Budget Tax Revenues and Losses from External Labor Migration in Russia

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ABSTRACT

One of the reasons behind declining budget revenues can be external migration. This article aims to describe the methodology for estimation of tax losses and revenues from international labor migration for specific types of taxes. Changes in personal income tax revenues are estimated by using the data on the number of labor emigrants (immigrants) for specific occupations, nominal gross monthly wage of employees in this occupation in Russia, standard child tax deductions and the corresponding personal income tax rate for residents (non-residents). Changes in VAT and excise tax revenues caused by the current trends in labor migration are estimated in accordance with the structure of household consumption. The amount of tax revenues (and losses) is calculated as the product of the sum of VAT and excise tax payments made by one member of a household per year when buying goods, works and services on the territory of Russia, and the number of emigrants (or immigrants). The research uses the data provided by Rosstat, Federal Tax Service of Russia and the Analytical Centre under the Government of the Russian Federation for 2012–2017. The conclusion is made that international migration has a negative impact on the tax revenues of the country's consolidated state budget. Although, throughout the whole of the given period, the balance of additional revenues from VAT, excise taxes and the personal income tax (PIT) on earned income and budget losses from these taxes remained positive, in absolute terms, this balance decreased significantly. Trends in international labor migration affected the balance of tax losses and revenues. Therefore, the government's attempts to target international labor migration by reforming the tax legislation seem quite reasonable: the upcoming tax reforms will include the introduction of the concept 'centre of vital interests' as the second criterion of residence and equalization of the PIT rate for tax residents and non-residents. The proposed methodology can thus prove to be an effective tool for the Federal Tax Service of Russia to estimate the resulting changes in tax revenues as well as other changes related to labor migration processes.

KEYWORDS

tax losses, tax revenues, budgetary effect, international population migration, labor migration, consumer spending, immigration, emigration

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Оценка налоговых поступлений и налоговых потерь бюджета Российской Федерации от внешней трудовой миграции

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АННОТАЦИЯ

Внешняя миграция населения может являться одной из причин сокращения бюджетных доходов. Целью статьи является разработка методики и оценка на-

ловых потерь и налоговых поступлений от международной трудовой миграции в разрезе отдельных налогов. Изменение поступлений налога на доходы физических лиц (НДФЛ) предложено оценивать исходя из численности трудовых эмигрантов (иммигрантов) определенной профессии, номинальной начисленной заработной платы работников этой профессии в РФ, стандартных налоговых вычетов на детей и соответствующей ставки НДФЛ для резидентов (нерезидентов). Изменения поступлений налога на добавленную стоимость (НДС) и акцизов, связанные с трудовой миграцией, определяются в соответствие со структурой потребления домашних хозяйств. Объем потерь (поступлений) косвенных налогов в консолидированный бюджет РФ предложено оценивать как произведение суммы НДС и акцизов, уплачиваемых в среднем одним членом домохозяйства в год при приобретении товаров, работ и услуг на территории РФ, на численность эмигрантов (иммигрантов). Для расчетов использованы данные Росстата, Федеральной налоговой службы России и Аналитического центра при Правительстве РФ за 2012–2017 гг. На основании проведенных расчетов сделан вывод о негативном влиянии международной миграции населения на налоговые доходы консолидированного бюджета РФ. На протяжении всех лет исследуемого периода сальдо дополнительных поступлений НДС, акцизов, НДФЛ с трудовых доходов и бюджетных потерь по данным налогам является положительным. Однако рассмотренный период положительное сальдо существенно сократилось в абсолютном выражении. Влияние на сальдо налоговых потерь и поступлений от международной трудовой миграции могут оказать изменения законодательства: введение «центра жизненных интересов» в качестве второго критерия резидентства, а также уравнивание ставки НДФЛ для налоговых резидентов и нерезидентов. Предложенные в статье методики могут быть применены в деятельности ФНС России для оценки изменения налоговых поступлений при изменении налогового законодательства, а также других изменений, касающихся трудовой миграции.

КЛЮЧЕВЫЕ СЛОВА
налоговые потери, налоговые поступления, бюджетный эффект, международная миграция населения, трудовая миграция, потребительские расходы населения, иммиграция, эмиграция

1. Introduction

External migration, like any other social process, has a considerable impact on the economy of any country. Migration affects different spheres of economy such as production (GDP); labor (size of workforce); finance (monetary supply in circulation); budget (tax revenues of budgets); currency (foreign exchange reserves); and trade (exports and imports). This article deals with the effects that migration has on the state budget through tax revenues and tax losses. What this means is that emigrants stop paying taxes in their country of origin but have to pay them to the budget of the host country in accordance with its tax legislation because, when they arrive in this country, they get access to such public benefits as national defense, national security, law enforcement, environment, state systems of education and health care, free cultural and entertainment events. Emigrants also gain new rights in the sphere of transfer payments: for example, they may be eligible to collect unemployment benefits, social security benefits and poverty relief.

