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## ASSESSMENT OF VALUE ADDED TAX REDUCTION POSSIBILITIES FOR SELECTED FOOD GROUPS IN LATVIA

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Value-added taxes (VAT) are applied in the European Union (EU) Member States in accordance with Directive 2006/112/EC to limit distortions in competition in the common European market. Latvia is one of the five EU Member States where reduced VAT rates are not applied to food products, and the food is taxed at the standard rate of 21%. For this reason, food producer organisations discuss the introduction of a reduced VAT rate for selected fruits, berries, vegetables as well as potato grown in Latvia. **The overall aim of the present research** is to assess the effect of reduction of the VAT rate from 21 to 5% for selected food groups: fresh fruits, berries, vegetables and potato produced in Latvia. The research estimated a decrease in the price for the mentioned food groups, identified a potential increase in consumption and forecasted the effect of the VAT rate reduction on the amount of tax revenue collected by the central government. The research found that the reduction of the VAT rate from 21 to 5% would result in a price decrease ranging from 1.9 to 3.5% for fruits, berries, vegetables and potato, the consumption of fresh fruits and berries would increase, on average, in the range of 1.2–2.3%, while the consumption of fresh vegetables would increase, on average, in the range of 1.2–2.1%, yet in a short-term the tax revenue paid to the government would decrease in the range of EUR 3.9–5.7 million. Nevertheless, in a medium-term, a significant positive effect on the producers of fruits, berries, vegetables and potato that operate legally in the agricultural industry could be expected, as the negative effect of the shadow economy decreases.

*Keywords: value added tax, prices, consumption, government budget*

### INTRODUCTION

Consumption taxation through VAT is usually considered as a relatively efficient way of raising public funds (Boeters et al., 2006). VAT is included in all purchased goods and services. It concerns every citizen ... and burdens every subject (Hajdúchová, Sedliačiková, Vizslai, 2015). VAT has been proposed as a macroeconomic stabilization instrument (Claus, 2013). Fifty years ago, VAT was rarely heard outside of France and some specialized handbooks. Nowadays, it is found in over 130 countries where it commonly raises 20% or more of all tax revenues. At the same time, a high VAT rate limits the possibility of consumption and investment, and it generates negative effects on the supply and the demand of economic goods produced by economic agents (Muresan et al., 2014 and Keen, Lockwood, 2010). VAT is the only permissible general consumption tax in the countries of the EU. Although mainly due to ensuring the freedom of the movement of goods and services, it is the most harmonized tax which gives the Member States only a certain level of freedom in the particular VAT areas; it also concerns the size of the reduced VAT rates (Široky, Kovarova, Randova, 2012).

VAT application in the EU Member States is regulated in accordance with Directive 2006/112/EC on the common system of value added tax. The purpose of regulating VAT rates in the Member States is to limit distortions in competition in the common European market. Directive 2006/112/EC provides that the EU Member States shall apply one of two reduced VAT rates, which may not be less than 5% for a certain category of goods and services (The Council of ..., 2006).

There are a few exceptions for some EU Member States. The Member States may apply an especially low VAT rates (lower than 5%). Such an advantage is given to five Member States where such especially low VAT rates have been introduced: 2.1% in France, 3% in Luxembourg, 4% in Spain and Italy, 4.8% in Ireland, while in the United Kingdom, Ireland and Malta a 0% rate is applied to some groups of food goods (European Commission, 2017).

Reflecting distributional concerns, many countries apply VAT reductions to specific goods, which make up a larger share in the consumption of low-income households (Boeters et al., 2006). Starting from 2013, the VAT applicable to the basic agro-food products was reduced from 24% to 9% in Romania. This measure was taken even in other EU Member States, such as Belgium and Germany, and it was meant to ensure the required social protection and the increase of the collection rate for the state budget (Muresan et al., 2014). In Germany reduced VAT rates are found to act as industry-specific subsidies (Boeters et al., 2006).

