of DST may reduce the digital business activity of companies in countries, which will affect employment and tax revenues from companies using digital technologies (for example, SMEs). This will also affect tax revenues from personal income received in the digital industry and not only.<sup>10</sup>

***(4) How will multiple taxation be eliminated?***

The introduction of DST may lead to an increase in cases of multiple taxation of the same income. The reduction in the ability to offset DST with another

<sup>9</sup> Amazon, Facebook and Google hit back at tax on digital companies' sales, warn of trade wars. URL: <https://www.abc.net.au/news/2019-09-03/french-tax-on-tech-giants-sales-could-spark-a-new-trade-war-and/11471756> (accessed on 15.10.2021).

<sup>10</sup> Report on France's Digital Services Tax Prepared in the Investigation under Section 301 of the Trade Act of 1974. URL: [https://ustr.gov/sites/default/files/Report\\_On\\_France%27s\\_Digital\\_Services\\_Tax.pdf](https://ustr.gov/sites/default/files/Report_On_France%27s_Digital_Services_Tax.pdf) (accessed on 01.10.2021).



tax liability puts foreign companies providing digital services at a disadvantage compared to local companies that also provide similar services domestically, as the tax burden of foreign companies will be higher [21].

The introduction of such a new tax would allow it to go beyond the rules on distribution of tax powers established in tax treaties. So, according to the criteria of the OECD Model Convention on classifying taxes as taxes on income and the characteristics of a tax on digital services, the latter is much more reminiscent of a turnover tax than an income tax [18], which goes beyond the regulation of situations where double taxation agreements on the avoidance of double taxation [5]. As a consequence, this may increase the number of tax disputes regarding multiple taxation.

In order to reduce the degree of double taxation, it is necessary that the country of residence provides for appropriate measures. Therefore, in order to mitigate multiple taxation, it is necessary to provide for the deduction of the national DST from the tax base in the country of residence (for example, in the UK there is such a mechanism).<sup>11</sup> It is worth noting that not all countries that plan to introduce DST support this approach. The draft DST law in Italy does not provide for the elimination of double taxation [22].

#### **(5) What evidence is there that DST has been introduced in other countries?**

Some of the countries that have already introduced DST projected budget revenues from such a tax. Despite the fact that the predicted values are only 0.3–1.6% of tax revenues from income tax,<sup>12</sup> DST is an additional source of budget revenues.

However, after pressure from the United States, the above countries agreed to the temporary operation of the DST and its cancellation when the rules of the OECD Unified Approach are introduced.<sup>13</sup> This

is an additional argument about the inexpediency of developing DST rules in Russia.

### **ECONOMIC AND MATHEMATICAL MODEL OF THE TRANSFER OF THE TAX BURDEN OF THE DIGITAL TAX ON CONSUMER**

The authors propose using economic and mathematical tools to assess the degree of transfer of the tax burden when introducing DST from a foreign company — a provider of “digital” services to Russian clients of the platform and end users (*Table 1*). Assume that tax will be levied on the proceeds of a foreign company at a tax rate of 3%.

We will demonstrate the calculation experiment using the example of Airbnb (*Table 2*).

*Transferring the burden to the client.* We assume that the platform will have to decide on the share of the tax that will be passed on to the platform client (advertiser) by increasing the commission rate. In turn, an increase in the commission rate is likely to affect the number of sellers using the marketplace (i.e. an increase in the commission rate will make the marketplace less attractive and some sellers may decide to leave it and use other ways to market). As a rule, companies increase the commission rate by the amount of new tax liabilities, as well as the administrative burden caused by the introduction of such a tax, and at the same time slightly raise the price at this point, which is not so noticeable to customers. So we assume that this burden-shifting is 100%.

*Shifting the burden to the end user.* Platform customers will now pay higher fees than before. They will decide how much of this cost increase will be passed on to their own consumers by raising the price of the goods they sell and the services they provide. In turn, an increase in commodity prices will cause a volume effect, the magnitude of which will depend on the price elasticity of consumer demand.

Then the calculation of the shifting of the fiscal burden will look as follows.

*I. Determine the change in the profit of a foreign digital platform when DST is introduced:*

Let us calculate the gross revenue of a foreign company generated with the participation of Russian

<sup>11</sup> UK CT Deductibility of DST. URL: <https://www.gov.uk/hmrc-internal-manuals/digital-services-tax/dst47100> (accessed on 10.10.2021).