The budgets of emigrants' countries of origin, on the contrary, suffer from the loss of tax payments that these people would have made if they had not emigrated. The amount of budget losses exceeds the costs of public services thus saved. In the host country, immigrants from wealthier states contribute more in taxes than the cost of the public services they consume. Immigration from poorer countries, on the contrary, has a significant negative impact on the budget of the host country, although, on the bright side, immigrants provide this country's economy with extra workforce. The positive effect is also generated through the direct sources of revenue from the profit tax paid by intermediary firms and the personal income tax sometimes charged on migrants'

remittance payments to their families and relatives back home.

The topic of external migration is of particular relevance for Russia due to the fall in the net migration gain this country has been facing since 2011: from 319.8 thousand people in 2011 to 124.9 thousand in 2018, that is, by 61% in the last seven years [1].

Such decline in the net migration gain signifies that the country has become less attractive for foreign citizens, which is to a great extent caused by the drop in the purchasing power of the average nominal monthly wage of workers in the Russian economy expressed in dollars. This situation results from the depreciation of the rouble against the dollar.

If this trend persists in the future, meeting the migration gain target of over 300 thousand people annually by 2025 would become problematic (this target is set by the Concept of State Migration Policy). Therefore, new approaches and new mechanisms would be required for external migration policy making.

The problem is exacerbated by the fact that Russia is now going through the new wave of brain drain. Since 2014, about 44 thousand highly qualified specialists have been leaving the country every year. One of the main reasons for emigration is the difficult economic situation in Russia due to Western financial sanctions.

Apart from that, a substantial category of emigrants comprises representatives of financial oligarchies, which links emigration with capital flight. The same category also includes successful creative professionals (singers, actors, etc) and sportsmen. In the last thirteen years, 20 thousand dollar millionaires and billionaires have left Russia. 6 thousand emigrated only in the last three years[1].

In view of the above, this article aims to provide a quantitative estimation of the effects international migration has on the Russian state budget. This effect is measured as the balance of tax losses and tax revenues.

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2. Literature review

There is a vast body of academic literature discussing the questions of international migration.

For the purpose of this research, we are going to focus on those studies that provide methodologies of quantitative estimation of economic and financial effects of external migration.

V. V. Maslennikov computed the losses suffered by the Russian economy due to its citizens' emigration to other countries by using the cost of the 'life' of one emigrant. His findings show that emigration from Russia has a negative effect on the Russian economy [2].

V. A. Iontsev and I. V. Ivakhnyuk analyzed the economic, institutional and legal effects of the ratification of the Agreements in the Sphere of Labor Migration [3].

V. A. Koretskaya-Garmash [4] estimated the tax revenues from work patents issued to labor migrants on the federal level and S. V. Ryazantsev did the same for the regional level [5]. These researchers came to a similar conclusion that labor migrants make a significant contribution to Russia's state budgets on all levels.

I. A. Aleshkovsky, A. A. Grebenyuk, and A. S. Maksimova [6] proposed a methodological approach based on the system of analytical indicators to estimate the impact of external labor migration on host countries' financial and budgetary sphere. Their methodology focuses on such key aspects as labor migrants' remittances home and mandatory payments made by foreign workers to the host country's budget.

The budgetary impact of labor migration is explored in a number of international studies.

D. Sriskandarajah, L. Cooley and H. Reed [7] have found that different groups of immigrants have different fiscal impact on the UK budget. For some groups, this impact is positive and quite substantial while for others, it is negative. The conclusion is made that the overall impact of external migration on the UK state budget has remained steadily positive.

S. P. Kerr and W. R. Kerr propose to consider the overall economic impact of immigration on the state budget as the

'discounted difference between tax payments and income transfers received for an immigrant over the duration of his or her stay in the host country' [8, p. 19].

I. Preston uses mathematical modelling to show that if the state policy encourages immigration in certain types of jobs for certain public services (health care, education, etc.), this leads to an increase in the unit cost of these public services for the country's budget [9].

The estimated net fiscal impact of immigrants (with and without insurance contributions) on the host country's budget system leads the OECD experts to the conclusion that 'employment is the single most important determinant of migrants' net fiscal contribution, particularly in countries with generous welfare states' [10, p. 3]. Raising the rate of employment among immigrants to the level of that of the native-born would generate substantial fiscal gains for many OECD countries, in particular Belgium, France and Sweden, with the budget impact of more than 0.5% GDP [10].

M. F. Hansen, M. L. Schultz-Nielsen and T. Tranæs analyzed the budget effect from immigration to Denmark and found that immigrants from wealthier countries have a positive fiscal impact while immigrants from poorer countries have a significant negative effect due to a 'weak labour market performance and early retirement in combination with the universal Danish welfare schemes' [11, p. 31].