Latvia is one of the five EU Member States where reduced VAT rates are not applied to food products, and the food is taxed at the standard rate of 21%. Standard VAT rates are applied to food only in Denmark, Bulgaria, Lithuania, Estonia and Latvia.

However, unlike the other four mentioned countries, Latvia applies a 12% VAT rate to special food supplies for infants (European Commission, 2017). However, since 2012 in Latvia agricultural organisations have intensively discussed with politicians the necessity to introduce a reduced VAT rate for food or at least selected food product groups.

The **overall aim of the present research** is to assess the effect of reduction of the VAT rate from 21% to 5% for selected food groups: fresh fruits, berries, vegetables and potato grown in Latvia.

The choice of fresh fruits, berries, vegetables and potato grown in Latvia for a reduced VAT rate is associated with the specific situation in the market of these products: a) there is a large number of small retailers in this market segment in Latvia; b) these are seasonal goods with short expiry dates; c) a portion of the retailers are not VAT payers, as they avoid paying the VAT and work in the shadow economy and any imported “shadow” consignment of produce makes a significant financial effect on domestic agricultural producers, as they cannot wait until the illegal produce is sold and the price stabilises in the market.

According to Friedrich Schneider and Andreas Buehn (2017), “the shadow economy includes all the market-based legal production of goods and services that are deliberately concealed from public authorities for the following reasons to avoid: a) payment of taxes, e.g. income taxes or value added taxes; b) payment of social security contributions; c) certain legal labour market standards, such as minimum wages, maximum working hours, safety standards, etc. and d) complying with certain administrative procedures, such as completing statistical questionnaires or other administrative forms”; in Latvia, the shadow economy from 1996 to 2014 was estimated, on average, at 25.6% of GDP. In 2015 in Latvia, the size of the informal economy as a % of GDP was estimated at a level of 23.6%, while in 2016 – at 22.9%, which was 5% higher than the average for the EU-28 (17.9%). The eastern or central European countries and/or the “new” EU members, such as Bulgaria, Cyprus, the Czech Republic, Latvia, Lithuania and Poland have higher shadow economies than the “old” European Union countries, such as Austria, Belgium, Germany and Italy. Hence, the size of the shadow economy grows from west to east (Schneider, 2016). Latvian scientists T.Putniņš and A.Sauka (2016) who researched trends in the Baltic shadow economies made a slightly different estimate. During 2015, they have estimated that there has been a modest increase in the size of the shadow economies of Estonia and Lithuania, which goes against the long-term trend of gradually reducing the size of the shadow economies in all the three Baltic countries. In Latvia, they have estimated there has been a modest decrease in the shadow economy in 2015, continuing the long-term trend. Despite these changes in 2015, the shadow economy remains significantly larger in Latvia than in the other two neighbouring Baltic countries. Their estimates suggest that the Estonian and Lithuanian shadow economies now account for around 14.9% and 15.0% of GDP, respectively, whereas in Latvia, after contracting by 2.2% in 2015, the shadow economy is now estimated at approximately 21.3% of GDP. Tax rates, audit probability and penalty rates are the main factors that affect the level of tax evasion (Kiri, 2016).

F. Schneider (2016) emphasise that “to reduce the size of a shadow economy, different incentive-oriented measures should be used, such as temporarily exempting the value-added tax on labour-intensive products”. This fully relates to fresh fruits, berries, vegetables and potato produced in Latvia; therefore, it is important to use a reduced VAT rate to promote the development of this sector in Latvia. Furthermore, it should be taken into consideration that “since annual income is allocated between consumption (taxed by a consumption tax) and savings, a consumption tax is regressive because lower income households consume more than higher-income households” (Slintakova, Klazar, 2010). A good example in this field is the way of tax administration in Hungary that introduced a reduced VAT rate for raw meat supplies, thus making this industry unattractive to tax avoiders and decreasing the share of the shadow economy (Balances Juridiskie Padomi, 2016).

