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Notes

Taxation of the use of Russian water resources

Tributación del uso de los recursos hídricos rusos

Irina Bocharova¹, ORCID: <https://orcid.org/0000-0003-0978-6188>

Alexander Rymanov², ORCID: <https://orcid.org/0000-0002-2085-0681>

¹Orel State Agrarian University named after N.V. Parakhin, Orel, Russia, i-bocharova@yandex.ru

²The Russian Presidential Academy of National Economy and Public Administration, Novosibirsk, Russia, rymanov@inbox.ru

Corresponding author: Alexander Rymanov, rymanov@inbox.ru

Abstract

The article examines the taxation of the use of Russian water resources for various types of water use. The use of water resources can be regulated in different jurisdictions in different ways. While the objectives of different authorities may be the same (*e.g.*, to encourage the most efficient use of water resources), the means to achieve these goals may



vary. The use of the new form of compulsory payment (in the form of water tax) practically did not change the methodology for justifying the size of rates compared with the previous compulsory payment – payment for the use of water bodies. The water tax occupies an insignificant share of the revenues of the Russian consolidated budget. The reduced rate of water tax when taking water for supplying the population leads to a significant decrease (by 77-82 %, depending on the year) of the tax burden for this type of water use. An increased (five times) rate is applied when water is taken over the limit established for a specific water user, an increased (five times) rate is applied. The weight of the water tax, charged in 2006-2019 at an increased rate, varied in the range of 2-10 %.

Keywords: Water tax, water intake, use of water bodies, use of water bodies in hydropower, and timber rafting.

Resumen

El artículo examina la tributación del uso de los recursos hídricos rusos para varios tipos de uso del agua. El uso de los recursos hídricos puede regularse en diferentes jurisdicciones de distintas maneras. Si bien los objetivos de las diferentes autoridades pueden ser los mismos (p. ej., fomentar el uso más eficiente de los recursos hídricos), los medios para alcanzarlos pueden variar. El uso de la nueva forma de pago obligatorio (en forma de impuesto al agua) prácticamente no modificó la metodología



para justificar el tamaño de las tarifas en comparación con el pago obligatorio anterior: pago por pago por el uso de cuerpos de agua. El impuesto al agua ocupa una parte insignificante de los ingresos del presupuesto consolidado ruso. La tasa reducida del impuesto al agua cuando se toma agua para abastecer a la población conlleva una disminución significativa (entre un 77 y 82 %, según el año) de la carga fiscal para este tipo de uso del agua. Cuando se toma agua en exceso del límite establecido para un usuario de agua específico se aplica una tasa aumentada (cinco veces). El peso específico del impuesto sobre el agua, cobrado en 2006-2019 a una tasa mayor, varió en el rango de 2 a 10 %.

Palabras clave: impuesto sobre el agua, toma de agua, uso de cuerpos de agua, uso de cuerpos de agua en energía hidroeléctrica y *rafting*.

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Introduction



Taxation and collection of mandatory payments for the use of water resources are being actively studied in connection with the feasibility of sustainable development.

The United Nations adopted the 2015 Sustainable Development Goals (17 Goals) to achieve a sustainable and poverty-free world by 2030 (UN, 2015). A separate goal has been set for water use – Goal 6: Ensure access to water and sanitation for all (UN, 2015). In light of the spread of the COVID-19 pandemic, the importance of handwashing in preventing the spread of infection has been invaluable (WHO, 2020).

Polyzou, Jones, Evangelinos, and Halvadakis (2011) considered the influence of individual social capital on the willingness to pay for environmental goods. Danilov-Danil'yan, Venitsianov, Adzhienko, and Kozlova (2019), and Venitsianov (2019) analyze the quality of Russia's waters. Many researchers point out that when taxing water and other natural resources, it is necessary to consider differential economic rent (Filchenkova, Medvedeva, & Artemenkov, 2019; Golovina & Chvileva, 2017; Rymanov, 2017a; Ushakov & Ushakova, 2014). The environmental tax system for Estonia was examined by Randla, Kurisoo, and Vilu (2002). Ørum, Boesen, Jovanovic, and Pedersen (2010) doubt that water taxation may improve the irrigation water productivity of Serbian potato production. Tax reform in Russia was examined by Rymanov (2017b), and Tsindelian, Kot, Vasilyeva, and Narinyan (2019). Ojha *et al.* (2018) evaluate shallow groundwater price and compare it with the water price of the local water supplier in Nepal. They conclude that taxation or

subsidies on water sources become necessary based on their environmental implications.