F. D. Blau and Ch. Mackie found that a large share of dependent children and senior immigrants in the total number of immigrants leads to an increase in spending and a reduction in the tax revenues of budgets of US states. As for the general effect of immigration, the immigrant generated revenue exceeds the total costs of immigration to the state budget [12].

P. Orrenius showed that the fiscal influence of immigrants on the US state budget is actually much less negative than that of the host population. Taxes paid by immigrants cover 93% of the public benefits they consume while the tax payments made by native residents cover only 77% [13].

d'Artis Kancs and P. Lecca found that, despite the fact that integration of refugees (for example, social benefits, language training, and education) generates considerable costs for the state budget, in the medium- and long-term perspective, socio-economic and fiscal benefits of this support could significantly outweigh its costs. The more investment is made into the integration of refugees after their arrival, the more net benefits such investment will bring [14].

A large number of Russian studies discuss the problem of budget losses due to illegal labor migration. D.V. Savelenko makes a long-term forecast concerning personal income tax losses and insurance contributions in relation to illegal labor migration [15]. N. P. Neklyudova and E. A. Ilinbaeva calculated tax losses of the budget of Sverdlovsk region [16]. E. B. Yakovleva, N. P. Kuznetsova and O. A. Drozdov estimated the amount of real and potential losses of the Russian state budget due to the illegal use of migrant labor [17].

In our previous research, we developed and applied a methodology for estimating tax losses of regional budgets due to illegal labor migration to Russia by calculating the potential amount of payments to be collected and the actual amount of payments of the personal income tax on earned income of foreign citizens. Our findings showed that illegal labor migration, while making a great contribution to Russia's GDP, at the same time has a considerable detrimental effect on the Russian state budget. The situation is exacerbated by the negative trend in the losses from the personal income tax: by 2017 there was an almost 60% increase in losses in comparison with 2016 [18].

This question is also widely discussed in international literature.

T. Palivos [19] studies the impact of illegal immigration on the host country's well-being. J. Machado considers the economic effect from amnesty and deportation of illegal migrants [20]. S. A. Camarota estimates the overall impact of illegal labor migration on the US federal budget [21] while P. R. Orszag, on budgets of individual US states and local budgets [22].

M. O'Brien considers the budget expenditures caused by illegal migration by calculating the fiscal burden per migrant in the State of Texas [23].

N. Obiokoye focuses on the reasons for tax non-compliance among undocumented migrants in the US, which causes considerable tax losses for the state budget. He argues that the root of the problem is the unfairness of the tax laws and policies towards immigrants in America resulting in unequal treatment of this group of people, even though they are in similar economic conditions as other US citizens. In other words, it is the tax laws themselves that force undocumented migrants to dodge taxes [24].

Despite the abundance of studies in this sphere, there are certain research gaps that need to be addressed: when dealing with the effects of migration, most studies focus on immigration as the main factor that determines tax revenues and tax losses, while other aspects remain all but ignored.

The majority of authors associate the negative budget effects either with illegal labor migration or with the public spending on immigrants, exceeding the amount of taxes they pay, but not with the process of emigration itself.

Thus, there is a perceived gap in contemporary research, which can be filled through comparative analysis of tax losses and tax revenues and through estimation of the total budget impact of two opposite processes – emigration and immigration – for different types of taxes.

In our view, tax losses result not only from shortfalls in tax collection due to illegal labor immigration or the costs of immigrant support (e.g. the high costs of the public service provision), but from permanent emigration.

3. Research methodology

We used the data of the Federal State Statistics Service (Rosstat), Federal Tax Service of Russia and Analytical Centre under the Government of the Russian Federation.

We have chosen indirect taxes and the personal income tax (PIT) because these taxes, first, contribute the most to federal and regional budget revenues and, second, constitute a burden for physical persons – migrants.

3.1. Methodology for estimation of PIT revenues and losses

We suppose that changes in budgetary losses and revenues from PIT on earned income caused by international migration trends can be calculated as the sum of the products of the number of labor emigrants (immigrants) in a certain occupation and the nominal monthly wage of employees in this profession in Russia and the rate of PIT on earned income for residents (non-residents).

We apply formula (1) to estimate tax losses of the state budget:

$$\zeta = \sum_{0}^{\iota} \begin{aligned} &\mu(0,1M + 0,56(M-1400) + \\ &+ 0,28(M-1400) + \\ &+ 0,06(M-3000)12\sigma \end{aligned}, \quad (1)$$

where μ is the number of labor emigrants from Russia, with current or last occupation ι; M, the average nominal gross monthly wage of employees in occupation ι; σ, the rate of PIT on earned income for Russian residents (13%).