To achieve the aim, the following specific **research tasks are defined** for Latvia: 1) to estimate a decrease in the price for selected food groups; 2) to identify a potential increase in consumption; 3) to forecast the effect of the VAT rate reduction on the amount of tax revenue collected by the central government.

The research results are useful for the government of Latvia because, in accordance with Cabinet Decree of 3 May 2016 No. 275 “On the Government Action Plan regarding the Implementation of the Declaration of the Intended Activities of the Cabinet of Ministers Headed by Māris Kučinskis”, the following objectives have been set: a) to assess the tax system of Latvia. Together with social and cooperation partners, it is intended to make a balanced and predictable tax policy that assists in achieving strategic national growth objectives with regard to economic growth, demographic situation improvement and inequality reduction; b) to assess the possibility to differentiate the VAT rate for food (LR Ministru kabinets, 2016). Taking into consideration the above-mentioned objectives and measures of the Action Plan, the Ministry of Agriculture has developed proposals for the differentiation of the VAT rate for food in order to stimulate the consumption of domestic food products and the growth of the national economy of Latvia.

## **METHODOLOGY AND DATA**

Analysis, synthesis, the logical construction method, induction and deduction were employed to execute the research tasks. The present research is a continuation of the research “Effects of the Application of the Reduced VAT Rate for Food Product Groups on the National Economy of Latvia” conducted in 2012. Accordingly, a methodology created by A.Auzins, A.Nipers and V.Kozlinskis (2008) was used to determine the effects of reducing the VAT rate on the national economy (prices, consumption) for fresh fruits, berries, vegetables and potato grown in Latvia. Nevertheless, additional assumptions of formal economy size in the analysed sectors were used to calculate tax revenues from fresh fruits, berries, vegetables and potato grown in Latvia.

The VAT amount T to be paid to the government is calculated by the following equation:

$$T = ((S+T) - (S+T)/(1+t))e \quad [1]$$

where S is the amount to be paid, exclusive of VAT, T is the VAT amount, t is the VAT rate and e is the formal economy size in the analysed sector.

Financial data of trade companies for 2010 and 2011 in Latvia were used to determine the coefficients for the supply side. Micro data of 3798 households in Latvia for 2010 were used to determine the coefficients for the demand side.

A fiscal effect was calculated based on Central Statistical Bureau (CSB) statistical data on food consumption of households (the data are summarised according to the classification individual consumption by purpose (ECOICOP/HBS)) and a CSB forecast of the final consumption expenditure of households, excluding taxes and goods produced for self-consumption, on fruits, berries, vegetables and potato for 2015 (CSB, 2016) and an indicative assessment of the final consumption expenditure of households, excluding taxes and goods produced for self-consumption, on fruits, berries, vegetables and potato for 2017 by the Ministry of Finance.

## RESEARCH RESULTS

In cooperation with national producers of fruits, berries, vegetables and potato, a list of particular products – those to be taxed at a reduced VAT rate of 5% – was made in Latvia. The list was made based on the principle that the national producers are able to produce to a significant portion of the products in each product group. The list did not include such products as, for example, oranges, bananas, melons, apricots, avocados, watermelons and grapes, as these products are not produced in Latvia. In the market of fruits, berries, vegetables and potato in Latvia, the proportion of domestic produce consumed by the population, especially vegetables and potato as well as apples and berries (Table 1) is relatively high, ranging from 15.1% for cabbage to 65.5% for wild berries.

Even though a slight decrease in the proportion of goods acquired without paying money for the goods was reported for fruits and berries (from 19% to 18%) and a decrease for vegetables (from 43% to 34%) in the period 2010-2015, overall, a lot of fruits, berries, vegetables and potato were consumed without paying money for them (CSP, 2016, 2017a). Consequently, the market size of the mentioned goods is considerable smaller than the real value of the goods consumed. This fact decreases the role of this sector in VAT revenues paid to the government. According to an assessment by the Ministry of Finance of the Republic of Latvia, which was based on CSB national account data, the total value of fruits and berries as well as vegetables (including potato), excluding taxes and goods produced for self-consumption, sold in Latvia in 2017 was estimated at EUR 283.5 million (Pilvere, Nipers, 2017).