Ojha *et al.* (2018) compare the cost of supplying water to the population from various sources (in Nepal): 1) shallow groundwater and 2) standard water supplies from a supplier of last resort. They conclude that the costs of the supplier of last resort are higher. This encourages water users to use shallow groundwater to a greater extent. Ojha *et al.* (2018) conclude that this is not entirely consistent with the sustainable use of water resources. Therefore, they propose to equalize the cost of water supply by introducing additional taxation on shallow groundwater. It would seem that cost-cutting measures by the supplier of last resort would be more appropriate. Apparently, this cannot be implemented in the short term.

Materials and methods

The study uses the aggregated data of annual statistical reports for 2006-2019 by the Federal Agency for Water Resources, the Federal Tax Service, the Federal Treasury, and the Federal State Statistics Service. Standard

statistical methods for analyzing time series are used for data processing, and approved methods for calculating the water tax depend on various types of water use.

Results

Water Tax and Budget Revenues

The water tax occupies an insignificant share of the revenues of the Russian consolidated budget. From 2006 to 2012, this indicator decreased from 0.13 to 0.01 %. Since 2012, the share has remained practically unchanged and remains at the same: 0.1 % (Figure 1).

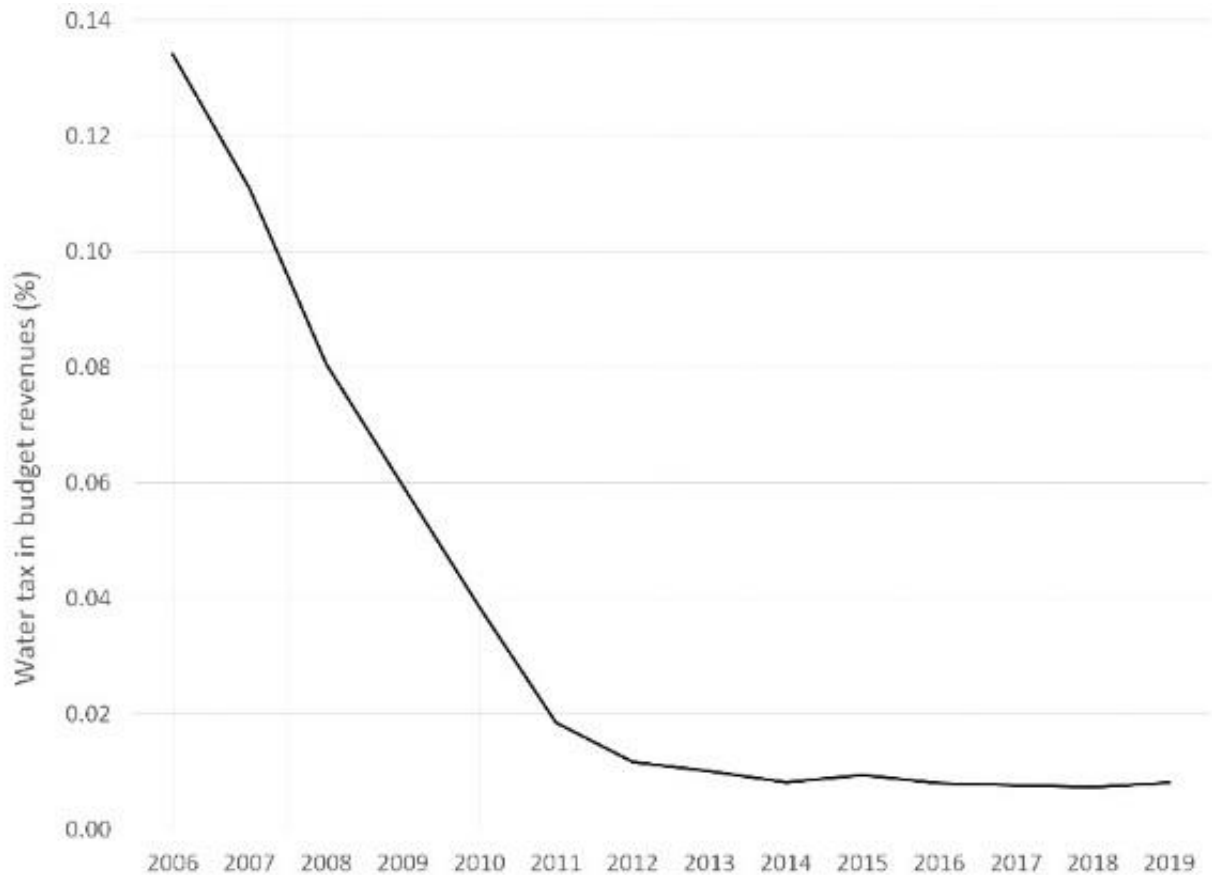


Figure 1. Income from water tax in budget revenues (%). Source: author's estimates based on official tax revenue data from the Russian Federal Tax Service (RFTS).

Payers of water tax



The total number of payers of water tax for all types of water use decreased by 33 % from 2006 to 2019 (Figure 2). The largest share during this period were users carrying out the actual water intake. The number of other categories of taxpayers is significantly smaller.

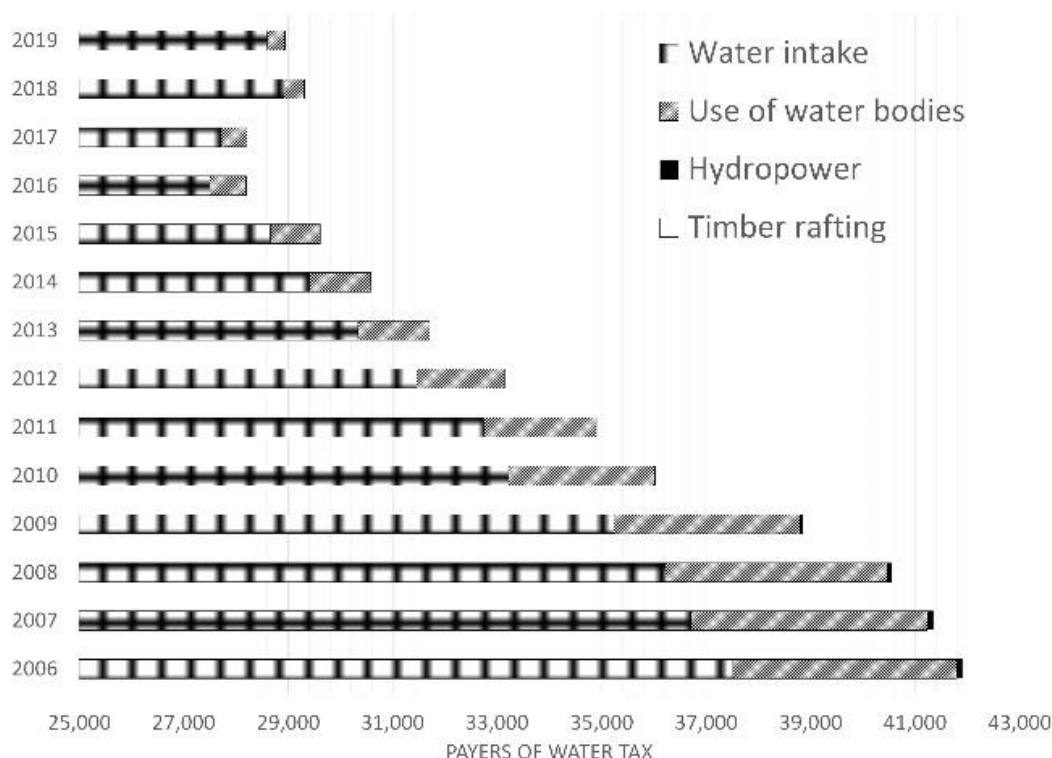


Figure 2. Payers of water tax (by type of water use, 2006-2019, Russia). Source: author's estimates based on official tax revenue data from the RFTS.