<sup>12</sup> Compiled by the author based on data URL: [https://www.bmf.gv.at/steuern/WFA\\_DiStG\\_Beg.pdf?6x1a08](https://www.bmf.gv.at/steuern/WFA_DiStG_Beg.pdf?6x1a08); <https://www.gov.uk/government/publications/introduction-of-the-digital-services-tax/digital-services-tax>; <https://www.pwc.com/gx/en/tax/newsletters/tax-policy-bulletin/assets/pwc-italy-2019-budget-law-introduces-a-digital-service-tax.pdf> (accessed on 12.10.2021).

<sup>13</sup> OECD/G20 Base Erosion and Profit Shifting Project. Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy. 8 October 2021. OECD (2021). URL: <https://www.oecd.org/tax/beps/brochure-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-october-2021.pdf> (accessed on 19.10.2021).

Table 1

**Economic and Mathematical Model of Transferring the Tax Burden to Platform Clients and End Consumers**

1	2
Model Input	$R_0$ — gross revenue of the company before the introduction of the digital tax $\pi$ — gross profit $\tau_d$ — digital tax rate $c_0$ — commission rate before digital tax $c_1$ — commission rate after digital tax introduction $E_d$ — elasticity of demand $E_s$ — supply elasticity $ru$ — share of Russian platform users $k_{eu}$ — share of the transfer of the tax burden to the final consumer (defined as $\frac{E_d}{E_s + E_d} + 1$ ) $k_{pc}$ — share of the transfer of the tax burden to the platform client $\delta$ — relative increase in revenue due to a 1% increase in commission
required values	$R_1$ — the company's gross revenue generated with the participation of Russian users $R_2$ — company's adjusted gross revenue generated with the participation of Russian users
Estimating the change in platform profits with the introduction of a digital tax ( $R_2$ )	The initial gross revenue of the company generated with the participation of Russian users (formula 1): $R_1 = R_0 \times ru$ (1) Company's Adjusted Gross Revenue, $R_2$ (formula 2): $R_2 = R_1 \times \left\{ \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0)) \right] \times \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0) \times E_d) \right] + \delta \right\}$ (2)
Estimation of changes in the profit of the company's customers ( $P_{cl}$ )	Decrease in gross profit indicator (formula 3): $P_{cl} = \frac{R_1}{c_0} \times (1 - c_0) \times (1 - 0,1) - \frac{R_1}{c_0} \times \left\{ \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0)) \right] \times \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0) \times E_d) \right] \times (1 - c_1) \times (1 - 0,1) \right\}$ (3)
Assessment of changes in costs at the end consumer ( $E_{cus}$ )	Cost increase (formula 4): $E_{cus} = \frac{R_1}{c_0} \times \left\{ \left[ k_{eu} \times (c_1 \times k_{pc} - c_0) \right] \times \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0) \times E_d) \right] \right\}$ (4)

Source: Compiled by the author.

users of its services using formula (1). In order to simplify calculations, we will define this indicator as the total revenue after the introduction of the tax, multiplied by the share of Russian users of the platform.<sup>14</sup> Then the gross revenue will be 306 million dollars:

$$R_1 = R_0 \cdot ru = 3.4 \text{ billion dollars} \times 0.09 = 0.306 \text{ billion dollars.}$$

The total revenue after the introduction of the digital tax due to the increase in the commission by

1% also grows by 6.25% in proportion to the increase in the commission, in addition, it will also be adjusted for changes in demand for platform services due to the rise in the cost of access to it.

Substitution of metrics in the formula (2):

$$\begin{aligned}
 R_2 &= R_1 \times \left\{ \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0)) \right] \times \right. \\
 &\quad \left. \times \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0) \times E_d) \right] + \delta \right\}, \text{ we get} \\
 R_2 &= 0.306 \times \left\{ \left[ 1 + (0.77 \times (0.16 \times 1 - 0.15)) \right] \times \right. \\
 &\quad \left. \times \left[ 1 + (0.77 \times (0.16 \times 1 - 0.15) \times (-0.52)) \right] + 0.0625 \right\} = \\
 &= 0.326 \text{ billion dollars.}
 \end{aligned}$$

<sup>14</sup> Since such data is not publicly available for Airbnb, it seems possible to rely on Booking.com data for which the share of Russian users is 9%. URL: <https://www.similarweb.com/website/booking.com/#overview> <https://www.statista.com/statistics/1261943/booking-com-traffic-russia/> (accessed on 05.10.2021).