Our calculations take into account standard child tax deductions. According to the statistical reports of the Federal Tax Service, 10% of taxpayers do not claim child tax deductions; 56% claim tax deductions for the first child; 28%, for the second child; and 6%, for the third child[2].

We estimated PIT revenues of the federal budget in relation to labor immigration by using the statistical reports of the Federal Tax Service.

PIT revenues are calculated by applying formula (2):

$$\varepsilon = (E_{30} - \mu\varepsilon)\sigma_{30} - \chi_{30} + (E_{13} - \mu\varepsilon)\sigma - \chi_{13}, \quad (2)$$

where E_{30} is the income of foreign citizens and stateless persons earned on the territory of Russia or from sources in Russia taxed at the rate of 30%; E_{13}, the income of foreign citizens and stateless persons

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[2] Federal Tax Service of the Russian Federation. Moscow; 2005–2019. Available at: http://www.nalog.ru [Accessed: 12.11.2019].

earned on the territory of Russia or from sources in Russia taxed at the rate of 13%; $\mu\varepsilon$, non-taxable income; σ_{30}, PIT rate of 30%; σ_{13}, PIT rate of 13%; χ_{30}, χ_{13}, PIT debt, calculated as the difference between the assessed PIT amount and the amount obtained by the budget, for each tax rate.

3.2. Methodology for estimation of indirect tax losses and revenues

One of the key characteristics of indirect taxation is the tax shifting effect, described by English philosopher John Locke in his 1691 pamphlet: in his view, merchants and intermediaries shifted the tax burden through indirect taxes to laborers (consumers), who were unable to bear it because they received fixed pay for their work [25].

For a quantitative estimation of the indirect tax revenues and losses related to international migration, we considered only physical persons as subjects of fiscal relationships and used consumption expenditures as the main indicator.

The second hypothesis of our study is as follows: the amount of budgetary losses (revenues) from indirect taxes in relation to international migration in the current year equals the amount of VAT and excise taxes, which emigrants (immigrants) could theoretically pay on goods, works and services in the current year in Russia.

VAT losses are calculated by using the methodology for estimating 'migration of indirect taxes' [26, p. 80]:

$$\zeta = \mu_1 \cdot VATH, \qquad (3)$$

where μ_1 is the number of emigrants; *VATH*, the amount of VAT paid on goods, works and services on average by one member of a household per year.

VAT revenue can be calculated the following way:

$$\varepsilon = \mu_2 \cdot VATH, \qquad (4)$$

where μ_2 is the number of immigrants.

A similar scheme can be applied to calculate the excise tax losses and revenues.

In order to compute the yearly amount of per capita VAT payments and payments of excise taxes (ETH), we used the structure of consumer expenditures. This structure includes 544 items and is used to calculate the consumer price index.

$$VATH = \sum_0^\iota \tau_\iota / 100\delta \cdot 12\sigma_{VATH}, \qquad (5)$$

where τ_ι is the share of goods, works and services of type in the general consumption expenditures list; δ, the average monthly consumption expenditures per one member of a household; σ_{VATH}, estimated VAT on goods, works and services of type ι (18%, 10% or 0%).

$$ETH = \sum_0^\iota \frac{\tau_\iota / 100\delta \cdot 12}{\kappa} \sigma_{ETH}, \qquad (6)$$

where κ is the consumer price for excisable goods of type ι; σ_{ETH}, the excise tax rate for excisable goods of type ι.

To calculate the amount of excise taxes paid on average by one member of a household per year, we divided the total sum of expenditures on a certain excisable product a year by the consumer price for this product. Thus, we obtained the product quantity purchased by one member of a household per year or the taxable base. We need, however, to take into consideration the differences in measurement units (convert litres into tons, for example, in the case of car petrol and use the number of cigarettes instead of the number of packs in the case of tobacco products). Moreover, the assessment of excise taxes on strong alcoholic beverages should take into account the percentage of ethanol these beverages contain. To assess excise taxes on cars it is necessary to consider the overall horsepower of all cars by using the average engine power per car (100 hours powers).

Our methodology is based on the assumption that the structure of consumption among immigrants and emigrants is the same. We are aware of the fact that this assumption may seem debatable because it does not take into account the differences in consumer preferences and different levels of consumption among emigrants and immigrants.