Table 1. Proportions of fruits, berries and vegetables acquired without paying money in household consumption expenditure in Latvia in 2015, %

Indicators	Proportion of goods acquired without paying money in consumption, %	Indicators	Proportion of goods acquired without paying money in consumption, %
Total household consumption expenditure on	<b>3.8</b>	cabbage	15.1
Food	10.2	cucumbers	22.8
apples	37.1	tomatoes	19.4
pears	20.3	onions	37.4
plums	27.0	carrots	40.2
cherries	29.1	red beets	65.3
other domestic orchard fruits and stone fruits	30.3	cucurbitaceous crops, squash, legumes, sweet peppers	30.5
strawberries	44.5	garlic	49.9
other garden berries	55.7	radish, other root crops	35.0
wild berries	65.5	potato	49.8
lettuces	37.6		

Source: authors' calculations based on CSP, 2016, 2017a, Zemkopība ministrija, 2017.

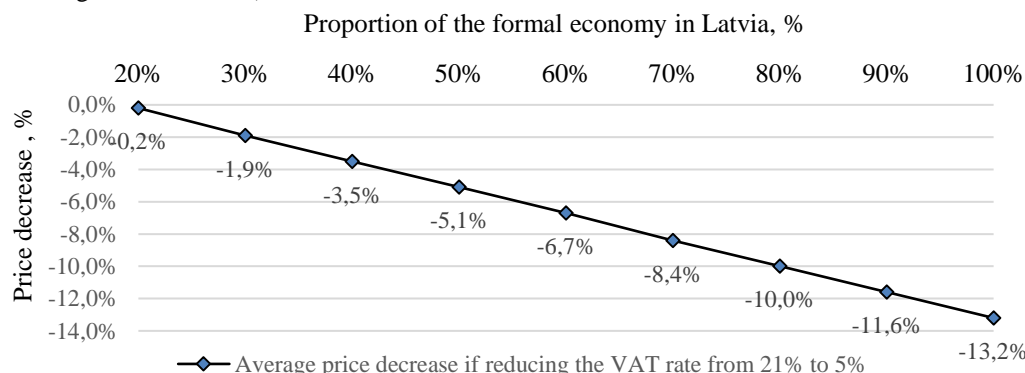
Based on CSB household budget survey data, the proportion of fresh fruits, berries and vegetables grown in Latvia was separated out from the total consumption of fruits, berries and vegetables (including potato). The proportion of fruits and berries grown in Latvia accounted for 34% of the total consumption of fruits and berries, while that of vegetables (including potato) made up 73% of the total consumption of vegetables (CSP, 2017 b, c). One can conclude that the market of fruits, berries and vegetables sold for money in Latvia, excluding taxes and goods produced for self-consumption, could be estimated at EUR 157.7 million (CSP, 2017 b, c).

However, the VAT is not paid from the entire quantity of fruits, berries, vegetables and potato sold for money in Latvia for a number of reasons. First, small producers and retailers are allowed not to be registered as VAT payers in accordance with the Value Added Tax Law of the Republic of Latvia (2012). Second, not all the retailers that have to pay the VAT do that in reality. This category of producers/retailers avoid paying the VAT and belongs to the shadow economy in respect to goods sales and employee remuneration. No accurate estimates of the shadow economy size are available for the group of fruits, berries, vegetables and potato. A survey of industry experts revealed that the proportion of VAT taxed goods for the group of fruits, berries, vegetables and potato comprises 30–40%.

### 1. Estimate of price decrease in Latvia

In Norway, scientists have “found that lowering the VAT on food attenuates inequality in consumer welfare, in part because households adjust their spending patterns in response to the price changes” (Gaarder, 2016). The relation between food prices and demand is stronger for all food groups in low income countries than in high income countries, indicating that increases in food prices are likely to have a disproportionately greater impact on food consumption in low income countries. Food prices also had a

stronger impact on demand for food in lower income households within countries (Green et al., 2013). It is also important to consider how governments use revenues generated by changes in economic policies such as taxes. For instance, regressive food taxes could be offset by using revenues to lower the costs of healthy foods, particularly for low-income population groups (Andreyeva, Long, Brownell, 2010).