Then the increase in revenue will be:

326 million dollars – 306 million dollars =  
= 20 million dollars.

In this case, DST will be:

326 million dollars  $\times$  3% = 9.78 million dollars.

Gross profit from electronic services of the digital platform before the introduction of DST in relation to Russian users will be:

2.5 billion dollars  $\times$  0.09 = 225 million dollars.

Therefore, assuming that the costs of the digital platform do not increase, the change in the profit of the platform will be expressed as follows:

(225 million dollars  $\times$  1.0625 – 9.78 million dollars) – 225 million dollars = 4.3 million dollars.

Consequently, as a result of the introduction of DST in Russia, a potential increase in the profit indicator of a foreign organization – a provider of “digital” services by 1.91% is expected

( $\frac{4.3 \text{ million dollars}}{225 \text{ million dollars}} \times 100\%$ ).

*II. Determine the change in the profit of Russian clients of a foreign company – a service provider (Russian hotels):*

1. Gross revenue before the introduction of DST will be:

$$\frac{R_1}{c_0} = \frac{306 \text{ million dollars}}{15\%} = 2.04 \text{ billion dollars.}$$

Net income will be:

2.04 billion dollars  $\times$  (1–0.15) = 1.73 billion dollars.

Gross profit will be:

1.73 billion dollars  $\times$  (1–0.1) = 1.56 billion dollars.

2. Taking into account the above intermediate

calculations ( $\frac{R_1}{c_0} = 2.04$  billion dollars), gross revenue

after the introduction of DST, calculated by formula (3), will be:

$$P_{cl} = \frac{R_1}{c_0} \times (1 - c_0) \times (1 - 0.1) - \frac{R_1}{c_0} \times \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0)) \right] \times \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0) \times E_d) \right] \times$$

Table 2

### Initial Data for Testing the Economic and Mathematical Model on the Example of Airbnb

$R_0 = 3.4$  billion dollars – the company's gross revenue before the introduction of the digital tax

$\pi = 2.5$  billion dollars – gross profit

$\tau_d = 0.03$  – digital tax rate

$c_0 = 0.15$  – commission rate before digital tax

$c_1 = 0.16$  – commission rate after digital tax introduction

$E_d = -0.52$  – elasticity of demand\*

$E_s = 1.75$  – supply elasticity\*\*

$ru = 0.09$  – share of Russian platform users

$k_{eu} = 0.77$  – share of the transfer of the tax burden to the final consumer (defined as  $\frac{E_d}{E_s + E_d} + 1$ )

$k_{pc} = 1$  – share of the transfer of the tax burden to the platform client

$\delta = 0.0625$  – relative increase in revenue due to a 1% increase in commission.

Source: Compiled by the author.

\* Inferring Tax Compliance from Pass-through: Evidence from Airbnb Tax Enforcement Agreements, Department of Economics Working Papers 2018, McMaster University. URL: <https://socialsciences.mcmaster.ca/econ/rsrch/papers/archive/2018-06.pdf> (accessed on 12.09.2021).

\*\* Inferring Tax Compliance from Pass-through: Evidence from Airbnb Tax Enforcement Agreements, Department of Economics Working Papers 2018, McMaster University. URL: <https://socialsciences.mcmaster.ca/econ/rsrch/papers/archive/2018-06.pdf> (accessed on 12.09.2021).

$$\begin{aligned} & \times (1 - c_1) \times (1 - 0.1) = \\ & = \frac{306}{0.15} \times (1 - 0.15) \times (1 - 0.1) - \\ & - \frac{306}{0.15} \times \left[ 1 + (0.77 \times (0.16 \times 1 - 0.15)) \right] \times \\ & \times \left[ 1 + (0.77 \times (0.16 \times 1 - 0.15) \times (-0.52)) \right] \times \\ & \times (1 - 0.16) \times (1 - 0.1) = 12.1. \end{aligned}$$

The decrease in gross profit will be:  
12,1 million dollars.

Calculations show that as a result of the introduction of DST in Russia, the profit of Russian

clients of a foreign company — a service provider (Russian hotels) will decrease by 1.1%.