4. Results
4.1. Estimation of PIT losses and revenues

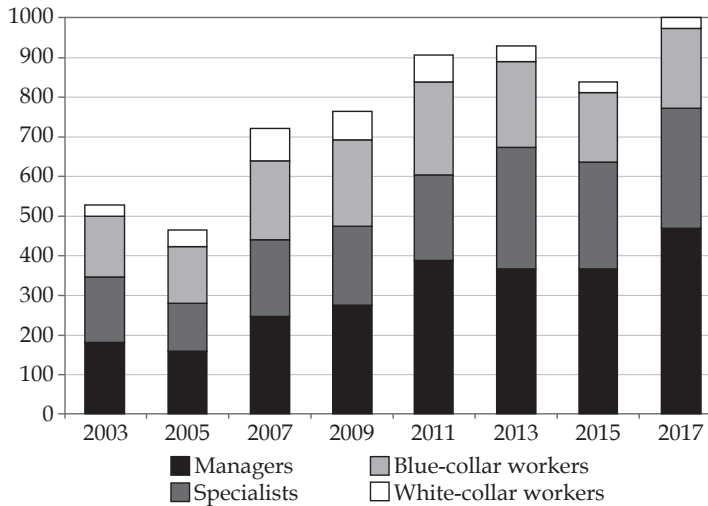Figure 1 illustrates the dynamics and structure of PIT losses in relation to labor

Figure 1. **Dynamics and structure of PIT losses in relation to labor emigration in 2003–2017, by occupation of emigrants, mln rbs**

Source: Calculated by the author by using the data from: Labor and Employment in Russia. 2017: Statistical Yearbook. Moscow: Rosstat; 2017. 261 p.

emigration in 2003–2017 for different occupations of emigrants.

In the given period, the tax losses of the Russian federal budget almost doubled. This can be explained by the annual increase in the number of labor emigrants from Russia – in the last fifteen years this figure has grown by about 30%. Since 2014, general emigration from Russia has risen by 22.5% in comparison with 2013[3]. An upsurge in labor emigration was observed in 2008 and 2010. An increase in tax losses since 2011 is related to the growth in the nominal gross monthly wage of those categories of professionals who are more prone to emigrate: managers and highly qualified specialists. Importantly, the growth in the number of emigrants to non-CIS countries, which started in 2014, is a continuing trend. Thus, there is likelihood that PIT losses will continue growing in the nearest future.

Table 1 shows our calculations of PIT revenues related to labor migration in 2012–2017.

The data show a decline in the revenues from PIT on earned income in 2015 resulting from the drastic fall in the number of labor migrants in the same year (by

42.3%)[4] caused by the rouble devaluation and new laws. At the beginning of 2015, work permits for labor migrants from CIS countries were replaced by work patents. In order to obtain such patents, migrants were obliged to provide a full set of of documents.

The downward trend in migration to Russia, which started in 2015, still continues. It encompassed not migrants from remote countries but also those from Central Asia. This process is caused by the shrinking labor market and it is unlikely that in the nearest future there will be a rise in PIT revenues from migrants' earned incomes.

In this respect, it is interesting to look at the balance of the PIT losses and revenues in relation to population migration and at the share of this balance in the total tax revenue of the Russian state consolidated budget (see Table 2).

It should be noted that, throughout the whole given period, the balance was positive, which means that labor migra-

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[3] Rosstat data.

[4] Final Report on Migration, Outcomes and the Main Areas of Activity of the Federal Migration Service in 2015. General Administration for Migration Issues of the Ministry of Internal Affairs of Russia. Available at: https://xn--b1a-b2a0a.xn--b1aew.xn--p1ai/upload/site1/document_file/_doklad.pdf [Accessed: 12.11.2019].

Table 1

PIT revenues of the consolidated budget of Russia in relation to labor migration in 2012–2017, mln rbs