Water tax (accrued) by water use type

In 2006-2007, the largest share of the aggregate water tax was charged for using water bodies for hydropower (Figure 3).

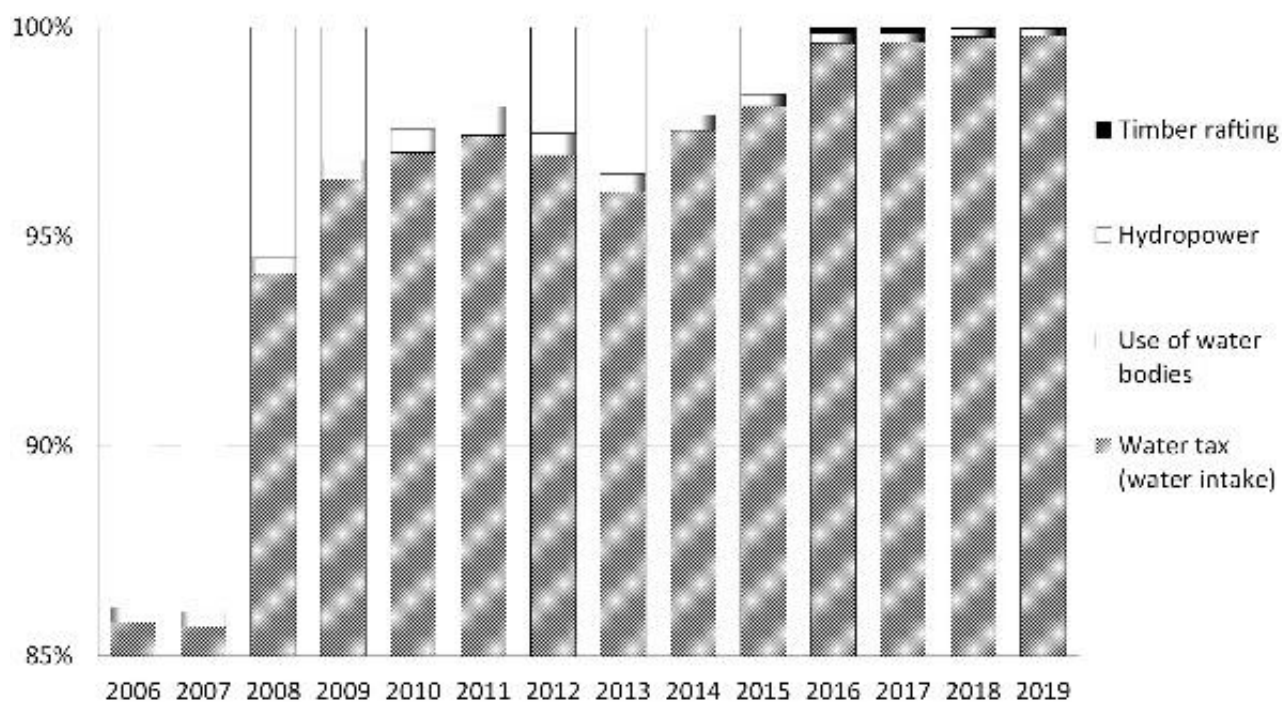


Figure 3. Accrued aggregate water tax by type of water use (%).
Source: author's estimates based on official tax revenue data from the RFTS.

Since 2008, the largest share of the aggregate water tax falls on water intake. For other types of water use, the accrued water tax was insignificant.

Water intake from water bodies

The tax base of the water tax on this type of water use, aggregated for all taxpayers, has been decreasing since 2007 (Figure 4). Accordingly, since 2007, there has been a decrease in water tax charges. 2011 to 2019, the aggregate tax base and the aggregate accrued water tax did not change significantly.