III. Let us determine the change in costs for the end consumer of a foreign company's digital services.

Substituting the values of indicators into formula (4), we obtain:

$$\begin{aligned} E_{cus} &= \frac{R_1}{c_0} \times \left[ \left[ k_{eu} \times (c_1 \times k_{pc} - c_0) \right] \times \right. \\ &\quad \left. \times \left[ 1 + (k_{eu} \times (c_1 \times k_{pc} - c_0) \times E_d) \right] \right] = \\ &= 2.04 \text{ billion dollars} \times \left[ \left[ (0.77 \times (0.16 \times 1 - 0.15)) \right] \times \right. \\ &\quad \left. \times \left[ 1 + (0.77 \times (0.16 \times 1 - 0.15) \times (-0.52)) \right] \right] = \\ &= 15.6 \text{ million dollars.} \end{aligned}$$

Calculations show that with the introduction of DST in Russia in the amount of 3%, the costs of end users of the services of a foreign supplier will increase by \$ 15.6 million.

## CONCLUSIONS

The calculations show that with the introduction of DST, the final changes in the costs of all participants in the consumption of digital services will be greater in amount than DST levied. This is due to the fact that foreign digital platforms in response to the introduction of the tax may increase the commission, which exceeds the

amount of the tax. The fiscal burden of DST will eventually be shifted to the final consumers of services, as is usually the case with indirect taxes, as well as to the company's customers — SMEs. A foreign company — a provider of "digital" services will receive additional profit.

Since digital marketplace services are largely consumed by SMEs that operate low-margin businesses and often have limited ability to pass the tax burden on to consumers, it is these companies that may suffer the most, risking their profitability and solvency.

Therefore, there is a risk that DST will further shift the balance of competition between large and small firms in favor of the former.

The qualitative assessment of DST indicates that its introduction did not meet the objectives of the tax policy of the Russian Federation, since it contradicts the objectives of stimulating the development and support of SME.<sup>15</sup> The introduction of DST can backfire on economic growth through the indirect nature of the tax. We believe that the introduction of an indirect digital tax in Russia is not economically feasible.

<sup>15</sup> The main directions of the budget, tax and customs tariff policy for 2022 and for the planning period of 2023 and 2024. Ministry of Finance of the Russian Federation, 2021. URL: [https://minfin.gov.ru/common/upload/library/2021/09/main/ONBNiTP\\_2022-2024.pdf](https://minfin.gov.ru/common/upload/library/2021/09/main/ONBNiTP_2022-2024.pdf) (accessed on 20.02.2022).

## REFERENCES

1. Milogolov N.S. Russia's tax policy in the context of participation in the OECD/G20 BEPS project: Problems and prospects. *Finansy i kredit = Finance and Credit*. 2016;(15):34–44. (In Russ.).
2. Pistone P., Weber D., eds. Taxing the digital economy: The EU proposals and other insights. Amsterdam: IBFD; 2019. 356 p.
3. Polezharova L.V. Krasnobaeva A.M. E-commerce taxation in Russia: Problems and approaches. *Journal of Tax Reform*. 2020;6(2):104–123. DOI: 10.15826/jtr.2020.6.2.077
4. Bunn D. Tax competition of a different flavor at the OECD. Tax Foundation. Mar. 19, 2019. URL: <https://taxfoundation.org/tax-competition-of-a-different-flavor-at-the-oecd> (accessed on 17.11.2021).
5. Kofler G., Sinnig J. Equalization taxes and the EU's 'digital services tax'. *Intertax*. 2019;47(2):176–200. DOI: 10.54648/taxi2019017
6. Devereux M.P., Vella J. Debate: Implications of digitalization for international corporate tax reform. *Intertax*. 2018;46(6/7):550–559. DOI: 10.54648/taxi2018056
7. Grinberg I. International taxation in an era of digital disruption: Analyzing the current debate. Washington, DC: Georgetown University Law Center; 2018. 55 p. URL: <https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=3136&context=facpub>
8. Sinitsyn A., Airapetyan L., Surkova A. Digital tax in Russia: Prospects for introduction. Moscow: Center for Strategic Research; 2020. 39 p. URL: <https://www.csr.ru/upload/iblock/5ef/5ef5a7831553dc062605b281a53e4350.pdf> (In Russ.).