Indicators	2012	2013	2014	2015	2016	2017
Income of foreign citizens and stateless persons on the territory of Russia and from sources in Russia, taxed at the rate:	401,886.51	406,772.20	375,754.80	331,917.69	353,286.52	371,754.30
15%	4 287.52	3 927.09	4 991.93	11,701.61	13,582.67	20,658.86
30%, including:	49,668.91	48,397.62	43,941.77	34,656.99	28,915.87	27,642.29
30% (earned income)	14,241.56	6 698.68	22,587.75	30,142.44	27,893.68	26,421.67
30% (unearned income)	35,427.35	41,698.94	21,354.02	4 514.55	1 022.19	1 220.62
13%	341,676.50	347,349.06	317,618.61	255,515.99	284,358.31	276,653.16
at other rates (stipulated by international agreements)	6 253.59	7 098.43	9 202.49	30,043.10	26,429.68	46,799.99
Tax base at the rate:	291,523.13	313,612.72	308,427.89	270,731.73	292,989.02	310,885.29
15%	4 283.22	3 921.78	4 981.38	10,316.33	13,557.40	20,638.77
30%, including:	43,915.33	42,639.64	38,644.10	26,420.11	21,271.94	18 027,94
30% (earned income)	12 735,45	5 969,55	19 708,49	22 985,49	20 421,06	17,126.55
30% (unearned income)	31,179.89	36,670.09	18,935.61	3 434.61	850.88	901.40
13%	237,219.53	259,985.68	256,007.28	205,209.60	232,146.18	227,675.07
at other rates (stipulated by international agreements)	6 105.05	7 065.62	8 795.14	28,785.70	26,013.50	44,543.51
PIT charged at the rates:	45,359.36	48,019.49	46,745.32	39,797.66	42,053.10	43,729.63
15%	612.16	585.29	743.44	1 525.40	1 999.29	3 086.65
30%, including:	13,081.41	12,705.09	11,527.84	7 794.41	6 343.44	5 354.88
30% (earned income)	3 793.61	1 778.71	5 879.20	6 781.13	6 089.71	5 087,.14
30% (unearned income)	9 287.80	10,926.37	5 648.64	1 013.27	253.74	267.74
13%	30,838.54	33,798.14	33,280.95	26,677.25	30,179.00	29,597.76
at other rates (stipulated by international agreements)	827.25	930.98	1 193,10	3 800,61	3 531,37	5 690,34
Budget revenues from the PIT at the rate:	44,450.14	46,552.78	44,404.73	38,428.22	41,106.01	42,698.36
15%	571.98	562.95	706.99	1 401.89	1 976.09	3 038.33
30%, including:	11,628.24	12,705.09	10,626.54	7 758.99	6 397.61	5 081.46
30% (earned income)	3 372.19	1 778.71	5 419.54	6 750.32	6 141.71	4 827.38
30% (unearned income)	8 256.05	10,926.37	5 207.01	1 008.67	255.90	254.07
13%	31,476.25	32,380.49	31,944.51	25,780.07	29,284.20	28,995.07
at other tax rates (stipulated by international agreements)	773.67	904.25	1 126.69	3 487.27	3 448.11	5 583.5
Revenues from the PIT on earned income	34,848.44	34,159.26	37,364.05	32,530.39	35,425.91	33,822.46

Table 2

Changes in the share of the balance of PIT losses and revenues in relation to population migration in the total revenue of the Russian state consolidated budget in 2013–2017

Indicators	2013	2015	2017
PIT losses, mln rbs	928.86	834.56	999.40
PIT revenues, mln rbs	34,159.21	32,530.39	33,822.46
Balance (additional tax revenues), mln rbs	33,230.35	31,695.83	32,823.05
Total tax revenues, mln rbs	9,982,028.31	9,644,378.09	11,177,264.26
Share of the balance in the total tax revenue, %	0.33	0.33	0.29

tion provides additional tax revenues to the budget. A sharp reduction in the balance by 2015 was caused by the drop in the net migration gain in Russia and by the falling wage level across the country.

An increase in this indicator by 2017 was not, however, caused by migration but largely stemmed from the enhanced quality of tax administration, resulting in higher tax collection rates, and the rising wage level.

An alarming trend observed between 2013–2017 was the decline in the balance in absolute terms by 407.3 million roubles as well as the shrinkage of the share of the balance in tax revenues – from 0.33% to 0.29%.

4.2. Estimation of budgetary revenues and losses from VAT and excise taxes

In order to estimate revenues and losses from indirect taxes, we calculated the sum of VAT and excise taxes paid on average by one member of a household per year by using the prices for excisable goods in 2012–2017. Table 3 shows our calculations of excise taxes in 2017.

To save space, we are not going to discuss in detail the computation procedure but will proceed straight to the results.

Figure 2 illustrates the dynamics of VAT losses and revenues in relation to international migration in 2012–2017.

Table 3

Average amount of excise taxes paid by one member of a household per year as a percentage of product price in 2017

Consumer expenditures, by product type	Consumer expenditures		Consumer price for a product, unit/rbs[*]	Product quantity taxable base)	Excise rate	Excise taxes paid on average by one member of a household per year, rbs
	%[**]	rbs per person[***]				
Car petrol A-76 (AI-80), l	0.029	60.45	35.22	0.0012	13,100	16.08
Car petrol AI-92 (AI-93, etc), l	2.013	4196.28	37.95	0.0813	13,100	1064.70
Car petrol AI-95 and petrol of higher octane rating, l	1.31	2730.82	41.01	0.0499	13,100	654.25
Fortified grape wine, alcohol level 20%, l	0.37	771.30	541.79	1.42	18	25.63
Table grape wine (dry, semi-dry, semi-sweet), alcohol level 14% and 8% sugar, l	0.918	1913.66	394.15	4.86	18	87.39
Russian-made sparkling wine, l	0.178	371.06	320.63	1.16	36	41.66
Diesel fuel, l	0.2	416.92	40.24	0.0089	6800	60.58
Russian-made ordinary cognac, l	0.58	1209.06	1303,04	0.37	523	194.11
New imported car, unit	1.273	2653.69	1,166,061,23	0.23	43	9.79
Foreign imported second-hand car, unit	1.537	3204.02	561,778.58	0.57	43	24.52
Foreign-branded car assembled in Russia, unit	1.652	3443.75	780,158.86	0.44	43	18.98
New Russian-made car, unit	0.724	1509.24	475,413.29	0.32	43	13.65
Beer of international brands, l	0.201	419.00	226.81	1.85	21	38.79
Russian beer, l	1.069	2228.43	110.22	20.22	21	424.58
Russian unfiltered cigarettes, pack	0.5	1042.30	80.46	0.26	3685	954.73
Filtered cigarettes of international brands, pack	0.391	815.08	115.89	0.14	3685	518.35
Russian filtered cigarettes, pack	0.785	1636.40	80.46	0.41	3685	1498.92
Total	100	208,448.78	X	X	X	5646.70