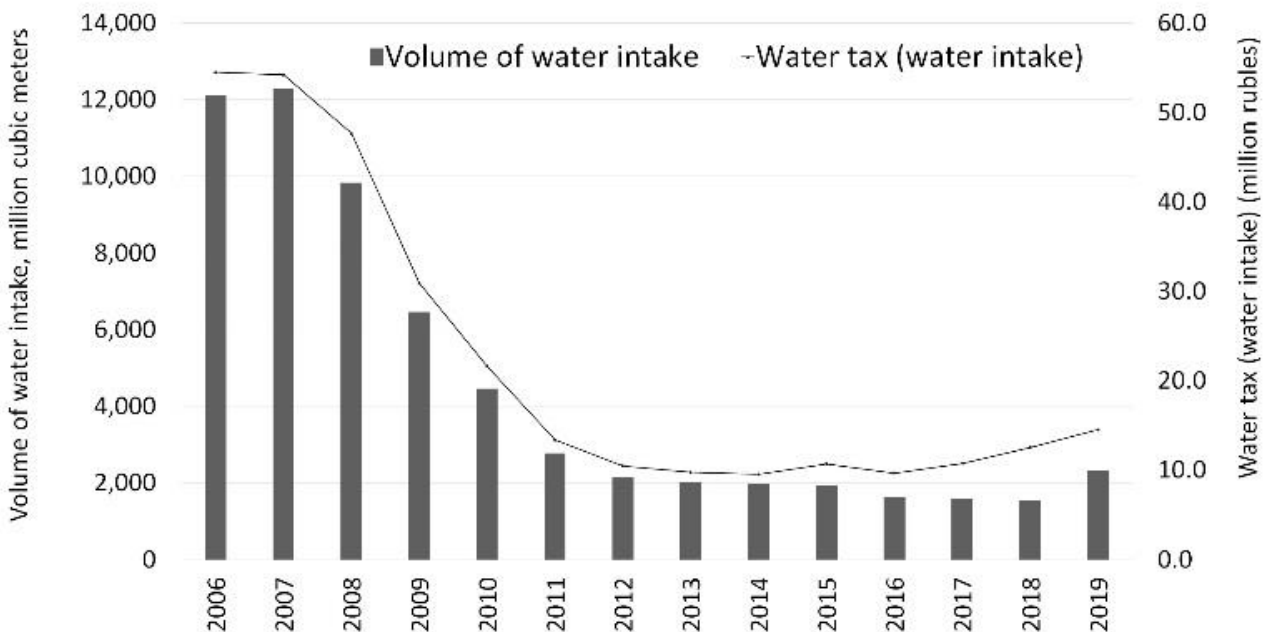


Figure 4. Water withdrawal from water bodies - aggregated tax base and accrued water tax (for all taxpayers) (2006-2019). Source: author's estimates based on official tax revenue data from the RFTS.

Water tax when taking water to supply the population



The aggregated tax base for this type of water use decreased from 2006 to 2012. After 2012, the tax base remained unchanged (Figure 5, left axis OY). The aggregate watertax on water intake for supplying the population in the period under review decreased until 2014 but was not as significant as the tax base. Since 2014, there has been a slight increase in the accrued water tax (Figure 5, bottom line in the figure, right OY axis). This is due to the peculiarities of taxation of this type of water intake for supplying the population. The current national tax legislation (Tax Code of the Russian Federation, 2020) applies a fixed, reduced water tax rate when taking water to supply the population (regardless of the economic region, river basin, or lake). At the macro level, this circumstance leads to the fact that the aggregate accrued water tax when taking water to supply the population is significantly lower than the "lost taxes," the so-called tax expenditures (Figure 5, top line, right axis OY). At the micro-level, this leads to a significant decrease in the tax burden of taxpayers (by 77-82 %) for this type of water use.