Source: authors' calculation, based on CSP, 2016, 2017 a, b, c

Figure 1. Forecasted price decrease for fruits, berries, vegetables and potato, depending on the proportion of the formal economy in Latvia, %

If the sector of fruits, berries, vegetables and potato paid the VAT from the entire amount of produce sold and the retail prices decreased in proportion to the VAT rate reduction in Latvia, the average price decrease would be 13.2%. However, due to the high proportion of VAT nonpayers, an expected price decrease is estimated in the range of 1.9-3.5% (Figure 1).

It is important to note that the price changes will not be equal for all the products. The price on produce sold by VAT payers could decline even by 13.2%, while the prices on produce sold by VAT nonpayers either are not going to decrease or even would slightly rise in situations where a retailer makes a decision to exit the shadow economy.

It would be important to involve dominant retail chains in the process of introducing a reduced VAT rate – just as it was with the introduction of the euro –, so that the chains are committed not to increase their mark-ups at the expense of the VAT rate reduction. The action of the dominant retail chains in particular will determine the extent at which the VAT rate decrease converts into a price decrease.

## 2. Potential consumption increase in Latvia

The relations between food prices and demand (own price elasticities) vary according to the type of food and income level of a country (Green et al., 2013). An increase in consumption is associated with changes in the prices of particular goods, as the consumption could increase with the prices decreasing. Moreover, the larger the price decrease is, the larger positive effect on consumption is made. However, fruits, berries, vegetables and potato are relatively price inelastic – a 1% decrease in the average price could increase the demand by less than 1%. Besides, a price decrease is important for the purpose of increasing the consumption of healthy food. On the basis of our mean price elasticities of 0.70 for fruits and 0.58 for vegetables, a 10% reduction in the price of these foods would increase purchases, on average, by 7.0% and 5.8%, respectively (Andreyeva, Long, Brownell, 2010).

For Latvia, the research employed the following price elasticities of demand: -0.651 for fruits and -0.607 for vegetables. This means that a price decrease in the range of 1.9–3.5% could lead to an average increase in the consumption of fresh fruits in the range of 1.2–2.3%, while the consumption of fresh vegetables could increase, on average, in the range of 1.2– 2.1%.

In 2015, households spent most on food, which accounted for 26.5% of the total consumption expenditure. According to a CSB household survey, every family member spent on food, on average, EUR 84 per month in 2015. Households with the lowest incomes spent most of their incomes on food. In 2015, households in the first quintile (poorest) spent half (53.4%) of their budget on only food and utilities, while the fifth quintile (richest) – only a third (34.1%). However, in absolute terms, households in the first quintile (poorest) spent on food and non-alcoholic beverages, on average, EUR 57.52 per month per household member, while those in the fifth quintile (richest) – EUR 115.68. Although the poorest individuals spent proportionally more than the richest ones, in absolute figures, a larger gain from the reduced VAT rate for food would be made by the richest households in particular (Zemkopības ministrija, 2017).

However, gains from an increase in consumption will not be proportional for all enterprises. In view of an increase in the competitiveness of legally operating enterprises, such enterprises in particular could increase their sales the most in the range of 8-8.6%. A difference in price between VAT payers and shadow businesses would decrease, and one can expect an increase in the number of legitimate VAT-paying businesses. Both these effects will contribute to a decrease in the shadow economy even if not a single business currently operating in the shadow economy decides to move to the formal economy.

Furthermore, one can expect that part of the businesses of the shadow economy will begin complying with the legislation of Latvia, as gains from their illegal economic activity is going to decrease.

Given the mentioned arguments as well as expert opinions, it was assumed that an increase in the proportion of VAT-taxed produce concerned could be as many as 20 percentage points, reaching a proportion of 50–60% (instead of 30–40% currently), if the VAT rate is reduced to 5%. This assumption is considered to be relatively cautious.