* Prices in Russia. 2018: Statistical Yearbook. Moscow: Rosstat; 2018. 142 p.

** Unified Interdepartmental Statistical Information System (EMISS). Moscow; 1999–2018. Available at: https://fedstat.ru/ [Accessed: 12.11.2019].

*** Social Standing and Quality of Life of the Russian Population. 2017: Statistical Yearbook. Moscow: Rosstat; 2017. 332 p.

First, the amount of VAT revenues exceeds that of losses. Second, VAT losses demonstrate a pronounced upward trend, which is directly connected to the increase in the number of emigrants, taking their assets with them. Third, the dynamics of VAT revenues is unstable: they peaked in 2014, which can be explained by the increase in average consumer spending per capita until 2014, that is, until the time when consumer preferences started to be affected by the economic recession.

Figure 3 illustrates the dynamics of excise tax losses and revenues in relation to international migration in 2012–2017.

Excise tax losses demonstrate a clear upward trend. As for the revenues, in 2014 and 2015, they fell considerably. This can be explained by the recession, when people cut their spending on certain categories of goods, in particular those that do not belong to consumer staples.

Figure 4 shows the balance of losses and revenues from VAT and excise taxes in 2012–2017.
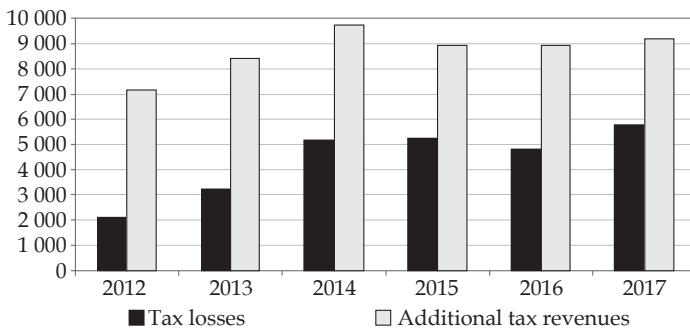
Figure 2. **Changes in VAT losses and revenues in relation to international migration in 2012–2017, mln rbs**
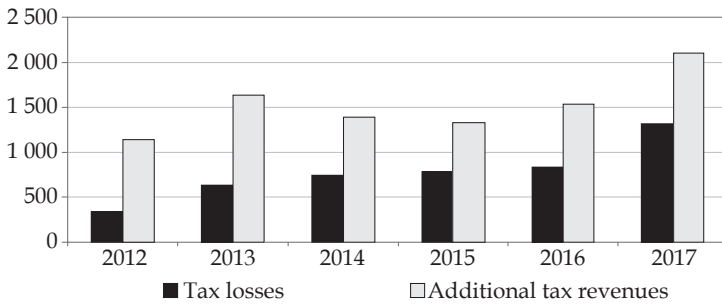
Figure 3. **Changes in excise tax losses and revenues in relation to international migration in 2012–2017, mln rbs**
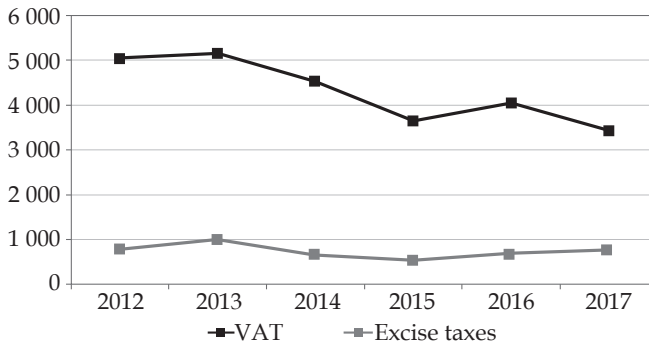

Figure 4. **Balance of losses and revenues from VAT/excise taxes in 2012–2017, mln rbs**

For Russia, the positive balance in the case of VAT and excise taxes is beneficial because it provides extra opportunities to replenish the state budget out of the pockets of foreign citizens.