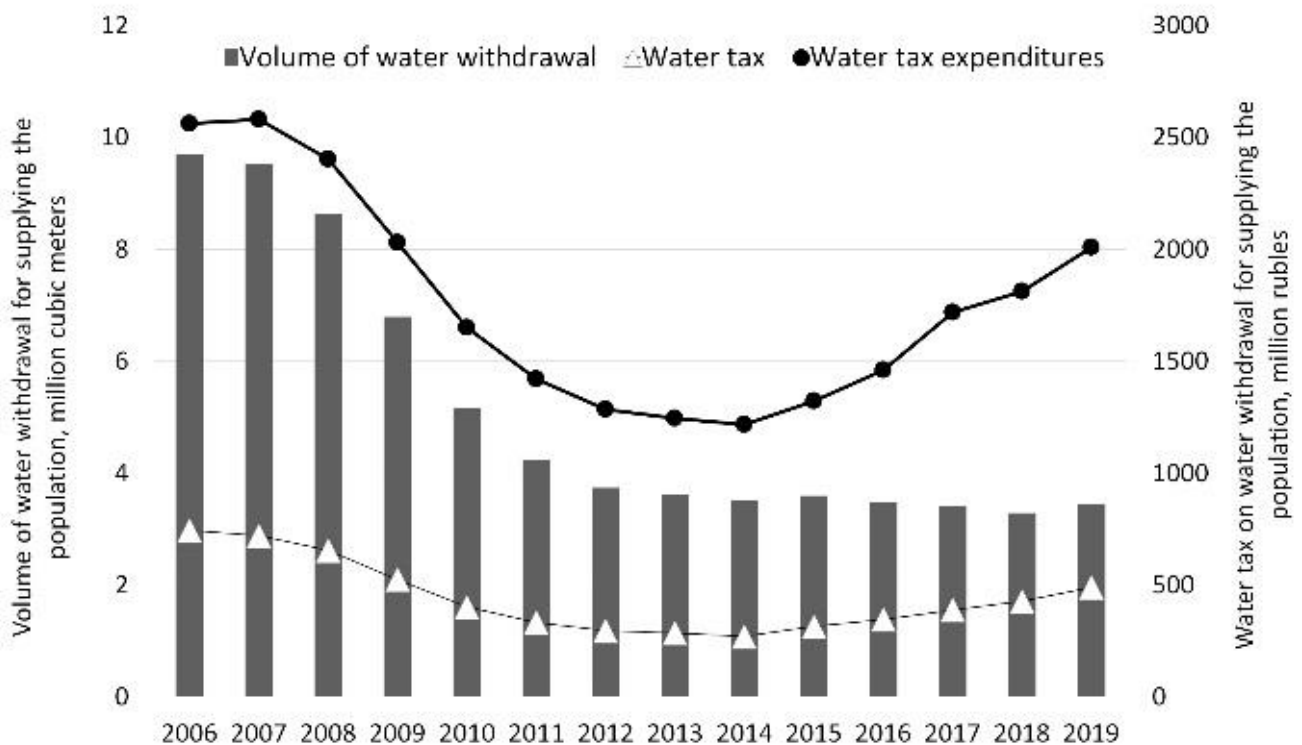


Figure 5. Aggregated tax base and accrued water tax on water withdrawal for supplying the population (for all taxpayers) (2006-2019). Source: author's estimates based on official tax revenue data from the RFTS.

Over-limit water intake



The current legislation (Tax Code of the Russian Federation, 2020) applies an increased water intake rate over the limit established for a specific water user. When water is taken in excess of the established limit, the water tax rate increases fivefold. From 2006 to 2019, the excess of the established water intake limits (in fact, the tax base) was 1-3 % of the total volume of water used (Figure 6, left axis OY, the top row of the histogram). However, the share of water tax charged at the increased rate in 2006-2019 ranged from 2 (in 2007) to 10 % (in 2018) (Figure 6, right axis OY, top, and bottom lines).