### 3. Expected effect of the VAT rate reduction on the amount of tax revenue collected by the government of Latvia

In Sweden, scientists emphasise that “the VAT is an important income to the government ... Imposing a lower VAT on certain goods and services makes it possible for the government to increase some consumption and to prevent distortions” (Wikander, 2013). In Slovakia, the situation is similar – “the state budget is the main tool of fiscal policy in every country. It is the most important part of the government, whose primary function is to finance public goods. Taxes are the essential part of state budget incomes and a value-added tax (VAT) makes up most of the revenue from taxes” (Hajdúchová, Sedliačiková, Vízslai, 2015). Scientists O.Sokolovska and D. Sokolovskyi (2016) point out that “in a large part of developing and transition countries VAT performs primarily a fiscal function, being the main source of budget revenue. At the same time the shadow economy particularly in the form of corruption and tax evasion that exists in these countries leads to a considerable tax gap which, in its turn, reduces VAT efficiency”.

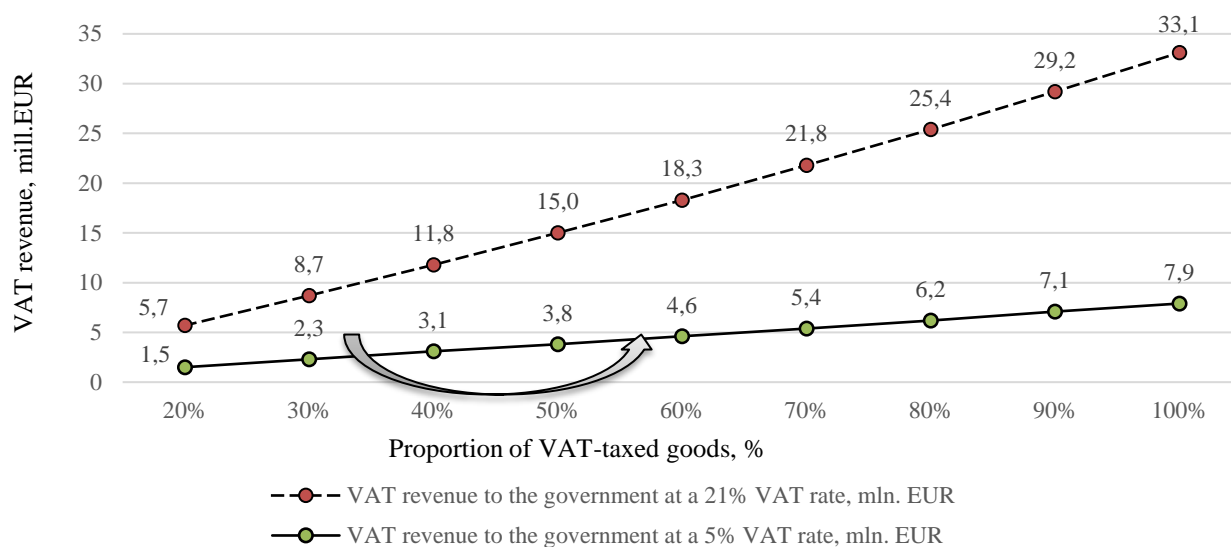
To evaluate VAT rate reduction effect empirical analysis to achieve quality results is made. Effects on the government budget of Latvia could be divided into two categories: short-term and medium-term.

In a short-term, an estimated VAT revenue from the sales of fruits, berries, vegetables and potato paid to the government at a 21% VAT rate in 2017 is equal to EUR 8.7–11.8 million (Figure 2). This estimate is based on the above-described assumption that at present VAT-taxed produce, according to experts, comprises 30-40% of the total amount of produce concerned (Equation 1).