This difference, however, is growing smaller every year because emigration exceeds immigration. The absolute difference between VAT revenues and losses in relation to international migration has decreased by 1,619 million roubles, for excise taxes – by 19 million.

5. Discussion

Statistical reports of the Federal Tax Service do not provide data on VAT paid abroad. The only indicator included in the reports that characterizes VAT losses is the 'sum of VAT from operations performed outside of the Russian Federation'[5]. The data on this indicator in the given period are quite impressive. As for VAT paid outside of Russia, the reports do not specify the sums paid by foreign organizations in Russia or by withholding agents. This figure remains 'hidden' in other indicators. We have to solve a similar problem when dealing with the PIT: the statistical reports provide no information about the sums of the PIT paid by Russian residents abroad and subject to foreign tax credit.

To assess the efficiency of indirect tax administration we need to estimate the potential amount of these taxes to be collected annually. We should also take into consideration the potential amounts of taxes to be paid by Russian citizens, foreign citizens and stateless citizens. The VAT and excise tax revenues in the current year cannot be below this level, otherwise we are dealing with corporate tax dodging, for instance, companies concealing their income.

Thus, the proposed methodology can be used by the Federal Tax Service of Russia for administration of revenues from the PIT and indirect taxes and for reporting ('On the Tax Base and Structure of Charges for VAT and Excise Taxes' and

'On Declaration of Income by Physical Persons').

This methodology can be further improved to take into account the VAT reclaimed through the tax-free shopping (TFS) system to foreign travelers in Russia and to Russian residents traveling abroad. This is necessary to estimate the potential tax losses of the state budget since the TFS system stimulates physical persons and legal entities to buy goods on which VAT is charged abroad.

6. Conclusion

The pronounced negative trend in the sphere of net migration gain which started in 2014 makes the task of estimating tax losses in connection with the increased outflow of migrants from Russia particularly relevant.

Our research focused only on those taxes that constitute the tax burden on physical persons, such as the personal income tax and indirect taxes. There is no official information on the PIT paid by Russian residents abroad, which makes them entitled to a foreign tax credit. However, information on the revenues from the PIT paid by non-residents of Russia can be deduced from the official data. The situation with indirect taxes is quite the opposite: the data about the VAT paid by Russian resident companies outside of Russia are available but there are no data about the VAT payments made by non-residents.

Our analysis has led us to the following conclusions. Despite the fact that traditionally migration had a positive influence on budgetary revenues (through PIT and indirect taxes), since 2014, the situation has been reversed and the impact of migration on the country's consolidated budget has become negative. Overall, between 2011 to 2017, the absolute difference between VAT revenues and losses in relation to international migration fell by 1,619 million roubles, for excise taxes – by 19 million.

What causes most concern is the fact that the difference between the revenues and losses from the PIT on earned income dropped by 407.3 million roubles. The share of this difference in the total tax rev-

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[5] Federal Tax Service of the Russian Federation. Moscow, 2005–2019. Available at: http://www.nalog.ru [Accessed: 12.11.2019].

enue of the Russian state budget has also shrunk – from 0.33% to 0.29%. The above-described trend can stem from the declining external labor migration balance.

This problem can be partially tackled through the tax reforms which are planned to be implemented in the nearest future. These reforms will include the two key areas. First, there will be a change in the criterion for fiscal residence of physical persons – the duration of uninterrupted stay in the country will be reduced from 183 days to 90 days, according to the 'Key Areas of the Budget, Fiscal and Customs Tariff Policy in 2020–2022'[6]. It should be noted that the new duration of stay will be applied on a voluntary basis. In this case, highly qualified foreign specialists spend-

ing most of their time in other countries and coming to Russia for a brief stay may find it interesting to acquire Russian tax residence, since this country offers competitive PIT rates. This measure is expected to enhance budgetary tax revenues.

Moreover, a new criterion will be introduced – 'centre of vital interests', which will affect foreign assets of physical persons. Foreign legal entities owned by a physical person will be automatically recognized as 'controlled foreign companies' (CFC), which will increase the total fiscal burden imposed on them and enhance tax revenues.

Second, PIT rates will be equalized for tax residents and non-residents at the level of 13%. This step is expected to create a positive effect by discouraging well-off Russians from prolonging the duration of their stay abroad. The possible negative effect of this measure is that the lower tax rate will lead to a certain decline in the tax revenues of regional budgets.

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[6] Key Areas of the Budget, Fiscal and Customs Tariff Policy in 2020 and for the Planning Period of 2012 and 2022 (Approved by the Ministry of Finance of Russia). Available at: http://www.consultant.ru/document/cons_doc_LAW_334706/ [Accessed: 12.11.2019].

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