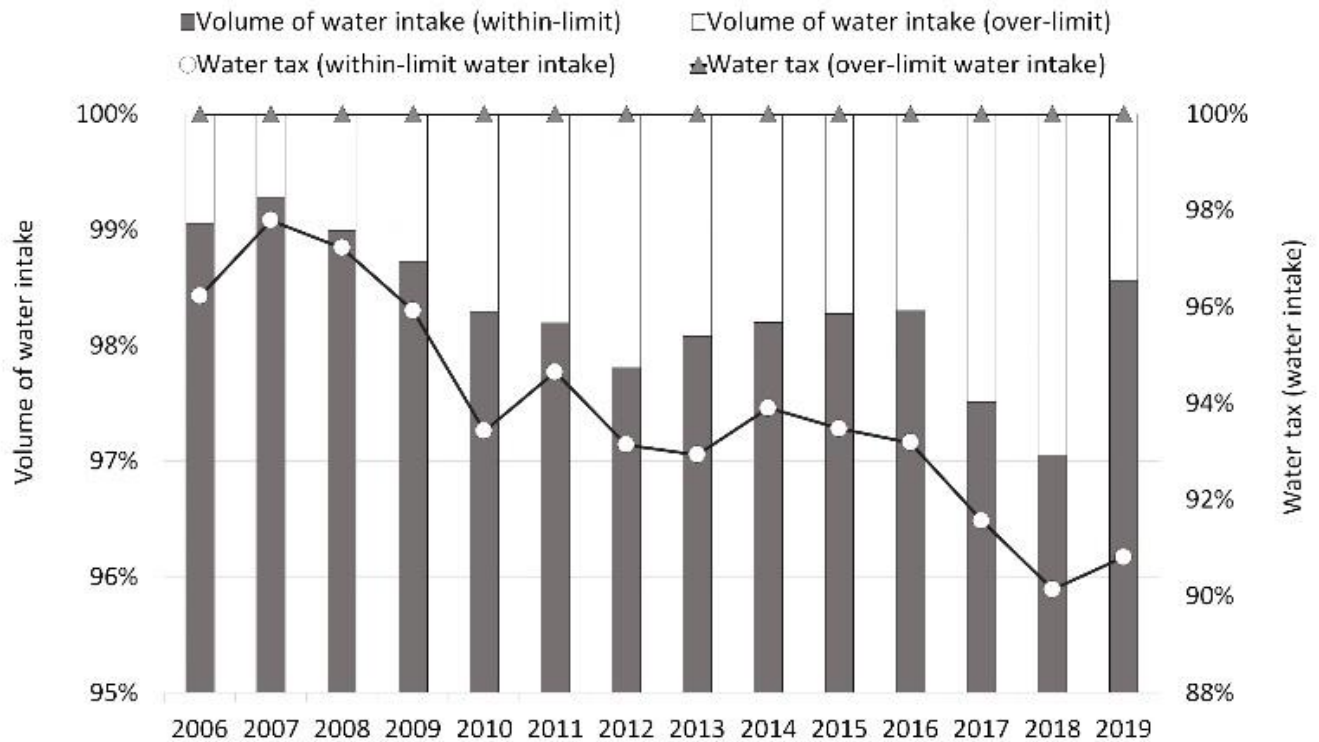


Figure 6. Taxation of over-limit water intake (2006-2019). Source: author's estimates based on official tax revenue data from the RFTS.

Discussion



The use of a new form of compulsory payment (in the form of a water tax) practically did not change the previous mechanism for setting rates for water bodies, which was in force earlier. In the period under review (2006-2019), the role of the water tax in the national budget system decreased. Differential economic rent is also insufficiently taken into account in the establishment of water tax rates.

Conclusions

The water tax occupies an insignificant share of the revenues of the Russian consolidated budget. The total number of taxpayers of the water tax decreased by one-third from 2006 to 2019. The largest share was made by users who take water. Since 2006-2007, the tax base and the share of the aggregate accrued water tax in hydropower have significantly decreased. Since 2008, the largest share of the aggregate water tax falls on the water withdrawal from water bodies. However, the aggregate tax base for water use has also significantly decreased. The reduced rate of water tax when taking water for supplying the population leads to a significant decrease (by 77-82 %, depending on the year) of the tax

burden for this type of water use. An increased (five times) rate is applied when water is taken more than the limit established for a specific water user, an increased (five times) rate is applied. In this case, the specific weight of the water tax, charged in different periods at an increased rate, varied in the range of 2-10 %.

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