If the legal sales of fruits, berries and vegetables produced in Latvia increase by 20%, the proportion of the VAT-taxed produce concerned in total household consumption expenditure could increase to 50–60%. In this way, the revenue paid to the government could increase by EUR 1.5 million, and the reduced VAT rate of 5% applied to fruits, berries and vegetables produced in Latvia makes a fiscal effect ranging from only EUR 4.9 million (EUR 8.7 million – EUR 3.8 million) to EUR 7.2 million (EUR 11.8 million – EUR 4.6 million) (Figure 2).

A financial gap in the government budget is estimated in the range of EUR 4.9–7.2 million (Figure 2). This sum represents a consumer gain, which is going to be spent on other VAT-taxed goods. A small portion of this sum (approximately 4%) is going to be spent on buying more fruits, berries, vegetables and potato at the 5% VAT rate (the consumption of the mentioned produce increases). However, in absolute terms, most of the money saved by consumers is going to be spent on other goods and services taxed at the 21% VAT rate. This sum would directly increase the revenue paid to the government by EUR 1.0-1.5 million.

The estimate showed that in a short-term, the government budget loses a revenue in the range of EUR 3.9-5.7 million if the VAT rate is reduced from 21% to 5% for the sector of fruits, berries, vegetables and potato.



Source: authors' calculation, based on CSP, 2016, 2017 a, b, c

Figure 2. Forecasted VAT revenue from fruits, berries, vegetables and potato, depending on the proportion of the formal economy in Latvia

In a medium-term, one can expect a positive effect on the government budget. Three factors would contribute to it:

1) part of the retailers of fruits, berries, vegetables and potato that currently avoid paying the VAT could begin working fairly in respect to not only the VAT but also labour taxes; 2) the VAT rate reduction will increase the competitiveness of legal domestic producers relative to the enterprises dealing with shadow imports (goods are mainly imported from Poland at a 5% VAT rate), thus contributing to the economic activity of domestic producers and increasing direct tax revenues. This is a critically important issue in the sector of fruits, berries, vegetables and potato, as the inability of the government to ensure a fair business environment considerably affects the development of domestic producers; 3) it would assist in forming vertical integration among the producers and processors of fruits, berries, vegetables and potato. At present, the existing tax administration system decreases the competitiveness of domestic producers – at an equal price on fruits, berries, vegetables and potato, excluding the VAT, Latvian processors prefer imports to domestic produce, as funds equal to the VAT amount are frozen for several months (Kozlinskis et al., 2012).

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## CONCLUSIONS

Latvia is one of the five EU Member States where reduced VAT rates are not applied to food products. By introducing a 5% reduced VAT rate for selected fruits, berries, vegetables and potato, Latvia could be one of the 24 EU Member States and the first among the Baltic States that has a reduced VAT rate for selected food products. The key findings on the effect of reduction of the VAT rate from 21% to 5% for selected food products produced in Latvia are as follows: 1) the average expected price decrease for fruits, berries, vegetables and potato ranges from 1.9% to 3.5%. It is important to note that the prices of VAT payers could decrease up to 13.2%, while the prices of enterprises operating in the shadow economy would either are not going to decrease or even slightly rise; 2) the consumption of fresh fruits and berries is expected to increase, on average, in the range of 1.2–2.3%, while the consumption of fresh vegetables – in the range of 1.2–2.1%. However, gains from an increase in consumption will not be proportional for all enterprises – the enterprises operating in the formal economy can increase their sales by approximately 20%, whereas the sales of those enterprises working in the shadow economy are expected to decrease; 3) in a short-term, the loss of government budget revenue due to reducing the VAT rate from 21% to 5% for fruits, berries, vegetables and potato is estimated at EUR 3.9–5.7 million; 4) a positive effect on those producers of fruits, berries, vegetables and potato operating legally in the industry is expected in a medium-term. At present, the environment for entrepreneurship in this sector could not be considered to be conducive and lets shadow retailers get significant competitive advantages. The situation is made more complicated by the fact that goods in the sector of fruits, berries, vegetables and potato have short expiry dates, and this situation is more complicated than that in other industries where the proportion of the grey economy is significant.

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