9. Mitin D.A. Improvement of the models of tax administration of income of digital companies received from commercial activity on the territory of the Russian Federation. *Nalogi i nalogoblozhenie = Taxes and Taxation*. 2020;(6):14–25. (In Russ.). DOI: 10/7256/2454–065X.2020.6.33715
10. Mitin D.A. Improvement of the existing in the Russian Federation model of tax administration of e-commerce. *Nalogi i nalogoblozhenie = Taxes and taxation*. 2020;(5):1–17. (In Russ.). DOI: 10.7256/2454–065X.2020.5.33517
11. Olbert M., Spengel M. International taxation in the digital economy: Challenge accepted? *World Tax Journal*. 2017;9(1):3–46. URL: <https://www.ottimoacademy.it/wp-content/uploads/2021/01/Scarica-il-file-PDF-sugli-aspetti-fiscali-nelleconomia-digitale-44-pagine..pdf>
12. Garbarini C. Six questions plus one about the proposed EU directive on the taxation of a “significant digital presence”. Kluwer International Tax Blog. Apr. 20, 2018. URL: <http://kluwertaxblog.com/2018/04/20/six-questions-plus-one-proposed-eu-directive-taxation-significant-digital-presence/> (accessed on 17.11.2021).
13. Lamensch M. Digital services tax: A critical analysis and comparison with the VAT system. *European Taxation*. 2019;59(6).
14. Milogolov N.S., Ponomareva K.A. Taxation of business models with a high digitalization level: A search for consensus on international and national levels. *Nalogi*. 2020;(4):40–44. (In Russ.). DOI: 10.18572/1999–4796–2020–4–40–44
15. Chand V., Turina A., Ballivet L. Profit allocation within MNEs in light of the ongoing digital debate on Pillar I — a “2020 compromise”? *World Tax Journal*. 2020;12(3):565–630.
16. Kudryashova E.V. Digital taxes or a new architecture of international taxation? *Nalogi*. 2021;(4):37–40. (In Russ.). DOI: 10.18572/1999–4796–2021–4–37–40
17. Geringer S. National digital taxes — Lessons from Europe. *South African Journal of Accounting Research*. 2021;35(1):1–19. DOI: 10.1080/10291954.2020.1727083
18. Ponomareva K.A. Transitory tax for digital services in the EU. *Nalogoved*. 2020;(4):79–89. (In Russ.).
19. Bergmann U.M., Hansen N.L. Are excise taxes on beverages fully passed through to prices? The Danish evidence. *FinanzArchiv*. 2019;75(4):323–356. DOI: 10.1628/fa-2019–0010
20. Næss-Schmidt H.S., Marquart G., Sørensen P. The impact of an EU digital service tax on German businesses. Copenhagen: Copenhagen Economics; 2018. 36 p. URL: <https://copenhageneconomics.com/wp-content/uploads/2021/12/181019-dst-report.pdf> (accessed on 11.01.2022).
21. Dimitropoulou C. The digital service tax: An anti-protectionist and anti-restriction appraisal under EU primary law. *Intertax*. 2019;47(2):201–218. DOI: 10.54648/taxi2019018
22. Simontacchi S., Adda M., Scandone F.S. INSIGHT: Possible double taxation behind the Italian digital services tax. Bloomberg Tax. Feb. 03, 2020. URL: <https://news.bloombergtax.com/daily-tax-report-international/insight-possible-double-taxation-behind-the-italian-digital-services-tax> (accessed on 11.07.2021).

## ABOUT THE AUTHOR



**Alexandra Berger** — International Tax Manager, LL.M. in International Tax Law (WU, Vienna), Amsterdam, Netherlands; Lotus Cars Europe B.V., Amsterdam, Netherlands  
<https://orcid.org/0000-0003-4616-0758>  
 alexkr25.11@gmail.com



**Lyudmila V. Polezharova** — Dr. Sci (Econ.), Prof. of the Department of Taxes and Tax Administration of the Faculty of Taxes, Audit and Business Analysis, Financial University, Moscow, Russia  
<https://orcid.org/0000-0002-263B6-6567>  
 Corresponding author:  
 LVPolezharova@fa.ru

*Conflicts of Interest Statement: The authors have no conflicts of interest to declare.*

*The article was submitted on 10.11.2022; revised on 22.11.2022 and accepted for publication on 27.11.2022. The authors read and approved the final version of the manuscript.*